Improvement in Knowledge and Practices of Adolescent Girls Regarding Reproductive Health with Special Emphasis on Hygiene during Menstruation in Five Years

National Institute of Public Cooperation and Child Development

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FOREWORD

Adolescence is recognised as the most turbulent phase of life in terms of health, career and one's place in life. The concerns become more marked in case of girls as they have to cope up with onset of menarche. Many of them are likely to harbour apprehensions about the physiological changes concomitant with menarche, besides need to take special care and attention. Although menstruation is a natural process, it is linked with several perceptions and practices within the community, which sometimes may result in adverse health outcomes.

In spite of increased attempts of awareness generation by health and related organisations, there is still significant lack of information on proper hygiene and sanitation practices during menstruation. The related physical and psychological changes associated with puberty require suitable direction for managing menstruation. Various taboos surrounding this issue in our society prevent girls and women from articulating their needs. This has led to problems of poor menstrual hygiene management which have been overlooked or largely misunderstood in our society. The reservations associated with discussion on this issue also have also hindered spread of appropriate knowledge to the adolescent girls. Open and informative discussion session on this issue are long overdue.

Good menstrual hygiene is crucial for health, education, and dignity of girls and women. Women having improved knowledge regarding menstrual hygiene and safe menstrual practices are less vulnerable to Reproductive Tract Infections (RTIs) and its consequences. Therefore, equipping Adolescent Girls with required information on menstrual hygiene and its management will help empower them with the knowledge to augment both their self-esteem and academic performance.

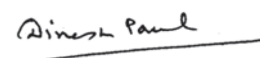
The National Institute of Public Cooperation and Child Development (NIPCCD) carried out a study in 2007, funded by ICMR, to address the issue of menstrual practices of Adolescent Girls regarding

their Reproductive Health and how Adolescent Girls sustain Hygiene during menstruation, resulting in various consequences that may significantly affect their life style.

With new interventions in the area of Reproductive and Sexual Health and initiatives taken up by Ministry of Women and Child Development and Ministry of Health and Family Welfare, another study was taken up in 2012. Since it was a retrospective, repeat assessment study, data was collected from the same projects using same sample size. However, different respondents from similar age group in ICDS rural projects were studied to elucidate menstrual hygiene practices and Reproductive Health of Women in general and of Adolescent Girls.

I hope that the recommendations emerging from the study will provide valuable pointers for developing strategies to improve the Reproductive Health Status of Adolescent Girls and provide insights for improving menstrual hygiene of adolescent girls including appropriate measures to increase awareness regarding government programmes.

The present study is outcome of the painstaking efforts of Dr. Rita Patnaik, Deputy Director (Nutrition), NIPCCD. I also acknowledge all the Regional Directors of NIPCCD at Bangalore, Lucknow, Guwahati, and Indore for extending their support in this endeavour. I extend my thanks to my colleagues Dr. Ashok Kumar, Additional Director, NIPCCD and Dr. Neelam Bhatia, who facilitated culmination of this report.



(Dinesh Paul)
Director

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ABBREVIATIONS

AEP	Adolescence Education Programme
AFHS	Adolescent-Friendly Health Clinics
AG	Adolescent Girl
AIDS	Acquired Immuno-Deficiency Syndrome
ANM	Auxiliary Nurse Midwife
ARSH	Adolescent Reproductive and Sexual Health
ASHA	Accredited Social Health Activist
AWC	Anganwadi Centre
CDPO	Child Development Project Officer
CEE/CIS	Central and Eastern Europe/ Commonwealth of Independent States
CHC	Community Health Centre
CINI	Child in Need Institute
FP	Family Planning
GOI	Government of India
HIV	Human-Immuno Deficiency Virus
HLFPPT	Hindustan Latex Family Planning Promotion Trust
HPV	Human Papiloma Virus
HWDCL	Haryana Women Development Corporation Limited
ICDS	Integrated Child Development Services
ICTC	Integrated Counselling and Testing Centre
IFA	Iron and Folic Acid
IFPS	Innovations in Family Planning Services
IHMP	Institute of Health Management, Pachod
IUD	Intra-Uterine Device
KSY	Kishori Shakti Yojana

LHV	Lady Health Visitor
MDG	Millennium Development Goals
MO	Medical Officer
MoHFW	Ministry of Health and Family Welfare
MWCD	Ministry of Women and Child Development
NFHS	National Family Health Survey
NGO	Non-Governmental Organisation
NHED	Nutrition and Health Education
NIPCCD	National Institute of Public Cooperation and Child Development
NPEGEL	National Programme for Education of Girls for Elementary Level
NPYAD	National Programme for Youth and Adolescents
NRHM	National Rural Health Mission
PC&PNDT	Preconception and Prenatal Diagnostic Techniques
PHC	Primary Health Centre
PMS	Pre-Menstrual Syndrome
RCH	Reproductive and Child Health
RGSEAG	Rajiv Gandhi Scheme for Empowerment of Adolescent Girls
RMNCH+A	Reproductive Maternal Newborn Child and Adolescent Health
RTI	Reproductive Tract Infection
SATHI	Safe Adolescent Transition & Health Initiative Project
SEWA	Self Employed Women's Association
SHG	Self Help Group
SSA	Sarva Shiksha Abhiyan
SSHE	School Sanitation and Hygiene Education
SSKY	Saloni Swasth Kishori Yojana
STI	Sexually Transmitted Infection

SWACH	Survival for Women And Children Foundation
TARSHI	Talking About Reproductive and Sexual Health Issues
TBA	Trained Birth Attendant
UDAAN	Understanding and Delivering to Address Adolescent Needs
UNCRC	United Nation's Convention on the Rights of the Child
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	The United States Agency for International Development
WHO	World Health Organisation
WIFS	Weekly Iron Folic Acid Supplementation
WISH	Women Involved in Sanitation and Hygiene
WOL	Women Opinion Leader

EXECUTIVE SUMMARY

Adolescence in girls has been recognised as a special period in their life cycle that requires specific and special attention. This period is marked with onset of menarche. Although menstruation is a natural process, it is linked with several perceptions and practices, which sometimes result in adverse health outcomes. Women who have better knowledge regarding menstrual hygiene and safe menstrual practices are less vulnerable to reproductive tract infections and its consequences.

The National Institute of Public Cooperation and Child Development (NIPCCD) in 2007 carried out a study to address the issue of understanding practices of adolescent girls regarding reproductive health and how adolescent girls maintain hygiene during menstruation and the various consequences that so greatly affect their life style. The study was conducted in one district each of Assam, Delhi, Karnataka, Madhya Pradesh and Uttar Pradesh.

In all, 500 adolescent girls and their mothers along with 93 women opinion leaders were interviewed during the study conducted in 50 villages of 10 blocks from the five selected districts namely, Kamrup (Assam), South West Delhi (Delhi), Mysore (Karnataka), Dhar (Madhya Pradesh) and Barabanki (Uttar Pradesh). In addition to this, 150 ICDS and health functionaries, including CDPOs (6), Supervisors (26), Anganwadi Workers (52), Medical Officers (8), Lady Health Visitors (14) and Auxiliary Nurse Midwives (40), were interviewed. Data was collected from adolescent girls who had attained menarche, to ascertain hygienic practices adopted by them during menstruation and other relevant issues.

The results of the study (2007) revealed that:

- Majority of girls (93.6%) were literate, but only 49.2 per cent of them were in school.
- About 70.6 per cent adolescent girls were not aware about the menstruation till its onset and mother was the main source of information about menstruation (37.6%) followed by siblings (32.8%) and friends (27.6%).
- Majority of adolescent girls (84%) and mothers of adolescent girls (92.9%) were using cloth during menstruation out of which, 57.6 per cent adolescent girls and 74.1 per cent mothers of adolescent girls were reusing the cloth after washing it.
- Roughly, one-third mothers had prepared their daughters for menarche and menstruation.
- Knowledge about RTIs/STIs revealed that only one-third girls knew RTIs/STIs is curable. Using condom could prevent RTIs/STIs was known to only one-fourth of adolescent girls.
- Regarding knowledge about HIV/AIDS, 85 per cent of adolescent girls, 69.6 per cent of mothers of adolescent girls and 83.8 per cent of women opinion leaders reported that they had heard of HIV/AIDS. The knowledge of women opinion leaders about modes of transmission and prevention of HIV/AIDS was better than both, the adolescent girls and their mothers.

With the new interventions in the area of Reproductive and Sexual Health and other initiatives taken up by MWCD and MOHFW namely Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (RGSEAG) - Sabla, Kishori Shakti Yojana, Adolescent Reproductive and Sexual Health (ARSH) and Menstrual Hygiene Programme, it was thought worthwhile to take up the study in 2012 as designed earlier in 2007 with the following objectives:

- To assess present knowledge, and ascertain practices adopted by adolescent girls regarding reproductive health with special emphasis on hygiene during menstruation and comparison with 2007 data;
- To find out the socio-cultural, health, nutrition, sanitation, education-related practices that are considered essential for menarche and during menstruation by the community at present and differences, if any as compared to 2007 data;
- To study the source of information and health seeking behaviour of adolescent girls and effect of media with special emphasis on hygiene during menstruation and compare it with 2007 data; and
- To find out the effect of Menstrual Hygiene Programme under NRHM on practices of adolescent girls.

Data was collected from 50 villages of 10 blocks from five selected districts namely, Kamrup (Assam), South West Delhi (Delhi), Mysore (Karnataka), Dhar (Madhya Pradesh) and Barabanki (Uttar Pradesh) from 500 adolescent girls who had attained menarche to ascertain hygienic practices adopted by them during menstruation and other reproductive health issues. Since this was a repeat assessment study, data was collected from the same projects with same number of respondents from similar age group in ICDS rural projects again as envisaged in the previous study in 2007 so as to elucidate menstrual hygiene practices and reproductive health of adolescent girls in rural context and to enumerate changes if any occurred between 2007 and 2012.

Pre-designed, pre-tested and structured questionnaire used in the study in 2007 were used for the 2012 study so as to assess the changes over a period of five years. The analysis of data was carried out using Microsoft Excel Sheets and Chi-Square was applied for testing the significance with respect to categorical variables.

Around 500 Adolescent Girls (AGs) and their mothers (500) along with 100 WOLs were interviewed for the study. In addition to this, 155 ICDS and health functionaries including CDPOs (5), Supervisors (37), Anganwadi Workers (63), Medical Officers (18), Lady Health Visitors (3) and Auxiliary Nurse Midwives (29) were also interviewed in 2012 study.

Following changes were observed with respect to knowledge and practices of adolescent girls regarding reproductive health with special emphasis on hygiene during menstruation over a period of five years i.e. from 2007 to 2012.

Table I: Improvement in Knowledge and Practices of Adolescent Girls Regarding Reproductive Health with Special Emphasis on Hygiene during Menstruation in Five Years

Sl. No.	Component	2007 (%)	2012 (%)	Significance Levels
A. Adolescent Girls (AGs) and Education				
1.	Literacy levels in AGs	93.6.	96.8	p<0.05
2.	AGs in school	49.2	67	p<0.01
3.	Girls going to co-educational schools	85.8	90.0	p<0.05
4.	AGs girls staying at home	50.8	33.0	p<0.001
5.	AGs married at the time of study	8.2	2.0	p<0.01
B. Living Condition				
6.	AGs living in pucca house	50.4	84.8	p<0.001
7.	AGs living in clean surroundings	74.8	83.0	p<0.01
8.	AGs having access to toilet facility at home	59.0	67.0	p<0.01
C. Awareness about Menstruation, Perception and Reactions				
9.	AGs awareness about menstruation till its onset	29.4	72.6	p<0.001
10.	AGs who informed their confidante immediately after onset of menstruation	85	93.8	p<0.01
11.	Perception of menstruation to be dirty			
	a. By AGs	74.4	64.8	p<0.001
	b. By Mothers of AGs	70.4	55	p<0.001
	c. By WOLs	67.7	47	p<0.01
	d. By Women Functionaries	70.2	58.9	p<0.001
12.	Onset of Menstruation & Negative Reactions			
	a. AGs having fear/crying spells	62.3	10.14	p<0.001
	b. AGs in shock	43.9	7.9	p<0.001
	c. AGs who thought it was wound	22.7	9.4	p<0.001
13.	Onset of menarche and restrictions imposed on AGs by mothers	74.8	57.84	p<0.001

D. Socio-Cultural Practices					
14.	Ceremony performed on attainment of menarche				
	a.	For AGs	43.2	0	
	b.	For Mothers	57.6	58	NS
	c.	For WOLs	57	50	NS
	d.	For Women functionaries	49.4	51.6	NS
15.	AGs who did not visit the temple/place of worship during menses		77.4	75	NS
16.	AGs who were restricted to move in the kitchen during menses by mothers		90.9	2.9	p<0.001
17.	Mothers always worried about safety of their AGs		91	69	p<0.05
18.	Mothers rebuked their daughter for being born a girl		40	21	p<0.001
19.	Preparedness of AGs for menarche by mothers		27.6	54.8	p<0.001
E. Menstrual Hygiene Practices					
20.	***Type of Material Used***				
	a.	Use of sanitary napkins by AGs	23.8	74	p<0.01
	b.	Use of indigenous pad made of cotton and gauze by AGs	1.6	12	p<0.001
	c.	Use of clean cloth by AGs	84	14	p<0.01
	d.	AGs washing and reusing cloth	57.6	82.5	p<0.05
	e.	Use of sanitary napkins by mothers	7.8	56.2	p<0.01
	f.	Use of indigenous pad made of cotton and gauze by mothers	3.2	18.4	p<0.01
	g.	Use of clean cloth by mothers	92.2	25.4	p<0.01
	h.	Use of sanitary napkins by WOLs	24.7	96	p<0.01
	i.	Use of clean cloth by WOLs	97.8	0	
	j.	Use of sanitary napkins by women functionaries	38	85.8	p<0.01
	k.	Women functionaries and use of clean cloth	96.0	0	-

F. Knowledge about Reproductive Health and Adolescence					
21.		***Knowledge about Pubertal Changes in AGs***			
	a.	Gain in height	69.6	96.6	p<0.001
	b.	Gain in weight	66.8	94.6	p<0.001
	c.	Growth of pubic hair	64.2	97.0	p<0.001
	d.	Onset of menstruation	68.8	96.8	p<0.001
	e.	Development of body contours	52.4	96.2	p<0.001
22.		***Knowledge of AGs about RTI/STI***			
	a.	RTI/STI is curable	35.4	33.8	NS
	b.	Use of condoms for prevention of RTI/STI	25.4	24.8	NS
	c.	STI may cause sterility	11.8	11.0	NS
	d.	Partner treatment in RTI/STI	18.2	19.6	NS
	e.	Repeated Abortion may be due to STI	9.6	10.8	NS
	f.	Awareness on signs and symptoms of RTI in AGs	50	62	p<0.05
23.		***Awareness on HIV/AIDS***			
	a.	AGs who have heard about HIV /AIDS	85	87	NS
	b.	AGs who knew Acronym of AIDS	5.6	8	NS
	c.	AGs who knew about the Causative agent of AIDS	6.6	8.8	NS
	d.	WOLs Awareness on HIV/AIDS	78.3	86	NS
	e.	Awareness on HIV/AIDS among women functionaries (both Health and ICDS)	65.3	96.1	p<0.01
G. Reproductive Morbidity and Health Seeking Behaviour					
24.		***Health Seeking Behaviour of AGs regarding Gynaecological Morbidities***			
	a.	Medical Officer	7.9	78.1	p<0.001
	b.	AWW	3.7	65.1	p<0.001
	c.	Local Doctor	13.8	65.1	p<0.01
	d.	ANM	21.7	52.0	p<0.001
	e.	TBA	1.6	26.0	p<0.001
	f.	Treated self with medicines	5.3	0.0	-

Changes Observed Over a Period of Five Years between 2007 and 2012

Adolescent Girls (AGs) and Education

- Majority of adolescent girl were literate both in 2007 (93.6%) and 2012 (96.4%) study. There was a significant increase ($p < 0.05$) in literacy levels of AGs in 2012 as compared to 2007. All AGs in 2012 study were literate in South West district of Delhi, 99 per cent in Mysore district of Karnataka, 97 per cent in Kamrup district of Assam, 95 per cent in Dhar district of Madhya Pradesh and 91 per cent in Barabanki district of Uttar Pradesh.
- There was a significant increase ($p<0.01$) in AGs going to school in 2012 (67%) as compared to 2007 (49.2%) with nearly 88 per cent AGs going to school in South West district of Delhi, 68 per cent in Mysore district of Karnataka, 66 per cent in Kamrup district of Assam, 58 per cent in Dhar district of Madhya Pradesh and 55 per cent in Barabanki district of Uttar Pradesh.
- The percentage of girls going to co-educational schools has significantly increased ($p<0.05$) in 2012 (90%) as compared to 2007 (85.8%).
- A significant decrease ($p<0.001$) in the percentage of AGs girls staying at home in 2012 (3%) was observed as compared to 2007 (40%).
- It was heartening to know that there was a significant decrease ($p<0.01$) in the number of married AGs in 2012(2 %) as compared to 2007(8.2 %).

Living Condition

- There was a significant increase ($p<0.001$) in AGs living in pucca houses in 2012 (84.8%) as compared to 2007 (50.4%).
- Majority (83%) of the AGs lived in clean surroundings in 2012 showing significant difference ($p<0.01$) as compared to the 74.8 per cent AGs in 2007.
- A significant increase ($p<0.01$) was seen in toilet facility available in households of AGs (59% in 2007 and 67% in 2012). As high as 95 and 94 per cent AGs of South West district of Delhi and Kamrup district of Assam respectively reported of having toilets in their homes. Only one-third (32%) AGs from Mysore district of Karnataka reported of having toilets in their homes. In Dhar district of Madhya Pradesh and Barabanki district of Uttar Pradesh, 68 per cent and 40 per cent had toilets in their homes respectively.

Awareness about Menstruation, Perception and Reactions

- A significant increase ($p<0.001$) in awareness about menstruation was seen in AGs of 2012 (72.6%) as compared to 2007 (29.4%). It was observed that the awareness regarding onset of menstruation among AGs was higher in South West district of Delhi (95%) and Mysore district of Karnataka (90%) in comparison to Kamrup district of Assam (63%), Barabanki district of Uttar Pradesh (58%) and Dhar district of Madhya Pradesh (57%).

- There was a significant increase ($p<0.01$) in number of AGs who informed their confidante immediately after the onset of menstruation in 2012 (93.8%) as compared to 2007 (85%).
- Perception of menstruation to be dirty and polluting was evident in all categories of respondents, but there was significant decrease in perception of AGs, Mothers of AGs, and WOLs and in general all women in 2012 as compared to 2007 study.
- Regarding onset of menstruation, there was a significant decrease ($p<0.001$) in negative reactions in AGs in 2012 as compared to 2007 with respect to having fear/crying spells (10.1% in 2012 and 62.3% in 2007), shock (7.9% in 2012 and 43.9% in 2007) and in perceiving it as an wound (9.4% in 2012 and 22.7% in 2007).
- Data indicated that restrictions were imposed on AGs during menstruation as the same is evident from 2007 and 2012 data and shows a significantly decreasing trend ($p<0.001$) on the restrictions imposed on AGs in 2007 (74.8%) as compared to 2012 (60.4%).

Socio-Cultural Practices

- In 2012, no AGs reported of any ceremony being performed on attainment of menarche as against 56.8 per cent in 2007 showing a positive change in terms of socio-cultural practices in the society regarding menstruation.
- It was surprising to note that 75 per cent of AGs in 2012 reported that they did not visit the temple/ place of worship during menses as compared to 77.4 per cent in 2007 showing no significant change.
- Significant change ($p<0.001$) was noted with respect to restriction of AGs regarding movement in the kitchen. As high as 90.9 per cent AGs in 2007 were not allowed to enter the kitchen which has reduced to as low as 2.9 per cent in 2012 ($p<0.001$).
- In 2012, about 69 per cent mothers were always worried about safety of their AGs and this had significantly decreased ($p<0.05$) as compared to 91 per cent in 2007. The main worries of mothers of AGs were about marriage, and fear of her safety/ family honour as seen in 2007 and 2012.
- There was a significant decrease ($p<0.001$) in mothers rebuking their daughters for being born a girl in 2012 (21%) as compared to 2007 (40%).
- 54.8 per cent mothers in 2012 prepared their daughters about onset of menarche as compared to only 27.6 per cent mothers in 2007 data, showing significant change ($p<0.001$).

Menstrual Hygiene Practices

- In case of AGs, there was a significant increase ($p<0.01$) in the use of sanitary napkins (23.8% 2007 and 74% exclusively in 2012); a significant decrease ($p<0.01$) in the use of cloth and a significant increase ($p<0.001$) in use of indigenous pad made of cotton and gauze in 2012 (12%) as compared to 2007 (1.6%).

- The use of sanitary pads was reported by 92 per cent AGs of South West district of Delhi, followed by Mysore district of Karnataka (90%) and Kamrup district in Assam (85%). The use of sanitary pads by AGs in Barabanki district of Uttar Pradesh and Dhar district of Madhya Pradesh was little lower i.e. 58 and 45 per cent respectively. Almost one-third of AGs (31.0% in UP and MP) still use clean cloth during their menses. The use of indigenous pad made of cotton and gauze was very low in South West district of Delhi, Mysore district of Karnataka and Kamrup district of Assam as the AGs were using sanitary napkins. The use of indigenous pad made of cotton and gauze was reported to be 24 per cent and 11 per cent in Dhar district of Madhya Pradesh and Barabanki district of Uttar Pradesh respectively.
- In case of mothers of AGs, there was a significant increase ($p<0.01$) in the use of sanitary napkins (7.8% in 2007 & 56% in 2012), a significant decrease ($p<0.01$) in the use of clean cloth (92.2% in 2007 to 25.4% in 2012) and a significant increase ($p<0.001$) in use of indigenous pad made of cotton and gauze in 2012 (18.4%) as compared to 2007 (3.2%).
- In case of Women Opinion Leaders, a significant change ($p<0.001$) was seen with regard to use of sanitary napkins as against 24.7 per cent women using sanitary pads in 2007, 96 per cent of them used the same in 2012. It was surprising to note that none of the WOLs used cloth during menstruation and 14.9 per cent still used indigenous pad made of cotton and gauze in 2007 as compared to 9.3 per cent in 2007 showing no significant change.
- With regard to use of sanitary napkins significant change ($p<0.001$) was seen in case of women functionaries wherein it was noticed that as against 38 per cent women using sanitary pads in 2007, 85.8 per cent of them used the same in 2012.
- It was heartening to note that none of the respondents used cardboard and females using nothing during menstruation was reported nil in 2012 study.
- About 94.5 per cent AGs reported changing the pad/cloth two to three times a day on the first two days of menstruation as against 72 per cent in 2007 data showing a significant change ($p<0.001$) and similar significant changes were seen in mothers of AGs, WOLs and women functionaries ($p<0.001$).

Knowledge about Pubertal Changes in AGs

- The awareness of AGs regarding pubertal changes in 2012 had significantly increased ($p<0.001$) in comparison to the 2007 study especially with regard to gain in height (69.6% in 2007 and 96.6% in 2012) and weight (66.8% in 2007 and 94.6% in 2012), growth of auxiliary and pubic hair (64.2% in 2007 and 97.0% in 2012), onset of menstruation (68.8% in 2007 and 96.8% in 2012) and development of body contours.

Knowledge of AGs about RTI/STI

- Awareness regarding RTI/STI among AGs in 2012 revealed that only 41.0 per cent AGs across India had heard about RTI/STI. The awareness on RTI/STI ranged from as low as 40 per cent (Kamrup district of Assam) to as high as 62 per cent (South West district of Delhi). Half of the AGs (50%) from Mysore district of Karnataka had knowledge on RTI/STIs as compared to 25 per cent and 28 per cent in Dhar district of Madhya Pradesh and Barabanki district of Uttar Pradesh respectively.
- Knowledge on RTI/STI was poor both in 2007 and 2012 and no significant change seen in any of the attributes. Only 33.8 per cent of AGs in 2012 knew that RTI/STI is curable as compared to 35.4 per cent AGs in 2007. Similarly, the knowledge regarding the use of condoms for prevention of RTIs/STIs was 25.4 per cent in 2007 as compared to 24.8 per cent in 2012. STI may even cause sterility was known to 11.8 per cent AGs in 2007 and 11 per cent AGs in 2012. It was disappointing to note that the knowledge about partner treatment in RTI/STI, repeated abortions could be due to STI were known to only few girls both in 2007 and 2012 (18.2% in 2007 and 19.6% in 2012). Even in this era few girls also believed that having sex with virgin (a myth) is a means to cure STI (12% in 2007 as compared to 12% in 2012). Repeated abortion may be due to STI was known to 9.6 per cent in 2007 and 10.8 per cent in 2012.

Awareness on HIV/AIDS

- The results related to knowledge about HIV/AIDS among adolescent girls revealed that 87 per cent in 2012 had heard about HIV/AIDS. The awareness was higher amongst AGs of South West district of Delhi (98%), Mysore district of Karnataka (90%) and Kamrup district of Assam (88%) as compared to Dhar district of Madhya Pradesh (79%) and Barabanki district of Uttar Pradesh (75%).
- Regarding knowledge about HIV/AIDS among adolescent girls data revealed that no significant change was seen in 2012 when compared to 2007 where 85 per cent AGs in 2007 and 87 per cent in 2012 mentioned that they had heard about HIV/AIDS respectively. Acronym of AIDS and causative agent of AIDS was known to 5.6 per cent of AGs in 2007 and 6 per cent AGs knew the same in 2012 study showing no significant change. Awareness about modes of transmission of HIV/AIDS was dismal both during the study conducted in 2007 and 2012.
- AIDS awareness had tremendously increased among health functionaries (100% in 2012 and 66.6% in 2007) and ICDS functionaries (93.3% in 2012 and 64.3% in 2007) and causative agents of AIDS were known to 72 per cent of health functionaries in 2012 as compared to only 19.7 per cent in 2007 and 53.3 per cent in ICDS functionaries as compared to only 21.4 per cent in 2007.
- About 96 per cent and 65.3 per cent women functionaries during 2012 and 2007 study respectively reported that they knew about HIV/AIDS (significant at $p<0.01$). Both health and ICDS functionaries in 2012 faired well in comparison to 2007 showing significant change ($p<0.01$).

Gynaecological Morbidities and Health Seeking Behaviour

- Majority of the AGs, nearly 78.1 per cent in 2012 had approached Medical Officers for guidance and consultation regarding vaginal infection as compared to 7.9 per cent in 2007 showing significant change ($p<0.001$).
- It was appreciable to note that the AGs seeking guidance and consultation of AWW (65.1% in 2012 and 3.7% in 2007) and ANM (52.0% in 2012 and 21.7% in 2007) had increased significantly ($p<0.001$).
- Nearly 62.5 per cent AGs in 2012 and 51.9 per cent in 2007 had approached family members which included mother/sister/sister-in-law/aunt for guidance regarding vaginal infections showing significant change ($p<0.05$).
- 65.1 per cent AGs in 2012 and 13.8 per cent in 2007 approached the local doctor showing significant difference ($p<0.01$).
- 26.0 per cent of AGs consulted the TBA in 2012 as compared to 1.6 per cent in 2007 showing significant change ($p<0.001$).
- None of the AGs in 2012 in contrast to 5.3 per cent in 2007 treated self with medicine.
- Significant increase ($p<0.001$) is seen in mothers approaching local doctor (7.4% in 2007 and 57.8% in 2012), ANM (31.3% in 2007 and 41.4% in 2012) and AWW (11.1% in 2007 and 47% in 2012) in guidance and consultation in vaginal infections in 2012 as compared to 2007.
- A significant increasing trend ($p<0.001$) is seen in the persons whom Women Opinion Leaders had ever approached for vaginal infections namely Medical officer (89.4% in 2012 and 44.9% in 2007), AWW (78.9% in 2012 and 16.3% in 2007, local doctor (50% in 2012 and 6.1% in 2007), ANM (38.8% in 2012 and 24.5% in 2007).

Media and Awareness Regarding Government Programmes

- In 2012 study, with regards to the opinion on use of sanitary napkins, every adolescent girl/ women in all the categories felt that they should use sanitary napkins during menstruation.
- Only 60.4 per cent AGs in 2012 knew that with use of sanitary napkins RTI incidence could be reduced, 77.6 per cent used sanitary napkins in order to maintain hygiene, 72 per cent AGs girls felt confident and 70 per cent reported that sanitary napkin was the best option in order to get rid of cloth, cleaning drying & storing; 96.7 per cent women functionaries were aware that menstrual hygiene relates to RTI and that with use of sanitary napkins, RTI incidence could be reduced.
- All the respondents reported that TV was the main source of information followed by radio, newspaper, magazines and internet.

- State Wise Awareness about Government programmes among Adolescent girls revealed that awareness on ARSH and Menstrual Hygiene Programme was very low among all the states. 49 per cent and 28 per cent AGs in South West district of Delhi were aware about Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (RGSEAG) - Sabla and Kishori Shakti Yojana (KSY) respectively, followed by 41 per cent in Mysore district of Karnataka and 39 per cent in Kamrup district of Assam. In Dhar district of Madhya Pradesh and Barabanki district of Uttar Pradesh, awareness about government programmes was lower as compared to South West district of Delhi, Mysore district of Karnataka and Kamrup district of Assam.
- In case of women functionaries 71.6 per cent were aware about Sabla, 84 per cent about Kishori Shakti Yojana, 71 per cent about ARSH and 49 per cent about Menstrual Hygiene Programme. It is expected that women functionaries both from health and ICDS, who are the main agents for bringing about a social change in the society should be aware of Government programmes.

Recommendations

- Correct, authentic and accurate information regarding RTIs/STIs should be made available to all women including AGs. ARSH programme under the Reproductive and Child Health (RCH-II) programme implemented by NRHM should be reinforced strongly.
- Popularising and scaling up Menstrual Hygiene Programme for adolescent girls in all districts which provide sanitary napkins at subsidised prices to adolescent girls.
- The Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (RGSEAG) or Sabla implemented by the MWCD for adolescent girls between the ages 11-18 years in 205 districts may be scaled throughout the country. Sanitary Pads may be included as one of the additional services to school and out-of-school going girls. Popularising Kishori Diwas under SABLA and utilising Sakhi and Saheli as role models and social change agents for proving correct and authentic information regarding menstruation and hygiene during menstruation would prove beneficial.
- Menstrual Hygiene Education Programme could benefit from utilisation of peer education techniques i.e. Peer to Peer menstrual hygiene programme which may help girls to “Break the Silence” surrounding menstruation.
- Strong reinforcement of Reproductive Maternal Newborn Child and Adolescent Health (RMNCH +A), 2013 and popularising one of its main interventions i.e. through the Adolescent-Friendly Health Services (Adolescent Health Clinics) which could prove to be excellent Counselling centres for Adolescents as they need privacy to discuss their problems and find solutions.
- Information about menarche and reproductive health should be introduced and strongly reinforced into the school curriculum from the 5th grade onwards along with the involvement of parents particularly mothers so as to wipe away the age-old misconceptions. Using existing mechanisms of the School Health Programme to ensure supply of sanitary napkins and provision of adequate mechanisms in schools for the disposal of menstrual waste could in the long run prove to be useful in improving reproductive health of Adolescent girls in India.

- Reproductive health issues need to be built into the nutrition and health education (NHED) components of both the Integrated Child Development Services (ICDS) and Reproductive and Child Health (RCH) programme for reaching out to the mothers/caregivers in the community.
- The Department of Drinking Water and Sanitation which is implementing the Total Sanitation Campaign (TSC) with key intervention areas such as Individual Household Latrines (IHHL), School Sanitation and Hygiene Education (SSHE), Community Sanitary Complex, Anganwadi toilets supported by Rural Sanitary Marts (RSMs) and Production Centres (PCs) can prove to be a positive effort towards improving menstrual hygiene management.
- Accessibility, availability, affordability and acceptability of menstrual sanitary materials could be one of the main answers to improve menstrual hygiene management among adolescent girls. A Nationwide IEC Campaign for spreading awareness on importance of healthy menstrual hygiene practices and improving reproductive health of women is the need of the hour.

1. INTRODUCTION

Adolescence is a transitional stage of physical and mental human development that occurs between childhood and adulthood. This transition involves biological (i.e. pubertal), social and psychological changes. Healthy adolescence is the foundation of a healthy adult and this therefore becomes an important phase to concentrate upon by all the concerned stakeholders. There is a need not only for awareness but for behavioural change through repeated addressal on this issue. Reproductive health becomes an important component and there is a felt need for increasing awareness and thus empowering the young for a healthy life. Investing in the health and development of adolescents is essential for achieving the Millennium Development Goals (MDGs), promoting public health and ensuring economic development. There are increasing evidences for a need of effective interventions to improve adolescents' health, and growing consensus about priorities for action, in terms of what needs to be done and how.

Adolescents are not homogenous populations but exist in a variety of circumstances. A large number of them are out of school, get married early, work in vulnerable situations, are likely to be sexually active, and exposed to several health risks. These have serious social, economic and public health implications for the nation. As their needs vary by their age, sex, stage of development, life circumstances, socio-economic status, marital status, class, region and cultural context, this calls for interventions that are flexible and responsive to their actual/dire needs. Some of the public health challenges for adolescents are related to early pregnancy, with associated higher risk of maternal and infant mortality, sexually transmitted infections and reproductive tract infections, under-nutrition and anaemia, substance abuse, injuries etc. It is important for the health of adolescents as their situation will be central in determining India's health, mortality and morbidity and the population growth scenario.

The first menstruation known as menarche is one of the several signs of puberty accompanied with biological, physical, social and psychological changes. It is common to find adolescent girls, especially from rural schools remaining absent from a week up to a month, owing to menstruation. Most girls in rural schools remain absent because there is no option of "changing" while in school. It is impossible for a girl to remain in school for long hours during her menstrual period without changing. Often, parents themselves do not know how to handle the physical and emotional development of their adolescent girls, particularly menstruation. As a result, often after a girl gets her menstruation, she is forced to stay at home and miss school. In many cases, parents stop sending their girls to school. Since girls are not properly educated about menstruation, it ends up causing fear, confusion, and anxiety. Unhygienic practices during menstruation can also cause infections. It is therefore important to create awareness on Menstrual Hygiene to adolescent girls. Menstrual Hygiene, as such draws extreme reactions, especially when addressing girls from rural schools as they are very shy, do not believe in discussing it in the open, and are uncomfortable with the whole idea of talking about "it". The gender–unfriendly school culture and infrastructure, and the lack of adequate menstrual protection alternatives such as clean, safe and private sanitation facilities undermine the right of privacy, which results in a fundamental infringement of the adolescent girl.

In the existing Indian cultural milieu, the society is interwoven into a set of traditions, myths and misconceptions especially about menstruation and related issues. Menstruation is generally considered as unclean in Indian society. Isolation of the menstruating girls and restrictions imposed on them in the family have reinforced negative attitude towards this phenomenon in girls. Even mere mention of the topic has been a taboo in the past and even to this date the cultural and social influences appear to be a hurdle for advancement of the knowledge of the subject. The social practices about menstruation make a girl child feel subnormal and may hamper her development. Menarche may remain a traumatic event for her unless she is prepared for it. The reaction to menstruation depends upon awareness and knowledge about the subject. The manner in which a girl learns about menstruation and its associated changes may have an impact on her response to the event of menarche. Although menstruation is a natural process, it is linked with several misconceptions and practices, which sometimes result into adverse health outcomes. Several studies have reported restrictions in daily activities such as, not being allowed to take bath, change clothes, comb hair and enter holy places. Apart from these, dietary restrictions (taboo on consumption of food like rice, curd, milk, lassi, potato, onion, sugarcane etc.) during the menstrual period are also imposed. Along with cultural constructs which lead to formation of a certain preconception, the reaction to menstruation also depends upon awareness and knowledge about the subject. There is a substantial lacuna in the knowledge towards menstruation among adolescent girls and there is low level of awareness about menstruation among girls when they first experience it. Social prohibitions and negative attitude of parents in discussing the related issues has openly blocked the access of adolescent girls to right kind of information especially in rural and tribal communities.

Water, sanitation and hygiene have major impact on menstrual hygiene of women right from washing themselves to washing and drying cloth for repeated use. Lack of privacy (to use toilets) inhibits change of cloth or napkin for long hours and also proper drying of washed cloth. Insufficient water and lack of privacy causes infections and in many cases leads to infertility. Inadequate water and sanitation facilities have impact on physical and psychological health of adolescent girls and women. Government is implementing sanitation campaigns but lack user-friendly designs. Concerned departments are distributing sanitary napkins to the girl students but they do not ensure provision of water, sanitation and disposal facilities. Menstrual hygiene is not given due importance in the framework of sanitation and is often a neglected aspect of health-related policies. Hygiene-related practices of women during menstruation are of considerable importance, as it has a health impact in terms of increased vulnerability to reproductive tract infections (RTI). The interplay of socio-economic status, menstrual hygiene practices and RTI are noticeable. Poor personal hygiene and unsafe sanitary conditions result in the girls facing many gynaecological problems. A large proportion of adolescent girls suffer from various gynaecological problems, particularly menstrual irregularities such as hypermenorrhoea, menorrhagia and dysmenorrhoea. Thus, RTIs among adolescents are associated with infertility, pelvic tenderness and genital prolapses. Further, their strong bondage with the traditional beliefs, taboos and misconceptions during menstruation has led to many serious health problems.

There is a need for adolescent girls to have accurate and adequate information about menstruation and its appropriate management. Formal as well as informal channels of communication such as mothers, sisters and friends, need to be explored for the delivery of such information. The major determinants of good menstrual hygiene have been found to be literacy of the mothers, educational status, and prior knowledge regarding menstruation along with presence of proper sanitary latrine at home for the adolescent girls.

Regular exposure to mass media in the form of advertisements promoting the use of sanitary pads helps in maintaining proper hygiene during menstruation. In view of the vital role of the mothers in educating their daughters, it is very important that the mother be armed with the correct and appropriate information on reproductive health, so that she can pass on correct information to her growing girl child. It is also essential for the teachers, who may not have the necessary skills to impart reproductive health education, including menstrual hygiene to their students. They may have to be given requisite skills – usually through training or workshops. Much more efforts are required to curb the misbeliefs and taboos among the adolescent school girls. With the advent of media and multimedia and with growth and development, there is a wealth of information available with the adolescents today and it is increasing as time is passing by.

The Ministry of Health and Family Welfare (MoHFW), Government of India has included Adolescent Reproductive and Sexual Health (ARSH) as a key technical strategy under the National RCH II programme. This strategy focuses on reorganising and strengthening the existing public health system in order to meet the reproductive and sexual health needs of adolescents. Reproductive health issues are now being built into the nutrition and health education (NHED) component of both the ICDS and RCH programme for reaching out to the mothers/caregivers in the community.

Adolescent Reproductive and Sexual Health (ARSH) has been identified as one of the four strategies under RCH-II. The MoHFW has introduced a scheme, 'Menstrual Hygiene Programme' for promotion of menstrual hygiene among adolescent girls in the age group of 10-19 years in rural areas in order to provide low-cost sanitary napkins to adolescent girls to promote menstrual hygiene among women. The sanitary napkin packs (containing 6 pieces each) is branded as 'Freedays'.

Reproductive Maternal Newborn Child and Adolescent Health (RMNCH +A), 2013 is a strategy that embodies a vision for comprehensive and integrated health services most importantly for the adolescents, mothers and children. The 'Plus' in the strategic approach of RMNCH+A denotes the inclusion of adolescence as a distinct 'life stage' in the overall strategy and priority interventions for adolescents includes the following:

- Adolescent nutrition; iron and folic acid supplementation
- Facility-based adolescent reproductive and sexual health services (Adolescent health clinics)
- Information and counselling on adolescent sexual reproductive health and other health issues
- Menstrual hygiene
- Preventive health checkups

Adopting a life-cycle approach to child development, with greater attention given to the care, empowerment and protection of adolescents, girls in particular, is the soundest way to break the intergenerational cycle of malnutrition. Integrated Child Development Services (ICDS), with its opportunities for early childhood development, seeks to reduce both socio-economic and gender inequities. It has designed interventions for adolescent girls that aim at breaking the intergenerational life cycle of nutritional disadvantage and providing a supportive environment for self-development. Kishori Shakti Yojana (KSY) – a special intervention has been devised for adolescent girls using the ICDS infrastructure and with content enrichment.

The SABLA scheme of MWCD implemented in 205 districts of the country aims at empowering Adolescent Girls of 11-18 years by improving their nutritional and health status, upgradation of home skills, life skills and vocational skills. The girls will be equipped with information on health and family welfare, hygiene and guidance on existing public services. The scheme would be implemented using the platform of ICDS and AWCs would be the focal point for the delivery of services. Adolescent girls getting training under this scheme and KSY could function as social animators. No doubt such programmes aimed at improving the nutritional and health status of adolescent girls would definitely promote their self-development and empower them with decision making capabilities.

National Institute of Public Cooperation and Child Development in 2007 carried out a study pertinent to address the issue of understanding practices of adolescent girls regarding reproductive health and how adolescent girls maintain hygiene during menstruation and the various consequences that so greatly affect their life style with the following objectives:

- To assess the knowledge of adolescent regarding reproductive health with special emphasis on hygiene during menstruation;
- To ascertain different practices adopted by adolescent girls in maintaining hygiene during menstruation;
- To study the socio-cultural, health, nutrition, sanitation, education-related practices that are considered essential for menarche and during menstruation by the community;
- To study the source of information and health seeking behaviour of adolescents with particular reference to problems related to menstrual health; and
- To suggest locally available materials which can be hygienic as well as cost effective to meet the requirements of adolescent girls during menstruation.

The study was conducted in one district each of Assam, Delhi, Karnataka, Madhya Pradesh and Uttar Pradesh. In all, 500 adolescent girls and their mothers along with 93 women opinion leaders were interviewed under the study conducted in 50 villages of 10 blocks from the five selected districts. In addition to this, 150 women ICDS and health functionaries, including CDPOs (6), Supervisors (26),

Anganwadi Workers (52), Medical Officers (8), Lady Health Visitors (14) and Auxiliary Nurse Midwives (40), were interviewed. Data was collected from adolescent girls who had attained menarche, to ascertain hygienic practices adopted by them during menstruation and other relevant issues.

The results of the study revealed that:

- Majority of girls (93.6%) were literate, but only 49.2 per cent of them were in school.
- About 70.6 per cent adolescent girls were not aware about the menstruation till its onset and mother was the main source of information about menstruation for 37.6 per cent girls followed by siblings (32.8%) and friends (27.6%).
- Majority of adolescent girls (84%) and mothers of adolescent girls (92.9%) were using cloth during menstruation. Out of which, 57.6 per cent adolescent girls and 74.1 per cent mothers of adolescent girls were reusing the cloth after washing it.
- Roughly, only one-third mothers had prepared their daughters for menarche and menstruation. Only one-third adolescent girls knew that RTIs/STIs are curable.
- Knowledge about RTIs/STIs revealed that only one-third girls know RTIs/STIs are curable. Use of condom in preventing RTIs/STIs was known to only one-fourth of adolescent girls.
- Regarding the knowledge on HIV/AIDS, 85 per cent of adolescent girls, 69.6 percent of mothers of adolescent girls and 83.8 per cent of women opinion leaders reported that they had heard of HIV/AIDS. The knowledge of women opinion leaders about modes of transmission and prevention of HIV/AIDS was better than both, the adolescent girls and their mothers. The knowledge of all the three groups requires definite updating.

With the new interventions in the area of Reproductive and sexual health and various initiatives taken up by MWCD and MOHFW namely Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (RGSEAG) - Sabla, Kishori Shakti Yojana, Adolescent Reproductive and Sexual Health (ARSH) and Menstrual Hygiene Programme, it was thought worthwhile to take up the study in 2012 again as designed earlier in 2007 with the following objectives:

- To assess present knowledge and ascertain practices adopted by adolescent girls regarding reproductive health with special emphasis on hygiene during menstruation and comparison with 2007 data;
- To find out the socio-cultural, health, nutrition, sanitation, education-related practices that are considered essential for menarche and during menstruation by the community at present and differences if any as compared to 2007 data;
- To study the source of information and health seeking behaviour of adolescents and effect of media with special emphasis on hygiene during menstruation and compare it with 2007 data; and
- To find out the effect of Menstrual Hygiene Programme under NRHM on practices of adolescent girls.

2. REVIEW OF LITERATURE

2.1 Adolescence – The Crucial Age

According to Article1 of UNCRC[1] (United Nation's Convention on the Rights of the Child), "A child means every human being below the age of 18 years unless, under the law applicable to the child, majority is attained earlier. "A child domiciled in India attains majority at the age of 18 years **(Table 2.1).**

Table 2.1: Age of Adolescents

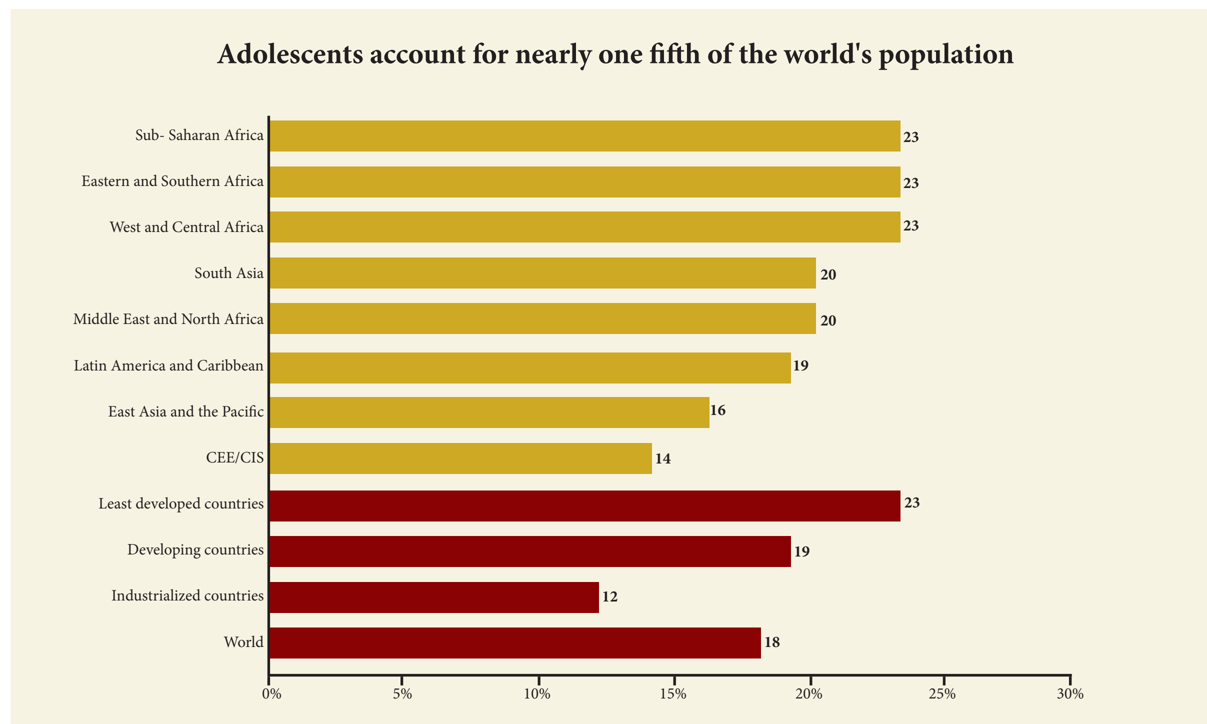
Term	Age group	Organisation
Children	0-18 years	Convention on the Rights of the Child
Adolescent	10-19 years	WHO, UNFPA, WHO
Adolescent Girls	11-18 years	Kishori Shakti Yojana, Sabla, MWCD
Adolescent	10-19 years	Reproductive and Child Health Programme, MoHFW
Youth	15-24 years	WHO, UNFPA, WHO
Young people	10-24 years	WHO, UNFPA, WHO

The aspect of different needs among different age groups has been duly addressed in India in various policies and programmes. For example, the adolescents in Youth Policy, 2003 have been defined as the age - group between 13-19 years; under the Kishori Shakti Yojana and Sabla programme adolescent girls are considered to be between 11-18 years and the Reproductive and Child Health Programme mentions adolescents as being between 10-19 years of age.

The age-limit of adolescents have been fixed differently under different programmes, keeping in view the objective of those specific programmes. Internationally, the age group of 10-19 years is considered as the adolescent age. Reliable data and information that is being collated through various national programmes on different adolescent age-groups can act as a tool to develop better adolescent policies in India.

Adolescents account for 1.2 billion constituting one-fifths of world's population[2] (Figure 2.1.1) and yet their sexual health needs remain largely unaddressed in the national welfare programmes. It is reported that more than half of the adolescents live in Asia[2] (Figure 2.1.2). As reported in Census 2011, India is the home to 243 million adolescents contributing to one fifth (21.4%) of India's Population and Adolescent girls constitute to 47 per cent of total adolescent population (Census 2011)[3].

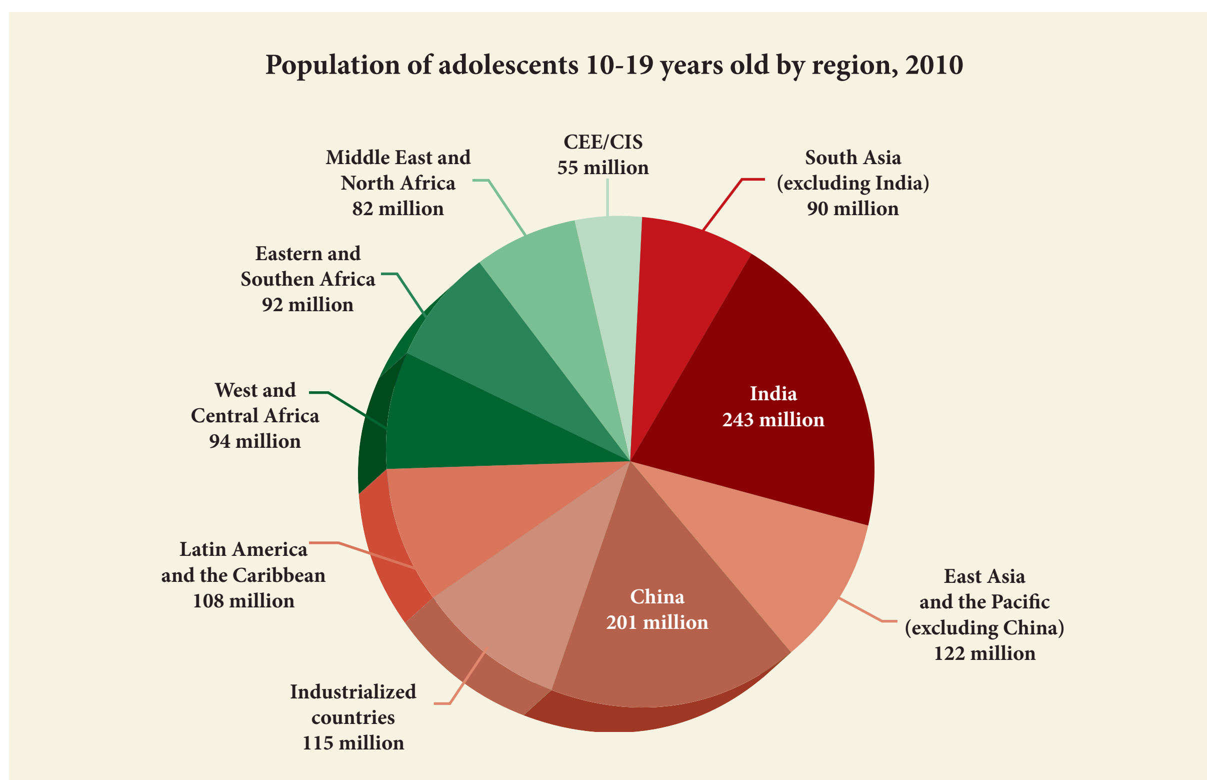
Figure 2.1.1: Population of Adolescents (10-19 Years Old) as a Proportion of Total Population 2010



Adolescence is a period of transition from childhood to adulthood characterised by rapid physical, biological and hormonal changes resulting in psycho-social, behavioural and sexual maturation and up to 45 per cent of skeletal growth and 15 to 25 per cent of adult height is achieved during adolescence. During the growth spurt of adolescence, up to 37 per cent of total bone mass may be accumulated. The phenomenal growth that occurs in adolescence, second only to that in the first year of life, creates increased demands for energy and nutrients. Total nutrient needs are higher during adolescence than any other time in the life cycle. Nutrition and physical growth are inter-related; optimal nutrition is a requisite for achieving full growth potential. Failure to consume an adequate diet at this time can result in delayed sexual maturation and can arrest or slow linear growth.

Figure 2.1.2: Population of Adolescents (10-19 Years) by Region 2010

More than half of the world's adolescents live in Asia



Adolescence in girls has been recognised as a turbulent period which signifies the transition from girlhood to womanhood and considered as a land mark of female puberty. This transitional period is marked with the onset of MENARCHE which is one of the most important physiological changes occurring among girls during the adolescent years **(Annexure-1)**. It heralds the onset of physiological maturity in girls.

The mean age at menarche varies from population to population and is known to be a sensitive indicator of various characteristics of population including nutritional status, geographical location, environmental conditions and magnitude of socio-economic inequalities in a society.[4,5,6] For most females, it occurs between the age of 10 and 16 years; however, it shows a remarkable range of variation.[6] In low income settings it occurs between the ages of 8 and 16 years with a median age of around 13 years.[7,8,9]

Menstruation becomes a part of women's lives until menopause and approximately every woman spends six to seven years of their lives menstruating; thus it is crucial that women and girls have the necessary knowledge and cultural environment to manage menstruation hygienically and with dignity,[10] because for over decades, women have been taught that having periods is shameful. They have indirectly, if not directly, absorbed the messages that menstrual blood is dirty, smelly, unhygienic and unclean and certainly menstrual hygiene is a neglected condition.[11,12]

2.2 Status of Adolescent Girls in India

India is the home to 253.2 million adolescents contributing to one fifth of India's Population (Census 2011)[3] as depicted in **Table 2.2.**

Table 2.2: Adolescent, Young and Adults in India: 1991 to 2011

Age group (completed years)	1991*	2001@ Numbers (in million)	2011@
All ages	838.6	1,028.6	1,210.6
Adolescent (10-19 years)	**177.7**	**225.1**	**253.2**
Young (15-24 years)	153.5	190.0	231.9
Adult (18 years or more)	475.3	603.1	762.0
		% to total population	
Adolescent (10-19 years)	**21.2%**	**21.9%**	**20.9%**
Young (15-24 years)	18.3%	18.5%	19.2%
Adult (18 years or more)	56.7%	58.6%	62.9%
* Excluding Jammu & Kashmir			

@ Excluding Mao Maran, Pao Mata and Purul Sub Divisions of Senapati district of Manipur

Research shows that adolescent girls in India are a large invisible population who are trapped in a society with socio-cultural practices that leaves them powerless to make essential life-choices. Some of the statistics regarding status of adolescent girls in India include the following:

- About one-fifth of adolescent girls and one-tenth of boys in the age group of 15 to 19 years have received no education[13] (NFHS-3, 2005-06).
- Early age at marriage has been identified as a significant problem in India, with important implications for AGs later in life. Although the legal age of marriage is 18 years, 46 per cent of young women (aged 18-29 years) were married before that age[13] (NFHS-3, 2005-06). The marriage of girls at young age leads to teenage pregnancy and motherhood. Sixteen per cent of currently married young women in the age group of 15 to 19 years have already begun childbearing.
- This group contributes nearly 17 per cent to the total fertility in India. Nearly all (94%) adolescent married women (aged 15-19 years) had knowledge of contraception, but only seven per cent of those aged 15 to 19 years used a modern family planning method.
- More than one-quarter (27.1%) of currently married women aged 15 to 19 years had an unmet need for family planning[14] (Ministry of Health and Family Welfare, Government of India, 2009).

- Adolescents also face challenges related to maternal health. Mother's age at birth, birth order, and the interval between births have a strong influence on infant and child mortality[13] (NFHS-3, 2005-06).
- Although younger women are more likely to deliver babies in a health facility than older women, the rate of institutional delivery among mothers aged 20 years and younger was still low at 38 per cent.
- Mothers who give birth as teenagers were more likely to have low birth weight babies (26.1%) as compared to mothers in the higher age group (20.4%)[13]. Thus, high risk fertility behaviour is classified if mother's age is less than 18 years, mother's age is more than 34 years, previous birth interval in less than two years and birth order is more than three.[13]
- Various data available and literature have demonstrated that adolescents in India are plagued by under-nutrition, anaemia, and infectious diseases resulting from poor environment, sanitation and ignorance.[13,15]
- More than half (55.8%) of the women in the age group of 15-19 are anaemic and this amounts to an average 64 million girls at any point in time.[13]
- Awareness about RTI/STI amongst adolescent girls is limited as only 33.1 per cent of them have heard about it.[13]

2.3 Attitudes, Cultural Beliefs, Social Norms and Myths Towards Menstruation and Menstrual Hygiene

In India, discrimination against the girl child in health, nutrition and education is heightened in adolescence. Onset of puberty decreases autonomy and mobility, with increasing restrictions on speech, appearance, conduct and interaction with the opposite sex. Girls inherit their mother's domestic chores and adopt stereotypical gender roles. Low self-esteem and self-worth are common. After marriage, husband and in-laws control a bride's life. Consequently, the girls enter a "culture of silence." In India, early marriage for girls has religious and social sanction. Despite laws raising the legal age of marriage to 18 for girls, there are strong cultural pressures on parents to marry their daughters early. In addition to the psychological immaturity of an adolescent bride, her body is often not prepared to accommodate the early onset of childbearing.

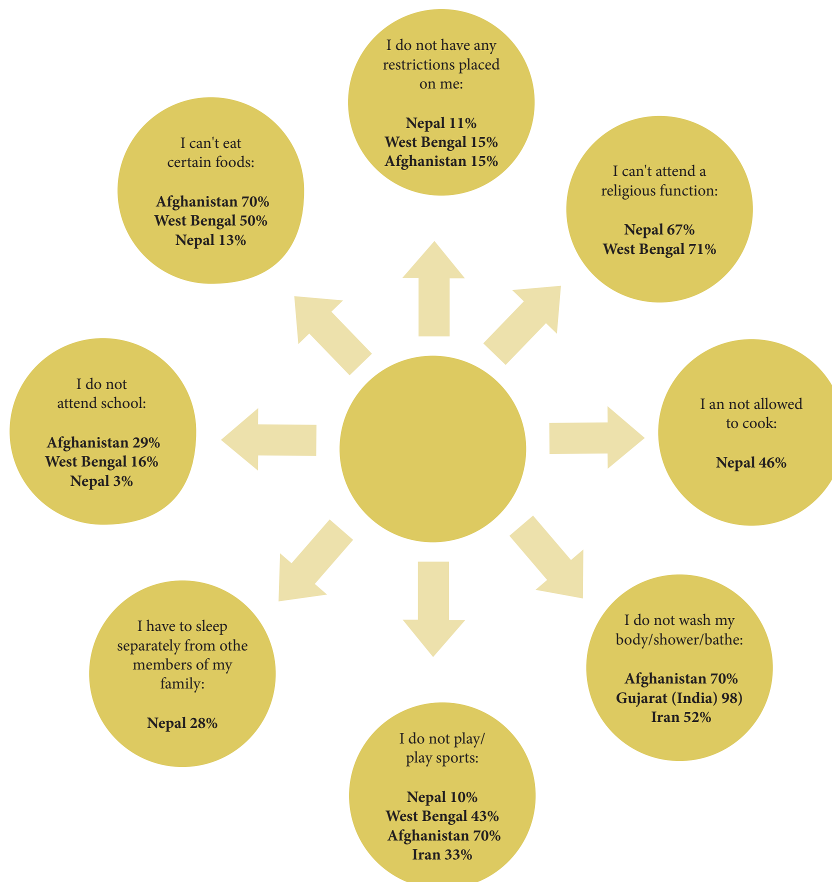
A South Asia study shows that a significant number of girls were not aware, and most girls do not understand the physical process of menstruation[10]. Many cultures have beliefs or myths, social norms and practices about managing menstruation. Some of these are helpful but others have potentially harmful implications. Many myths and social norms restrict women and girls' levels of participation in society thereby restricting their freedom. The ways restrictions are practiced tend to vary by caste, ethnic grouping or geographical area. In India and across the globe, menstruation is surrounded by myths and misconceptions with a long list of "do's" and "don'ts" for women.[16,17,18] **Table 2.3** gives the examples of religious practices and beliefs related to menstruation and Figure 2.1.3 depicts Restrictions on girls during their menstrual period in Afghanistan, India, Iran and Nepal.[23]

Table 2.3: Examples of Religious Practices and Beliefs Related to Menstruation

Religion	Practices
Hinduism[19]	Notions of purity and pollution determine the basis of the caste system, and are central to Hindu culture, including gender relations. All women, regardless of their social caste, incur pollution through the bodily processes of menstruation and child birth. The ways restrictions are practiced tend to vary by caste, ethnic grouping or geographical area. For example, one caste may restrict the washing of hair for the first three days of menstruation, and another for seven days. It is common for women not to be allowed to visit a newborn child when menstruating, until after the first 40 days of the child's life. For at least one caste, a woman is not allowed to wash her hair for the full nine months of pregnancy. Women and girls are not allowed to take part in religious ceremonies or celebrations during Menstruation.
Islam[20]	For the entire duration of menstruation, a woman is considered ritually impure. She is supposed to stop certain forms of worship, e.g. the five daily prayers, fasting during the month of Ramadan (she fasts for an equivalent number of days later) or sitting in a mosque. She is also not allowed to touch the Quran (recitation is allowed as long as she does not physically touch the Quran and recites it from memory or, a recent adaption, reads it from a computer). She is not allowed to engage in sexual intercourse. After a woman completes her period she is supposed to have a ritual bath before she can resume her religious obligations. During menstruation, a woman is allowed to live in the home as usual and to eat and drink with the family. Following menstruation, she can continue to wear clothes that she wore during menstruation as long as there is no blood on them. It is suggested practice for a woman to keep a separate set of clothes for menstruation so her husband will know she is menstruating without them having to talk about it.
Buddhism[21]	In Buddhism, menstruation is seen as a natural bodily process and therefore no restrictions apply. However, some Buddhist temples restrict menstruating women from entering, possibly because of the influence of Hinduism.
Christianity[22]	The Old Testament of the Bible indicates that a menstruating woman is impure, and that most things she touches become unclean. If a man touches her bed during this period he also becomes unclean and has to take a ritual bath. It is also stated that if a woman and man have sexual intercourse during menstruation they will be disowned by the community. However, today, most Christian denominations do not follow any specific rituals or regulations related to menstruation. Some restrictions still exist for particular denominations, such as Russian Orthodox Christians who continue to believe in menstrual taboos. Menstruating women must be secluded during menstruation and are not allowed to attend church services or have contact

Religion	Practices
	with men. Coptic Christians in Ethiopia also place restrictions on women during menstruation. Menstruating women are not permitted to enter a church or kiss religious icons.
Judaism	Jewish law forbids any sexual contact between women and men during the days of menstruation and for the following week, after which a woman has to have a ritual bath or 'Mikvah'. Today, this tends to only be practiced by the most religious people. There are restrictions on women and men passing objects between each other and sharing a common bed or plate. Men are also forbidden from gazing upon a menstruating woman's clothing or hearing her sing.

Figure 2.1.3: Restrictions on Girls during their Menstrual Period in Afghanistan, India, Iran and Nepal



2.4 Knowledge and Reactions to Menstruation

A girl's first experience of menstruation can be frightening at times. Some girls show negative responses such as shame, fear, anxiety and depression. Onset of menstruation is one of the most important changes occurring among the girls during the adolescence. The mere mention of the topic has been a taboo in the past and even to this date the cultural & social influences appear to be a major hurdle for advancement of the knowledge on the subject.[23] Adult women often feel shy talking about menstruation, so girls are not properly informed about what is happening to their bodies or how to stay healthy and maintain self-esteem.

The perception and reaction of girls towards menstruation depends to a larger extent their awareness and knowledge of this phenomenon. Prior awareness regarding menarche and menstruation among girls is generally low in most cultures.[9,24] In this regard a study was conducted to assess the knowledge attitudes and belief towards menstruation in 22 schools in Anand district of Gujarat state in India on 900 school girls aged 11-17 years. The results showed that only 38.5 per cent felt comfortable about menarche and only 31.0 per cent believed that menstruation was a normal physiological process. Around 37.2 per cent girls reported that they were not informed about menarche prior to its onset and 48.2 per cent felt that they were not mentally prepared.[24] In this area of India, many families continue the custom of celebrating the first menarche and observing social restrictions,[24] A survey[25] of 160 girls in West Bengal found that 67.5 per cent girls were aware about menstruation prior to menarche, but 97.5 per cent did not know the source of menstrual bleeding. A South Asia study showed that a significant number of girls were not aware, and most girls do not understand the physical process of menstruation.[10] In most of the cases there was very little awareness about menstruation among girls when they first experience it.

Social prohibitions and negative attitude of parents in discussing the related issues openly has blocked the access of adolescent girls to the right kind of information especially in rural and tribal communities[5,26]. This was further underscored by the poor levels of knowledge reported among girls when they had their first menstrual experience.[5,25,26] Therefore making factual information available is vital to counter negative menstruation myths and support those with positive impacts. This can be done through the use of booklets for girls and women, and making them also available for boys and men to learn from. The period of menarche needs special attention because menstruation in adolescent girls is often associated with related problems and poor practices.[26]

Water Aid Report (2009) in Nepal found that 92 per cent of adolescent girls surveyed had heard about menstruation, but majority of them reported that they were not prepared at all for their first period (Nepal, 2009)[27] with similar findings in other studies.[28,29] In a study conducted by NIPCCD (2006)[30] in Assam, Delhi, Karnataka, Madhya Pradesh and Uttar Pradesh it was found that 70.6 per cent were not aware of menstruation until menarche. Majority of girls were taught about menstruation by their mothers, sisters, and female friends.[27,28] A few studies suggest that formal education in reproductive and sexual health is limited in South Asia, with teachers generally avoiding the topic.[10] A study in India found that 5.4 per cent of girls surveyed learned of menstruation from their teacher.[30] Only one-third of mothers were found to have adequately taught their daughters about menstruation by discussing topics such as the menstrual cycle, dysmenorrhea, menstrual hygiene, and vaginal discharge.[30] Girls who were not prepared for menstruation experienced a variety of negative emotions.[30]

Majority of adolescent girls in India use clean cloth during menstruation, with sanitary pads as the second most commonly used item. A 2006 study conducted by NIPCCD found that 84 per cent of adolescent girls use clean cloth during menstruation, and 23.8 per cent use sanitary pads. In the same study, 72 per cent of adolescent girls changed their pad two or more times per day, 13.1 per cent of girls used an anti-infective treatment to clean reusable cloth pads, and 61.6 per cent of girls dried reusable cloth under the sun.[30] Similarly another study[31] (2012) found that only 16.3 per cent of urban higher secondary school girls used cloth alone, with 38.2 per cent of girls using a combination of using sanitary pads in school and cloth at home and 72.4 per cent of these girls dried reusable cloth in sunlight, and 64.6 per cent used the same cloth for only 2-3 cycles.

A major impact of menstruation management is on girl's education. A study conducted in South India reported that half of girls attending school were withdrawn from school by their parents after their first period, primarily to get married[32] whereas the study conducted by NIPCCD (2006) found that the reasons adolescent girls perceive for being pulled from school include financial problems, domestic responsibilities, distance to school, only available school being co–educational schools, and no female teachers at schools.[30] Girls who remain in school may experience a negative impact on their attendance after menarche. Factors that influence attendance include lack of privacy for cleaning and washing, lack of availability of disposal system and water supply. Girls who did attend school often saw a decline in performance after menarche, largely due to worries that boys would realise their condition.[27]

2.5 Potential Risks of Poor Menstrual Hygiene Management

Reproductive Tract Infections (RTIs) which has become a silent epidemic that devastates women's life is closely inter–related with poor menstrual hygiene. Hygiene-related practices of women during menstruation are of considerable importance, as it may increase vulnerability to RTI's. Repeated use of unclean clothes and improper drying of used cloth before its reuse results in harbouring of micro-organisms which results in spread of vaginal infections. Poor menstrual hygiene is one of the major reasons for the high prevalence of RTIs in the country and contributes significantly to female morbidity. It is assumed that the risk of infection (including sexually transmitted infection) is higher than normal during menstruation because the plug of mucus normally found at the opening of the cervix is dislodged and the cervix opens to allow blood to pass out of the body. Potential risks of poor menstrual hygiene[23] can be inferred from **Table 2.4**.

Girls and women may be more at risk of infections during menstruation. Some of the common infections associated with the reproductive tract are bacterial vaginosis, vulvovaginal candidiasis, chlamydia, trichomonas vaginalis, gonorrhoea, syphilis, hepatitis B, urinary tract infections, pelvic inflammatory disease and vaginitis. Many studies discuss links between poor menstrual hygiene and urinary or reproductive tract infections, and other illnesses.[30] A study conducted by NIPCCD (2006)[30] found that knowledge about urinary and reproductive tract infections is low, with only one-third of adolescent girls aware that reproductive tract infections are curable. Knowledge of signs and symptoms of reproductive tract infections among adolescent girls, mothers, and women opinion leaders was poor.[30]

Table 2.4: Potential Risks to health of poor menstrual hygiene Source: House et al. (2012)[23]

Practice	Health Risk
Unclean sanitary pads/ materials	Bacteria may cause local infections or travel up the vagina and enter the uterine cavity.
Wiping from back to front following urination or defaecation	Makes the introduction of bacteria from the bowel into the vagina (or urethra) more likely.
Unprotected sex	Possible increased risk of sexually transmitted infections or the transmission of HIV or Hepatitis B during menstruation.
Unsafe disposal of used sanitary materials or blood	Risk of infecting others, especially with Hepatitis B (HIV and other Hepatitis viruses do not survive for long outside the body and pose minimal risk except where there is direct contact with blood just leaving the body).
Frequent douching (forcing liquid into vagina)	Can facilitate the introduction of bacteria into the uterine cavity.
Not washing hands after changing sanitary napkin/ cloth etc.	Can facilitate the spread of infections.

Another study by Bhatia & Cleland (1995)[33] reported that women having poor personal hygiene and maintaining unsanitary conditions (mainly due to lack of awareness) were more likely to have gynaecological symptoms and also found a significant relationship between the last place of outcome (have delivery- highest risk) and symptoms of RTIs. The data from various Indian studies reveal that adolescents indulge in premarital sex more frequently and at an early age. STIs, including HIV, are most common among young people aged 15-24 years and more so in young women. The physiological risk of increased susceptibility to infections makes them more susceptible to gonorrhea, chlamydia and HPV. Adolescents today face enhanced vulnerability to unwanted pregnancy and STIs including HIV/AIDS.[34-37]

In a study by Garg et al (2000)[38] in urban slums of Delhi, majority (88%) of women were found to have one or the other symptom of reproductive morbidity and the mean reported reproductive morbidity per women was 2.6. Clinical examination of 301 women revealed high prevalence of major reproductive infections like bacterial vaginosis (41.5%), chlamydia (28.7%), candidiasis (18.6%), trichomoniasis (4.3%), syphyilis (4.2%), hepatitis B (5.8 %) and hepatitis C (1.8). The study also found that out of the 301 women screened for four infections (bacterial vaginosis, candidiasis, trichomoniasis and gonorrhoea), 56 per cent were found infected. A series of studies and their main findings with respect to knowledge and practices with regards to menstruation is given in **Table 2.5**.

Table 2.5: Summary of Data on Prevalence of Menstrual Complaints among Adolescent Girls and Unmarried Women

Name of Author	No. of Subjects and Year	Main Findings
Bang et al, 1989[39]	650 (AGs with age 13+)	✓ Amenorrhea: 20% ✓ Oligomenorrhea: 5% ✓ Irregular periods: 22% ✓ Profuse periods: 13 % ✓ Menorrhagia: 5% ✓ Dysmenorrhea: 15%
Aggarwal et al, 1997[40]	97 (age 11-18), rural, menstruating AGs	✓ Dysmenorrhea: 71 ✓ Requiring analgesics: 11% ✓ Affect daily activity: 6%
Vaidya et al,1998[41]	574 (age 10-17) (Menstruating school girls)	✓ Irregular periods : 17% ✓ Profuse periods: 8% ✓ Dysmenorrhea: 55% ✓ Requiring medication: 16%
Singh et al,1999[42]	130 AGs (age 13-17)AGs	✓ Irregular Periods: 2% ✓ Menorrhagia: 1%, ✓ Dysmenorrhea: 41%
Baridalyne N & Reddaiah VP[43] 2004	254 (age 15-49) Community-based cross-sectional study	✓ Excessive bleeding & severe abdominal pain: 79% ✓ For those women having problems (28%) in the last menstrual period 44 per cent reported excessive bleeding while 17 per cent had severe abdominal pain ✓ 45 per cent consulted a doctor and 15 per cent took self-medication
Sharma P et al, [44] 2008	198 AGs (age 13-19 years)	✓ Dysmenorrhea: 67.2% ✓ Pre-menstrual syndrome (PMS): 63.1% ✓ Had to miss classes: 17.24% ✓ Abstain from work: 25%

Name of Author	No. of Subjects and Year	Main Findings
Nemade D et al, 45. 2009	217 AGs	✓ Girls who washed cloth only with water : 51.2% ✓ Girls who sundried their cloths : 4.27% ✓ Girls who burnt their cloths : 51.2%
Dhingra R et al,[46] 2009	200 AGs (age 13-15 years)	✓ Girls unsatisfied with menstrual management: 98% ✓ Source of information: 83% were friends ✓ Most of the girls were facing social taboos
Nielsen AC et al,[47] 2010	1,033 (women in the menstrual age 151 gynecologists from across resort to India)	✓ Only 12% of India's 355 million menstruating women use sanitary napkins (SNs) ✓ Over 88% of women shocking alternatives like unsanitised cloth, ashes and husk sand ✓ Incidents of RTI are 70% among women ✓ Inadequate menstrual protection makes adolescent girls (age group 12-18 years) miss 5 days of school in a month (50 days a year) ✓ Around 23% of these girls actually drop out of school after they started menstruating ✓ Around 70% of women in India say their family can't afford to buy them. ✓ Nearly 97% gynaecologists in the study believed that use of napkins reduced the risk of severe RTIs

Name of Author	No. of Subjects and Year	Main Findings
		✓ Around 64% of them also believed that STs reduce the risk of cervical cancer
Lawan UM et al,[48]	400 AGs 2010	✓ Fair knowledge about menstruation but still deficient ✓ Most of them used sanitary pads
Mudey AB et al,[49] 2010	300 school going rural AGs (age 10-19 years)	✓ Facing unsatisfactory menstrual practices ✓ More prone to RTIs
Manjula R et al,[50] 2011	362 (pre-university girls)	✓ Attained menarche by 12 years of age: 68% ✓ Normal menstrual flow: 97% ✓ Dysmenorrhoea: 97% ✓ Taken treatment from doctors for dysmenorrhoea: 80% ✓ Abnormal white discharge: 3% ✓ Used sanitary napkins: 60%
Adhikari P,[51] 2011	150 school going AGs	✓ Only 6% girls know it is a natural process ✓ 36.7% know it is a hormone changing process ✓ 94% were using pads
Manish KG &Kundan M,[52] 2011	478 AGs (age 15 -19 years)	✓ Three fourth were unaware about the menstruation ✓ 45% do not go to kitchen ✓ 16% said it is a disease ✓ 7% thought it is a curse
Jogdand K,Yerpude P et al,[53] 2011	360 AGs	✓ Age of menarche:11 to 16 years ✓ Awareness of menstruation: 36.2 % ✓ Got information from mother: 61.29% ✓ Restricted from religious things: 78.99% ✓ Use of old cloth: 34.63%

Name of Author	No. of Subjects and Year	Main Findings
Prateek S.B.,et al,[54] 2011	Girls of 8 and 9 class	✓ Aware of menarche: 36.95% ✓ Using sanitary pads: 49.35% ✓ Used cloth: 45.74%
Subhash B T, et al,[55] 2011	387 Girls Unmarried girls (age 15-22 years)	✓ Awareness on menstruation: 64.2% ✓ Use of disposable pads: 68.9% ✓ Use of cotton material: 19.1%
Malleshappa K et al,[56] 2011	656 girls (age 14-19 years)	✓ Knowledge on contraceptives: 44.5%
Khatoon T et al,[57] 2011	150 AGs (age 10 to 19 years)	✓ Age of menarche was 13
Salve1 S.B.et al,[58] 2012	189 rural and 132 urban girls of 8 to 10 standard	✓ 49% rural and 71% urban girls had started menarche ✓ Regularities of menstruation was better rural girls i.e.94% compared to urban girls (56%) ✓ Percentage of girls using market available sanitary napkins was more in urban girls compared to rural girls ✓ Homemade sanitary napkins were used by 94% rural girls and 40% urban girls ✓ Amongst rural girls, female teacher was the main source of knowledge and mother in urban area ✓ Knowledge about reproductive system, determination of foetal sex, age of marriage etc. was better amongst urban girls

Name of Author	No. of Subjects and Year	Main Findings
		✓ Social taboos like separate sitting, restriction on attending school & social functions were more amongst rural girls ✓ Sanitary facilities like attached toilet, full wall bathroom, sufficient water etc. were less in rural areas
Khan A,[59] 2012	192 AGs	✓ Did not know the source of bleeding: 63.31% ✓ Knowledge about menstruation: 61.3% ✓ Not allowed to do household work: 12% of girls ✓ Used cloth: 72.05% of unmarried adolescents
Eman SAA et al,[60] 2012	150 AGs (secondary school students)	✓ 43.33% cleaned their genitals and used sanitary napkins
Juyal R et al,[61] 2012	453 girls (9 to 12 class girls)	✓ Aware of menstruation: 64.5% ✓ Got information from their friends: 31.8% ✓ Used sanitary pads: 38.4% ✓ Used cloth and rags: 30%
Komal JS et al,[62]	450 AGs 2012	✓ Aware of reproductive health: 48.89%
Ray S et al,[63] 2012	190 AGs (secondary school)	✓ 42% of girls were prepared for pre attainment of menarche
Dude S et al,[64] 2012 Rajasthan (urban and rural setting of Jaipur)	200 girls of 15 -19 years old girls	✓ 40% rural girls and 60% urban girls considered menstruation as a natural process ✓ 39% rural and 5% urban took it as a disease

Name of Author	No. of Subjects and Year	Main Findings
		✓ 11% of urban and 28% of rural girls were not aware ✓ 33% urban girls had prior knowledge about menstruation while 62% girls were not aware
Nair M K et al,[65] 2012	560 AGs	✓ Menstrual disorders: 21.1%. ✓ Dysmenorrhoea: 72.4% ✓ Oligomenorrhoea: 11.3% ✓ Treatment from gynaecologist: 11.5 % ✓ Vaginal discharge: 81.5%
Thakre SB et al, [66] 2012 (rural and urban girls)	387 girls (12-16 years)	✓ Had at least one problem related to menstruation: 71.83% ✓ Problems varies from urban and rural settings ✓ Menstrual problem seems to be most common problem of morbidity
Dambhare DG, et al,[67] 2012	1100 school going AGs	✓ Had abnormal cycle: 30.48% ✓ Dysmenorrhoea: 56.15% ✓ Premenstrual syndrome: 56.16% ✓ Problem of headache: 26.74% ✓ Discussing problem with mother: 38.15%
Yasmin S et al, [68] 2012	147 AGs (secondary school)	✓ Unaware about menstruation: 42 % ✓ Washing of private parts were regular among 76.9% but 74.1% used only water and no soap ✓ Maximum followed some taboo or unnecessary restriction

Name of Author	No. of Subjects and Year	Main Findings
Bathija GV et al, 69 2013	100 menstruating women (15-45 years)	✓ No awareness of menstruation before menarche: 91% ✓ Considered menstruation as a mythical process: 75% ✓ Used Cloth during menstruation: 79% ✓ Used sanitary pad: 21%. ✓ Prevalence of RTI and UTI was more among cloth users
Shah SP et al,[70] 2013	164 AGs	✓ At baseline 90% of girls were using old cloths ✓ At the end of the study, 68% used falalin cloths ✓ None of them preferred old cloth ✓ Introduction of falalin cloths improved quality of life significantly

2.6 Programmes and Initiatives to Improve Adolescent Reproductive And Sexual Health

Some of the public health challenges for adolescents include pregnancy, excess risk of maternal and infant mortality, sexually transmitted infections and reproductive tract infections in adolescence and rapidly rising incidence of HIV in this age group.[70] Adolescents have to be knowledgeable about their health problems including sexual and reproductive health problems.[71] Gender inequality damages the health of millions of girls and women across the globe. Taking action to improve gender equity in health and address women's rights to health is one of the direct and potent ways to reduce health inequities overall and ensure effective use of health resources.[72] It is important that adolescents receive proper guidance on the subject so that they can interact and learn more about their health. The health programmes for this age group should have promotive and preventive as well as curative components.

Creating awareness among young girls and thereby investing in the health and development of adolescents would help in achieving the Millennium Development Goals (MDGs),[11,12] promoting public health and ensuring economic development. It is worthwhile to mention that poor menstrual hygiene comes in the way of achieving the Millennium Development Goals (MDG) 2,3,5,7 and 8 **(Table 2.6)**. The above Millennium Development Goals (MDGs) will lack accomplishment if state and non–state actors do not undertake immediate action as puberty leads to significant changes in school participation among girls.

In order to strengthen these components various Ministries in India have taken strides to address to this important group – the adolescents. Given below are some of the important programmes by GOI which directly or indirectly have a bearing on nutritional and health status of adolescent girls. The Indian Government has emphasised adolescents as a priority group in many government policies and programmes which include the following:

Table 2.6: Poor Menstrual Hygiene and Millennium Development Goals

MDGs	Goal	Menstrual Hygiene
MDG 2	Achieve universal primary education	Menstruation is an important cause of absenteeism and even school dropout
MDG 3	Promotes gender equality and empower women	Taboos and misconceptions regarding menstruating girls and menstrual hygiene evolves in gender inequality and degradation of women empowerment
MDG 5	Improve maternal health	Poor menstrual hygiene causes Reproductive Tract Infection which is a morbidity that is suffered by many women with hushed silence. Cancer of the cervix, which is the commonest cause of cancer among women in India, is another morbidity whose risk factor is poor reproductive tract hygiene
MDG 7	Ensure environmental sustainability	Indiscriminate disposal of sanitary napkins and other absorbent materials is not ecologically friendly
MDG 8	Global partnership for development	Absence of a structured program or policy for upliftment of menstrual hygiene, thus neglecting MDG 8

The analysis of the existing policies and interventions in the XII Plan (2012-17) established the need and urgency for addressing the varied issues of adolescents under the policy framework. It also laid emphasis that the Policy and its execution are to be tied up and existing gaps between policy and programme implementation to be addressed effectively to rollout various interventions for adolescents.

Policies Concerning Adolescents

National Policy on Education (1992): The Policy stresses on adult education (15-35 years age group) through the National Literacy Campaign for improvement in the livelihood options for them. The policy lays emphasis on universal access to education and school retention of children till the age of 14 years, both girls and boys. With regard to Adolescents and Youth, the policy envisages that non-formal flexible and need-based vocational programmes will also be made available to neo literate, youth who have completed primary education, school drop-outs, persons engaged in work, and unemployed or partially employed persons.

National Nutrition Policy (1993): The policy includes reaching the Adolescent Girls, for which the Government's initiative of including the adolescent girl within 'the ambit of' ICDS should be intensified so that they are made ready for a safe motherhood. Their nutritional status (including iron supplementation in the body) is improved and they are given some skill upgradation training in home-based skills. They are also covered by non-formal education particularly nutrition and health education.

National AIDS Prevention and Control Policy (2002): One of the specific objectives of the policy is to prevent women, children (including adolescents) and other socially weak groups from becoming vulnerable to HIV infection by improving health education, legal status and economic prospects.

National Youth Policy (2003): The Policy covers all youth in the country in the age group of 13 to 35 years. It is divided into two broad subgroups viz. 13-19 years and 20-35 years wherein the age group 13-19 is regarded as a separate constituency. The policy recognises the following areas as key sectors of concern for the youth:- (i) Education; (ii)Training and Employment; (iii) Health and Family Welfare; (iv) Preservation of Environment, Ecology and Wild Life; (v) Recreation and Sports; (vi) Arts and Culture; (vii) Science and Technology; and (viii) Civics and Good Citizenship.

National Policy for Children (2013): This policy is formulated using a rights-based approach in addressing the emerging challenges of children. It defines child as any individual below the age of eighteen years. It reiterates the Government of India's commitment to safeguard, inform, include, support and empower all children within its territory and jurisdiction, both in an individual situation and as a national asset. The key priorities of this policy are survival, health, nutrition, development, education, protection and participation rights of every child. It also enlists the long term, sustainable, multi-sectoral, integrated and inclusive approaches that are necessary for the overall and harmonious development and protection of children and eliminate conditions that perpetuate discrimination.

National Programmes and Schemes for Adolescent Development

Adolescent Reproductive and Sexual Health (ARSH) Programme under National Rural Health Mission (NRHM) as a part of Reproductive and Child Health (RCH) Programme focuses on : (a) Reorganising and strengthening the existing public health system in order to meet the reproductive and sexual health needs of adolescents, (b) Mobilising the community for creating an enabling social environment and creating demand among adolescents for health services, and (c) Providing preventive, promotive, curative and referral health services to adolescents.

Reproductive Maternal Newborn Child and Adolescent Health (RMNCH +A), 2013 is a strategy that embodies a vision for comprehensive and integrated health services most importantly for the adolescents, mothers and children. The 'Plus' in the strategic approach of RMNCH+A denotes the inclusion of adolescence as a distinct 'life stage' in the overall strategy; Linking of maternal and child health to reproductive health and other components (like family planning, adolescent health, HIV, gender and Preconception and Prenatal Diagnostic Techniques (PC&PNDT); and Linking of community and facility-based care as well as referrals between various levels of health care system to create a continuous care pathway, and to bring an additive /synergistic effect in terms of overall outcomes and impact. Key RMNCH+A interventions as a 'continuum of care' across life cycle and different levels of health system are given in **Annexure 2.2.** Priority interventions for adolescents include the following:

- Adolescent nutrition; iron and folic acid supplementation
- Facility-based adolescent reproductive and sexual health services (Adolescent health clinics)
- Information and counselling on adolescent sexual reproductive health and other health issues
- Menstrual hygiene
- Preventive health checkups

Adolescent-Friendly Health Services (Adolescent Health Clinics): Access to reproductive and sexual health information and services, including access to contraceptives and safe abortion services, delivered in an adolescent-friendly environment are critical to reducing incidence of STIs, unplanned and unwanted pregnancies and unsafe abortions. In an effort to provide adolescent reproductive and sexual health information and services along the continuum of care, community-based interventions and demand generation initiatives will be linked to facility-based services across all levels of health system. Services at sub centre level will be provided by the ANM while an Adolescent Information and Counselling Centre will be made functional by the Medical Officer and ANM at the Primary Health Centre (PHC) on a weekly basis. At the Community Health Centre (CHC), District Hospital/Sub District Hospital/Taluk/Area Hospital and Medical College, Adolescent Health Clinics will provide services on a daily basis. A dedicated counsellor will be available on all days at higher-level facilities (Community Health Centre onwards). Services in adolescent health clinics will be available to all adolescents, and will be further expanded and strengthened. Special focus will be given to establishing linkages with Integrated Counselling and Testing Centres (ICTCs) and making appropriate referrals for HIV testing and RTI/STI management; providing comprehensive abortion care; and provision of information, counselling and services for contraception to both married and unmarried adolescents. The provision of contraceptives is to be made through this clinic, while ensuring continuous contraceptive supplies and services. These services will be linked to a strong community-based component for generating demand and mobilising adolescents to the Adolescent Health Clinics. Information and counselling on adolescent sexual reproductive health and other health issues. In order to improve knowledge, attitude and behaviours regarding sexual and reproductive health (including gender-based violence) and to address a host of health issues (mental health, substance use, non-communicable diseases) that can have immediate and long term implications for health.

Scheme for Promotion of Menstrual Hygiene (MHS): The Ministry of Health and Family Welfare has introduced this scheme which promotes better health and hygiene among adolescent girls (aged 10 to 19 years) in rural areas by ensuring that they have adequate knowledge and information about the use of sanitary napkins. Through the scheme, high quality and safe products are made available to the girls and environmentally safe disposal mechanisms are made accessible. The sanitary napkins are provided under NRHM's brand 'Free days'. These napkins are being sold to adolescent girls through ASHAs. The scheme should also be seen as an opportunity to inform adolescent girls about sexual and reproductive health issues, nutrition, non-communicable diseases and mental well-being, and guide them to community-based counsellors and/or adolescent clinics in case of any queries or problems that need to be addressed.

Weekly Iron & Folic Acid Supplementation Programme provides adolescents girls and boys with micronutrient supplements for prevention of iron and folic acid (IFA) deficiency. The programme strategy includes weekly IFA, biennial de-worming for prevention of helminthes infestation and information, counselling and support on improving dietary intake and preventing anaemia. Under the WIFS programme for adolescents, IFA supplements are distributed free to adolescent girls and boys (10-19 years) enrolled in government or municipal schools and to adolescent girls who are out of school. The objective of the programme is to reduce the prevalence and severity of nutritional anaemia in adolescent population.

School Health Programme ensures that children are healthy and are able to learn. It is an essential component of an effective education system. Good health increases enrolment and reduces absenteeism. It attempts to provide easy access to health, nutrition and hygiene education and services to children in school in a simple and cost effective way. It includes various components i.e. screening, healthcare and referral, immunisation, micronutrient (Vitamin A and Iron Folic Acid) management, de-worming, Health Promoting Schools, capacity building of teachers and the health personnel involved, monitoring & evaluation and mid-day meal. It also works towards addressing specific health problems.

Adolescence Education Programme (AEP): The major components of AEP are providing guidance and counselling to adolescents, both boys and girls regarding the process of growing up during adolescence, prevention of HIV/AIDS and prevention of substance/drug abuse. The programme aims to reinforce development of behaviours that will empower adolescent to make healthy choices, to provide opportunities for the reinforcement of positive behaviours, and strengthening of life skills that enable young people to grow up healthy, cope with challenges and optimise opportunities effectively. It also encourages learners to examine their own beliefs related to issues around sexuality, gender-based discrimination and resolve myths and misconceptions related to these issues.

National Programme for Education of Girls for Elementary Level (NPEGEL) has been formulated for education of under privileged / disadvantaged girls from class I to VIII. It is a separate and distinct gender component plan of Sarva Shiksha Abhiyan (SSA) and initiated as an amendment to SSA for providing additional components for education of girls at elementary level which is necessary to achieve Universal Elementary Education for girls in educationally backward areas.

National Programme for Youth and Adolescents (NPYAD) envisions creating an enabling environment to cater to adolescent needs through sensitizing key stakeholders, counselling adolescents and organising life-skills education camps. It promotes activities and programmes, which foster social harmony and national unity among the youth. It stimulates action for development and empowerment of adolescents, particularly from the economically and socially neglected/backward sections of society.

Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (RGSEAG) or Sabla is one of the pioneering efforts by the Government of India to empower adolescent girls across the country since its launch in 2010. The agenda of empowering women is a multifaceted issue requiring a multi-sectoral response. Sabla is a comprehensively conceived scheme which involves inputs from relevant sectors (health, education and employment) that are fundamental to the holistic growth of an adolescent girl. The activities under the scheme are based on the robust theory of life course approach where nutrition and life-skills interventions are provided at the right age.

Total Sanitation Campaign (TSC): *A Decade of the Total Sanitation Campaign (TSC): Rapid Assessment of Processes and Outcomes,* a study undertaken by the Water and Sanitation Programme in 2010, states, 'Disaggregating the impacts of sanitation by gender reveals that the privacy afforded by access to adequate sanitation facilities imparts a sense of dignity, especially to women and young girls. By generating more awareness on menstrual hygiene, more children can be kept in schools creating a better future for the individual and community, and contributing to MDG 3 of promoting gender equality and the empowerment of women.

New Initiatives for Promotion of Menstrual Hygiene

Stayfree Women for Change Initiative: Stayfree is supporting UNICEF in its programme in four districts in the states of Bihar and Jharkhand through a model that involves improving the knowledge and skills of teachers, self-help group members, Anganwadi workers, ASHA and other stakeholders involved in shaping the lives of girls and women by raising awareness, increase knowledge and improving life skills for better health and hygiene. This initiative is supporting the Delhi Government "Kishori" Programme in its objective to inculcate better health and hygiene practices amongst adolescent school girls in Delhi Government and Government aided schools. The Delhi Government is giving each adolescent school girl from class 6 to class 12 in government and government-aided schools, a pack of 10 sanitary napkins every month free of cost. These napkins are provided by Stayfree at highly subsidized rates to the Delhi government. In 2010, Delhi government invited Stayfree to participate in their "Stree Shakti" programme which is a tripartite programme involving Government of Delhi, Johnson & Johnson Limited and NGOs from civil society. Some of the other initiatives by various stakeholders in improving menstrual hygiene management addressing the important issue of reproductive health of adolescent girls are presented in **Table 2.7.**

Table 2.7: Initiatives by Various Stakeholders in Improving Menstrual Hygiene and Reproductive Health of Adolescent Girls

State/UT	Initiative
Andhra Pradesh	• **Healing Fields Foundation** is working on the issue of menstrual hygiene by making health care affordable and accessible for AGs. • **Yuva Clinics** is an initiative of the Andhra Pradesh Health Department, works on generating awareness on menstrual hygiene management and RTI/STI in urban PHC
Andaman & Nicobar Islands	• **Terre Des Hommes Foundation (TdH)** is working in the area of menstrual hygiene management by creating awareness in schools by using innovative communication strategies • **PRAYAS, New Delhi** is working in Andaman and Baratang through the School Hygiene Committees on the issues of menstrual hygiene management
Delhi	• **GOONJ, Delhi** is actively campaigning in rural and urban India to generate awareness on menstrual hygiene and on using clean cloth and sanitary napkins • **Total Sanitation Campaign, New Delhi** is creating awareness on menstrual hygiene management particularly under School Sanitation and Hygiene Education (SSHE) as part of its programme • **Pathfinder International, New Delhi** utilizes innovative approaches to support youth-friendly service delivery and sensitizes health workers and policy makers about adolescent reproductive and sexual health needs • **International Planned Parenthood Federation** works towards improving the quality of lives of the individuals' particularly poor and vulnerable adolescents by promoting sexual and reproductive rights through advocacy and services • **Talking about Reproductive and Sexual Health Issues (TARSHI), New Delhi** is working on promoting issues of sexual and reproductive health amongst adolescents to enable them to make responsible reproductive and sexual health choices through counselling services • **MAMTA Health Institute for Mother and Child** is conducting various training programmes on mainstreaming sexual and reproductive health and sexual rights through youth friendly health services in India and is also promoting peer to peer education

Gujarat	• **CHETNA, Gujarat** works towards empowering women and girls to break the culture of silence and discuss about their concerns related to reproductive and sexual health • **SEWA (Self Employed Women's Association), Gujarat** is working in the area of reproductive and child health towards improving health status of women in the unorganised sector • **SAHAJ, Baroda** engages with urban basti boys and girls to create awareness on the issues related to sexuality, reproductive health and sexual rights • There are 191 Adolescent Friendly Health Clinics under ARSH component of NRHM
Haryana	• **HWDCL (Haryana Women Development Corporation Limited)** in collaboration with **Haryana Government** has launched a campaign for social marketing of sanitary napkins in 2009. Sanitary napkin production units are run by Sakshar Mahila Samooh or other self-help groups under the brand name 'Mukti' • **Survival for Women and Children Foundation (SWACH), Panchkula** is working towards creating awareness on reproductive and sexual health among adolescents
Jharkhand	• **Innovations in Family Planning Services Project (IFPS II)** are campaigning for reproductive and child health activities at the national level in Uttar Pradesh, Uttarakhand and Jharkhand
Kerala	• In **Trissur district, Kerala** coin-operated vending machines for sanitary napkins are being provided in schools by utilising prize money received under Nirmal Puraskar
Karnataka	• **Menstrual Hygiene Project in Rural Udupi District** is manufacturing sanitary napkins with the help of Self Help Groups The rate per sanitary pad is highly subsidised with no compromise on quality. Awareness sessions are held for the rural women, ASHA trainees, Anganwadi workers, rural adolescent school girls • **Mukti Bosco, Healing Fields Foundation, Bangalore** is involved in manufacturing Sanitary Napkins by turning unused cloth and is lso working on the issue of menstrual hygiene • Sanitary napkins are being distributed by utilising the platform of Sneha Clinics under ARSH

Madhya Pradesh	• **Hindustan Latex Family Planning Promotion Trust (HLFPPT)**, Chambal is advocating social marketing of sanitary pads along with organising orientation sessions for members of SHGs/Mahila Mandals on Reproductive and Sexual Health, RTI and advantages of sanitary napkins, using flip books. The demand for sanitary napkins is huge as the napkins are delivered to the doorsteps of the beneficiaries at the lowest price. The product is offered at Rs. 16/- for a pack of 10 pads
Maharashtra	• **Maitry Clinics under ARSH, NRHM** provides adolescent guidance • **Late Shriram Ahirrao Memorial Trust, Maharashtra** is implementing an intervention research project called **SATHI** [Safe Adolescent Transition & Health Initiative Project] in the area of Adolescent Reproductive and Sexual Health • **Jalswarajya Project** under the aegis of Government of Maharashtra's Water Supply and Sanitation, sanitary napkin unit named 'Nirmal Sanitary Napkin Enterprise' in Jeur, is distributing low cost sanitary napkins
Odisha	• **Water Aid in Odisha** is promoting menstrual hygiene • **UNICEF in Odisha** in collaboration with GOI is developing and implementing replicable models for sanitation and has also developed manual on menstrual hygiene management • **SRUSTI Project** works for RCH by promoting low cost sanitary napkins through social marketing in Nuapada district through Saathi Centres and ASHAs. It runs as a social enterprise in adolescent sexual health programmes and reach to other districts by involving Saathi clubs (adolescent groups) and field NGOs to promote this innovative concept
Rajasthan	• **"Not just a piece of cloth** is an initiative of **Goonj and Boond** in Udaipur district of Rajasthan with an aim to bring a gradual change in mindsets about the taboo linked with health and menstrual hygiene and provide women with healthy alternatives to traditional practices. • **Vikalp Design, Rajasthan** designs, develops, produces and sells sanitary pads. Through interactive communication it seeks to encourage action and empower young women to share their knowledge on menstrual hygiene with others in the community

	• **Society for Sustainable Development, Karauli** works under government sponsored programmes to create awareness amongst adolescents about adolescent reproductive and sexual health services provided by GOI
Tamil Nadu	• **WISH (Women Involved in Sanitation and Hygiene)** is a new forum of Barathidasan University of Tamil Nadu for promoting menstrual hygiene management and health issues in urban and rural areas • **Cheema Foundation in collaboration with UNICEF** is working on menstrual hygiene management for Rural School Girls in Kancheepuram and Nemeli District towards increasing girls' attendance in schools by providing separate toilets for girls with napkin vending and napkin disposal facilities in rural schools • **Sanitary Complexes with Sanitary Pads and Incinerators from INP+** (Indian Network for People Living with HIV/AIDS) in Chennai under the Total Sanitation Programme is constructing sanitary complexes in villages with the facilities of sanitary pads with incinerator. It has become a practice in most of the villages and most school girls and women prefer sanitary napkins in these rural areas
Uttarakhand	• **UDAAN (Understanding and Delivering to Address Adolescent Needs)** an USAID and GOI initiative to make health care more accessible and acceptable to adolescents including Menstrual Hygiene • **Self-Designed Sanitary Napkins by Vikalpdesign** included in the ASHA plus programme makes available sanitary napkins for ASHAs • **The Innovations in Family Planning Services Technical Assistance Project** is operating Mobile Health Van (in 3 blocks) catering to the hard-to-reach areas of the district Nainital since 2007. Along with diagnostic and curative services, the van provides RCH services, which includes distributing branded disposable sanitary pads free of cost to the female beneficiaries with guidance on proper use and hygienic disposal of the napkins • **Innovations in Family Planning Services Project (IFPSII)** address reproductive and child health activities at the national level in Uttar Pradesh, Uttarakhand and Jharkhand • **ARSH Helpline in Uttarakhand under NRHM** (Toll free helpline number 18001801200)

	• **Chirag, Nainital** Runs "Kishori Shikshan Kendra" aims to prepare adolescent girls to face the transition from childhood to adolescence by addressing reproductive and sexual health concerns
Uttar Pradesh	• **Saloni Swasth Kishori Yojana (SSKY)** is an integrated nutrition and reproductive health programme for in school adolescent girls • **Hindustan Latex Family Planning Promotion Trust (HLFPPT), Noida** implement programmes to encourage healthy behaviour particularly menstrual hygiene to increase access to health products at affordable prices like low cost sanitary napkins • **Water Aid** working on Menstrual Hygiene in Banda and Orai Districts • **Social Consultancy Services, Lucknow** is coordinating the Adolescent School Girls Health-Education Programme supported by Johnson & Johnson in six states of India. The programme is aimed at promoting the importance of personal health and menstrual hygiene among the school going adolescent girls • **An Innovation in Family Planning Services Project (IFPS II)** addresses reproductive and child health activities at Uttar Pradesh • **Sahayog, Lucknow** recognises young people facing high risk with regards to their reproductive and sexual health. It works for adolescents towards improving access sexual and reproductive health information and services
West Bengal	• **Menstrual Hygiene Management** an Initiative by the Department of Panchayat and Rural Development, Government of West Bengal in collaboration with UNICEF started in the district of Purulia in 2007 by a cluster of 5 SHGs through installation of a manufacturing unit and later scaled up through setting up of Menstrual Hygiene Management Cell. The product manufactured by Federations/ Clusters are sold under a common name 'Diya'. Capacity Development of women on production, marketing, awareness campaign and installation of incinerators in schools is being undertaken • **Child in Need Institute (CINI), Kolkata** engages in Social Marketing of Sanitary Napkins to promote menstrual hygiene. Teenline provides counselling and information to adolescents on reproductive and sexual health issues and aims to develop a referral network of counselling services for them

3. DESIGN AND METHODOLOGY

The Research Study was presented to the Institutional Review Board (IRB) of NIPCCD on 15 May 2012 and suggestions/comments of IRB were duly incorporated in the design of the study. Therefore the study was taken up with the following objectives.

1) To assess present knowledge and ascertain practices adopted by adolescent girls regarding reproductive health with special emphasis on hygiene during menstruation and comparison with 2007 data;

2) To find out the socio-cultural, health, nutrition, sanitation, education-related practices that are considered essential for menarche and during menstruation by the community at present and differences if any as compared to 2007 data;

3) To study the source of information and health seeking behaviour of adolescents and effect of media with special emphasis on hygiene during menstruation and compare it with 2007 data; and

4) To find out the effect of Menstrual Hygiene Programme under NRHM on practices of adolescent girls.

Study Design: Cross Sectional Study

3.1 Research Setting

As mentioned earlier, a similar study was conducted by the Institute funded by ICMR in the year 2007 and this study was under taken after 5 years to see the changes thereof in the light of awareness generation through media and new programmes being implemented by MWCD and MoHFW. The data of the study was collected by NIPCCD and its four Regional Centres at Guwahati, Bangalore, Lucknow and Indore as was done in the previous study to have a regional representation. The data was compared to see changes in knowledge, attitudes and practices of adolescent girl with special emphasis on menstrual hygiene.

3.2 Selection of Sample

Data was collected from adolescent girls in 50 villages of 10 blocks from five selected districts namely, Kamrup (Assam), South West Delhi (Delhi), Mysore (Karnataka), Dhar (Madhya Pradesh) and Barabanki (Uttar Pradesh) who had attained menarche, to ascertain hygienic practices adopted by them during menstruation and other relevant issues. Data was collected from the same projects with same sample size and the respondents were different but were from similar age group in ICDS projects (rural) as envisaged in the previous study (2007) so as to elucidate menstrual hygiene practices and reproductive health of women in general and of adolescent girls in particular in rural context and to enumerate changes, if any between 2007 and 2012 **(Table 3.1).**

Table 3.1: Sample Selection in 2007 and 2012 Study

	RC Guwahati	HQs Delhi	RC Bangalore	RC Indore	RC Lucknow
States (n=5)	Assam	Delhi	Karnataka	Madhya Pradesh	Uttar Pradesh
Districts (n=5)	Kamrup	South West Delhi	Mysore	Dhar	Barabanki
Blocks (n=10)	1. Sayani Bardua (Mirza) 2. Rani	1. Nazafgarh 2. Palam	1. Periyapatnam 2. Nanjangudu	1. Nalcha 2. Tilara	1. Nindura 2. Deva
Villages (n=50)	10	10	10	10	10
Block 1	**Sayani Bardua**	**Nazafgarh**	**Periyapatnam**	**Nalcha**	**Nindura**
Villages	Gopalpur Bangara Batiapara Maniyari Uparhali	Ranaji Daulatapur Shikarpur Khaira Jhatikara	Handitwali Koppa Kamplapur Chitamahali Doddabalam	Bardari Dhannad Pithampur Sagar Aakolia	Kursi Hemapurva Behruli Amarsanda Anwari
Block 2	**Rani**	**Palam**	**Nanjangudu**	**Tirla**	**Deva**
Villages	Kheliapara Bhattapara Bahupara Kaliapara Belorguri	Palam Nasirpur Bagdola Shahbad Rajnagar	Kavalande Yekkadahalli Dabur Tagadur Davanaur	Badhwara Tirla Aahu Ganganagar Kharampur	Hujaji Hajikajipur Khewli Caima Rasulpur

3.3 Selection of Respondents

The respondents for the present study included mainly Adolescent Girls, Mothers of Adolescent Girls, Women Opinion Leaders, Women ICDS Functionaries (Child Development Project Officer, Supervisors and AWWs) and Health Functionaries (Medical Officer, LHV, ANM).

3.4 Data Collection

Data was collected at anganwadi centre by the project staff with the help of ICDS functionaries. The Anganwadi worker and helper - the basic functionaries of the ICDS who run the anganwadi centre and deliver the services under ICDS programme in coordination with the functionaries of the Health, Education, Rural development and other departments were contacted for bringing repondents - adolescent girls, mothers of adolescent girls and women opinion leaders for data collection.

3.5 Tools for Data Collection

In order to collect data for the study, content-specific tools were prepared and hence used to elicit responses from the respondents. Pre-designed, pre-tested and structured questionnaire as used in 2007 were reused for the study so as to assess the changes over a period of five years. In order to fulfill the objectives to assess the effect of media in awareness generation related to menstrual hygiene practices, 10 questions on the same were added in the questionnaire which also included questions regarding Government programmes being implemented for improving health and nutritional status of adolescent girls. Research tools used for the study were:

1. Interview Schedule for Adolescent Girls (10-16 years)
2. Interview schedule for Mothers of the Adolescent girls/Female Head of the household of the adolescent girl
3. Interview Schedule for Women Opinion Leaders
4. Interview Schedule for Women ICDS and Health Functionaries (MO, CDPO, Supervisor, AWW, LHV, ANM).

The questionnaires included topics which were related to the awareness about menstruation, the sources of information regarding menstruation, the hygienic practices during menstruation and the practice of restricting activities during menstruation. The tools used in the study are placed at **Annexure 3.1** and **Annexure 3.2.** The demographic information including family details, parent's education, occupation, housing conditions, house type, and toilet facility was also documented. The menstrual hygiene questionnaire included queries about the type of absorbent which was used, its storage place, the use of clean or unclean napkins and the frequency of changing and cleaning them. The information on personal hygiene included washing and bathing during menstruation, the practice of wearing stained clothes, etc.

In order to remove the ambiguity and difficulty level of language used in the schedules, the schedules were prepared in both English and Hindi languages. In Bangalore, the schedules were translated to local

language i.e. Kannada as it was difficult to communicate in English and Hindi in the villages. Project assistants appointed in the study region knew the local language very well and communicated in the same language with adolescent girls and other respondents.

3.6 Sampling Criteria

Inclusion Criteria

- Adolescent girls both school going and school dropouts (out of school)
- Adolescent girls who were willing to participate in the study.

Exclusion Criteria

- Adolescent girls who were not willing to participate in the study.

3.7 Collection of Data

The data was collected with the help of Faculty Members of Regional Centres of NIPCCD and Headquarters. The same ICDS projects and the villages were identified as earlier (in 2007). In order to carry out the data collection work in a systematic manner, Project Assistant having requisite knowledge and experience were hired and the State ICDS Departments were requested to support the Data collection in the field. After the schedules were finalised for the study, the research team along with the Project Assistant who knew the local language proceeded to the field for final data collection from the respondents.

Five research teams were deployed for data collection in five identified sample states. Regional Directors deputed one faculty member (if possible, the same faculty member who was involved in the earlier study) so that their knowledge and expertise on the subject could be utilised to the fullest. Data collection was for a period of four months starting from September 2012 to December 2012. In the state of Karnataka, it started in the month of November and ended in February since the research schedules had to be translated into regional language (Kannada) so as to facilitate data collection.

3.8 Ethical Issues

Congeniality is a primary ethical and a crucial issue in adolescent health care and this is particularly true when the needs and wishes of the adolescent conflict with the opinions and preferences of the parents. Informed consent was drawn from the parents/guardins as part of the ethical clearance. Privacy was maintained during interview and confidentiality taken seriously.

3.9 Data Collection and Analysis

At AWC, data was collected through structured questionnaires by the Project staff. The collected data was verified, tabulated and analysed for writing the report. The analysis of data was carried out by using Microsoft Excel Sheets.Chi-Square Test was used for testing the significance with respect to categorical variables.

4. RESULTS

4.1 Profile of the Respondents

A) State-wise Distribution of Respondents

The study was conducted in one district each of Assam, Delhi, Karnataka, Madhya Pradesh and Uttar Pradesh. Fifty villages from 10 blocks of each of the five selected districts as mentioned in **Table 4.1.1** were surveyed as a part of the study.

In 2007 study, 500 adolescent girls (AGs) and their mothers along with 93 women opinion leaders were interviewed during the study conducted in 50 villages of 10 blocks from the five selected districts namely Kamrup (Assam), South West Delhi (Delhi), Mysore (Karnataka), Dhar (Madhya Pradesh) and Barabanki (Uttar Pradesh). In addition to this, 150 ICDS and health functionaries, including CDPOs (6), Supervisors (26), Anganwadi Workers (52), Medical Officers (8), Lady Health Visitors (14) and Auxiliary Nurse Midwives (40), were interviewed.

In 2012 study, around 500 AGs and their mothers (500) along with 100 WOLs were interviewed for the study. In addition to this, 155 ICDS and health functionaries, including CDPOs (5), Supervisors (37), Anganwadi Workers (63), Medical Officers (18), Lady Health Visitors (3) and Auxiliary Nurse Midwives (29), were also interviewed. State wise distribution of respondents for the year 2007 and 2012 is depicted in **Table 4.1.1**.

B) Age-wise Distribution of Respondents

The age-wise distribution of respondents is depicted in **Table 4.1.2.** Among the study subjects, majority of AGs (49.4 %) were in the age group of 15-17 years and 34.6 per cent in the 10-14 years and 15 per cent in 18-19 years category as compared to the 32, 60 and 8 per cent in the 2007 study respectively. Around 59.2 per cent mothers, 35 per cent WOLs and 40 per cent of women functionaries were in the age group of 35-45 years in 2012. Thirty nine per cent WOLs and 39.4 per cent of women functionaries were in the age group of 45 years and above. Mean age of all the AGs, mothers of AGs, WOLs and women functionaries was 11.87, 36.42, 56.6 and 40.2 years respectively in the 2012 study **(Figure 4.1.1).**

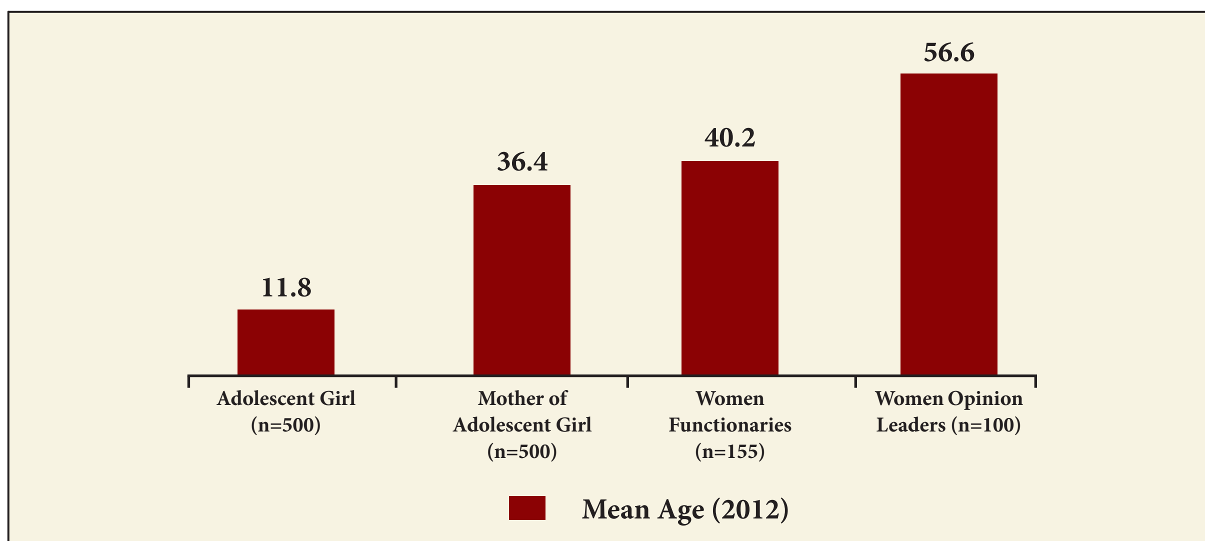
Table 4.1.1: Category-wise Distribution of Respondents

State	AGs		Mothers of AGs		WOLs		Women Functionaries											
							ICDS Functionaries						Health Functionaries					
							CDPO		Supervisor		AWW		MO		LHV		ANM	
	2007	2012	2007	2012	2007	2012	2007	2012	2007	2012	2007	2012	2007	2012	2007	2012	2007	2012
Karnataka	100	100	100	100	20	20	1	0	9	7	9	8	5	6	0	1	6	13
Delhi	100	100	100	100	13	20	0	1	0	7	8	12	3	5	7	0	12	5
Assam	100	100	100	100	20	20	2	1	6	5	10	15	2	3	4	1	6	5
MP	100	100	100	100	20	20	1	1	7	14	15	10	0	0	0	1	7	4
UP	100	100	100	100	20	20	2	2	4	4	10	18	2	4	3	0	9	2
Total	**500**	**500**	**500**	**500**	**93**	**100**	**6**	**5**	**26**	**37**	**52**	**63**	**12**	**18**	**14**	**3**	**40**	**29**
							2007			**2012**			**2007**			**2012**		
							N=84 (56%)			**N=105 (67%)**			**N=66 (44%)**			**N=50 (32%)**		

Table 4.1.2: Age-wise Distribution of Respondents

Age (Years)	AGs No. (%)		Mothers of AGs No. (%)		WOLs No. (%)		Women Functionaries No. (%)	
	2007 n=500	2012 n=500	2007 n=500	2012 n=500	2007 n=93	2012 n=100	2007 n=150	2012 n=155
10-14	160 (32)	173 (34.6)	0	0	0	0	0	0
15-17	300 (60)	247 (49.4)	0	0	0	0	0	0
18-19	40 (8)	75 (15)	0	0	0	0	0	0
20-24	0	6	0 (1)	0	0	0	5 (3.3)	0
25-30	0	0	13 (2.6)	6 (1.2)	12 (12.9)	4 (4)	17 (11.34)	5 (3.2)
30-34	0	0	82 (16.4)	123 (24.6)	14 (15.1)	22 (22)	34 (22.6)	27 (17.4)
35-45	0	0	303 (60.6)	296 (59.2)	48 (51.6)	35 (35)	59 (39.3)	62 (40)
45 & above	0	0	102 (20.4)	75 (15)	19 (20.4)	39 (39)	35 (23.3)	61 (39.4)

Figure 4.1.1: Mean Age of Respondents (Years)

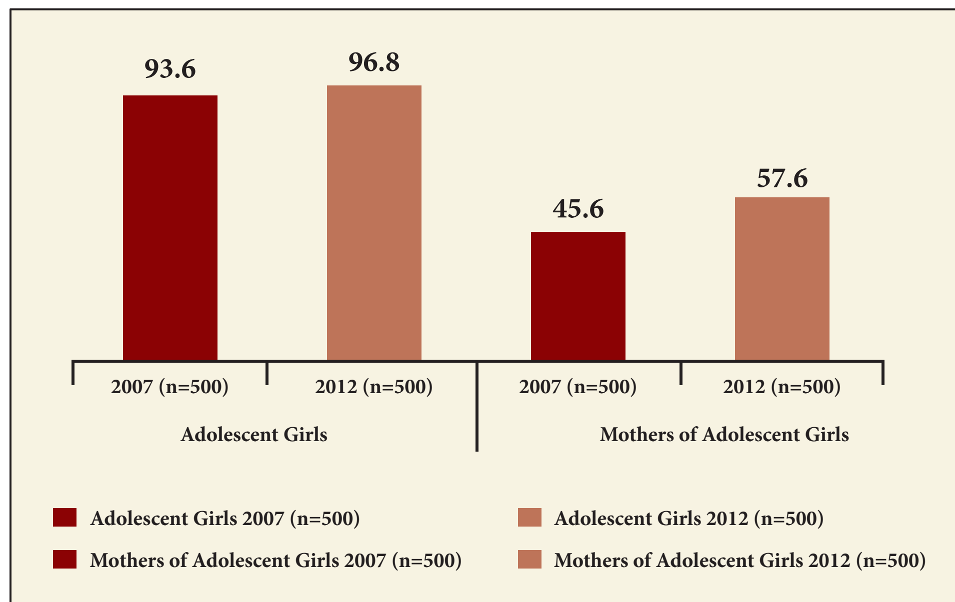


C) Educational Status

It has been proved that female literacy is closely associated with delaying the age at marriage, reducing the fertility rate as well as lowering the infant/under five mortality rates. Literacy in girls/women also improves their participation in the developmental process. Adolescents are affected by socio-economic disparities and education levels. The National Family Health Survey (NFHS 3) indicates high percentage of anaemia amongst females (56% of females in the age group (15-24) are anaemic) in turn affecting their physical growth, cognitive development and performance in school including knowledge and practices towards good menstrual hygiene management.

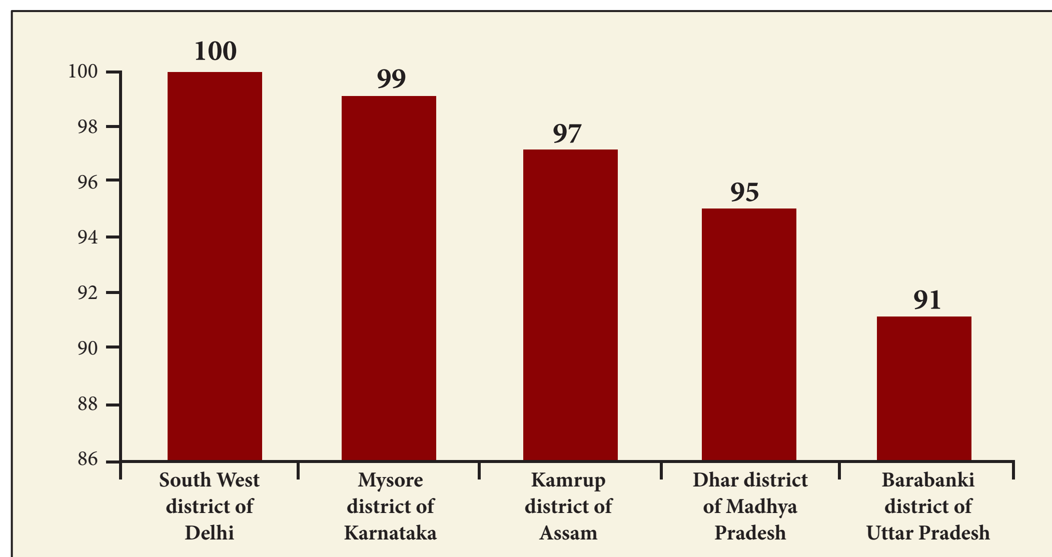
Educational Status of AGs: The state wise educational status of AGs and Mothers of AGs is depicted in **Table 4.1.3.** It shows improvement in the literacy levels of both AGs and their mothers as only 3.6 per cent AGs and 40.4 per cent mothers of AGs were illiterate in 2012 in comparison to 6.4 per cent AGs and 54.4 per cent mothers of AGs in 2007 respectively **(Figure 4.1.2).**

Figure 4.1.2: Percent Literacy Among Adolescent Girls and Mothers



All AGs in 2012 study were literate in South West district of Delhi, 99 per cent in Mysore district of Karnataka, 97 per cent in Kamrup district of Assam, 95 per cent in Dhar district of Madhya Pradesh and 91 per cent in Barabanki district of Uttar Pradesh. State wise data reveals that UP had highest rates of illiteracy for both AGs (9% illiterate) as compared to one per cent in Assam and two per cent in Karnataka **(Figure 4.1.3)**. But when compared to 2007 data, illiteracy rates among AGs have reduced from 21 per cent in UP to 9 per cent in the present study (2012).

Figure 4.1.3: Statewise Literacy Among Adolescent Girls in 2012



D) School Going Status of Adolescent Girls: Nearly 67 per cent of AGs were in school and 33 per cent out of school (2012) as compared to 49.2 per cent and 51 per cent in 2007 respectively. 19 per cent in 2012 reported that they were school dropouts as against 39.8 per cent (2007) as depicted in **Figure 4.1.4.**

Majority of adolescent girl were literate both in 2007 (93.6%) and 2012 (96.4%) study. A significant increase in literacy levels of AGs in 2012 as compared to 2007 ($p < 0.05$) and a significant increase in AGs going to school ($p<0.01$) in 2012 as compared to 2007 was observed.

It was encouraging to note the educational status of females in the present generation was better than that of their mothers. Nearly 88 per cent AGs reported going to school in South West district of Delhi, 68 per cent in Mysore district of Karnataka, 66 per cent in Kamrup district of Assam, 58 per cent in Dhar district of Madhya Pradesh and 55 per cent in Barabanki district of Uttar Pradesh. In terms of school enrollment, the AGs of Uttar Pradesh and Madhya Pradesh seem to be lagging behind as compared to AGs of Delhi, Karnataka and Assam **(Figure 4.1.5).**

Figure 4.1.4: School Going Status of Adolescent Girls (%) (2007 Vs 2012)

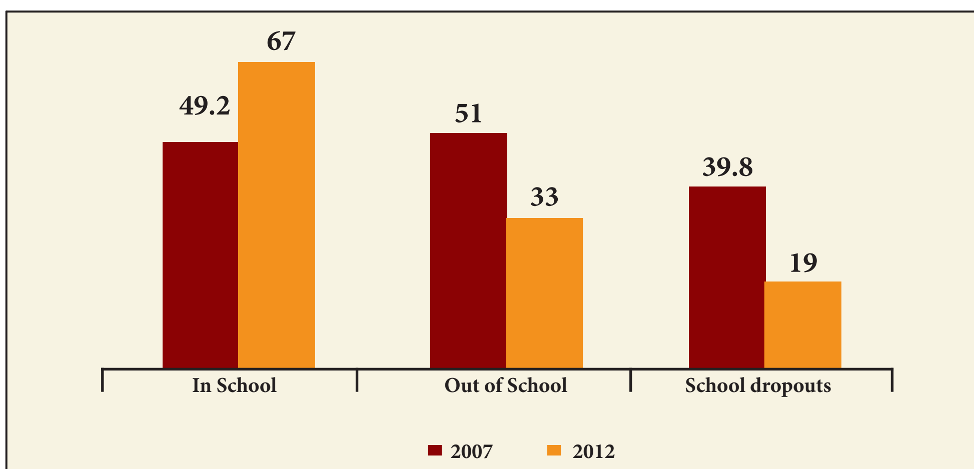


Figure 4.1.5: State wise School Going Status Among Adolescent Girls in 2012

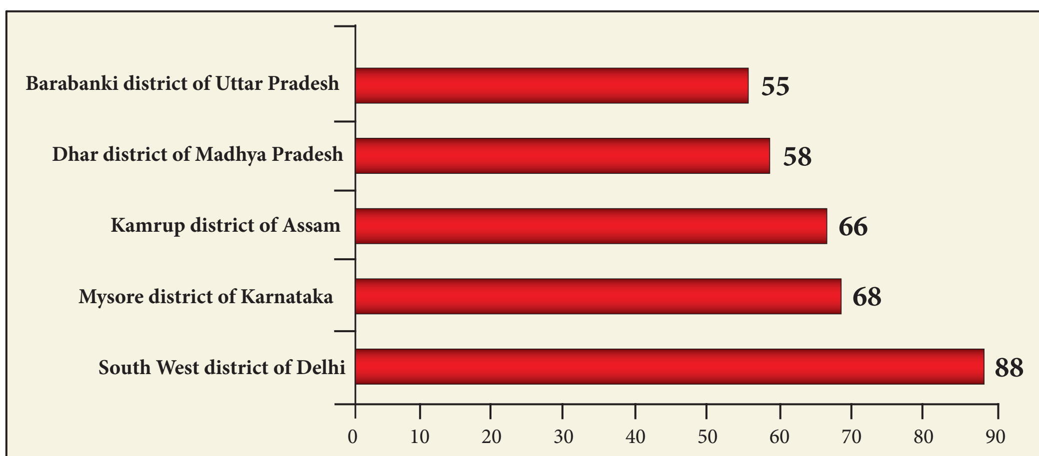


Table 4.1.3: Distribution of AGs and Mothers of AGs by Educational Status

Educational Status	Assam No %				Delhi No %				Karnataka No %				Madhya Pradesh No %				Uttar Pradesh No %				Total No & %			
	AGs n=100		Mother n=100		AGs n=100		Mother n=100		AGs n=100		Mother n=100		AGs n=100		Mother n=100		AGs n=100		Mother n=100		AGs n=500		Mother n=500	
	2007	2012	2007	2012	2007	2012	2007	2012	2007	2012	2007	2012	2007	2012	2007	2012	2007	2012	2007	2012	2007	2012	2007	2012
Illiterate	1	3	40	14	1	0	35	32	4	1	42	54	5	5	66	54	21	9	89	48	32 (6.4)	18 (3.6)	272 (54.4)	202 (40.4
																					χ^2=4.12 (p<0.05)		χ^2=19.65 (p<0.001)	
Schooling till primary	21	4	25	12	18	2	20	13	19	7	35	21	11	6	14	15	36	9	6	21	105 (21)	28 (5.6)	100 (20)	82 (16.4
																					χ^2=51.41 (p<0.001)		NS	
Schooling till Middle	43	23	16	26	31	15	24	16	22	12	9	9	37	22	9	13	36	38	0	13	169 (33.8)	110 (22)	58 (11.6)	77 (15.4)
Schooling till 10th class	32	42	19	37	37	15	11	18	41	6	10	11	46	15	7	3	4	24	0	10	160 (32)	102 (20.4)	47 (9.4)	79 (15.8)
Schooling till 12th& above	3	30	0	11	13	65	10	21	14	73	4	5	1	54	4	15	3	20	5	8	34 (6.8)	242 (48.4)	23 (4.6)	60 (12)
																					χ^2=216.0 (p<0.001)		χ^2=17.98 (p<0.001)	

Distance of School: Thirty-three per cent of AGs were not going to school in 2012 in comparison to the 50.8 per cent of AGs who did not go to school during 2007 study.

The present study found that in comparison to 29.4 per cent AGs in 2007, almost half of AGs were enrolled in schools which were within a distance of 1 km; 17 and 33 per cent AGs were enrolled in schools with in a distance of 1 to 2 km and more than 2 km respectively in comparison to the 10 per cent and 9.8 per cent AGs who attended school at the same distance in 2007 study **(Table 4.1.4).**

Table 4.1.4: Information on School

	2007 n=500 (No/%)	2012 n=500 (No/%)
Going to school	246 (49.2)	335 (67)
Not going to school	254 (50.8)	165 (33)
	χ^2=32.53 ($p<0.001$)	
Type of school (coeducation)	429 85.8	450 (90)
	χ^2=4.14 ($p<0.05$)	
Distance of School		
School within 1 km	147 (29.4)	250 (50)
School within 1-2 km	50 (10)	85 (17)
School more than 2 km away	49 (9.8)	165 (33)

Type of School: The percentage of girls going to co-educational schools had significantly increased in 2012 as compared to 2007($p<0.05$). Majority of school going AGs (90 %) were in co-educational school (2012) as compared to 85.8 per cent in 2007. Only 10 per cent AGs were in school meant only for girls (2012) as compared to 14.2 per cent AGs (2007).

Working Status: Regarding working status of AGs, it was heartening to note that lesser percentage of girls stayed at home (3%) as compared to 40 per cent in 2007 data. There is a significant decrease in the percentage of AGs girls staying at home in 2012 as compared to 2007 ($p<0.001$).Various types of work were being reported to be taken up by AGs **(Table 4.1.5).** Out of 33 per cent of AGs who were not going to school, only 3 per cent stayed at home; 20 per cent helped their parents in agricultural tasks, 3.2 per cent as casual workers and 6.8 per cent as self-employed in 2012 showing significant difference as compared to only 9 per cent agricultural labourers, 0.6 per cent casual workers and 1.2 per cent self-employed in 2007 respectively.

Literacy Levels of Mothers of AGs: Regarding literacy levels of mothers of AGs 54 per cent mothers each in Karnataka and Madhya Pradesh were illiterate **(Figure 4.1.6)**. In UP nearly 48 per cent of mothers of AGs were illiterate in 2012 as compared to 89 per cent in 2007.

It is quite encouraging to see that illiteracy rates have significantly decreased over a period of five years ($p<0.001$). UP had highest illiteracy rate for both AGs (9 %) and their mothers (48 %) in the present study.

Table 4.1.5: Working Status of AGs

	2007 n=500 (No/%)	**2012 n=500 (No/%)**
Not going to school	254 (50.8)	165 (33)
	χ^2=32.53 (p<0.001)	
Stays at home	200 (40.0)	15 (3.0
	χ^2=202.7 (p<0.001)	
Helped in Agriculture	45 (9.0)	100 (20)
	χ^2=24.4 (p<0.001)	
Casual worker	3 (0.6)	16 (3.2)
	χ^2=9.06 (p<0.001)	
Self employed	6 (1.2)	34 (6.8)
	χ^2=20.4 (p<0.001)	

Educational Status of Fathers: According to the data on educational qualification of the father, it has been found that 18.6 per cent fathers of AGs were illiterate, 16.2 per cent had done their schooling till primary, 20.6 per cent had completed 10 standards, and 6.4 per cent were graduates and 13 per cent post graduates **(Figure 4.1.7).**

Occupation status of parents certainly regulates the standard of living for the children. In 2012, analysis of the occupational status of the fathers of AGs revealed that 19 per cent were government officials, 25.8 per cent were self-employed and had private business, 21.4 per cent were casual labourers, 24.8 per cent were agriculture labourers and only 1.4 per cent were unemployed **(Figure 4.1.8).** In 2007 the fathers of AGs were primarily engaged as agricultural labourers (43.6%). Some of them were engaged in business/self-employment (21.4%) or as casual workers (8.8%) or in government services (15 %) and only a negligible per cent were unemployed.

Figure 4.1.6: Percent Illiteracy among Mothers (%) (2007 Vs 2012)

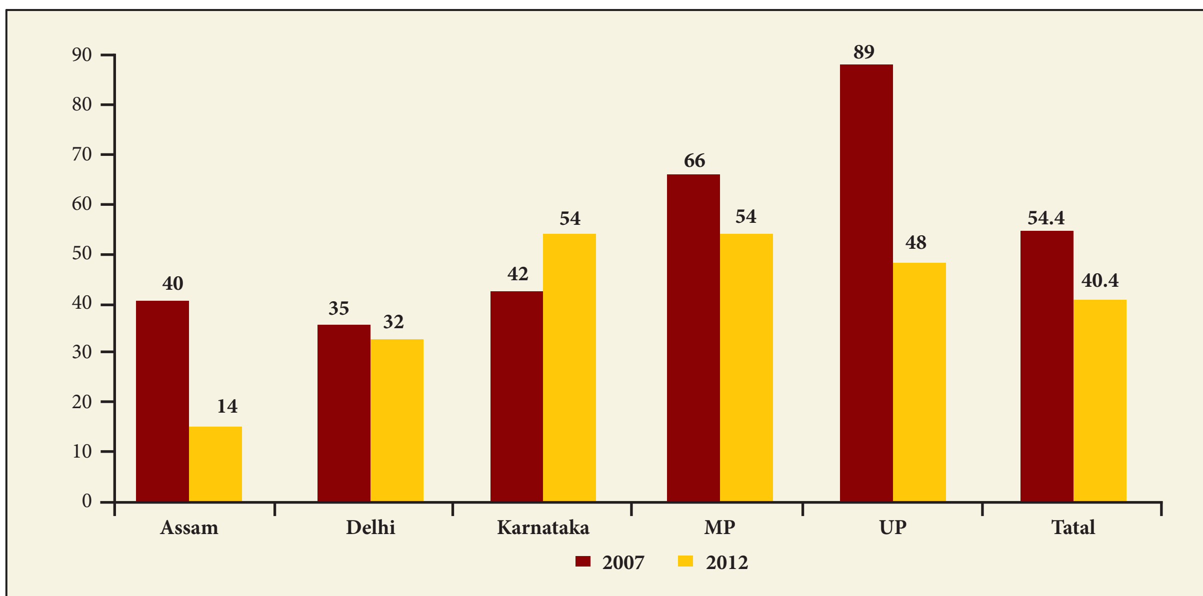


Figure 4.1.7: Educational Status of Fathers of Adolescent Girls (%)

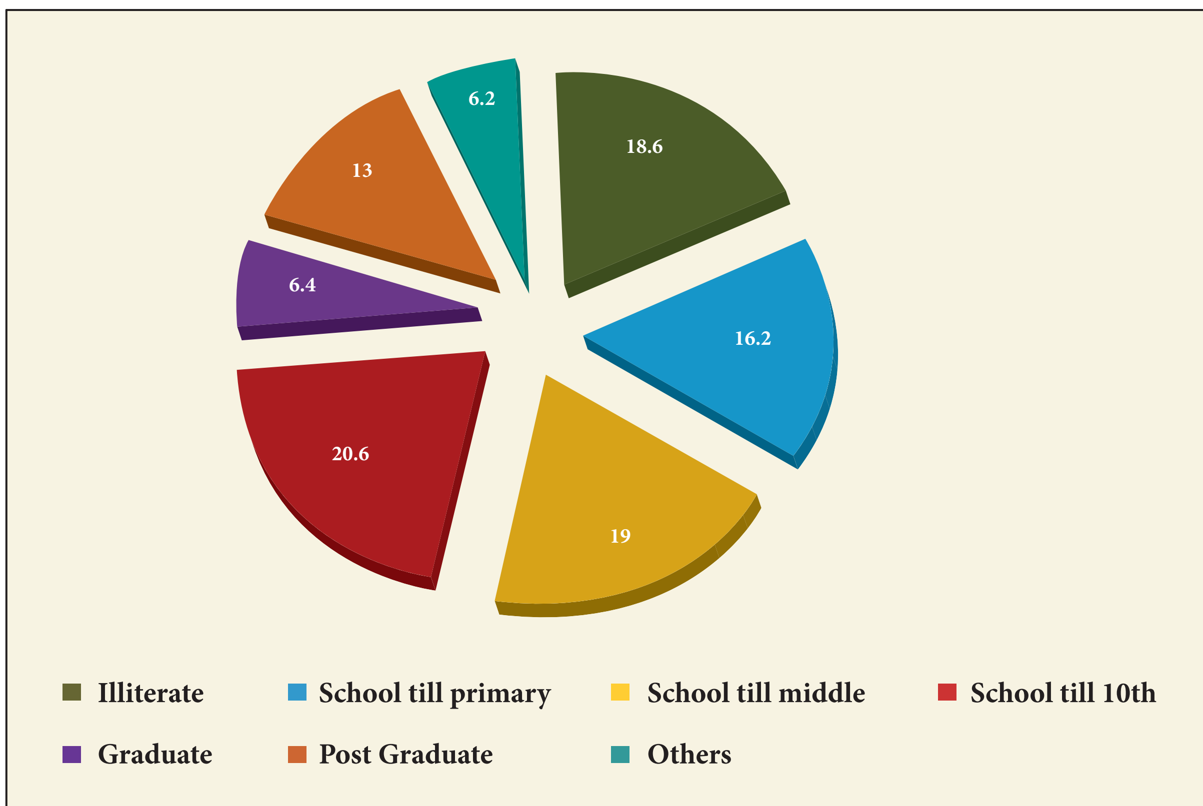
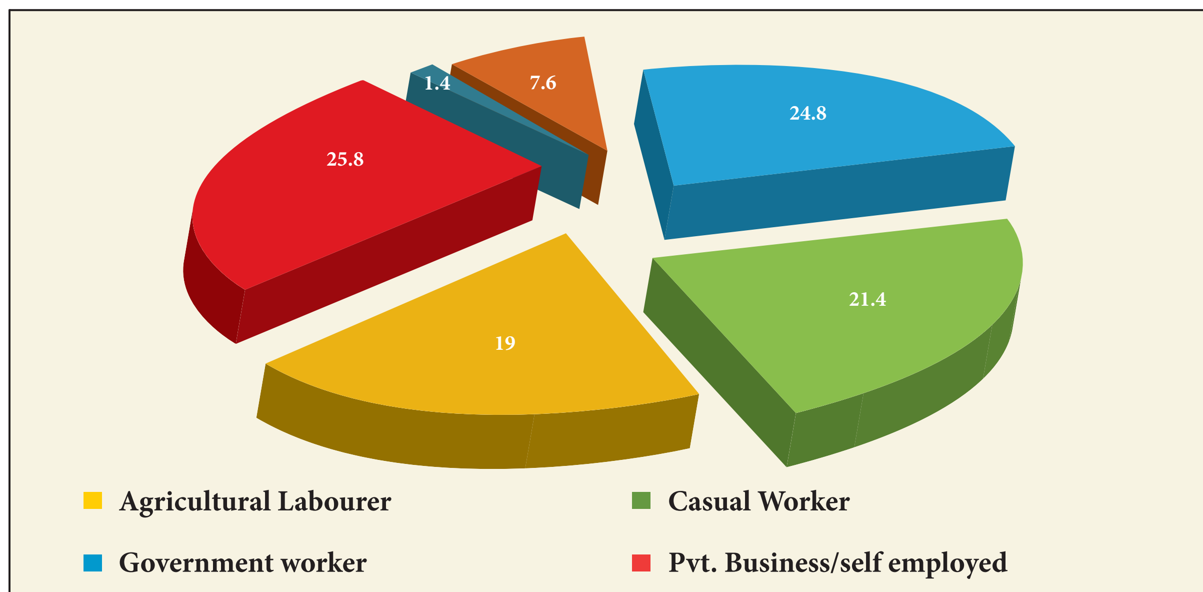


Figure 4.1.8: Occupational Status of Father of Adolescent Girls in 2012

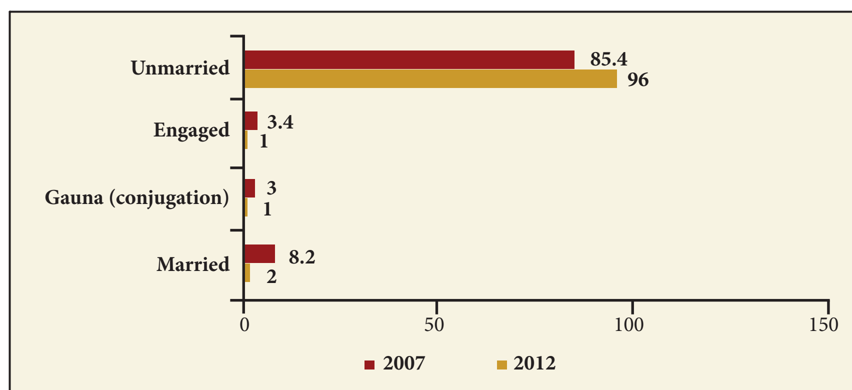


E) Marital Status of AGs: Negative consequences of child marriage are abounding, particularly for girls. They may get separated from their families; their formal education may get interrupted; their development and the fulfillment of their human rights may get compromised. Besides these, there is also health concerns associated with child marriage, which often lead to adolescent childbearing.

It was heartening to note that majority (96%) of AGs were not married and there were only one per cent who were engaged to be married, one per cent were married but 'gauna' (conjugation) had not taken place and only 2 per cent of AGs were living with their husbands as compared to the 8.2 per cent married AGs who were married at the time of 2007 Study.

A significant decrease was observed in the number of married AGs in 2012 as compared to 2007 ($p<0.01$). This change in the custom could be due to improvement in the educational status as a greater per cent (67%) of girls were going to school in comparison to the relatively lower number (49.2%) in 2007 **(Figure 4.1.9).**

Figure 4.1.9: Marital Status of Adolescent Girls (%)



F) Availability of Basic Amenities: Availability of basic amenities such as pucca house, adequate rooms, clean surroundings, toilet facility and clean drinking water are essential factors

governing the quality of life. Distribution of AGs by availability of basic amenities is given in **Table 4.1.6** and **Table 4.1.7** which also depicts comparison of availability of basic amenities in 2007.

Type of House & ***Number of Rooms:*** The present study revealed that 84.8 per cent AGs lived in pucca houses and 15.2 per cent of them lived in kuccha dwelling in comparison to the 50.4 per cent and 49.6 per cent in 2007 respectively. There was a significant increase ($p<0.001$) in AGs living in pucca houses in 2012 as compared to 2007 (84.8 % in 2012 and 50.4% in 2007) respectively. This change denotes an increase in standard of living over the years.

In UP and MP percentage of AGs living in kuccha houses was more in comparison to Delhi, Assam and Karnataka where majority of girls were found to be living in pucca houses. The percentage of AGs in the present study (2012) residing in one room unit, two rooms, three rooms and more than three rooms unit were 17.6 per cent, 35.2 per cent, 17 per cent and 30.2 per cent respectively as compared to 17.4 per cent, 26.6 per cent, 32.4 per cent and 23.6 per cent respectively in 2007 study. The state wise comparison is given in **Table 4.1.6.**

Clean surroundings have a bearing on hygiene and sanitation in all lives. Surroundings need to be clean with proper drainage system, proper waste disposal and free from dirt and filthy material. In the present study, majority (83%) of the AGs lived in clean surroundings showing significant difference as compared to the 74.8 per cent AGs in 2007($p<0.01$) **(Table 4.1.6).**

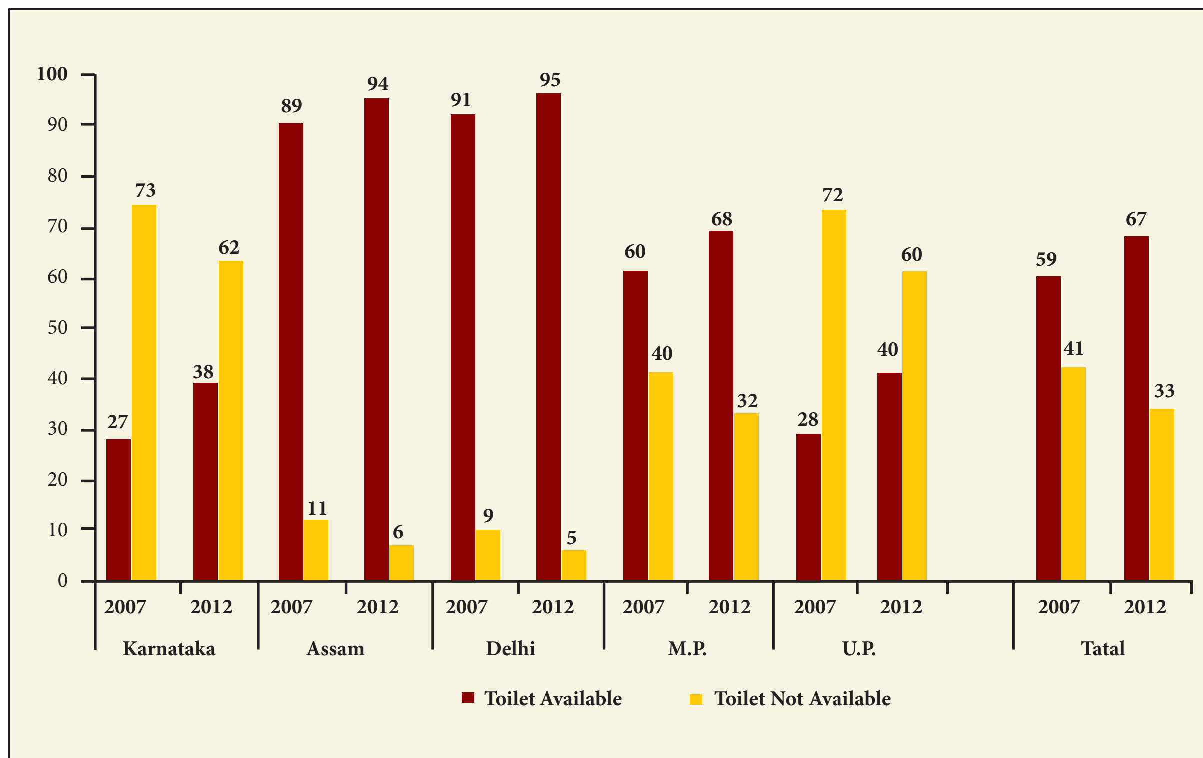
Toilet Facility at Home: Feminine hygiene is always likely to be compromised especially, in rural India where many women do not have proper toilet facilities at home and with the lack of awareness, neglect and transparency pertaining to feminine hygiene, menstrual hygiene management is a big question mark. Considering the fact that having toilet facility at home has a positive impact on menstrual hygiene management, an attempt was made in the study to collect information regarding availability of toilets.

The results showed that 59 per cent households of AGs in 2007 and 67 per cent households in 2012 had toilet facility in their homes. A significant increase ($p<0.01$) is seen in toilet facility available in households of AGs (59 % in 2007 and 67 % in 2012).

As high as 95 and 94 per cent AGs of South West district of Delhi and Kamrup district of Assam respectively reported of having toilets in their homes. Only one third (32%) AGs from Mysore district of Karnataka reported of having toilets in their homes. In Dhar district of Madhya Pradesh and Barabanki district of Uttar Pradesh, 68 per cent and 40 per cent had toilets in their homes respectively. According to 69th round NSSO, 2012, as many as 59.4 per cent rural households do not have access to toilet facility **(Table 4.1.7 and Figure 4.1.10).**

Source of Water: Water from different sources was used in various households. Water from bore well/ hand pump (41.2%), tube well (21%), municipal supply (22.8%), jet pump (14.8%) and open source (7%) were used as the source of water supply in the households of the AGs **(Table 4.1.7).**

Figure 4.1.10: Availability of Toilet Facility at Home



4.2 Menstruation and Hygiene During Menstruation

A) Age at Menarche

AGs were interviewed for eliciting information related to menstruation practices. Menarche is the age at which girls get their first menstruation. In the present study (2012) 38.6 per cent of AGs had their menarche at 12 years of age as against 26.4 per cent in 2007 **(Figure 4.2.1).** Nearly 20 per cent AGs attained their menarche at 13 years of age both in 2007 and 2012.

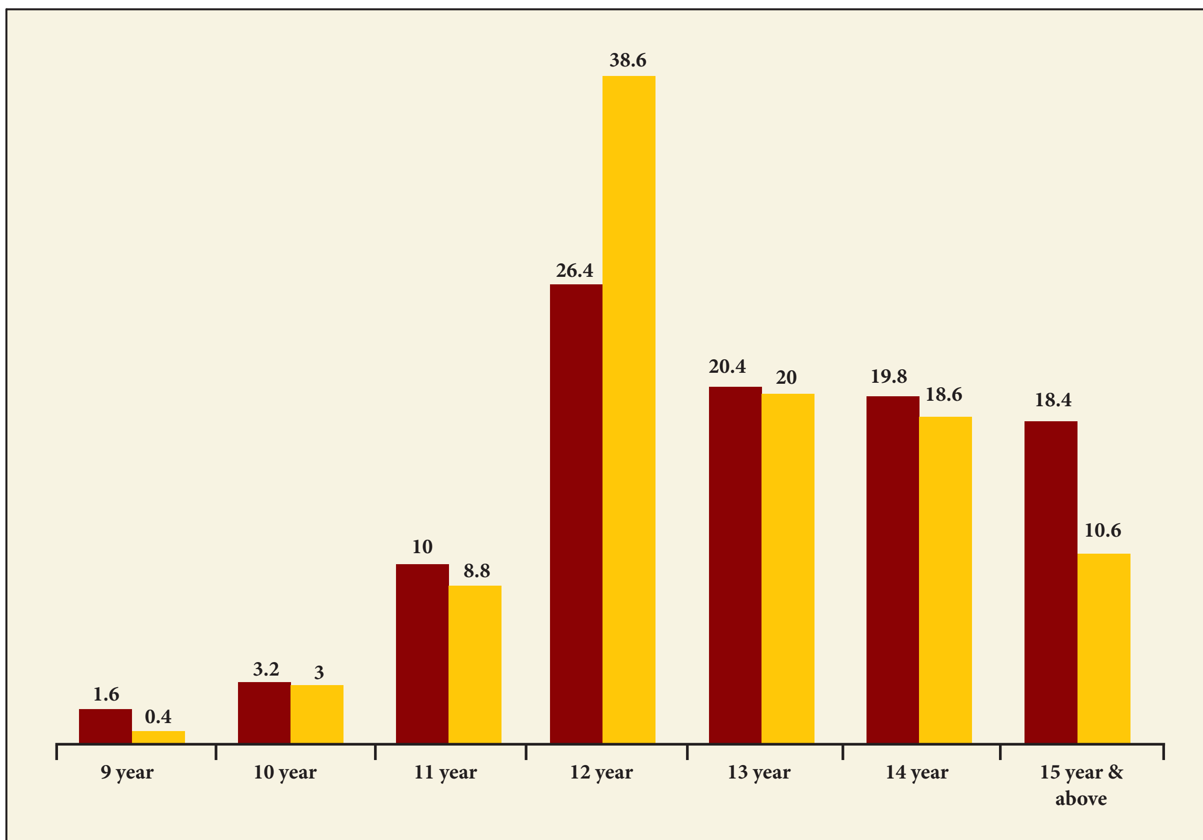
Table 4.1.6: Availability of Basic Facilities (Type of House, No. of Rooms)

Basic Amenities	Assam No. (%)		Delhi No. (%)		Karnataka No. (%)		M.P. No. (%)		U.P. No. (%)		Total No. (%)	
	2007 n=100	2012 n=100	2007 n=100	2012 n=100	2007 n=100	2012 n=100	2007 n=100	2012 n=100	2007 n=100	2012 n=100	2007 n=500	2012 n=500
1. Type of House												
Pucca	28	99	85	100	58	99	47	49	34	77	252 (50.4)	424 (84.8)
Kuccha	72	1	15	0	42	1	53	51	66	23	248 (49.6)	76 (15.2)
											χ^2=135.7 (p<0.001)	
2. Number of Rooms/Units												
One	3	15	5	16	17	16	18	23	44	18	87 (17.4)	88 (17.6)
Two	22	27	23	37	22	30	40	31	26	51	133 (26.6)	176 (35.2)
Three	52	15	28	22	31	12	31	16	20	20	162 (32.4)	85 (17)
More than three	23	43	44	25	30	42	11	30	10	11	118 (23.6)	151 (30.2)
3. Surroundings												
Clean	91	95	80	88	67	94	70	83	66	55	374 (74.8)	415 (83)
Dirty	9	5	20	11	33	5	30	17	34	44	126 (25.2)	85 (17.0)
											χ^2=10.09(p<0.01)	
NA	0	0	0	0	0	1	0	0	0	1	0	2 (0.4)

Table 4.1.7: Availability of Basic Facilities (Toilet Facility and Source of Water)

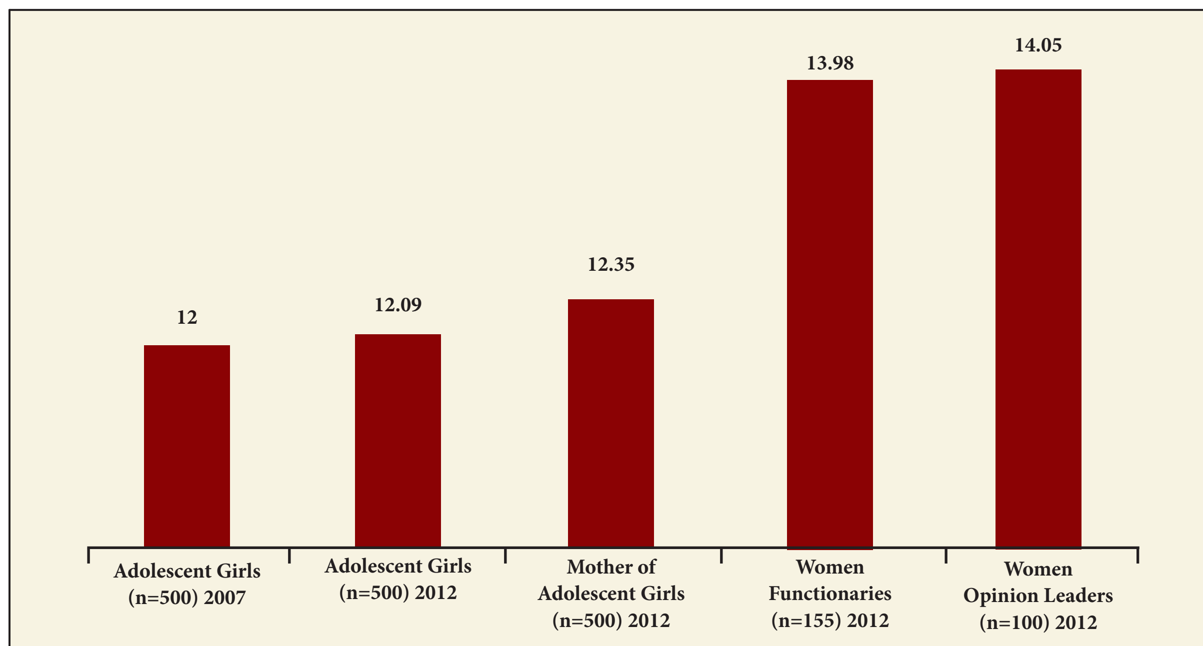
Basic Amenities	Assam No. (%)		Delhi No. (%)		Karnataka No. (%)		M.P. No. (%)		U.P. No. (%)		Total No. (%)	
	2007 n=100	2012 n=100	2007 n=100	2012 n=100	2007 n=100	2012 n=100	2007 n=100	2012 n=100	2007 n=100	2012 n=100	2007 n=500	2012 n=500
1. Toilet Facility at Home												
Available	89	94	91	95	27	38	60	68	28	40	295 (59.0)	335 (67)
Not available	11	6	9	5	73	62	40	32	72	60	205 (41.0)	165 (33)
											χ^2=6.86 ($p<0.01$)	
2. Source of water												
Open source	3	1	1	0	5	29	8	0	6	5	23 (4.6)	35 (7)
Bore well/hand pump	26	8	6	69	9	16	44	45	92	68	177 (35.4)	206 (41.2)
Tube well	69	57	10	3	2	17	39	18	0	10	120 (24.0)	105 (21)
Municipal supply	2	12	70	69	84	0	9	10	0	17	165 (33.0)	108 (21.6)
Tanker	0	0	13	6	0	0	0	0	2	0	15 (3.0)	6 (1.2)
NA	0	0	0	0	0	71	0	3	0	3	0 (0.0)	74 (14.8)

Figure 4.2.1: Age of Menarche of Adolescent Girls (2007 Vs 2012)



Similar percentage of AGs (20%) attained menarche at 14 years of age in both 2007 and 2012. Negligible per cent of AGs attained menarche at 9 years (1.6% in 2007 and 0.4% in 2012). In the present study 10.6 per cent of AGs attained menarche at 15 years and above in comparison to 18.4 per cent in 2007. While comparing the data of 2007 with the present study (2012), not much difference was observed with reference to age of attaining menarche **(Figure 4.2.2)**. As per the 2007 study, the mean age at menarche was 12 years as against 12.09 years in 2012. Mean age of menarche for mothers of AGs was 12.3 years, 13.9 years for women functionaries and 14.05 years for WOLs as reported by them in 2012. Intergenerational effects on mean age of menarche can be noted as elderly women like WOLs reported to have their menarche in the age group 14.05 years which presently has come down to 12 years in 2007 and 2012.

Figure 4.2.2: Mean Age of Menarche (Years)



B) Knowledge/ Awareness about Menstruation before Menarche

Awareness regarding menstruation: Various local terms are being used for menstruation across the States included Mahawari, Mahina, Period, Menses, Kapadey aa gaye, Mashik dharm, Masik, Sar pe pani dalna, Bahar hona, Chutti pe rehna, Suahua, Mahakia (Assamese). There was a significant increase ($p<0.001$) in awareness about menstruation in AGs of 2012 as compared to 2007 (72.6% in 2012 and 29.4% in 2007) **(Table 4.2.1 & Figure 4.2.3)**. The results of the present study show a significant increase in awareness about menstruation in AGs of 2012 (72.6%) as compared to 2007 (29.4%). It was observed that the awareness regarding onset of menstruation among AGs was higher in South West district of Delhi (95%) and Mysore district of Karnataka (90%) in comparison to Kamrup district of Assam (63%), Barabanki district of Uttar Pradesh (58%) and Dhar district of Madhya Pradesh (57%) **(Figure 4.2.4).**

Table 4.2.1: Source of Information Regarding Menstruation

Source of Information	Adolescent Girls (No. %)		Mothers of Adolescent AGs (No. %)		Women Opinion Leader (No. %)	
	(2007) n=500	(2012) n=500	(2007) n=500	(2012) n=500	(2007) n=93	(2012) n=100
Aware	147 (29.4)	363 (72.6)	112 (22.4)	120 (24)	16 (17.2)	17 (17)
Not aware	353 (70.6)	138 (27.4)	388 (77.6)	380 (76)	77 (82.8)	83 (83)
	χ^2=186.69 ($p<0.001$)		NS		NS	
If aware , Source of information						
Friend	39 (26.7)	83 (22.8)	42 (37.5)	79 (29.25)	3 (18)	13 (14.9)
Sister	48 (32.8)	53 (14.7)	25 (22.2)	41 (15.18)	7 (43)	12 (13.8)
Mother	55 (37.6)	41 (11.2)	50 (44.6)	18 (6.6)	3 (18)	6 (6.8)
Aunt	11 (7.5)	9 (2.47)	10 (8.6)	24 (8.8)	1 (6)	0 (0.0)
School teacher8	29 (5.4)	0 (7.98)	1 (0.0)	0 (0.3)	0 (0.0)	(0.0)
Health worker/ANM	5 (3.42)	3 (0.8)	1 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)
AWW	3 (2.05)	2 (0.5)	0 (0.0)	2 (0.7)	0 (0.0)	0 (0.0)
Grand mother	3 (2.05)	1 (0.2)	1 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)
Bhabhi	10 (6.8)	9 (2.4)	2 (1.7)	1 (0.3)	0 (0.0)	0 (0.0
Nobody	4 (2.7)	0 (0.0)	1 (0.89)	0 (0.0)	4 (25)	0 (0.0)

Figure 4.2.3: Awareness Regarding Menstruation (%)

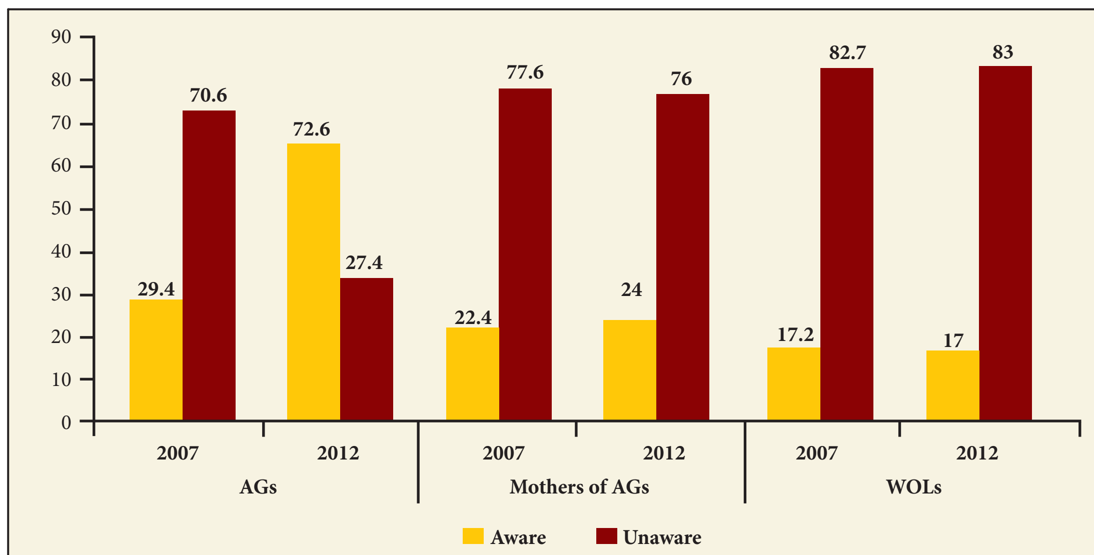
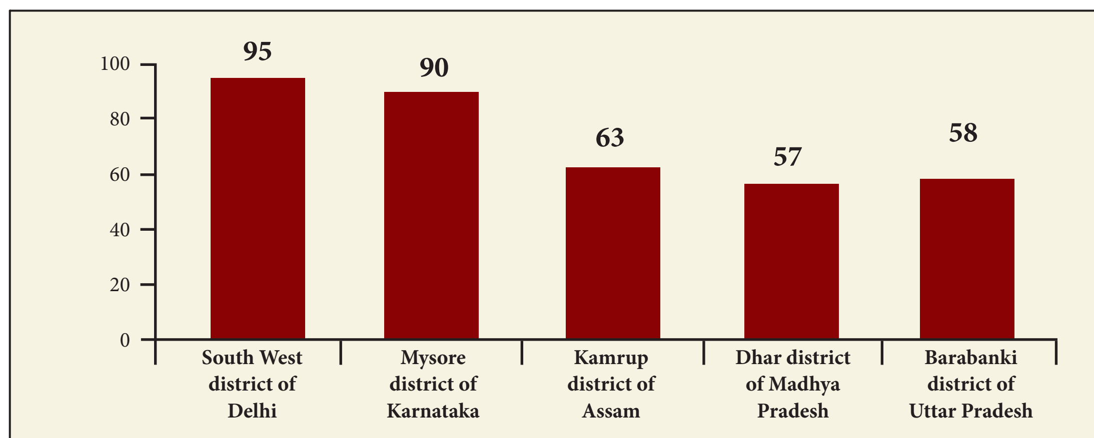


Figure 4.2.4: Statewise Awareness Adolescent Girls Regarding Menstruation in 2012

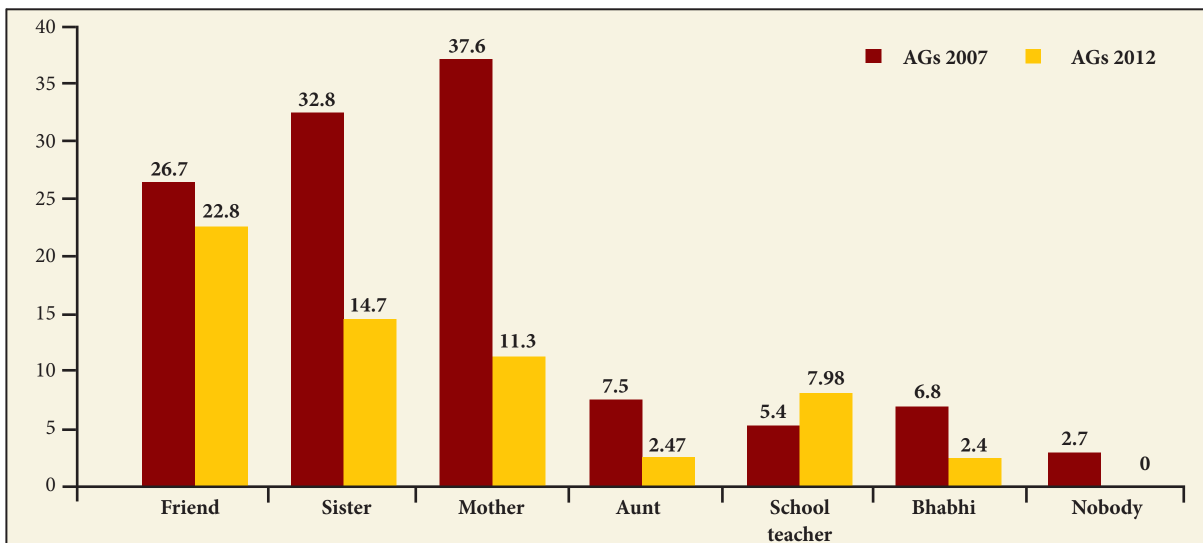


No significant difference was observed in the awareness levels of Mothers of AGs and WOLs regarding menstruation on attainment of their menarche, both the studies (2007 and 2012). Majority of mothers (77.6% in 2007 and 76% in 2012) and WOLs (82.7% in 2007 and 83% in 2012) were not aware of menstruation. Majority of mothers and WOLs in the present study reported that their mothers had not prepared them for menstruation till its onset. However, the situation has improved as the information / awareness on menstruation has increased in AGs of 2012 as compared to 2007.

C) Information Source for Menstruation

Mothers, siblings, and friends were the main sources of providing information regarding menstruation, as reported by AGs, mothers of AGs and WOLs **(Figure 4.2.5, Figure 4.2.6, Figure 4.2.7** and **Table 4.2.1).** It was observed that talking about menstruation is not common in homes. Even today, mothers do not inform their young AGs about menstruation.

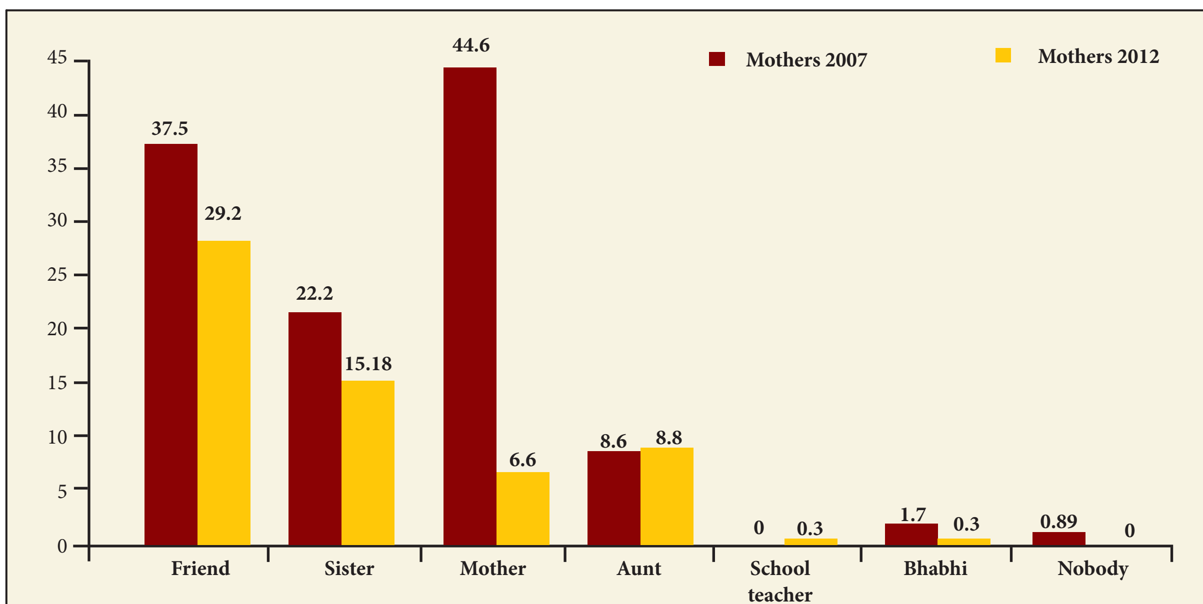
Figure 4.2.5: Source of Information Regarding Menstruation for Adolescent Girls (%)



Analysis of the data of the present study revealed that only 11.3 per cent AGs obtained this information from their mothers and 22.8 per cent obtained the same from their friends followed by sisters (14.7%) and the school teachers (8%) whereas in study (2007), for the AGs (29.4%) who were aware about menstrual bleeding, the major source of information were mothers (37.6%), siblings (32.8%), and friends (26.7%).

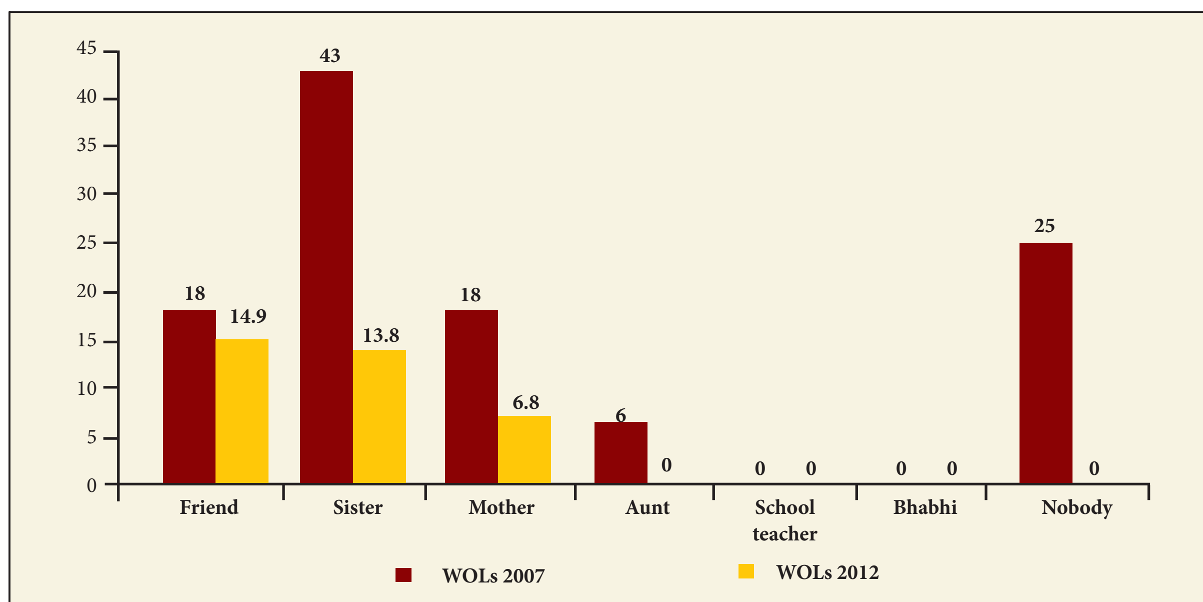
The other sources included aunt (7.5%), sister-in-law (6.84%), school teacher (5.4%), health worker/ ANM (3.42%), AWW (2.05%), grandmother (2.05%), etc. The results revealed that friends/peers still remain the main source of information as menstruation is concerned. Interaction of mothers with AGs has further dropped from 37.6 per cent to only 10.9 per cent which shows lack of interaction/information provided by the mother **(Table 4.2.1)**.

Figure 4.2.6: Source of Information Regarding Menstruation as Reported by Mothers (%)



The presence of school teachers, Anganwadi worker and health worker as confidante for today's AGs could be quite encouraging as they could be used as an agent to reach out to the AGs. The new initiative SABLA – the Scheme for AGs with Anganwadi centre as the focal point could well be utilised to address reproductive health problems of AGs and for creating awareness regarding management of menstrual hygiene and safe hygienic practices. Already the component of ARSH and Life Skills is an inbuilt component in SABLA scheme for empowering Adolescent girls.

Figure 4.2.7: Source of Information Regarding Menstruation as Reported by WOLs



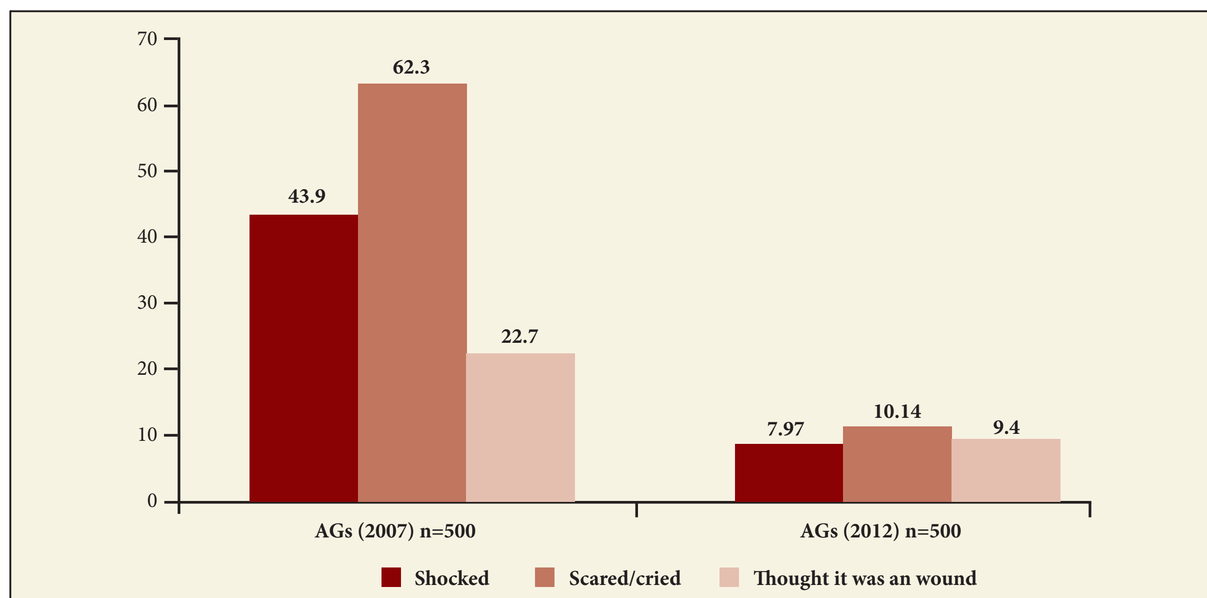
D) Reaction to First and Subsequent Menstruation

When asked about reactions to first and subsequent menstruation, the answers of AGs were varied. Various reactions to first menstrual bleeding included shock, scare, cry, feeling of disgust and also confusion, considering it as a wound.

Regarding onset of menstruation, there was a significant decrease in the negative reactions reported by AGs in 2012 as compared to 2007 with respect to having fear/crying spells ($p<0.001$), shock ($p<0.001$) and in perceiving it as a wound ($p<0.001$).

Awareness regarding menstruation has increased among AGs in 2012 as compared to 2007. During the 2007 study 62.3 per cent AGs were scared and cried when they had their first menstruation. The same reaction was reported by only 10.1% in 2012. Only 9.4 per cent in 2012 thought it to be a wound as compared to 22.7 per cent in 2007. 43.9 per cent reported that they were shocked on onset of first menstruation in 2007 as compared to 7.9 per cent in 2012. This could be due to the awareness created by media/programmes for AGs **(Figure 4.2.8)** wherein awareness on such issues is being created by government. Mothers of AGs and WOLs reported that they were more shocked, were scared and cried at the time of their first menstruation as compared to AGs of today.

Figure 4.2.8: Various Reactions of Adolescent Girls to First Menstrual bleeding



E) Sharing of Information on Onset of Menstruation

In the present study mothers were the first to be informed regarding onset of menstruation by 68.8 per cent AGs followed by sisters and friends. Similar trend was seen in 2007 also. The person with whom majority of mothers and WOLs had shared about their first menstrual bleeding was their own mothers, sister's friends, aunt, bhabhi etc. **(Table 4.2.2).** It seems that the trend has not changed much regarding informing mothers about first menstrual periods.

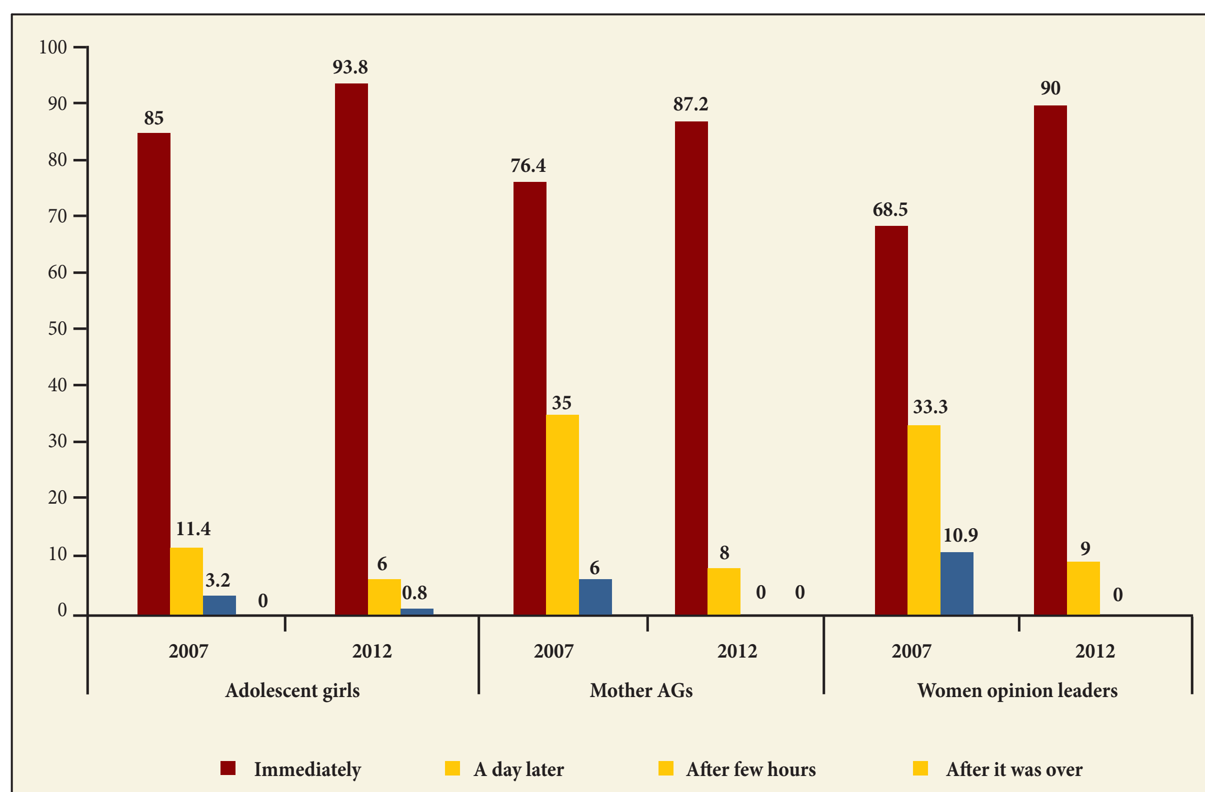
Table 4.2.2: First Sharing Information on Menarche

Person Informed	AGs No. (%)		Mothers of AGs No. (%)		WOLs No. (%)	
	2007 n=500	2012 n=500	2007 n=500	2012 n=500	2007 n=93	2012 n=100
Mother	309(61.8)	344(68.8)	233(46.6)	282(56.4)	48(51.6)	55(55)
Sister	99(19.8)	78(15.6)	75(15.0)	66(13.2)	11(11.8)	14(14)
Friends	40(8.0)	24(4.8)	73(14.6)	42(8.4)	6(6.4)	1(11)
Aunt	45(9.0)	53(10.6)	63(12.6)	42(8.4)	9(9.6)	10(10)
School teacher	3(0.6)	1(0.2)	0	2(0.4)	0	0(0.0)
Mother-in-law	1.(0.2)	0(0.0)	15(3.0)	0(0.0)	0	0(0.0)
Grand mother	6(1.2)	0(0.0)	5(1.0)	3(0.6)	1(1.07)	0(0.0)
Bhabhi	14(2.8)	0(0.0)	41(8.2)	3(0.60)	12(12.9)	3(3)
Managed herself	4(0.8)	0(0.0)	22(4.5)	0(0.0)	5(5.3)	0(0.0)

F) Time of Informing about Menarche

Around 93.8 per cent AGs, 87.2 per cent mothers of AGs and 90 per cent WOLs informed that they reported immediately about their menarche to their confidante as compared to 85 per cent AGs, 76.4 per cent mothers and 68.5 percent WOLs in 2007 study **(Figure 4.2.9)**. Majority of the AGs had informed their confidante be it mother, sister, aunt, etc., immediately. There was a significant increase in number of AGs who informed their confidante immediately after the onset of menstruation in 2012 as compared to 2007. This may be attributed to increased awareness levels on menstruation and hence informing the same immediately to their confidante.

Figure 4.2.9: Timing of Information about Menarche



G) Perception of Menstruation

The perception of menstruation is shown in **Table 4.2.3** and **Figure 4.2.10**. The results of the present study revealed that 64.8 per cent. AGs perceive menstruation as dirty as compared to the 74.4 per cent in 2007; 48.8 per cent perceived it as impure or polluted. Similarly 55 per cent mothers of AGs felt it was dirty and 65.6 per cent stated it as impure. WOLs were also of the same opinion **(Figure 4.2.10)**.

Perception of menstruation to be dirty and polluting is evident in all category respondents, but there was significant decrease in perception of AGs, Mothers of AGs, and WOLs in 2012 as compared to 2007 study. Perception of menstruation as dirty or impure has not changed over the years and even today women are indulged in various taboo/different behaviours during menstruation and this is evident in all respondents. Although a significant change in perception of AGs has been seen over the years but still it is considered as dirty and impure by nearly 64.8 per cent and 48.8 per cent in 2012 respectively.

Table 4.2.3: Perception Regarding Menstruation

Perceptions Regarding Menstruation	AGs No. (%)		Mothers of AGs No. (%)		WOLs No. (%)		Grand Total No. (%)	
	2007 n=500	2012 n=500	2007 n=500	2012 n=500	2007 n=93	2012 n=100	2007 n=1093	2012 n=1100
Dirty	372 (74.4)	324 (64.8)	352 (70.4)	275 (55)	63 (67.7)	49 (49)	767 (70.2)	648 (58.90)
	χ^2=10.88 (p<0.001)		χ^2=25.35 (p<0.001)		χ^2=6.94 (p<0.01)		χ^2=30.39 (p<0.001)	
Impure or polluted	349 (69.8)	244 (48.8)	328 (65.6)	217 (43.4)	31 (33.3)	40 (40)	708 (64.8)	501 (45.54)
	χ^2=45.68 (p<0.001)		χ^2=49.68 (p<0.001)		NS		χ^2=81.96 (p<0.001)	

H) Problems Experienced during Menstruation

For a girl, getting her first period is a physical milestone and a sign of becoming a woman. But it can also be confusing and scary, particularly if she encounters problems like irregular periods or premenstrual syndrome (PMS). Some of the females feel both physical and emotional stress before periods such as acne, bloating, fatigue, backache, sore breasts, headache, constipation, diarrohea, food cravings, depression, irritability, difficulty in concentrating, difficulty in handling stress etc. It depends from person to person and is not necessary that each and every adolescent girl faces it.

Figure 4.2.10: Perception of Menstruation

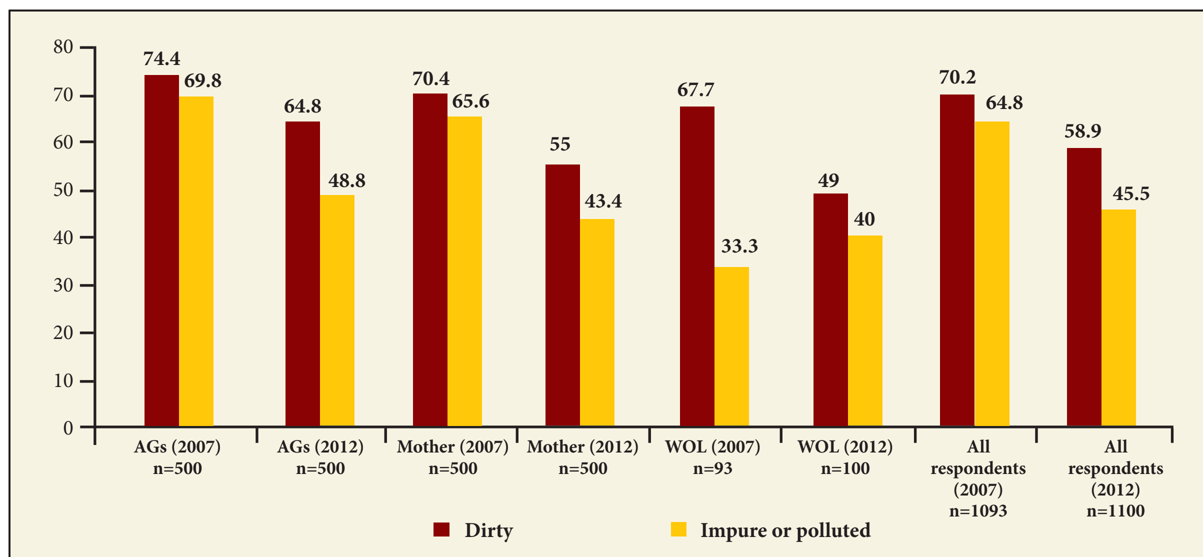
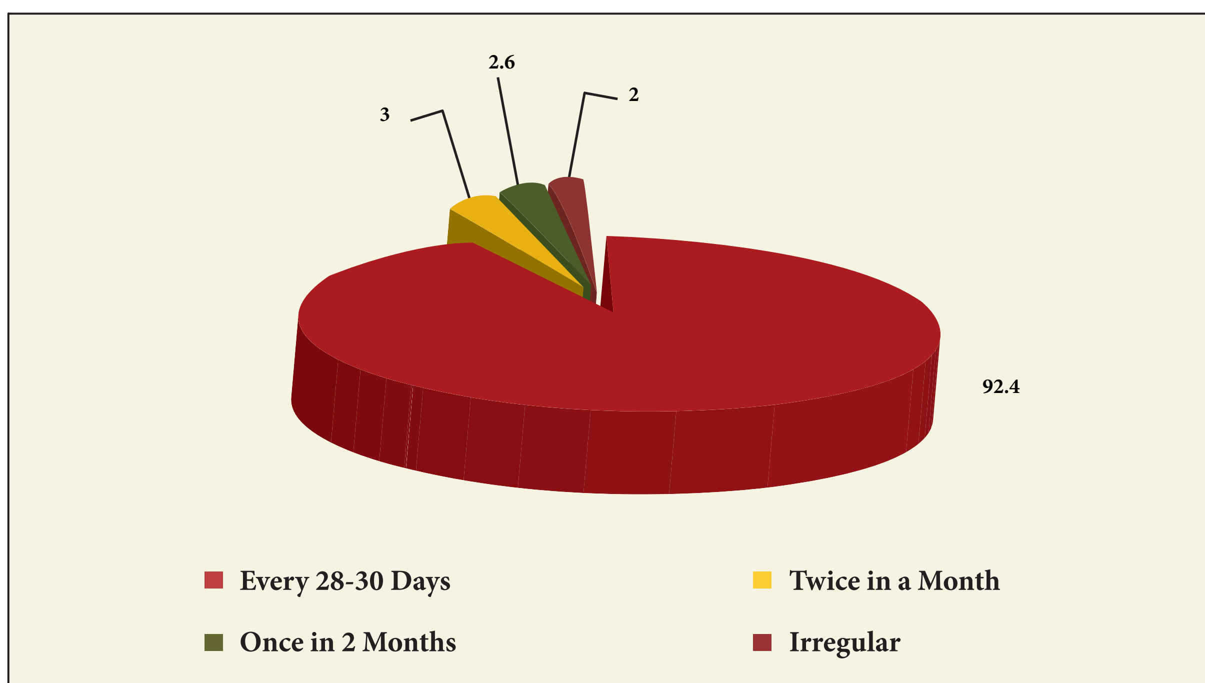


Table 4.2.4: Problems Experienced During Menstruation

Problems	Adolescent AGs No. (%)		Mothers of AGs No. (%)		Women Opinion Leaders No. (%)		Women Functionaries No. (%)		Grand Total No. (%)	
	2007 n=500	2012 n=500	2007 n=500	2012 n=500	2007 n=93	2012 n=100	2007 n=150	2012 n=155	2007 n=1248	2012 n=1255
Pain in abdomen	307 (61.4)	364 (72.8)	270 (54.0)	281 (56.2)	63 (67.7)	56 (56)	147 (98.0)	144 (92.9)	787 (63.3)	845 (67)
Pain in lower Back and legs	178 (35.6)	252 (50.4)	237 (47.4)	272 (54.4)	38 (40.8)	50 (50)	109 (72.6)	112 (72.2)	562 (45.2)	686 (54)
Swelling on face & body	11 (2.2)	40 (8)	31 (6.2)	79 (15.8)	5 (5.3)	22 (22)	34 (22.6)	51 (32.9)	81 (6.5)	192 (15)
Breast tenderness	60 (12.0)	63 (12.6)	43 (8.6)	108 (21.6)	7 (7.5)	27 (27)	47 (31.3)	65 (42)	157 (12.7)	263 (20)
Tiredness	132 (26.4)	221 (44.2)	132 (26.4)	210 (42)	21 (22.5)	48 (48)	106 (70.6)	120 (77.4)	391 (31.4)	599 (47
Depression & irritation	129 (25.8)	189 (37.8)	123 (24.6)	154 (30.8)	21 (22.5)	37 (37)	91 (60.6)	82 (53)	373 (29.8)	462 (36)
Constipation	26 (5.2)	59 (11.8)	40 (8.0)	53 (10.6)	3 (3.2)	21 (21)	39 (26.0)	46 (30)	108 (8.7)	179 (14)

92.4 per cent of AGs reported having normal menstrual cycle of 28-30 days whereas 3 per cent reported having twice in a month, 2.6 per cent had once in 2 months and only 2 per cent AGs reported having irregular periods **(Figure 4.2.11).** The problems experienced by AGs during menstruation included pain in abdomen (72.8%), pain in lower back and legs (50.4%). Feeling low/ mood swings, depression and irritation (37.8%) was seen in many of them **(Table 4.2.4).** Similar problems were reported in 2007 study and also by other categories of respondents.

Figure 4.2.11: Frequency of Periods in Adolescent Girls (n=500)



I) Impact of Menarche on AGs

Data indicated that restrictions are imposed on AGs during menstruation. The same is evident from 2007 and 2012 data and shows a significant decreasing trend ($p<0.001$) in restrictions imposed on AGs in the studies, 2007 and 2012 (74.8% in 2007 and 60.4% in 2012 **(Figure 4.2.11)**. Only one-fourth (25.2%) of AGs did not experience any restriction on them in 2007 as compared to 39.6 per cent in 2012 which show change in the thinking due to awareness generation. Restrictions due to onset of menstruation are given in **Table 4.2.5.**

Restrictions of movement even inside the household have reduced to 2.9 per cent in 2012. In 2007, 47.8 per cent AGs reported that their mothers had become very strict which has been lowered to 31.7 per cent in 2012. In all 39.5 per cent AGs were not allowed to go out to play or fetch water and 38.7 per cent of AGs were not allowed to wear dress of their choice in 2007; this has decreased to 19.8 per cent and 24.5 per cent respectively in 2012.

Figure 4.2.12: Restrictions Imposed

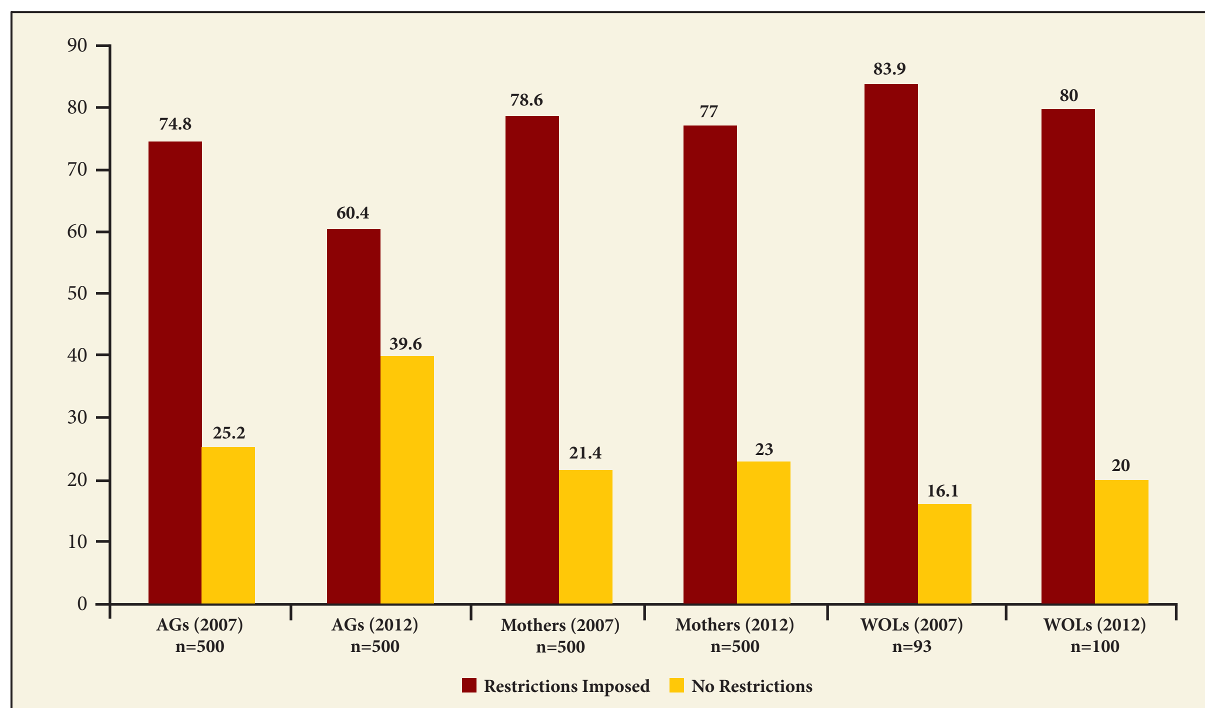


Table 4.2.5: Restrictions and Impact of Menarche

	Adolescent Girls No. (%)		**Mothers of Adolescent Girls No. (%)**		**Women Opinion Leaders No. (%)**	
Impact of menarche	**2007 n=500**	**2012 n=500**	**2007 n=500**	**2012 n=500**	**2007 n=93**	**2012 n=100**
Restrictions imposed	**374 (74.8)**	**302 (60.4)**	**393 (78.6)**	**385 (77)**	**78 (83.87)**	**80 (80)**
No restrictions	126 (25.2)	198 (39.6)	107 (21.4)	115 (23.00)	15 (16.12)	20 (20)
	χ^2=23.66 (p<0.001)		**NS**		**NS**	
	Restrictions Imposed					
	n=374	**n=302**	**n=393**	**n=385**	**n=78**	**n=80**
Mothers became more strict	179 (47.8)	96 (31.7)	182 (46.3)	173 (44.9)	17 (21.7)	25 (31.2)

Father does not talk	6 (1.6)	4 (1.3)	12 (3.05)	17 (4.4)	1 (1.2)	4 (5.0)
Stopped from going to school	40 (10.6)	20 (6.6)	47 (11.9)	158 (41.0)	6 (7.6)	31 (38.7)
Not allowed to go out and play and fetch water	148 (39.5)	60 (19.8)	157 (39.9)	228 (59.22)	22 (28.2)	43 (53.7)
Not allowed to wear dress of one choice	145 (38.7)	74 (24.5)	108 (27.4)	138 (35.8)	20 (25.6)	25 (31.2)
Not allowed to come in front of visitors	96 (25.6)	52 (17.2)	147 (37.4)	86 (22.3)	26 (33.3)	16 (20.0
Talk of marriage initiated	108 (28.8)	49 (16.2)	177 (45.0)	121 (31.4)	29 (37.0)	1 (1.25)
Restriction of Movement in kitchen	340 (90.9)	9 (2.98)	357 (90.8)	328 (85.19)	51 (65.0)	43 (53.75)

Figure 4.2.13: Impact of Menarche and Restrictions Imposed on Adolescent Girls (2007 Vs 2012)

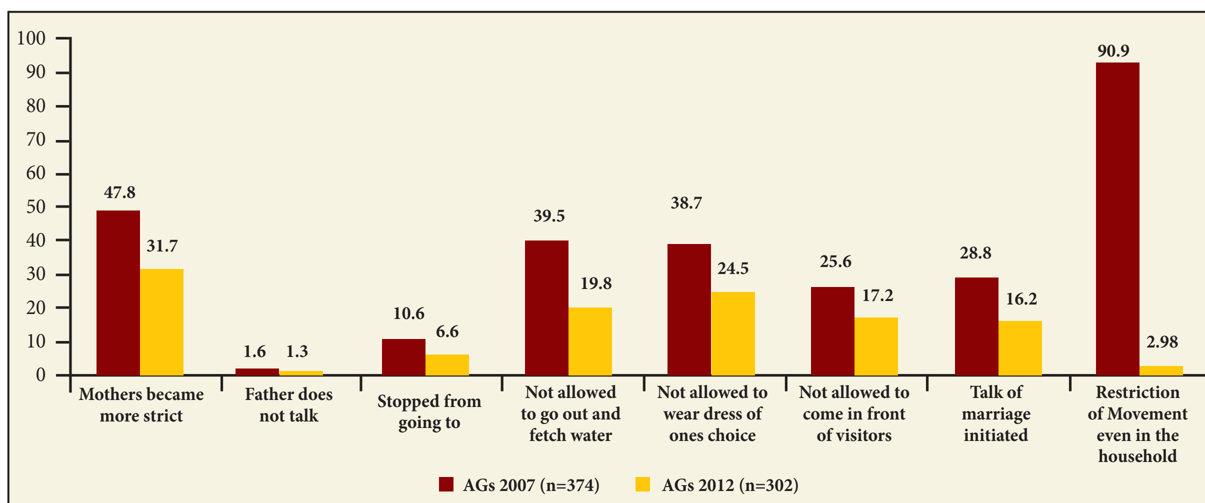
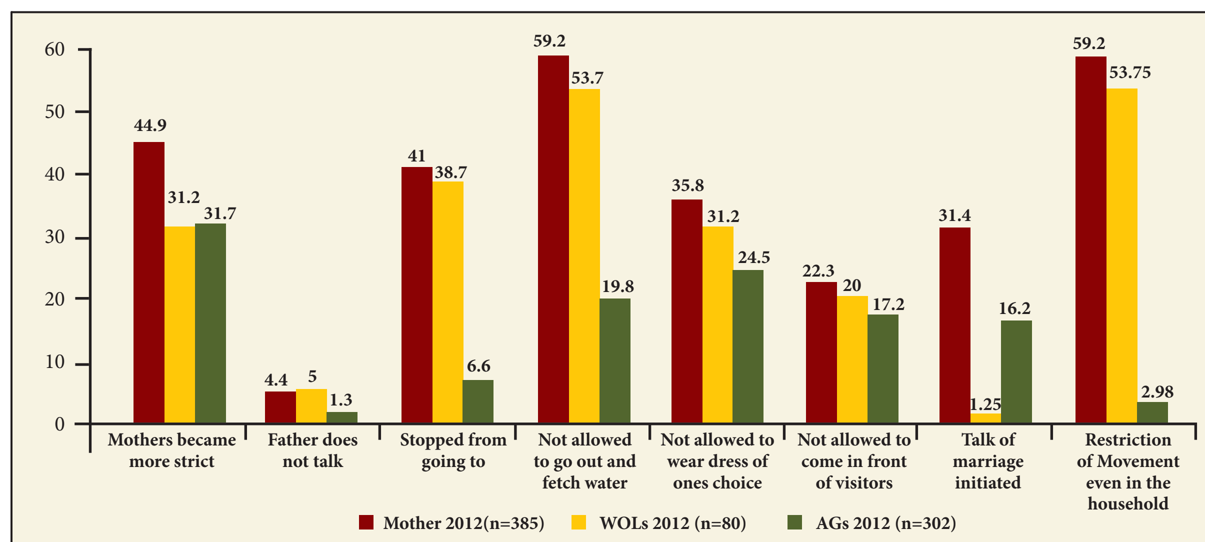


Figure 4.2.14: Impact of Menarche and Restrictions Imposed on Adolescent Girls, Mother and WOLs-a Comparision



For few (28.8%) AGs, talk about marriage was initiated due to menarche in 2007 and this has decreased to 16.2 per cent in 2012. The other restrictions/changes experienced by AGs include cessation of schooling (10.6% in 2007 and 6.6% in 2012) and forced to miss school during periods; father does not talk (1.6% in 2007 and 1.3% in 2012).

On the other hand 21.4 and 23 per cent mothers in 2007 and 2012 study respectively reported that 'no restrictions' were imposed on them showing no significant difference. Similar results were seen in case of WOLs. In case of mothers the restrictions imposed included restriction of movements even within the household which was 90.8 per cent in 2007 and 85.1 per cent in 2012.

Talk about marriage was initiated for 45 per cent of the mothers of AGs in 2007 and 31.4 per cent in 2012 respectively. Forty seven per cent mothers of AGs experienced strictness from their own mothers in 2007 and 31.7 per cent experienced the same in 2012. The other changes on the impact of menarche on yesteryear mothers and today's AGs are depicted in **Table 4.2.5 and Figure 4.2.13.**

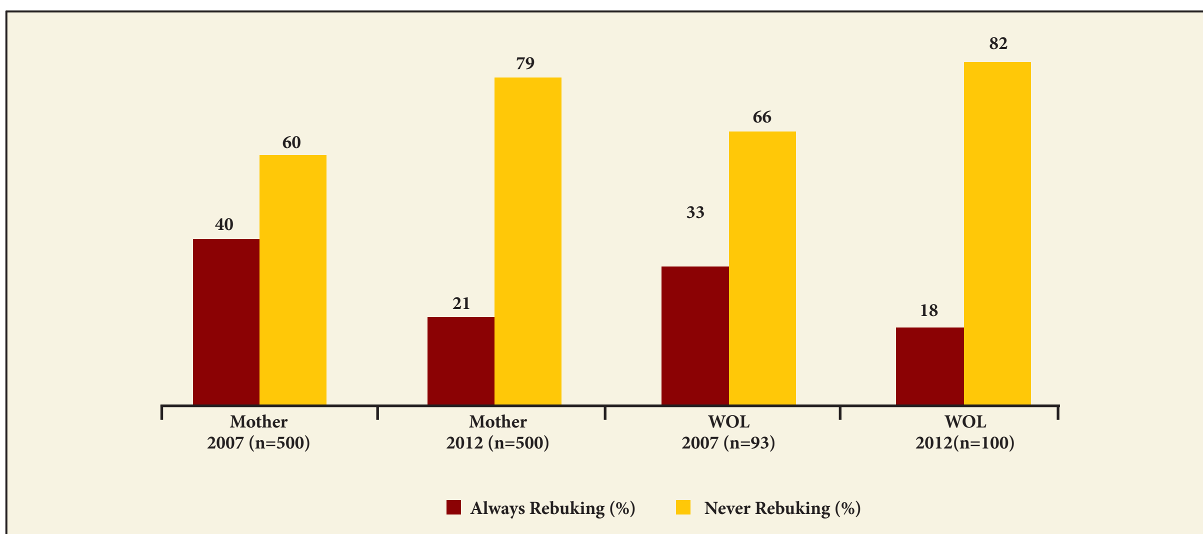
Intergenerational changes of impact of menarche can be noted in **Figure 4.2.14** in case of mothers, AGs and WOLs in 2012 respectively. Mothers of AGs experienced strictness from their own mothers and WOLs also experienced strictness from their mothers. It can be seen from the data that both in 2007 and 2012, there was a decreasing trend in restrictions imposed on AGs as compared to mothers and WOLs. This could be attributed to improved awareness levels in AGs and their mothers.

In 2007, 91 per cent mothers were always worried about safety of their daughters and this had significantly decreased to about 69 per cent in 2012 ($p<0.05$). The main worries of mothers of AGs were about marriage, and fear of her safety/ family honour as seen in 2007 and 2012. In the present study 51 per cent opinion leaders reported that they were always worried about safety of their AGs as compared to 65 per cent in 2007 respectively. Only 30.8 per cent mothers and 49 per cent WOLs said that they never worry about their daughters as compared to 9 per cent and 34 per cent in 2007 respectively **(Figure 4.2.15).**

Figure 4.2.15: Impact of Menarche of Adolescent Girls on Mothers and WOLs

The main worries of mothers of AGs and WOLs were about marriage, and fear of her safety/ family honour as seen in 2007 and 2012. The data also shows a decreasing trend in the percentage of mothers who rebuked their daughters for being born a girl **(Figure 4.2.16)**. Significant difference ($p<0.001$) is observed in mothers rebuking their daughters being born a girl (21% mothers and 18% WOLs in 2012 rebuked their daughter for being born a girl as compared to 40% and 34% in 2007).

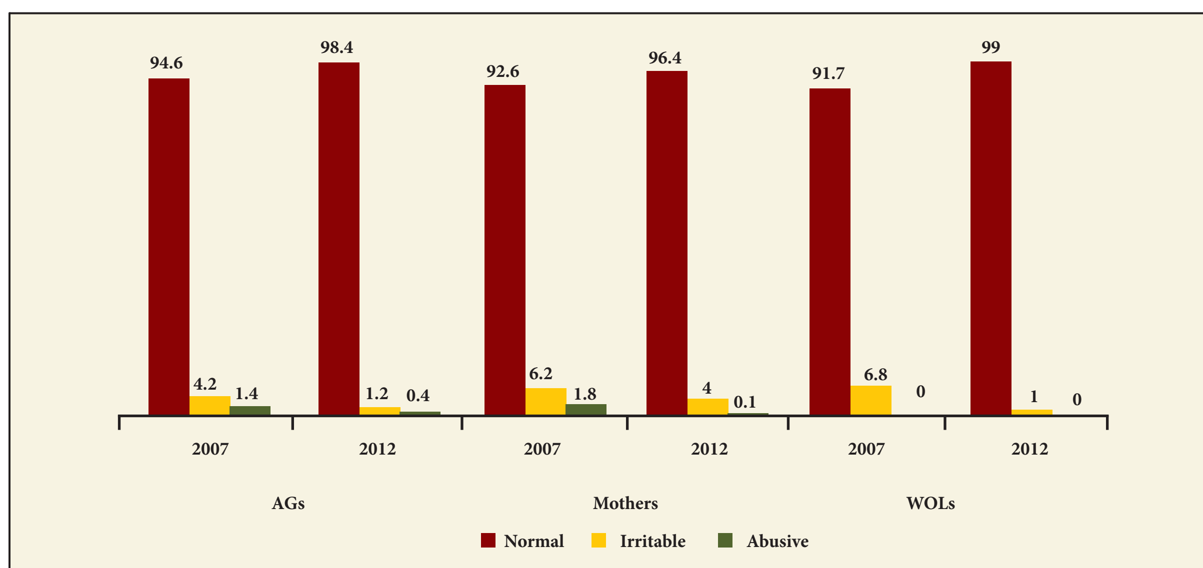
Figure 4.2.16: Rebuking Adolescent Girls for Being Born as Girl



J) Intergenerational Changes in Reaction to Menarche

Intergenerational changes in reaction to menarche as perceived by AGs, mothers of AGs and WOLs is depicted in **Figure 4.2.17** in terms of normal reaction, irritable behaviour and abusive in nature. Reaction of majority of mothers (96.4% in 2007 and 92.6% in 2012), WOLs (99% in 2012 and 91.7% in 2007) and AGs (98.4% in 2012 and 94.6% in 2007) to menarche was normal. Being abusive was negligible. Very few AGs, mothers of AGs and WOLs reported irritability

Figure 4.2.17: Intergenerational Changes in Reactions to Menarche



K) Hygienic Practices Adopted during Menstruation

Type of Material used during Menstruation

Adolescent Girls: Following practices related to menstruation are reported to be significant (increasing/ decreasing) among AGs **(Table 4.2.6 and Figure 4.2.18).**

- There was a significant increase ($p<0.01$) in the use of sanitary napkins (23.8% in 2007 and 74% exclusively in 2012)
- There was a significant decrease ($p<0.01$) in the use clean cloth (84.0% in 2007 & 14% in 2012)
- There was significant increase ($p<0.001$) in use of Indegenous pad using cotton and gauze by AGs in 2012 (12%) as compared to 2007(1.6%).

Mothers of AGs

- There was a significant increase ($p<0.01$) in the use of sanitary napkins (7.8% in 2007 & 56% exclusively in 2012) by mothers of AGs in 2012 as compared to 2007.
- A significant decrease ($p<0.01$ was observed) in the use of clean cloth (92.2% in 2007 to 25.4% in 2012) by mothers of AGs.
- There was significant increase ($p<0.001$) in use of Indegenous pad using cotton and gauze by mothers of AGs in 2012 (18.4%) as compared to 2007(3.2%).

Women Opinion Leaders

- With regard to use of sanitary napkins, significant change was seen in case of WOLs where in it was noticed that as against 24.7 per cent women using sanitary pads in 2007, 96 per cent exclusively in used them 2012 ($p<0.01$).
- It was surprising to note that none of the WOLS used clean cloth in 2012 study which was 97.8 per cent in 2007.

Women Functionaries

- With regard to use of sanitary napkins, significant change ($p<0.001$) was seen in case of women functionaries. It was reported that the use of sanitary napkins raised from 38 per cent in 2007 to 85.8 per cent exclusively in 2012.
- It was noted that. 14.9 per cent still used Indigenous pad using cotton and gauze in 2012 as compared to 9.3 per cent in 2007 showing no significant change.

State wise differences on use of sanitary napkins were tabulated for all categories of respondents. The same is given in **Figure 4.2.19.** The use of sanitary pads was reported by 92 per cent AGs of South West district of Delhi, followed by Mysore district of Karnataka (90%) and Kamrup district in Assam (85%). The use of sanitary pads by AGs in Barabanki district of Uttar Pradesh and Dhar district of Madhya Pradesh was little lower i.e. 58 and 45 per cent respectively. Almost one third of AGs (31.0% in UP and MP) still use clean cloth during their menses. The use of indigenous pad made of cotton and gauze was very low in South West district of Delhi, Mysore district of Karnataka and Kamrup district of Assam as the AGs were using sanitary napkins. The use of indigenous pad made of cotton and gauze was reported to be 24 per cent and 11 per cent in Dhar district of Madhya Pradesh and Barabanki district of Uttar Pradesh respectively **(Figure 4.2.19).**

Safe Hygienic Practices during Menstruation

There was a significant improvement in menstrual hygiene practices of AGs in 2012 as compared to 2007. About 94.5 per cent AGs reported changing the pad/cloth two to three times a day on the first

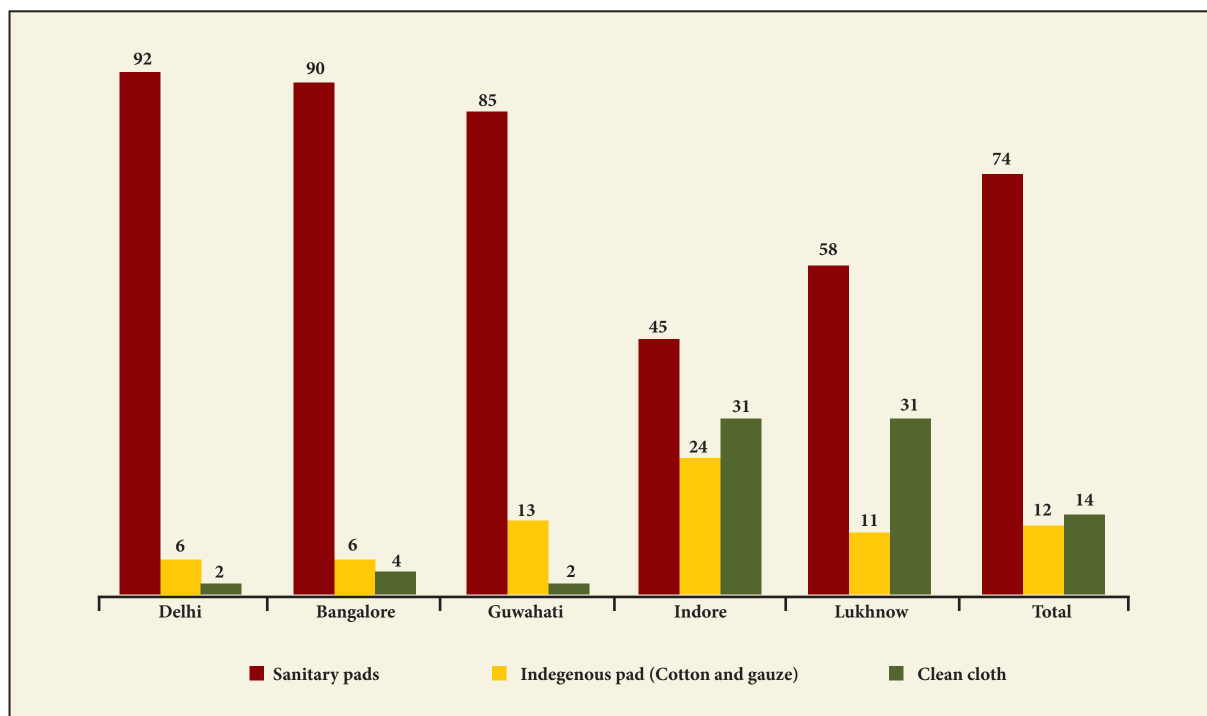
two days of menstruation as against 72 per cent in 2007 data **(Table 4.2.6)** showing a significant change ($p<0.001$) Similar significant changes were also seen in mothers of AGs, WOLs and women functionaries ($p<0.001$). The trend in frequency of changing pads during menstruation has increased in all the category

Table 4.2.6: Type of Material used during Menstruation

Hygienic Practices Adopted	AGs No. (%)		Mothers of AGs No. (%)		WOLs No. (%)		Women Functionaries No. (%)	
Type of material used	**2007* n=500**	**2012 n=500**	**2007 n=500**	**2012 n=500**	**2007 n=93**	**2012 n=100**	**2007 n=150**	**2012 n=155**
Sanitary pads	119 (23.8)	370 (74)	39 (7.8)	281 (56.2)	23 (24.7)	96 (96.0)	57 (38.0)	133 (85.80)
	χ^2=252.12 (p<0.001)		**χ^2=269.13 (p<0.001)**		**χ^2=103.5 (p<0.001)**		**χ^2=74.17 (p<0.001)**	
Indegenous pad using cotton and gauze	8 (1.6)	60 (12)	16 (3.2)	92 (18.4)	1 (1.1)	4 (4)	14 (9.3)	22 (14.90)
	χ^2=42.66 (p<0.001)		**χ^2=59.95 (p<0.001)**		**NS**		**NS**	
Clean cloth	420 (84.0)	70 (14)	461 (92.2)	127 (25.4)	91 (97.8)	0 (0.0)	144 (96.0)	0 (0.0)
	χ^2=490.19 (p<0.001)		**χ^2=460.4 (p<0.001)**					
Nothing	10 (2.0)	0.0 (0.0)	11 (2.2)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.3)	0 (0.0)
Cardboard	1 (0.2)	0 (0.0)	3 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.6)	0 (0.0)

*In 2007 respondents reported use of multiple materials during menstruation

Figure 4.2.18: Statewise Data on Type of Material Used During Menstruation by Adolescent Girls (%)



of respondents indicating that the hygienic practices during menstruation have certainly risen over the years **(Figure 4.2.20).** Disposal of used material maximum of the respondents threw the same **(Figure 4.2.21).** Similarly for AGs who used cloth during menstruation, there was appreciable improvement in menstrual hygiene practices in 2012 as compared to 2007 **(Table 4.2.7)** in terms of washing the clothes used during menstruation at home in a clean place with soap and water, dipping it in antiseptic solution and drying the cloth at clean place and under the sun. It was interesting to note that improvement in menstrual hygiene practices were seen in all group of respondents.

Table 4.2.7: Use of Cloth and Hygienic Practices Adopted during Menstruation

Hygienic Practices Adopted	AGs No. (%)		Mothers of AGs No. (%)		WOLs No. (%)		Women Functionaries No. (%)	
Type of material used	**2007 n=500**	**2012**	**2007 n=500**	**2012**	**2007 n=93**	**2012**	**2007 n=150**	**2012**
Clean cloth	420 (84.0)	70 (14)	461 (92.2)	127 (25.4)	91 (97.8)	0 (0.0)	144 (96.0)	0 (0.0)
Wash and reuse the cloth	288 (57.6)	58 (82.5)	342 (74.1)	105 (82.7)	63 (69.2)	0 (0.0)	122 (81.2)	0 (0.0)
	χ^2=5.9 ($p<0.05$)		**χ^2=3.93 ($p<0.05$)**					
Reuse of material-washing								
At home in a clean place (bathroom)	247 (85.7)	58 (82.5)	253 (73.9)	105 (82.7)	137 (27.4)	0 (0.0)	94 (62.6)	0 (0.0)
At home in unclean place (toilet)	28 (9.7)	0 (0.0)	38 (11.1)	18 (14.1)	17 (3.4)	0 (0.0)	6 (4.0)	0 (0.0)
Lonely place	14 (4.8)	0 (0.0)	51 (14.9)	51 (40.1)	0 (0.0)	0 (0.0)	16 (10.6)	0 (0.0)
Running water outside	36 (12.5)	0 (0.0)	53 (15.4)	53 (41.7)	59 (11.8)	0 (0.0)	16 (10.6)	0 (0.0)
Soap and water at home	254 (88.1)	70 (100)	289 (84.5)	89 (70.7)	230 (46)	0 (0.0)	103 (68.6)	0 (0.0)

Anti-infective treatment								
Dip it in antiseptic solution	38 (13.1)	50 (71.4)	24 (7.0)	120 (94.48)	11 (17.4)	0 (0.0)	18 (12.0)	0 (0.0)
No special care	254 (88.1)	0 (0.0)	318 (92.9)	0 (0.0)	53 (84.1)	0 (0.0)	100 (68.6)	0 (0.0)
Drying								
At clean place	101 (35.0)	70 (100)	118 (34.5)	118 (92.13)	18 (28.5)	0 (0.0)	54 (36.0)	0 (0.0)
At unclean place	10 (3.4)	0 0.0	54 (15.7)	14 (11.02)	0	0 (0.0)	10 (6.6)	0 (0.0)
Under the sun	**176 (61.6)**	**70 (100)**	**156 (45.6)**	**116 (91.33)**	**45 (71.4)**	**0 (0.0)**	**47 (31.3)**	**0 (0.0)**
Lonely place	4 (2.7)	0 0.0	30 (8.7)	30 (23.62)	29 (46.0)	0 (0.0)	7 (4.6)	0 (0.0)

Figure 4.2.19: Use of Sanitary Napkins by Adolescent Girls (State Specific)

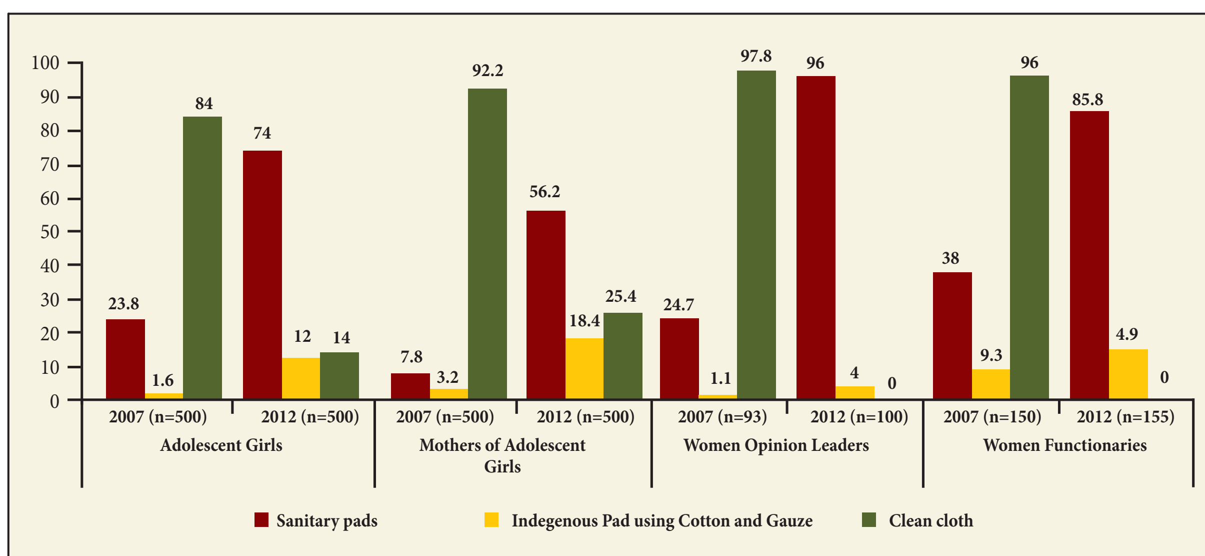


Figure 4.2.20: Frequency of Changing Pad during Menstruation

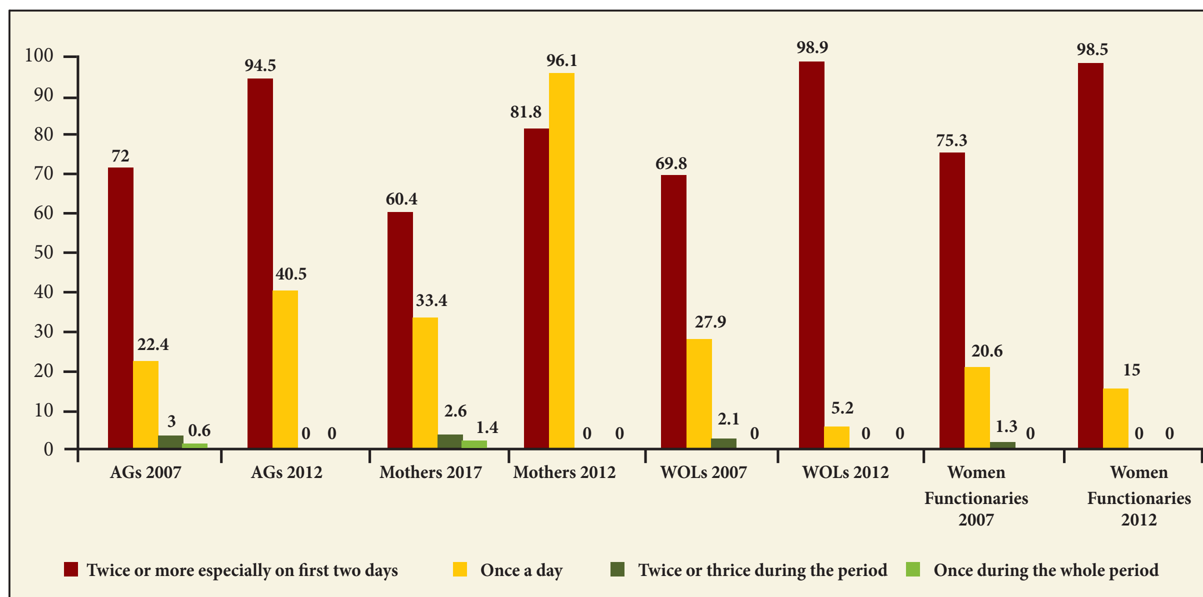
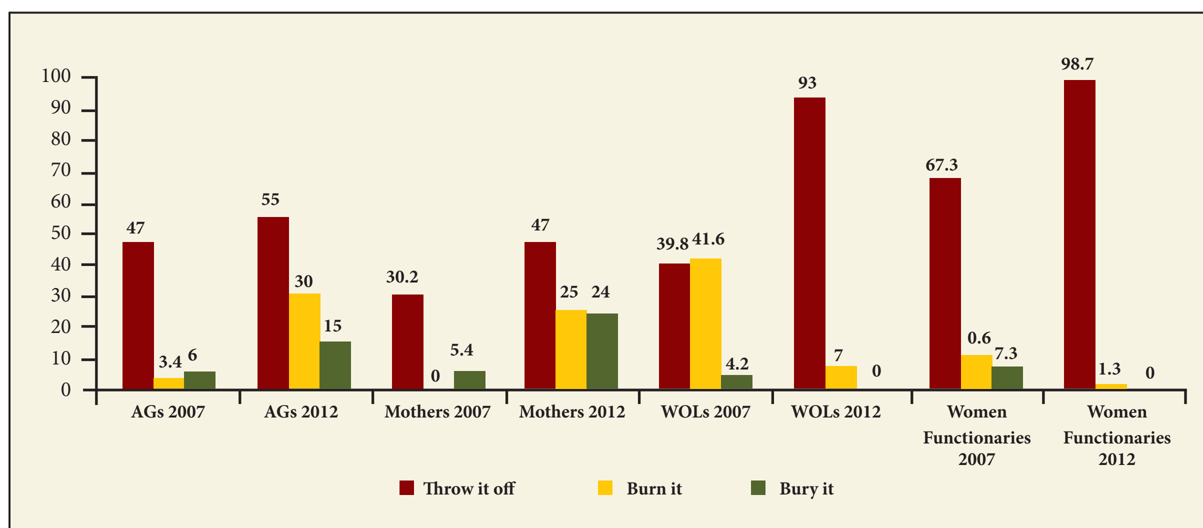


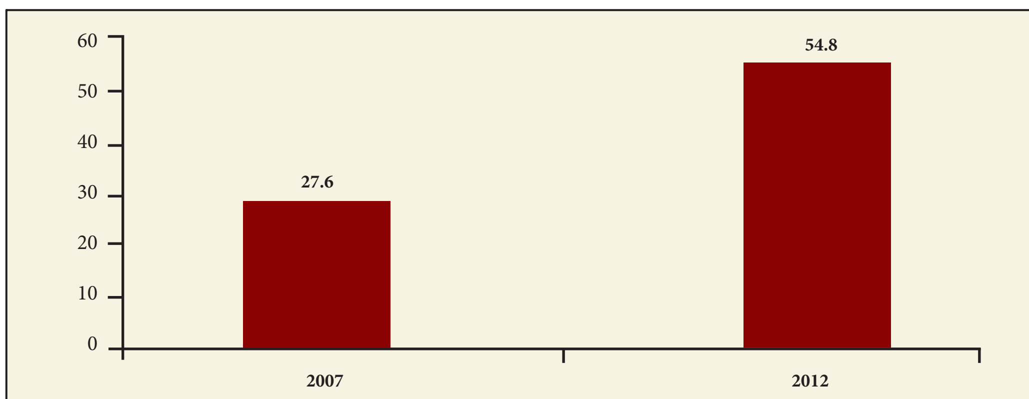
Figure 4.2.21: Disposal of Used Material during Menstruation



L) Preparedness of AGs for Menarche by Mothers

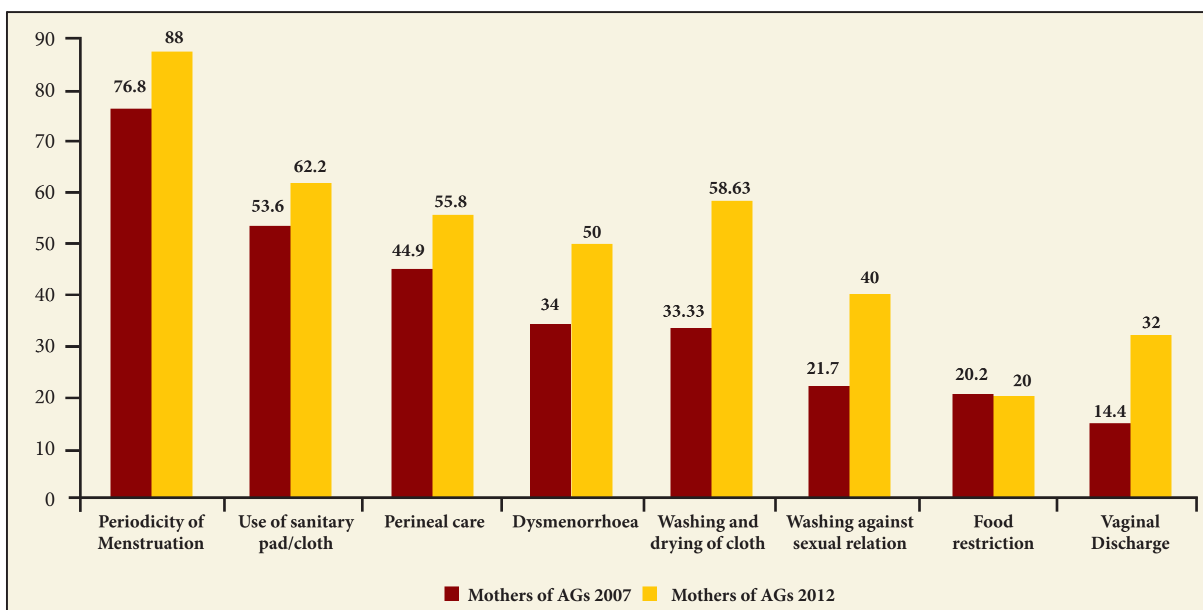
Every AG has to be aware about the facts related to menstruation and should be empowered towards effective menstrual hygiene management. Mother has an important role to play as she can guide her daughter well ahead of time so that the AG is mentally prepared to face the new challenge in an appropriate way.

Figure 4.2.22: Preparedness of Adolescent Girls for Menarche by Mothers



54.8 per cent mothers in 2012 informed their daughters about onset of menarche as compared to only 27.6 per cent mothers in 2007 showing significant change ($p<0.001$) and this clearly indicates that awareness levels of mothers has also increased **(Figure 4.2.22)**. Over the five years there has been a slight increase in the efforts of the mothers of 2012 in comparison to 2007 in preparing AGs for menarche; 40 per cent of mothers also gave warnings to their AGs regarding sexual relations; 54.8 per cent mothers in 2012 as compared to 27.6 per cent mothers in 2007 prepared their daughters about onset of menarche. The major issues discussed **(Figure 4.2.23)** with their adolescent daughters included periodicity of menstruation (88% in 2012 and 76.8% in 2007), use of sanitary pad/cloth during menstruation (62.2% in 2012 and 53.6% in 2007), perineal care during menstruation (55.8% in 2012 and 44.9% in 2007), dysmenorrhoea (50% in 2012 and 33.3% in 2007), washing and drying of cloth during menstruation (30% in 2012 and 28.2% in 2007), warning against sexual relation during menstruation (40% in 2012 and 21.7% in 2007), food restrictions during menstruation (20.2% in 2012 and 20% in 2007), vaginal discharge (32 % in 2012 and 14.4% in 2007).

Figure 4.2.23: Issues Discussed by Mothers with Adolescent Girls regarding Menarche



4.3 Socio-Cultural Practices and Menstruation

A) Socio-cultural Practices Related to Menstruation

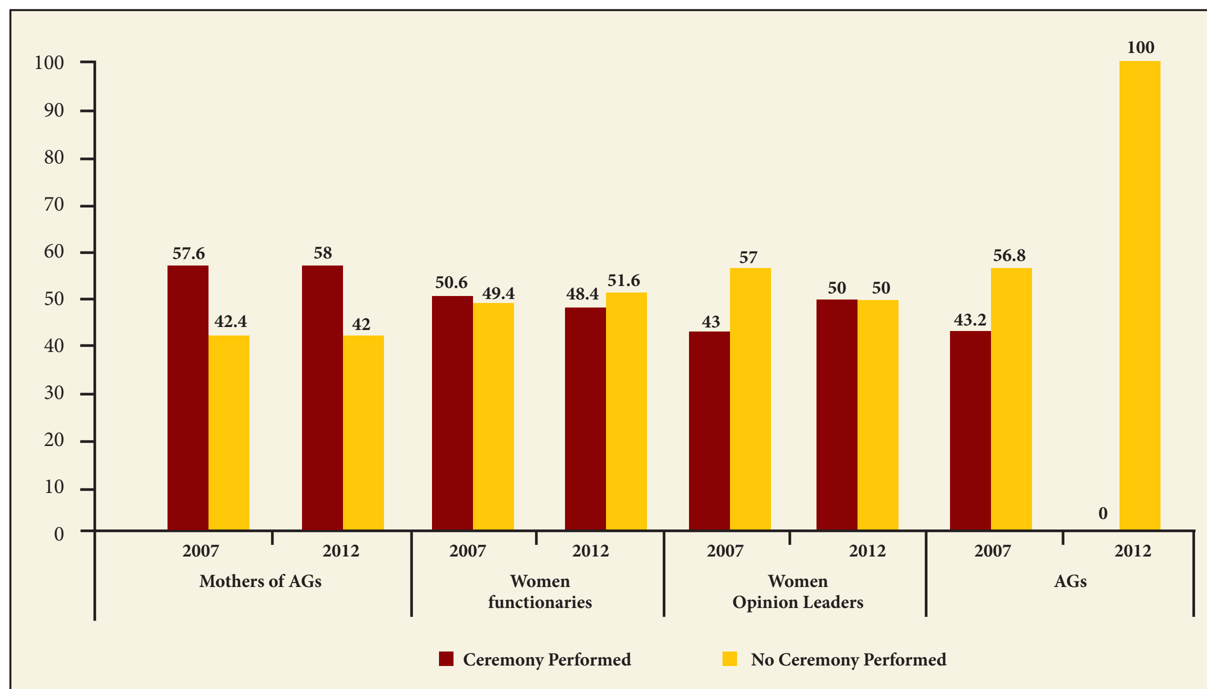
Socio-cultural practices during menstruation limiting the daily activities and routine of women are widely practiced in India. These practices manifest from belief that a woman during her menstruation is unclean and dirty. Women are prohibited from religious activities, attending functions (like marriages), cooking, and touching male members of the house during their menstrual periods. Data related to Socio-cultural Practices related to Menstruation is given in **Table 4.3.1.**

Table 4.3.1: Socio-cultural Practices Related to Menstruation

Ceremony	Adolescent Girls No. (%)		Mothers of Adolescent Girls No. (%)		Women Opinion Leaders No. (%)		Women Functionaries No. (%)	
	2007 n=500	2012 n=500	2007 n=500	2012 n=500	2007 n=93	2012 n=100	2007 n=150	2012 n=155
Ceremony performed	216 (43.2)	0 (0.0)	288 (57.6)	290 (58)	40 (43.0)	50 (50.0)	76 (50.6)	75 (48.4)
No ceremony	284 (56.8)	500 (100.0)	212 (42.4)	210 (42.0)	53 (57.0)	50 (50.0)	74 (49.4)	80 (51.6)
			NS		NS		NS	

In 2012, no AGs reported of any ceremony being performed on attainment of menarche as against 56.8 per cent in 2007 showing a positive change in terms of changing socio-cultural practices in the society regarding menstruation. No significant changes were found in terms of specific ceremonies being performed during onset of menstruation for mothers of AGs, women opinion leaders and women functionaries at their menarche in 2007 and 2012 and it was higher in comparison to AGs. It was encouraging to note that the percentage of 'no ceremony' has raised from 56.8 per cent in 2007 to 100 per cent in 2012 in the present generation, as compared to yesteryear **(Figure 4.3.1).**

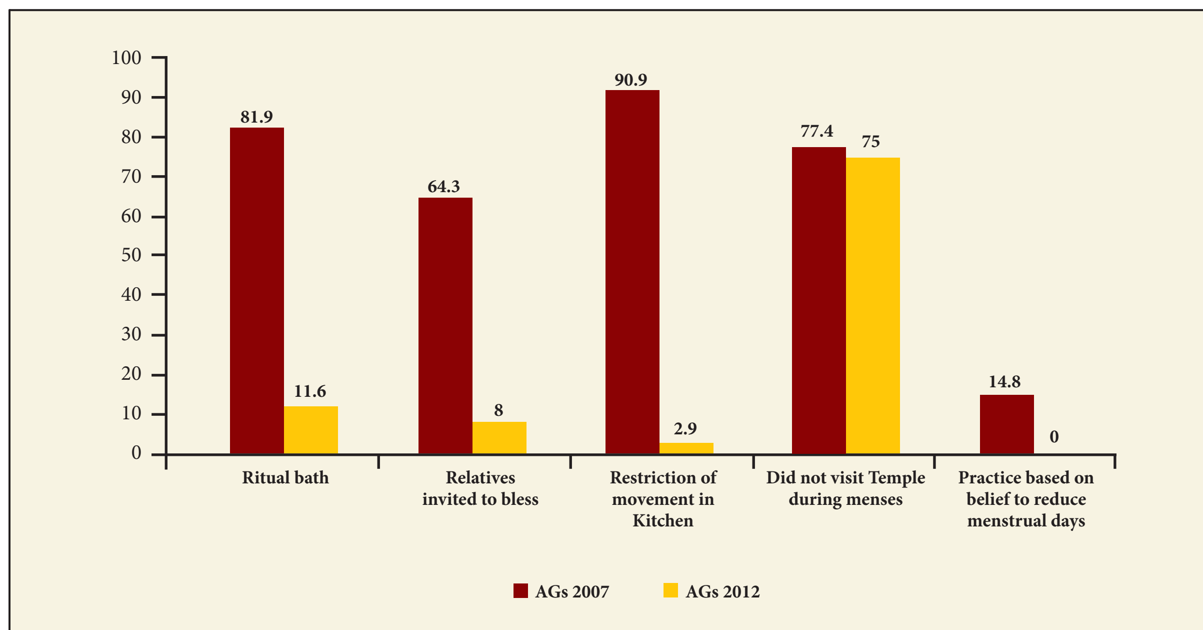
Figure 4.3.1: Ceremony Performed on Attainment of Menarche



Improvement of educational status of AGs and role of media could be the possible reasons which have spread awareness regarding menstruation as a normal physiological process and associated socio-cultural practices in the society. It was interesting to note that majority of respondents from Delhi, Madhya Pradesh, Uttar Pradesh and Assam were not aware of any special socio-cultural practices related to menstruation. In Karnataka, a few per cent of AGs reported of rituals like special bath and of relatives being invited to bless the AGs.

Belief regarding considering visiting to worship places during menstruation as a taboo is strongly rooted in the society with very few women visiting temples during this time. It was surprising to note that 75 per cent of AGs in 2012 reported that they did not visit the temple during menses as compared to 77.4 per cent in 2007 showing no significant change. Regarding restriction of movement in the kitchen significant difference ($p<0.001$)was observed and it was noted that as high as 90.9 per cent AGs in 2007 were not allowed to enter the kitchen which has reduced to as low as 2.9 per cent in 2012 **(Figure 4.3.2)**

Figure 4.3.2: Socio - Cultural Practices Related to Menstruation

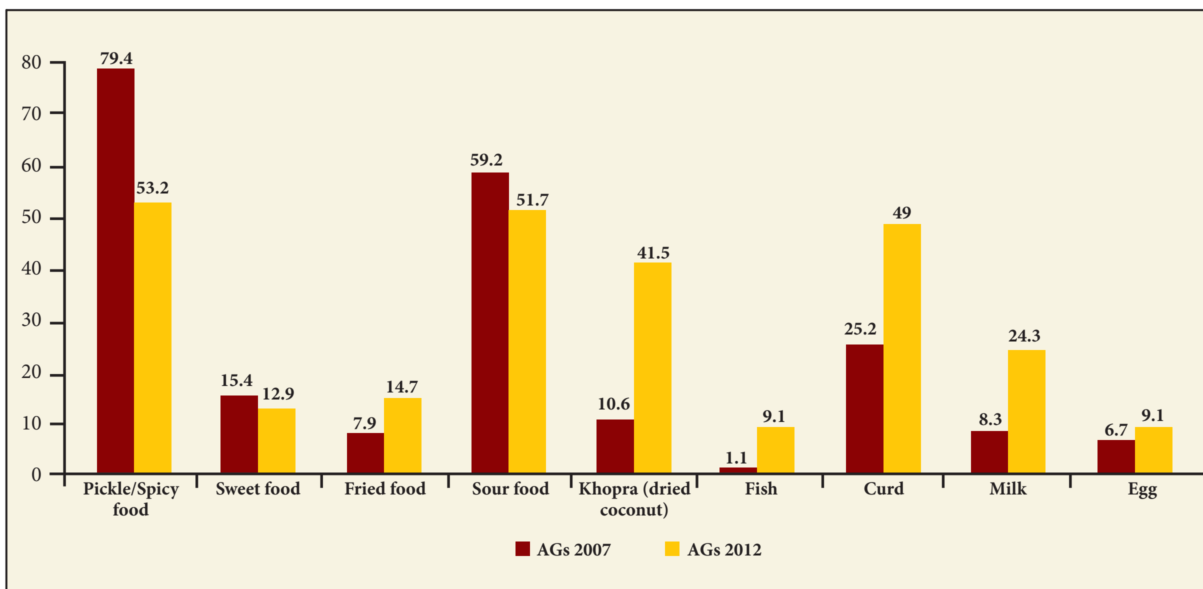


B) Foods Recommended and Foods Restricted during Menstrual Period

Socio-cultural taboos and myths related to food restriction exist in many societies. This has been embedded from generations. The data on foods recommended and restricted during menstrual period is given in **Table 4.3.2 and Figure 4.3.3.**

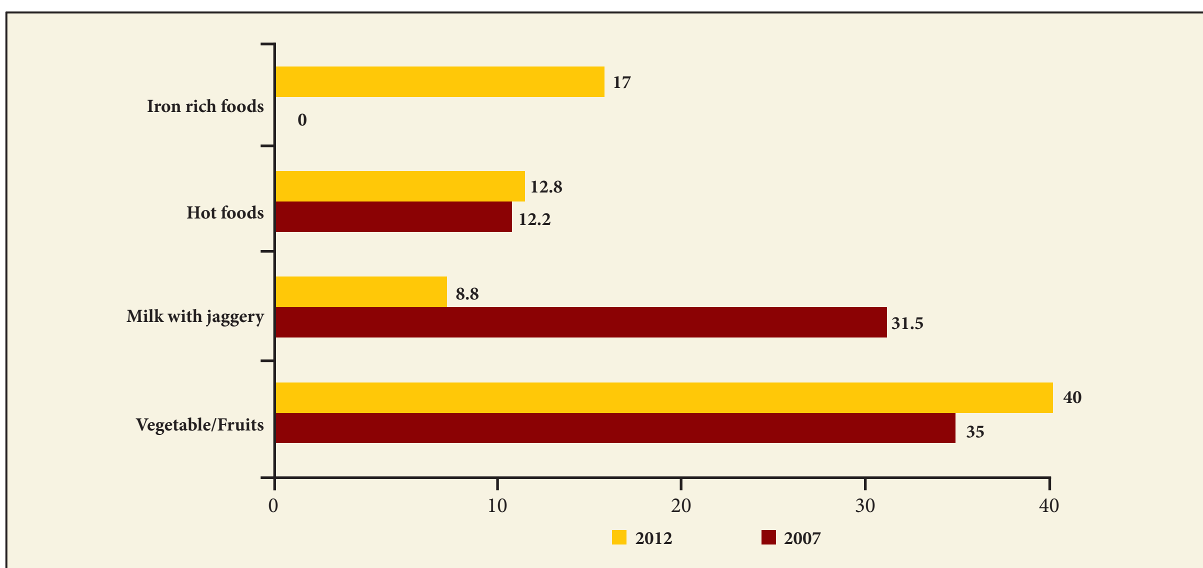
The findings of the present study brought out that the various food restrictions imposed on adolescent girls during the menstrual period included restrictions on pickle/spicy food (79.4% in 2007 and 53.2% in 2012), sour foods (59.2% in 2007 and 51.7% in 2012), curd (25.2% in 2007 and 49% in 2012), *khopra* (10.6% in 2007 and 41.5% in 2012), milk (8.3% in 2007 and 24.3% in 2012), fried foods (7.9% in 2007 and 14.7% in 2012), egg (6.7% in 2007 and 9.1% in 2012), sweet food (15.4% in 2007 and 12.9% in 2012) and fish (1.1% in 2007 and 9.1% in 2012). Sour foods and curd was seen to be restricted among all categories of women including AGs.

Figure 4.3.3: Foods Restrictions for Adolescent Girls during Menstruation



Most of the adolescent girls reported that they have not been advised for any special food to be consumed during menstrual periods. Some of the foods recommended included milk (31.5% in 2007 and 8.8% in 2012), hot foods (12.2% in 2007 and 12.8% in 2012) and iron- rich foods (0% in 2007 and 17% in 2012). Recommending iron-rich foods during menstruation is a positive step forward as anaemia in adolescent girls poses a high threat in India. Moreover, the introduction of WIFS programme would certainly bring about an improvement in haemoglobin levels of AGs.

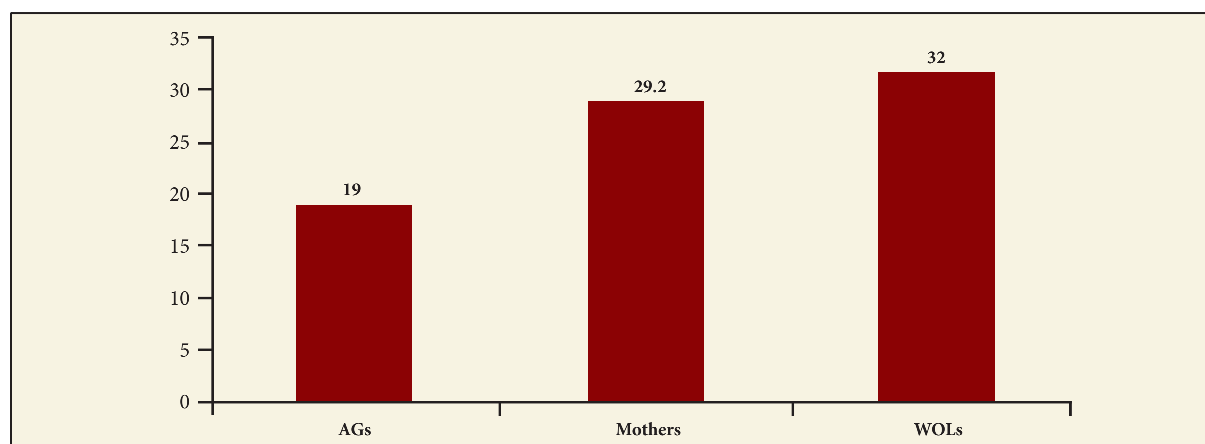
Figure 4.3.4: Foods Recommended during Menstruation for Adolescent Girls



C) School Dropout and Menstruation

In some cultures girls are either married at an early age (child marriage) or dropped from schools once menstruation starts. However, many girls are not allowed to go out when they start menstruating, either permanently (drop-out) or temporarily during the days they menstruate. Because of this, girls get behind in school eventually leading to increase in school drop-out rates; 19 per cent AGs, 29.2 per cent mothers and 32 per cent WOLs dropped out of school according to the data of the present study **(Figure 4.3.5).**

Figure 4.3.5: School Dropouts as Reported by Adolescent Girls, Mothers and WOLs (%)

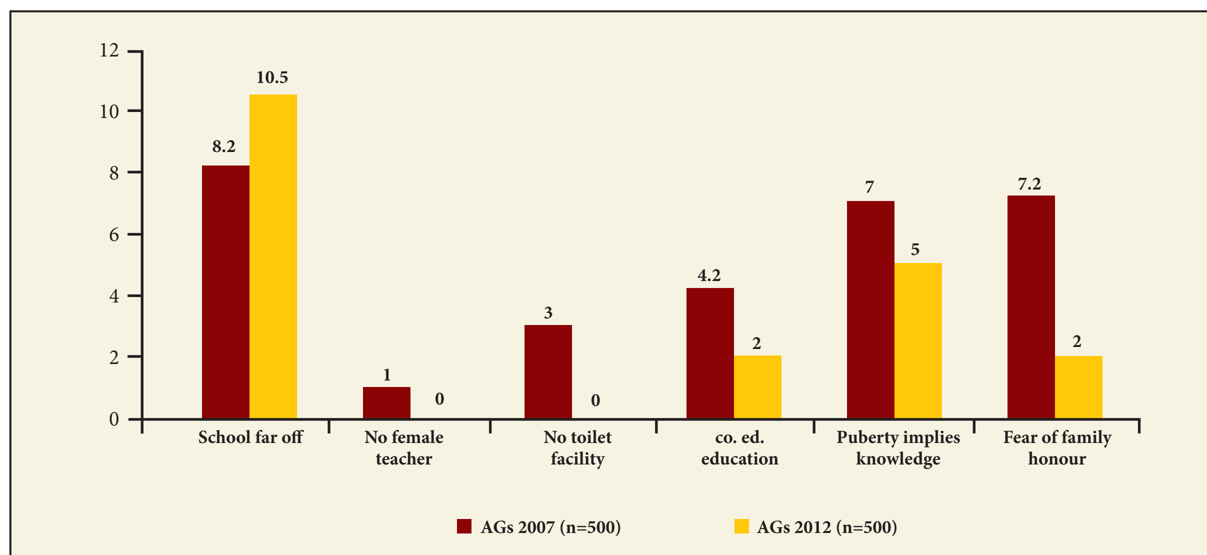


The AGs reported that the school not being in the vicinity was the main reason for school dropout. In mothers of AGs distance of school from home, fear of family honour and puberty implying knowledge were main reasons for school dropout. In WOLs the reasons for school dropouts were same as described by mothers in addition to presence of only co-educational schools was the main reasons of school dropout. The data shows that the percentage of girls not going to school has dropped since 2007 but still it continues.

Adolescent girls

Numerous reasons were given by the AGs to be pulled out of school after menarche **(Figure 4.3.6).** These include school far from the village (8.2% in 2007 and 10.5% in 2012), menarche being equated to attaining knowledge (7% in 2007 and 5% in 2012); fear of parents that the girl might hamper the family honour (7.2% in 2007 and 2% in 2012); availability of only coeducational school in the area (4.2% in 2007 and 2% in 2012); non availability of toilet (3% in 2007) and absence of female teacher in schools (1% in 2007).

Figure 4.3.6: Reasons for Dropping Out of School for Adolescent Girls



Mothers and Women Opinion Leaders

The main reasons due to which girls were pulled out of school as reported by yesteryear mothers and women opinion leaders is depicted in **Figure 4.3.7** and **Figure 4.3.8** respectively. These include school being far off from home (38.7% and 22.8% in 2007 and 15.6% and 15.6% in 2012), threat to family honour (19.1% and 34.2% in 2007 and 28.1% and 21.8% in 2012), puberty being considered equivalent to attaining knowledge (11.2% and 25.7% in 2007 and 23.2% and 2% in 2012) and presence of only co-educational schools in the vicinity (13.2% and 22.8% in 2007 and 8.9% and 15.6% in 2012) etc, respectively.

Figure 4.3.7: Reasons for Dropping School as Reported by Mothers of Adolescent Girls

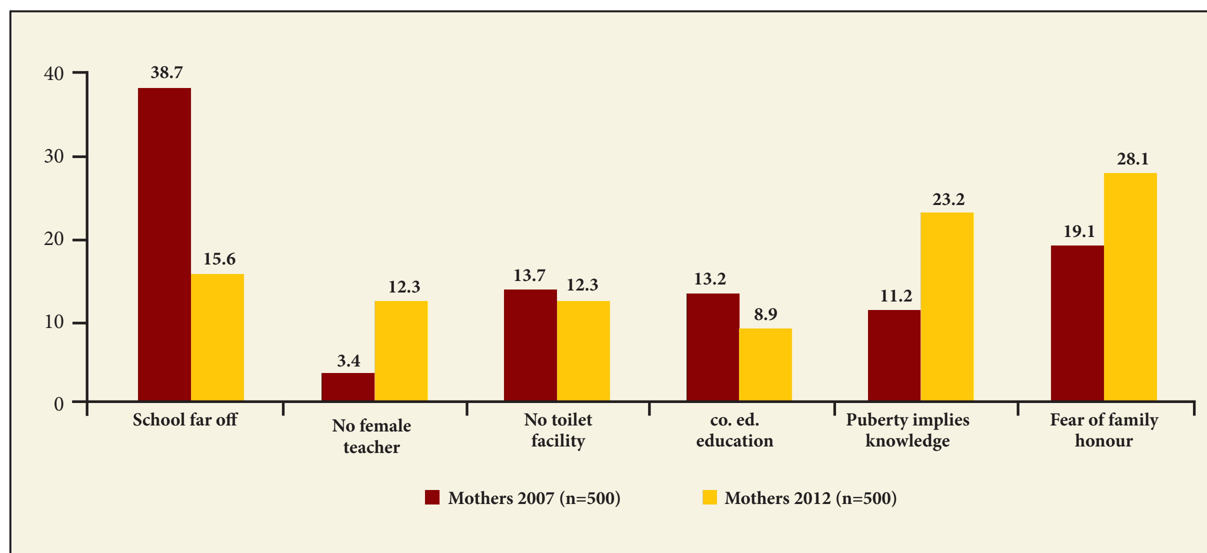
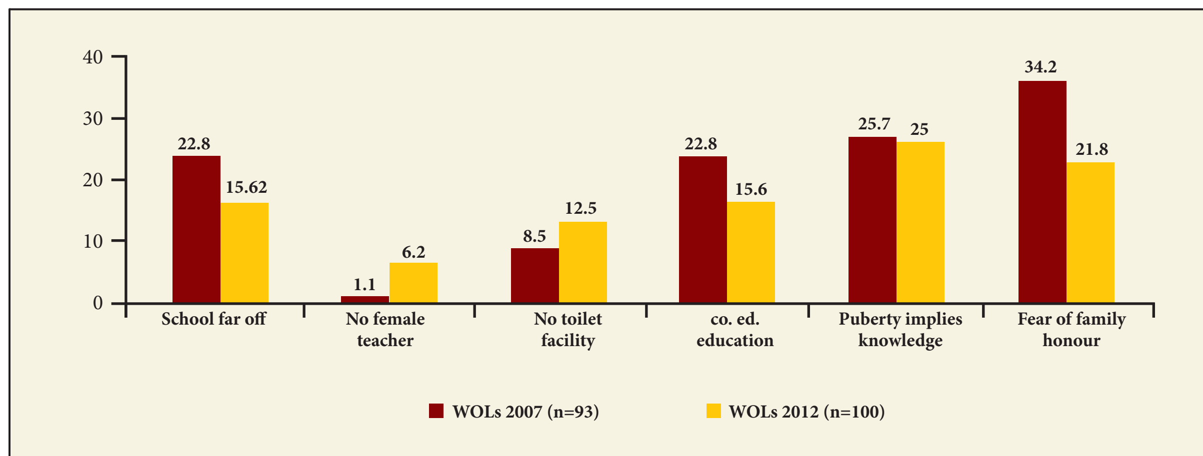


Figure 4.3.8: Reasons for Dropping School as Reported by WOLs



4.4 Knowledge About Reproductive Health and Adolescence

Adolescents are more vulnerable to genital infections on account of biological and social factors. It is especially important to ensure that AGs have knowledge about reproductive health especially reproductive tract infections which have become a silent epidemic that devastates women's life and is closely interrelated with poor menstrual hygiene. It is important to assess awareness regarding the health seeking behaviour of adolescents as their situation will be central in determining India's health, mortality and morbidity and growth scenario. Therefore, AGs were asked questions related to reproductive health for assessing their knowledge, the results of which are given in the following paragraphs.

A) Knowledge Regarding Pubertal Changes in AGs

It is important that the AGs are aware about the pubertal changes and are equipped with prior knowledge and information so that these changes in body are taken positively as a normal process of growth and development. Knowledge Regarding Pubertal Changes in AGs is given in **Table 4.4.1.**

The bodily changes that AGs related with puberty were gain in height (69.6% in 2007 and 96.6% in 2012), gain in weight (66.8% in 2007 and 94.6% in 2012), growth of auxiliary and pubic hair (64.2% in 2007 and 97.0% in 2012), development of body contours (52.4% in 2007 and 96.2% in 2012), onset of menstruation (68.8% in 2007 and 96.8% in 2012), facial maturity (17.6% in 2007 and nil in 2012) and mood changes (6.4% in 2007 and nil in 2012).

The awareness of AGs regarding pubertal changes in 2012 has significantly increased in comparison to the 2007 study especially with regard to gain in height and weight, growth of auxiliary and pubic hair, onset of menstruation and development of body contours ($p<0.001$).

Similarly the pubertal changes during adolescence as perceived by mothers and WOLs include development of body contours (58.4% and 73.1% in 2007 compared to 96.0% and 97% in 2012); gain in height (62.2% and 87.0% in 2007 compared to 97.8% and 98% in 2012); onset of menstruation (66.4% and 74.1% in 2007 as compared to 93.2% and 95% in 2012); gain in weight (64% and 84.9% in 2007 compared to 95% and 97% in 2012); growth of auxiliary and pubic hair (54.8%) and 68.8% in 2007 compared to 97% and 97.4% in 2012); development of acne (50.6% and 58% in 2007 compared to 55.2% and 51% in 2012); facial maturity (22% and 23.6% in 2007 compared to nil in 2012); and mood swings/ irritability (6.8% and 11.8% in 2007 and nil in 2012) respectively **(Table 4.4.1.).**

The ICDS and health functionaries who are social agents in bringing positive impact in health status of population and deal with adolescent population need to have in-depth knowledge about reproductive health so that they impart the same in the community. A comparison of knowledge of ICDS and health functionaries is presented in **Table 4.4.1.** The findings revealed that the knowledge of health and ICDS functionaries was at par with each other and no significant difference was observed in most of the parameters except for a few where in significant differences were observed. All the health functionaries in 2012 were aware of all the pubertal changes. ICDS and health functionaries are believed to be close to the community and probably the anxieties of mothers/community regarding fast developing of AGs and her marriage, dowry, etc. Such queries can be sorted through the functionaries **(Figure 4.4.1).**

B) Reactions of AGs to the Bodily Changes Experienced

Adolescence is a phase of rapid development and sometimes bodily changes in AGs make them self-conscious as a result of which they may be subjected to inferiority complex. As a result of bodily changes, various reactions of AGs were noted which include anxiety (2.06 % in 2007 and 53.2% in 2012), depression/ low moods (3.6% in 2012 and 8.6% in 2007), pride/happiness (28.6% in 2012 and 13.4% in 2007), feeling of its acceptance being a part of growing up (18.2% in 2012 and 31.8% in 2007) and being conscious of being different (22% in 2012 and 18% in 2007). Roughly 55 per cent did not report of experiencing any feeling whatsoever in 2012 as compared to 50.8 per cent in 2007 **(Figure 4.4.2).**

Taking note of the knowledge of AGs on pregnancy and family planning methods, it was reported that 64.6 per cent AGs knew how pregnancy occurs and 46.8 per cent knew about family planning methods in 2012. Many AGs felt shy discussing such topics and some of them even felt it as taboo. The knowledge gap which is evident has to be bridged by proper counselling techniques and ARSH programme so as to take charge of guidance and improving awareness on such issues in the lives of AGs.

Table 4.4.1: Knowledge Regarding Pubertal Changes

Pubertal Changes	Adolescent Girls No. (%)		Mothers of AGs No. (%)		Women Opinion Leaders No. (%)		Women Functionaries No. (%)				Total	
							ICDS		Health			
	2007 n=500	2012 n=500	2007 n=500	2012 n=500	2007 n=93	2012 n=100	2007 n=84	2012 n=105	2007 n=66	2012 n=50	2007 n=150	2012 n=155
Gain in height	348 (69.6)	483 (96.6)	311 (62.2)	489 (97.8)	81 (87.0)	98 (98)	79 (94)	95 (90.4)	62 (93.9)	50 (100)	141 (94.0)	145 (93.5)
	$\chi^2=129.7$ ($p<0.001$)		$\chi^2=198.02$ ($p<0.001$)		$\chi^2=8.5$ ($p<0.01$)		NS				NS	
Gain in weight	334 (66.8)	473 (94.6)	320 (64.0)	485 (97)	79 (84.9)	97 (97)	76 (90.4)	99 (94.2)	58 (87.8)	50 (100)	134 (89.3)	150 (96.7)
	$\chi^2=124.05$ ($p<0.001$)		$\chi^2=173.43$ ($p<0.001$)		$\chi^2=18.7$ ($p<0.001$)		NS				$\chi^2=6.58$ ($p<0.05$)	
Acne	279 (55.8)	276 (55.2)	253 (50.6)	255 (51	54 (58.0)	59 (59)	65 (77.3)	86 (81.9)	59 (89.3)	50 (100)	124 (82.6)	136 (87.3)
	NS		NS		NS		NS					NS
Growth of auxiliary and pubic hair	321 (64.2)	485 (97)	274 (54.8)	487 (97.4)	64 (68.8)	99 (99)	65 (77.3)	98 (93.3)	64 (96.9)	50 (100)	129 (86.0)	148 (95.4)
	$\chi^2=172.0$ ($p<0.001$)		$\chi^2=249.4$ ($p<0.001$)		$\chi^2=34.4$ ($p<0.001$)		NS					NS
Onset of Menstruation	344 (68.8)	484 (96.8)	332 (66.4)	466 (93.2)	69 (74.1)	95 (95)	73 (86.9)	96 (91.4)	66 (100)	50 (100)	140 (93.3)	146 (94.8)
	$\chi^2=137.6$ ($p<0.001$)		$\chi^2=119.0$ ($p<0.001$)		$\chi^2=16.33$ ($p<0.001$)		NS				NS	

Facial maturity	88 (17.6)	0 (0.0)	110 (22.0)	0 (0.0)	22 (23.6)	0 (0.0)	33 (39.2)	96 (91.4)	6 (9.09)	50 (100.0)	47 (31.3)	146 (94.8)
					χ^2=58.5 (p<0.001)		**χ^2=129.62 (p<0.001)**					
Development of body contours	262 (52.4)	481 (96.2)	292 (58.4)	481 (96.2)	68 (73.1)	97 (97)	62 (73.8)	99 (94.2)	34 (51.5)	50 (100)	123 (82.0)	149 (96.1)
	χ^2=251.16 (p<0.001)		**χ^2=203.5 (p<0.001)**		**χ^2=22.15 (p<0.001)**		**χ^2=15.5 (p<0.001)**				**χ^2=15.77 (p<0.001)**	
Irritable/low moods	32 (6.4)	0 (0.0)	34 (6.8)	0 (0.0)	11 (11.8)	0 (0.0)	14 (16.6)	96 (91.4)	4 (6.06)	50 (100.0)	20 (13.3)	146 (94.8)
							χ^2=107.21 (p<0.001)				**χ^2=200.9 (p<0.001)**	

Figure 4.4.1: Knowledge of Women Functionaries Regarding Pubertal Changes

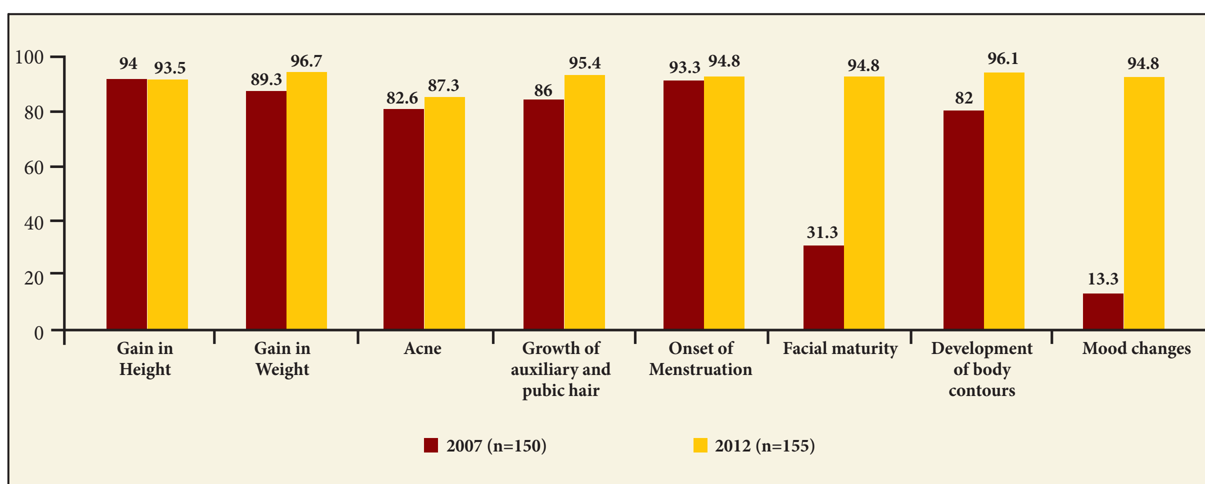
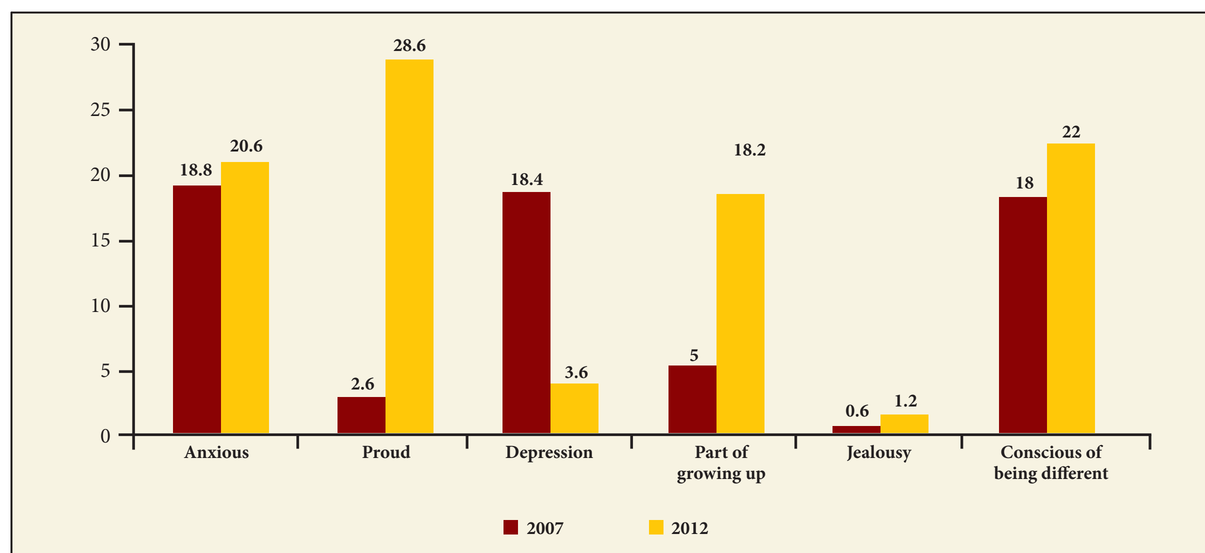


Figure 4.4.2: Reactions of Adolescent Girls to Bodily Changes Experienced in Comparion to Friends and Neighbours



C) Knowledge about RTIs/STIs

Perception about Signs and Symptoms of Reproductive Tract Infections (RTIs)

The information and knowledge about sign and symptoms of RTI was sought from AGs **(Table 4.4.2)**. It was found that nearly half of the AGs in 2007 and 38 per cent in 2012 study were not aware of the signs and symptoms of RTIs. The signs and symptoms that AGs perceived to be associated with RTIs included: discharge from vagina (38.4% in 2012 as compared to 38.8% in 2007), burning sensation(38.1% in 2012 and 29% in 2007), itching in vulva (41.2% in 2012 and 26.8% in 2007), pain in lower back (24.2% in 2012 and 13.2% in 2007), ulcer in pubic region (10.6% in 2012 and 9.6% in 2007), menstruation related problems (0% in 2012 and 1.2% in 2007). Huge gaps exists and awareness programmes and campaigns related to RTIs/STIs should be increased so that AGs become aware about the signs and symptoms and can undertake timely action in tackling the menace of RTIs/STIs.

Mothers and WOLs

The signs and symptoms that mothers of AGs and WOLs perceived to be associated with RTIs are depicted in **Table 4.4.2.** Over the period, there is an increase in knowledge about signs and symptoms of RTIs/STIs amongst of mothers of AGs and WOLs.

Table 4.4.2: Knowledge about Signs and Symptoms of Reproductive Tract Infections (RTIs) Sexually Transmitted Infections (STIs)

	Adolescent Girls No. (%)		Mothers of AGs No. (%)		WOLs No. (%)		Women Functionaries No. (%)	
Signs and Symptoms of RTIs/STIs	**2007 n=500**	**2012 n=500**	**2007 n=500**	**2012 n=500**	**2007 n=93**	**2012 n=100**	**2007 n=150**	**2012 n=155**
Discharge from vagina	194 (38.8)	192 (38.4)	228 (45.6)	290 (58)	52 (55.9)	69 (69)	122 (81.3)	130 (83.8)
Burning during urination	145 (29.0)	191 (38.2)	204 (40.8)	290 (58)	52 (55.9)	63 (63)	120 (80)	133 (85.8)
Itching in vulva	134 (26.8)	206 (41.2)	203 (40.6)	272 (54.4)	47 (50.5)	61 (61)	119 (79.3)	125 (80.6)
Ulcer in public region	48 (9.6)	53 (10.6)	99 (19.8)	108 (21.6)	37 (39.7)	32 (32)	66 (44.0)	62 (40.0)
Swelling in groin region	23 (4.6)	68 (13.6)	65 (13.0)	110 (22.0)	26 (27.9)	35 (35)	40 (26.6)	66 (42.5)
Pain in lower back region	66 (13.2)	121 (24.2)	77 (15.4)	177 (35.4)	26 (27.9)	38 (38)	66 (44.0)	67 (43.2)
Sterility	2 (0.4)	0 (0.0)	1 (0.2)	0 (0.0)	4 (4.3)	0 (0.0)	0 (2.6)	9 (5.8)
Menstruation related problems	6 (1.2)	0 (0.0)	5 (1.0)	0 (0.0)	14 (15.0)	0 (0.0)	26 (17.3)	30 (19.3)

Women Functionaries

The common signs and symptoms that ICDS and health functionaries could relate to RTIs/STIs included discharge from vagina (81.3% in 2007 and 83.8% in 2012), burning during urination (80.0% in 2007 and 85.8 % in 2012), itching in private parts/ vulva (79.3% in 2007 and 80.6 % in 2012), ulcer in public region (44.0% in 2007 and 40% in 2012), and swelling in groin region (26.6% in 2007 and 42.5% in 2012), pain in lower back (44.0% in 2007 and 43.2% in 2012), sterility (2.6% in 2007 and 5.8% in 2012) and menstruation related problems (17.3% in 2007 and 19.3% in 2012).

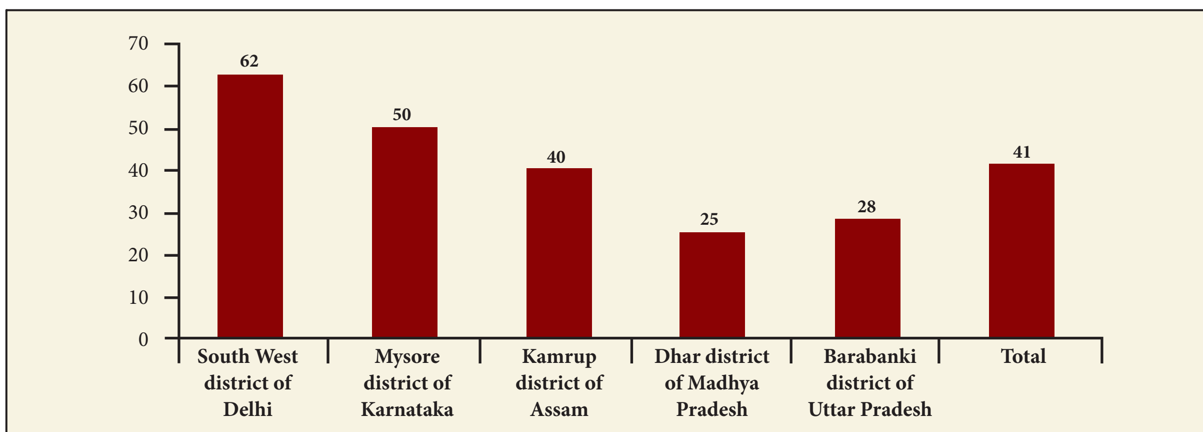
Both health functionaries and ICDS functionaries should have clear concept on RTIs/STIs as they are the social agents who can bring about an impact in improving reproductive and sexual health of women in our country. However, the gap in knowledge about RTI/STI is evident from **Table 4.4.3.** Knowledge about Reproductive Tract Infection (RTIs)/ Sexually Transmitted Infections (STIs) seems to be low among AGs, mothers of AGs and WOLs.

D) Awareness Regarding RTI/STI

Awareness regarding RTI/STI among AGs in 2012 revealed that only 41.0 per cent AGs across India had heard about RTI/STI. The awareness on RTI/STI ranged from as low as 40 per cent (Kamrup district of Assam) to as high as 62 per cent (South West district of Delhi). Half of the AGs (50%) from Mysore district of Karnataka had knowledge on RTIs/STIs as compared to 25 per cent and 28 per cent in Dhar district of Madhya Pradesh and Barabanki district of Uttar Pradesh respectively **(Figure 4.4.3).** The same was evident, both in 2007 and 2012 study. Knowledge on RTIs/STI was poor both in 2007 and 2012 and no significant change seen in any of the attributes.

Only 33.8 per cent of AGs in 2012 knew that RTI/STI is curable as compared to 35.4 per cent AGs in 2007. Similarly, the knowledge regarding the use of condoms for prevention of RTIs/STIs was 25.4 per cent in 2007 as compared to 24.8 per cent in 2012. STI may even cause sterility was known to 11.8 per cent AGs in 2007 and 11 per cent AGs in 2012. It was disappointing to note that the knowledge about partner treatment in RTI/STI, repeated abortions could be due to STI were known to only few girls both in 2007 and 2012 (18.2% in 2007 and 19.6% in 2012). Even in this era few girls also believed that having sex with virgin (a myth) is a means to cure STI (12% in 2007 as compared to 12% in 2012). Repeated abortion may be due to STI was known to 9.6 per cent in 2007 and 10.8 per cent in 2012 **(Table 4.4.3).**

Figure 4.4.3: Statewise Awareness of Adolescent Girls Regarding RTI/STI in 2012



Mothers and WOLs: Forty-nine per cent in 2007 and 48.6 per cent mothers of AGs in 2012 and 62 per cent WOLs in 2007 and 2012 respectively knew that RTIs/STIs are curable. Thus, there was no significant change observed during the years (2007 to 2012) in the knowledge level of mothers of AGs and WOLs about RTI/STI on various parameters except for a few in which significant change is seen namely repeated abortion may be due to STI and many persons with STI do not show any symptoms. STIs may cause sterility was known to only 34.4 per cent women opinion leader in 2007 and 32 per cent in 2012 and 21.4 per cent mothers in 2007 and 18 per cent in 2012. The knowledge as regards need for partner treatment in STIs, asymptomatic nature of STIs and STIs leading to abortions was very low among both the groups **(Table 4.4.3)**.

Women Functionaries: Knowledge about Reproductive Tract Infections (RTIs) /Sexually Transmitted Infections (STIs) of ICDS and Health Functionaries is given in **Table 4.4.4.** Knowledge of ICDS functionaries namely CDPOs, Supervisors and AWWs and those of health functionaries namely MO, LHV and ANM is also depicted in **Table 4.4.5.** The knowledge level of health and ICDS functionaries regarding pubertal changes and RTI/STI is certainly better than other categories of respondents but the findings revealed that there was no significant difference between 2007 and 2012 with regards to the awareness level regarding the parameters like RTI/STI is curable and using condom prevents RTIs/STIs. STI may cause sterility was known to 48 per cent women in 2007 as compared to 62.5 per cent women in 2012 showing significant change ($p<0.01$). The knowledge that partner treatment is essential in RTI/STI has significantly increased from 64 per cent in 2007 to 80.6 per cent in 2012. Even for the women functionaries, knowledge level on some of the parameters seems to be quite low both in 2007 and 2012.

Table 4.4.3: Knowledge about Reproductive Tract Infection (RTIs)/ Sexually Transmitted Infections (STIs)

Knowledge about RTIs and STIs	Adolescent Girls No. (%)		Mothers of AGs No. (%)		Women Opinion Leaders No. (%)		Women Functionaries No. (%)	
	2007 n=500	2012 n=500	2007 n=500	2012 n=500	2007 n=93	2012 n=100	2007 n=150	2012 n=155
RTI/STI is curable	177 (35.4)	167 (33.8)	246 (49.2)	243 (48.6)	58 (62.4)	62 (62)	137 (91.3)	139 (90.0)
	NS		NS		NS		NS	
STI may cause sterility	59 (11.8)	55 (11)	107 (21.4)	90 (18)	32 (34.4)	32 (32)	72 (48.0)	97 (62.58)
	NS		NS		NS		$\chi^2=6.65$ ($p<0.01$)	
Using condom prevents RTIs/STIs	127 (25.4)	124 (24.8)	143 (28.6)	155 (31)	44 (47.3)	54 (54)	129 (86.0)	137 (88.38)
	NS		NS		NS		NS	
Sex with virgin girls cure STI	61 (12.2)	60 (12)	13 (2.6)	42 (8.4)	5 (5.3)	16 (16)	10 (6.6)	6 (3.83)
	NS		$\chi^2=16.18$ ($p<0.001$)		$\chi^2=5.33$ ($p<0.05$)		NS	
Partner Treatment in RTIs/ STIs	91 (18.2)	98 (19.6)	116 (23.2)	120 (24)	24 (25.8)	41 (41)	96 (64.0)	125 (80.64)
	NS		NS		$\chi^2=4.98$ ($p<0.05$)		$\chi^2=10.5$ ($p<0.001$)	

Repeated abortion may be due to STI	48 (9.6)	54 (10.8)	76 (15.2)	151 (30.2)	22 (23.6)	39 (39)	78 (52)	114 (73.54)
	NS		**χ^2=32.05 (p<0.001)**		**χ^2=5.24 (p<0.05)**		**χ^2=15.17 (p<0.001)**	
Many person with STI do not any symptoms	42 (8.4)	37 (7.4)	66 (13.2)	97 (19.4)	16 (17.2)	30 (30)	63 (42.0)	97 (62.58)
	NS		**χ^2=7.04 (p<0.01)**		**χ^2=4.34 (p<0.05)**		**χ^2=12.94 (p<0.001)**	

Among ICDS functionaries, significant differences were observed between 2007 and 2012 in parameters like STI may cause sterility (p<0.001), partner treatment is essential in RTI/STI (p<0.001), repeated abortions may be due to STIs (p<0.001) and asymptomatic nature of RTI/STI (p<0.001). Health functionaries in 2012 fared well in comparison to 2007. When comparison of Knowledge of ICDS and Health functionaries about RTIs/STIs was seen in 2012, nearly 85 per cent ICDS functionaries were aware that RTI/STI is curable in both 2012 and all the Health functionaries in 2012 knew the same. Using condom could prevent STI was known

Table 4.4.4: Knowledge of ICDS and Health Functionaries about RTIs/STIs in 2012

	ICDS	**Health**
	2007 n=105	**2012 n=50**
RTI/STI is curable	90(85.1)	50(100)
STI may cause sterility	27(25.7)	10(20)
	NS	
Using condom prevents RTIs/STIs	90(85.7)	30(60)
	χ^2=12.8(p<0.001)	
Sex with virgin girls cure STIs	0.0	0.0
Partner treatment in RTIs/STIs	81(77.1)	44(88)
	NS	
Repeated abortion may be due to STIs	11(10.4)	30(60)
	χ^2=42.7(p<0.001)	
Many persons with STIs do not show any symptoms	13(12.3)	39(78)
	χ^2=65.4(p<0.001)	

to 98 per cent health functionaries and to 85.1 per cent ICDS functionaries in 2012 and a significant difference was found **(Table 4.4.4).**

Contrary to common belief, a huge gap exists in the correct and comprehensive knowledge about to RTIs/STIs. Thus there exists a huge need for imparting correct and comprehensive knowledge about RTI/STI. Endeavour should be made towards influencing health seeking behaviour through existing public health services. In order to create awareness and supporting environment for improving health seeking behaviour of AGs, women functionaries and WOLs should be equipped with correct and comprehensive knowledge about to RTIs/STIs. Adolescent reproductive and Sexual Health (ARSH) as a key strategy under Reproductive and Child Health Phase II (RCH II) Programme and National Rural Health Mission should be utilised as a core package in preventing, promoting, curing and counseling so as to bridge the knowledge gap evident in AGs, mothers and WOLs and for holding training sessions for women functionaries from both Health and ICDS. For treatment of common RTIs/STIs among AGs certain factors like privacy and confidentiality, treatment compliance, partner management etc. should be given due importance.

E) Knowledge about HIV/AIDS among Respondents

The results related to knowledge about HIV/AIDS among adolescent girls revealed that 87 per cent in 2012 had heard about HIV/AIDS. The awareness was higher amongst AGs of South West district of Delhi (98%), Mysore district of Karnataka (90%) and Kamrup district of Assam (88%) as compared to Dhar district of Madhya Pradesh (79%) and Barabanki district of Uttar Pradesh (75%). Data regarding knowledge about HIV/AIDS among AGs revealed that no significant change was seen in 2012 when compared to 2007 data.

Figure 4.4.4: Statewise Awareness of Adolescent Girls on HIV/AIDS in 2012

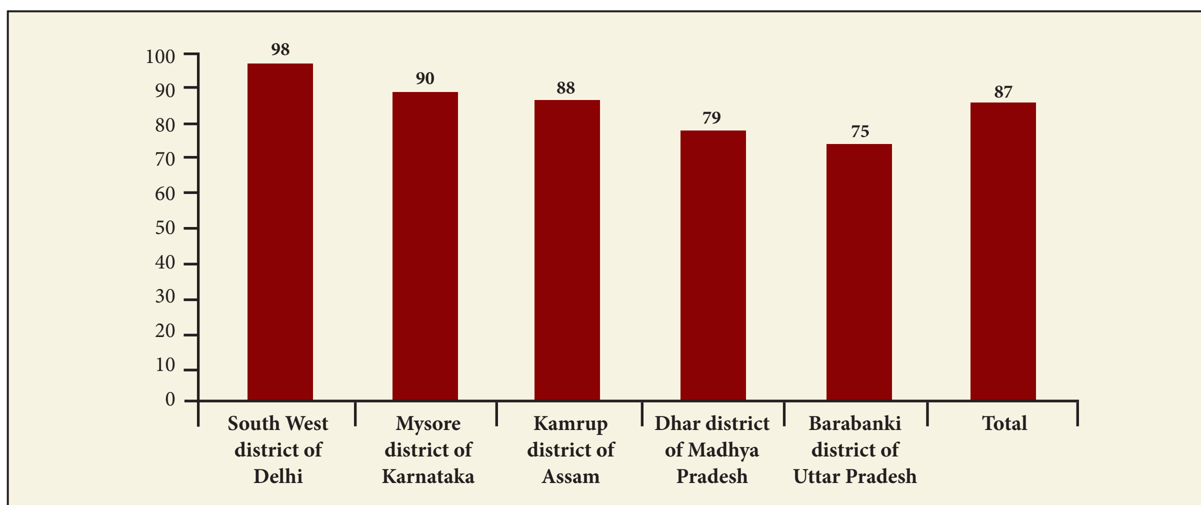


Table 4.4.5: Knowledge about RTIs/ STIs among ICDS and Health Functionaries

Knowledge about RTIs/STIs	ICDS Functionaries								Health Functionaries							
	CDPO		Supervisors		AWW		Total		MO		LHV		ANM		Total	
	2007 n=6	2012 n=5	2007 n=26	2012 n=37	2007 n=52	2012 n=63	2007 n=84	2012 n=105	2007 n=12	2012 n=18	2007 n=14	2012 n=3	2007 n=40	2012 n=29	2007 n=66	2012 n=50
RTI/STI is curable	6 (100.0)	5 (100)	22 (84.6)	35 (94.59)	44 (84.6)	50 (79.36)	72 (85.7)	90 (85.71)	12 (100.0)	18 (100)	14 (100.0)	3 (100)	39 (97.5)	28 (96.5)	65 (98.4)	50 (100)
							NS									
STI may cause sterility	4 (66.6)	2 (40)	11 (42.3)	10 (27.02)	20 (38.4)	15 (23.8)	35 (41.7)	27 (25.71)	11 (91.6)	2 (11)	6 (42.85)	1 (33.3)	20 (50.0)	7 (24.13)	37 (56.0)	10 (20)
							χ^2=5.38 (p<0.001)									
Using condom prevents RTIs/STIs	4 (66.6)	5 (100)	18 (69.2)	32 (86.48)	42 (80.7)	43 (68.2)	64 (76.1)	90 (85.17)	12 (100.0)	18 (100)	14 (100)	3 (100)	39 (97.5)	28 (96.5)	66 (100)	30 (60)
Sex with virgin girls cure STIs	0 (0.0)	0 (0.0)	2 (7.6)	0 (0.0)	2 (3.8)	0 (0.0)	4 (4.7)	0 (0.0)	0	0	2 (14.2)	0 (0.0)	4 (10.0)	0 (0.0)	6 (9.09)	0
Partner treatment in RTIs/STIs	3 (50.0)	4 (80)	14 (53.8)	32 (86.4)	27 (51.9)	45 (71.4)	44 (52.3)	81 (77.14)	11 (91.6)	18 (100)	9 (64.2)	2 (66.6)	32 (80.0)	24 (82.7)	53 (80.0)	44 (88)
							χ^2=12.7 (p<0.001)									
Repeated abortion may be due to STIs	3 (50.0)	1 (20)	10 (38.4)	5 (13.5)	23 (44.2)	5 (7.9)	36 (42.8)	11 (10.47)	1 (8.3)	0	13 (92.8)	2 (66.6)	18 (45.0)	28 (96.5)	42 (63.6)	30 (60)
							χ^2=26.18 (p<0.001)									
Many persons with STIs do not Show any symptoms	2 (33.3)	2 (40)	10 (38.4)	8 (21.6)	16 (30.7)	3 (4.7)	28 (33.3)	13 (12.38)	7 (58.3)	16 (88.9)	9 (64.2)	3 (100)	19 (47.5)	10 (34.4)	35 (53)	39 (78)
							χ^2=12.6 (p<0.001)								χ^2=7.67 (p<0.001)	

Acronym of AIDS and causative agent of AIDS was known to 5.6 per cent of AGs in 2007 and 6 per cent AGs knew the same in 2012 study showing no significant change . Awareness about modes of transmission of HIV/AIDS was dismal both during the study conducted in 2007 and 2012 **(Table 4.4.6).** Regarding prevention of AIDS, 60 per cent of AGs in 2012 and 37.8 per cent in 2007 reported of safe sex as an answer. Safe blood transmission as a means of prevention of AIDS was known to only 30 per cent and 23.6 per cent of AGs in 2012 and 2007 respectively. Around 37.8 per cent AGs in 2012 and 33 per cent in 2007 were aware that using sterilised/needle/syringes/blades can help in prevention of AIDS highlighting the fact that awareness regarding accurate information on causation and prevention of HIV/ AIDS was lacking among AGs both in 2007 and 2012. Regarding modes of transmission of HIV/AIDS, awareness was low.

Table 4.4.6: Knowledge about HIV/AIDS among all Respondents

Knowledge about HIV/AIDS	AGs No. (%)		Mothers of AGs No. (%)		WOLs No. (%)		Women Functionaries No. (%)	
	2007 n=500	2012 n=500	2007 n=500	2012 n=500	2007 n=93	2012 n=100	2007 n=150	2012 n=155
AIDS awareness	425 (85)	435 (87)	348 (69.6)	356 (71.2)	78 (83.8)	86 (86)	92 (61.3)	149 (96.1)
	NS		NS		NS		χ^2=55.6 ($p<0.001$)	
Acronym of AIDS	28 (5.6)	40 (8.0)	25 (5.0)	42 (8.4)	1 (1.1)	76 (76)	30 (20)	143 (92.2)
	NS		χ^2=4.6 ($p<0.05$)		χ^2=140.3 ($p<0.001$)		χ^2=162.13 ($p<0.001$)	
Causative agent of AIDS	33 (6.6)	44 (8.8)	21 (4.2)	149 (29.8)	1 (1.1)	43 (43)	31 (20.6)	116 (74.8)
	NS		χ^2=116.11 ($p<0.001$)		χ^2=48.12 ($p<0.001$)		χ^2=89.59 ($p<0.001$)	

Mode of transmission								
Unprotected sex	233 (46.6)	148 (29.6)	190 (38.0)	184 (36.8)	55 (59.1)	78 (78)	109 (72.6)	133 (85.8)
Mother to child transmission	100 (20)	45 (9)	39 (7.8)	42 (8.4)	24 (25.8)	21 (21)	55 (36.6)	64 (41.2)
Infected needle/ syringes / blades	219 (43.8)	81 (16.2)	120 (24.0)	117 (23.4)	41 (44.0)	54 (54)	89 (59.3)	121 (78.0)
Infected blood transmission	159 (31.8)	124 (24.8)	70 (14.0)	139 (27.8)	34 (36.5)	34 (34)	68 (45.3)	119 (76.7)
Do not know	211 (42.2)	0 (0.0)	281 (56.2)	0 (0.0)	38 (40.8)	0 (0.0)	0 (0.0)	0 (0.0)
Prevention of AIDS								
Safe Sex	189 (37.8)	300 (60)	166 (33.2)	191 (38.2)	53 (56.9)	67 (67)	23 (15.3)	128 (82.5)
Safe blood transmission	118 (23.6)	150 (30)	41 (8.2)	109 (21.8)	18 (19.3)	37 (37)	100 (66.6)	115 (74.2)
Using sterilized/ needle/syringes/ blades	165 (33.0)	189 (37.8)	85 (17.0)	166 (33.2)	35 (37.6)	47 (47)	53 (35.3)	98 (63.3)
Do not know	257 (51.4)	38 (7.6)	318 (63.6)	30 (6)	37 (39.7)	1 (1)	0 (0.0)	0 (0.0)

Mothers and WOLs

The knowledge of mothers, WOLs and AGs regarding modes of transmission and prevention of HIV/ AIDS is given in **Table 4.4.6.** Knowledge of mothers and WOLs regarding HIV/AIDS was low across all States. Nearly 71.2 and 69.6 per cent mothers during 2012 and 2007 and 86 and 83.8 per cent WOLs in 2012 and 2007 study respectively were aware of HIV/ AIDS with no significant difference. Acronym of AIDS was known to very few mothers whereas 76 per cent WOLs knew the same in 2012 which was significant as compared to 2007. The results revealed that awareness regarding the modes of transmission was low. Correct and comprehensive knowledge was lacking and the need of the hour is to spread awareness about HIV/ AIDS with sound knowledge on preventive and curative aspects.

Women Functionaries

AIDS awareness had tremendously increased among health functionaries (100% in 2012 and 66.6% in 2007) and ICDS functionaries (93.3% 2012 and 64.3% in 2007). Similarly causative agents of AIDS were known compared to 19.7 per cent in 2007 compared to 21.4 per cent (2007). It was indeed surprising to find that acronym of AIDS was known to cent per cent and 93.3 per cent health functionaries and ICDS functionaries in 2012 study respectively in comparison to 19.7 per cent and 20.2 per cent in 2007 respectively **(Figure 4.4.7).** About 96 per cent and 61.3 per cent women functionaries during 2012 and 2007 study respectively reported that they knew about HIV/ AIDS (significant at p<0.01). Both health functionaries and ICDS functionaries in 2012 fared well in comparison to 2007 showing significant change (p<0.01). In 2012 all the health functionaries had awareness on AIDS and acronym of AIDS and 72 per cent knew about the causative agent of AIDS.

Table 4.4.7: Knowledge of ICDS and Health Functionaries about HIV/AIDS in 2012

Parameters	ICDS	Health
	2007 n=105(%)	**2012 n=50(%)**
AIDS awareness	98 (93.3)	50 (100)
Acronym of AIDS	98 (93.3)	50 (100)
Causative agent of AIDS	56 (53.3)	36 (72)
	χ^2=4.89 (p<0.05)	

Among ICDS functionaries) unprotected sex (89% in 2012 and 72.6% in 2007), mother-to-child transmission (41.2% in 2012 and 36.6% in 2007), transmission through infected syringes/needles (78% in 2012 and 59.3% in 2007) and infected blood transfusion (76.7% in 2012 and 45.3% in 2007) as modes of transmission of HIV/AIDS was known to functionaries of health and ICDS programmes **(Table 4.4.9).** The knowledge amongst the ICDS and health functionaries about various methods such as safe sex, safe blood transfusion, and use of sterilised needles/syringes/ to prevent AIDS were known to 82.5 per cent and 15.3 per cent in 2012 and 2007; 74.2 per cent in 2012 and 66.6 per cent in 2007 and 63.3 per cent in 2012 and 35.3 per cent in 2007 respectively. Though, knowledge of functionaries of ICDS and health systems was better than that of the other respondents but still there were gaps **(Figure 4.4.10)**.

Table 4.4.8: Knowledge of ICDS and Health Functionaries about HIV/AIDS*

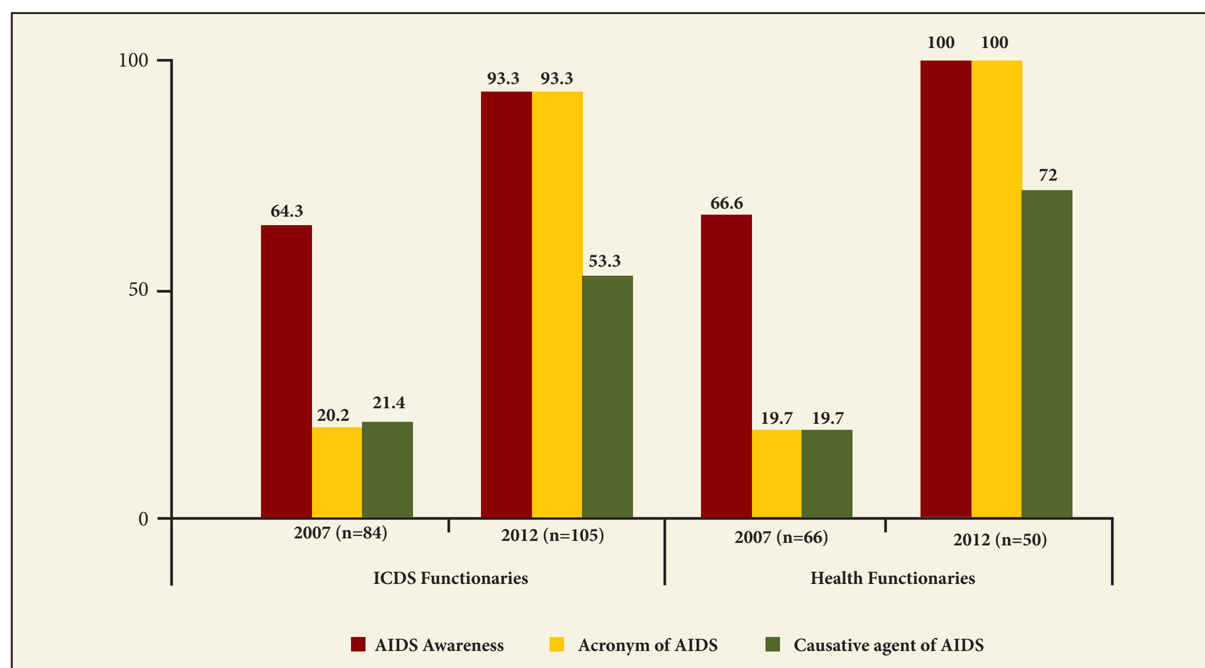
	ICDS Functionaries								Health Functionaries							
	CDPO		Supervisors		AWW		Total		MO		LHV		ANM		Total	
	2007 n=6	2012 n=5	2007 n=26	2012 n=37	2007 n=52	2012 n=63	2007 n=84	2012 n=105	2007 n=12	2012 n=18	2007 n=14	2012 n=3	2007 n=40	2012 n=29	2007 n=66	2012 n=50
AIDS awareness	3 (50.0)	5 (100)	16 (61.5)	36 (97.3)	35 (67.3)	57 (90.4)	54 (64.3)	98 (93.3)	5 (41.6)	18 (100)	10 (71.4)	3 (100)	29 (72.5)	29 (100)	44 (66.6)	50 (100)
							χ^2=25.00 (p<0.001)									
Acronym of AIDS	2 (33.3)	5 (100)	8 (30.7)	36 (97.3)	7 (13.4)	57 (90.4)	17 (20.2)	98 (93.3)	4 (33.3)	18 (100)	0 (0.0)	3 (100)	9 (22.5)	23 (79.3)	13 (19.7)	50 (100)
							χ^2=104.65 (p<0.05)									
Causative agent of AIDS	1 (16.6)	4 (80)	10 (38.4)	23 (62.1)	7 (13.4)	29 (46)	18 (21.4)	56 (53.3)	3 (25.0)	14 (77.7)	1 (7.1)	3 (100)	9 (22.5)	19 (65.5)	13 (19.7)	36 (72)
							χ^2=19.90 **(p<0.05)**								χ^2=31.8 **(p<0.001)**	
Modes of transmission																
Unprotected sex	3 (50.0)	4 (80)	17 (65.3)	29 (78.3)	34 (65.3)	46 (73)	54 (64.3)	79 (75.2)	10 (83.3)	18 (100)	12 (85.7)	3 (100)	33 (82.5)	25 (86.2)	55 (83.3)	48 (96)
Mother-to-child	1 (16.6)	2 (40)	8 (30.7)	11 (29.72)	11 (21.1)	30 (47.6)	20 (23.8)	43 (40.9)	10 (83.3)	13 (72.2)	5 (35.7)	1 (33.3)	20 (50.0)	10 (34.4)	35 (53.0)	24 (48)
Infected needle/ syringes	2 (33.3)	4 (80)	15 (57.6)	28 (75.67)	22 (42.3)	37 (58.7)	39 (46.4)	69 (65.7)	10 (83.3)	17 (94.4)	11 (78.5)	2 (66.6)	29 (72.5)	26 (89.6)	50 (75.8)	45 (90)
Infected blood transfusion	2 (33.3)	3 (60)	15 (57.6)	33 (89.1)	21 (40.3)	46 (73)	38 (45.2)	82 (78)	10 (83.3)	12 (66.6)	8 (57.1)	2 (66.6)	23 (57.5)	27 (93.1)	41 (62.1)	42 (84)
Prevention of AIDS																
Safe sex	3 (50.0)	5 (100)	5 (19.2)	31 (83.7)	3 (5.7)	46 (73)	11 (13.1)	82 (78.0)	2 (16.6)	18 (100)	2 (14.3)	3 (100)	8 (20.0)	26 (89.6)	12 (18.2)	48 (96)
Safe blood transfusions	3 (50.0)	4 (80)	15 (57.6)	18 (48.64)	27 (51.9)	39 (61.9)	45 (53.6)	61 (58)	10 (83.3)	14 (77.7)	12 (85.7)	3 (100)	33 (82.5)	23 (79.3)	55 (83.3)	40 (80)
Using sterilized needle	1 (16.6)	1 (20)	10 (38.4)	23 (62.16)	10 (19.2)	32 (50.7)	21 (25.0)	56 (53.3)	10 (83.3)	16 (88.8)	7 (50.0)	2 (66.6)	15 (37.5)	21 (72.4)	32 (48.5)	39 (78)

*Multiple choices

Both health and ICDS functionaries are expected to have knowledge on these subjects. The knowledge gap needs to be addressed effectively by incorporating the HIV/AIDS component in all the on-going programmes for health and ICDS functionaries.

To propel progress in addressing HIV/AIDS among adolescents, it is important that correct and authentic information regarding causative, preventive and curative aspects is made available to them. Counselling would improve health outcomes in adolescents by reducing the incidence of HIV-associated complications and delaying the progression of HIV infection, thereby improving quality of life and ultimately reducing disease-related mortality.

Figure 4.4.5: AIDS Awareness Among ICDS and Health Functionaries



4.5 Reproductive Morbidity and Health Seeking Behaviour

The reproductive morbidity and health seeking behaviour was studied through interview with respondents on prevalence of vaginal infections among respondents and gynaecological morbidities and health seeking behaviour.

A) Prevalence of Vaginal Infections among Respondents

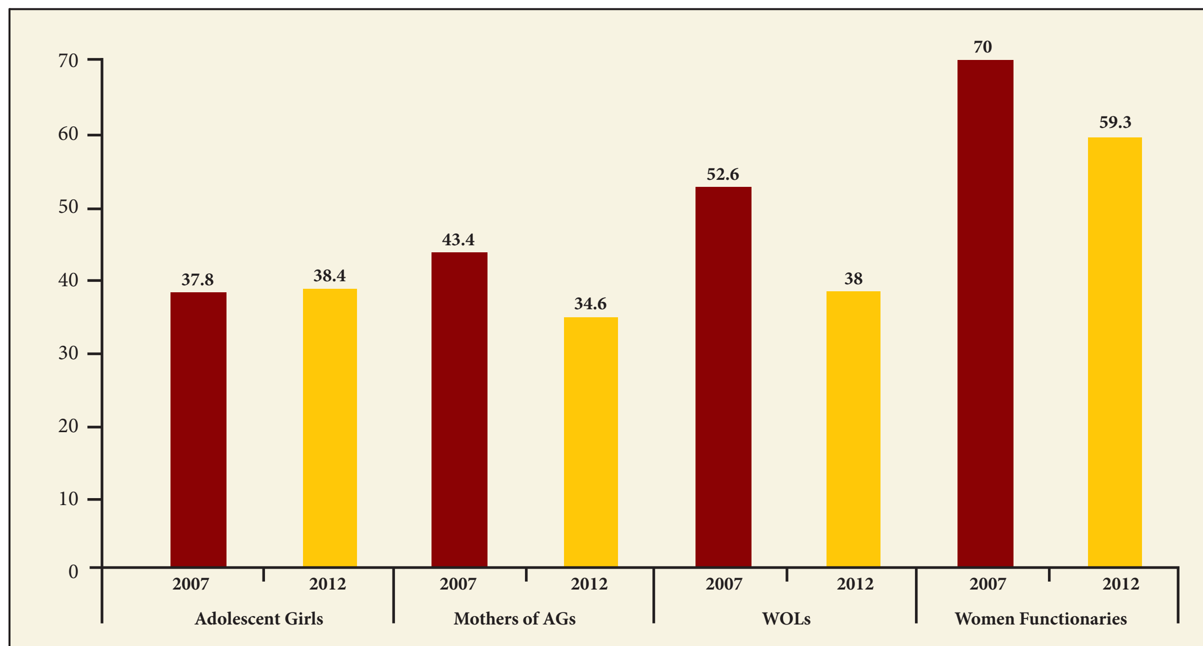
The prevalence of vaginal infections among respondents is indicated in **Table 4.5.1** and **Figure 4.5.1.** Nearly 38.4 per cent AGs in 2012 as compared to 37.8 per cent in 2007 reported having vaginal discharge. 34.6 and 43.4 per cent mothers, 38 and 52.6 per cent WOLs, 59.3 and 70 per cent women functionaries in

2012 and 2007 respectively reported having vaginal infection. Symptoms reported were itching (17% in 2012 and 8.2% in 2007), smelling discharge (19.4% in 2012 and 10.4% in 2007) and painful periods 30% in 2012 and 28.2% in 2007) among AGs. Symptoms identified in 2012 were similar as compared to 2007 by all respondents including AGs.

Table 4.5.1: Prevalence of Vaginal Infections Among Respondents

Vaginal Infections	Adolescent Girls No. (%)		Mothers of AGs No. (%)		Women Opinion Leaders No. (%)		Women Functionaries No. (%)	
	2007 n=500	2012 n=500	2007 n=500	2012 n=500	2007 n=93	2012 n=100	2007 n=150	2012 n=155
Having vaginal discharge	189 (37.8)	192 (38.4)	217 (43.4)	173 (34.6)	49 (52.6)	38 (38)	105 (70)	92 (59.3)
Symptoms								
Itching	41 (8.2)	85 (17)	89 (17.8)	133 (26.6)	14 (15.0)	22 (22)	71 (47.3)	65 (41.9)
Smelling discharge	52 (10.4)	97 (19.4)	94 (18.8)	123 (24.6)	20 (21.5)	20 (20)	62 (41.3)	64 (41.2)
Painful periods	141 (28.2)	150 (30.0)	149 (29.8)	130 (26)	29 (31.18)	20 (20)	94 (62.6)	77 (49.6)

Figure 4.5.1: Prevalence of Vaginal Infection (%)



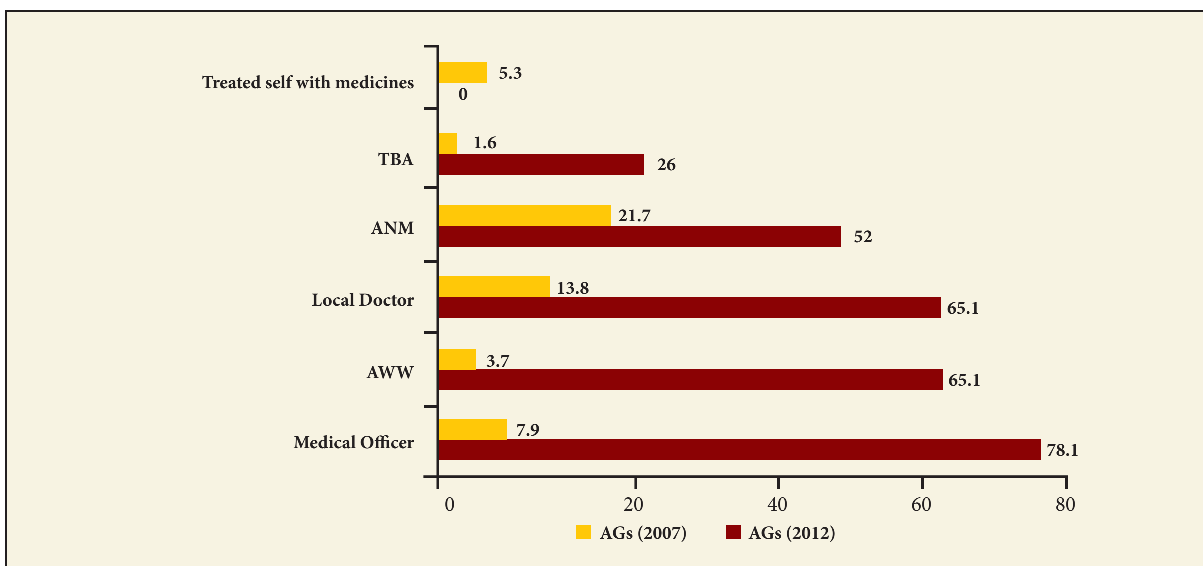
B) Gynaecological Morbidities and Health Seeking Behaviour

Adolescent Girls (AGs)

Approaching different family members/ people for guidance and consultation in vaginal infections was noted down to find out health seeking behaviour of the respondents. Nearly 38.4 per cent AGs in 2012 as compared to 37.8 per cent in 2007 reported having vaginal discharge. Regarding persons approached by AGs for seeking guidance and consultation in vaginal infections like vaginal discharge, itching or smelling discharges following observations were noted significant in 2012 as compared to 2007.

- Majority of the AGs, nearly 78.1 per cent in 2012 had approached Medical Officers as compared to 7.9 per cent in 2007 showing significant change ($p<0.001$).
- It was appreciable to note that the AGs seeking guidance and consultation of AWW (65.1 % in 2012 and 3.7 % in 2007) and ANM (52.0 % in 2012 and 21.7% in 2007) had increased significantly ($p<0.001$).
- Nearly 62.5 per cent AGs in 2012 and 51.9 per cent in 2007 had approached family members which included mother/sister/sister-in-law/aunt for guidance regarding vaginal infections showing significant change ($p<0.05$).
- 65.1 per cent AGs in 2012 and 13.8 per cent in 2007 approached the local doctor showing significant difference ($p<0.01$).
- 26.0 per cent of AGs consulted the TBA in 2012 as compared to 1.6 per cent in 2007($p<0.001$).
- None of the AGs in 2012 in contrast to 5.3 per cent in 2007 treated self with medicine **(Table 4.5.2** and **Figure 4.5.2).**

Figure 4.5.2: Persons Approached by Adolescent Girls for Guidance and Consultation for Vaginal infection



It was appreciable to note that the number of AGs seeking guidance and consultation of Medical officer, AWW, ANM and Local doctor has increased significantly over the period of 5 years between 2007 and 2012. Availing facilities of the health system through ANM and ICDS through AWW is worth noticeable which may be attributed to awareness generation. But still capacity building of these women functionaries is required on urgent basis. Proper guidance regarding vaginal infections is must and then consultation with a medical doctor with proper medications could go a long way in reducing reproductive morbidity among AGs in the country.

Mothers

The persons whom mothers of AGs had ever approached for vaginal infections included AWW (11.1% in 2007 and 47.9% in 2012), family members/ friend (30.4% in 2007 and 34.6% in 2012), ANM (31.3% in 2007 and 41.4% in 2012), Medical Officer (43.3% in 2007 and 46.2% in 2012) and Local doctors (7.4% in 2007 and 57.8% in 2012). Very negligible per cent (1.4% in 2007) of mothers confessed to have treated themselves **(Figure 4.5.3).**

Significant increase is seen in mothers approaching local doctor, ANM and AWW in guidance and consultation in vaginal infections 2012 as compared to 2007.

Mothers approaching /confiding to AWW and ANM in 2012 as compared to 2007 shows that how popular and approachable these women functionaries are in the society and they can bring about major behavioural changes among women in all nutrition and health related issues including reproductive aspects. This would require skill building and capacity building of women functionaries so that they are able to dissipate right and concrete information.

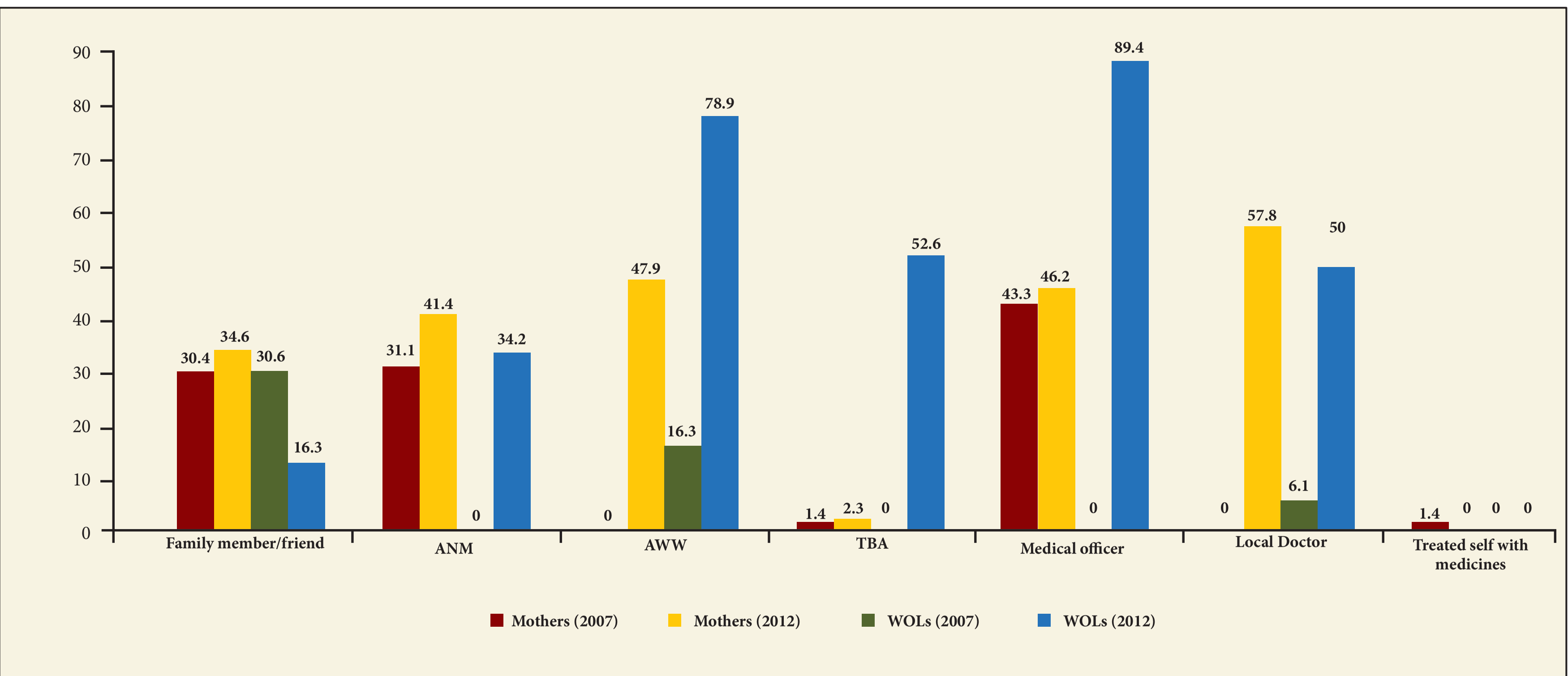
WOLs

A significant increasing trend ($p<0.001$) is seen in the persons whom WOLs had ever approached for vaginal infections namely Medical officer (89.4% in 2012 and 44.9% in 2007), AWW (78.9% in 2012 and 16.3% in 2007) and local doctor (50% in 2012 and 6.1% in 2007), ANM (38.8 % in 2012 and 24.5 in 2007). 13.1 per cent of WOLs approached family members/ friend in 2012 in comparison to 30.6 per cent in 2007 showing a significant decrease ($p<0.05$). Medical Officers, AWW, ANM and Local doctors are one of the major confidantes among WOLs.

Table 4.5.2: Persons Approached for Guidance and Consultation in Vaginal Infections

Persons Approached	AGs No. (%)		Mothers of AGs No. (%)		WOLs No. (%)	
	2007 n=189	2012 n=192	2007 n=217	2012 n=173	2007 n=49	2012 n=38
Family member/ friend	98(51.9)	120(62.5)	66(30.4)	60(34.6)	15(30.6)	5(13.1)
	χ^2=4.41(p<0.05)		NS		χ^2=6.73 (p<0.01)	
ANM	41(21.7)	100(52.0)	68(31.3)	71(41.4)	12(24.5)	13(34.2)
	χ^2=37.7 (p<0.001)		χ^2=3.95 (p<0.05)		NS	
AWW	7(3.7)	125(65.1)	24(11.1)	83(47.9)	8(16.3)	30(78.9)
	χ^2=158.5 (p<0.001)		χ^2=65.8(p<0.001)		χ^2=34.1(p<0.001)	
TBA	3(1.6)	50(26.0)	3(1.4)	4(2.3)	0(0.0)	20(52.6)
	χ^2=47.56 (p<0.001)		NS			
Medical officer	15(7.9)	150(78.1)	94(43.3)	80(46.2)	22(44.9)	34(89.4)
	χ^2=191.1 (p<0.001)		NS		χ^2=18.5 (p<0.001)	
Local doctor	26(13.8)	125(65.1)	16(7.4)	100(57.8)	3(6.1)	19(50)
	χ^2=10.49(p<0.01)		χ^2=117.15 (p<0.001)		χ^2=21.8(p<0.001)	
Treated self with medicines	10(5.3)	0(0.0)	3(1.4)	0(0.0)	0(0.0)	0 (0.0)

Figure 4.5.3: Persons Approached by Mothera and WOIs for Guidance and Consultation for Vaginal Infection



4.6 Awareness through Media

An attempt was made in the present study to find out the impact of media on awareness regarding menstruation and menstrual hygiene management. Among the sources of media highlighted by respondents for information on menstruation, Television was the most popular media among all groups of women including adolescent girls. Nearly 84.8 per cent AGs reported that TV was the main source followed by Radio (nearly 37.4%); 26.8 per cent reported to have information from newspaper, 13.2 per cent had from magazines and 7.2 per cent from internet. Newspaper and radio were also providing information to 79.3 per cent and 64.5 per cent women functionaries **(Table 4.6.1).**

Nearly 98.7 per cent WOLs reported that television was the main source of information followed by newspaper (nearly 79%), 64.5 per cent had the information from radio, 55.4 per cent from magazines. It was surprising to see that 40 per cent even had access to internet. Newspaper and radio was also sought for information in 79.3 per cent and 64.5 per cent women functionaries.

Table 4.6.1: Role of Media on Menstrual Hygiene Practices

Source of media	Adolescent Girls No. (%)	Mothers of Adolescent Girls No. (%)	WOLs No. (%)	Women Functionaries No. (%)
	2012 n=500	2012 n=500	2012 n=100	2012 n=155
TV	424(84.8)	411(82.2)	91(91)	153(98.7)
Radio	187(37.4)	165(33)	44(44)	100(64.5)
Newspaper	134(26.8)	95(19)	42(42)	123(79.3)
Magazines	66(13.2)	34(6.8)	21(21)	86(55.4)
Computer &Internet	36(7.2)	15(3)	14(14)	62(40.0)
Any other	0(0.0)	0(0.0)	0(0.0)	0(0.0)
Observed Advertisements on Menstrual Hygiene				
On TV	442(84.8)	377(75.4)	87(87)	154(99.3)
On radio	111(22.2)	101(20.2)	36(36)	86(55.4)
Appeal of advertisements on menstrual hygiene				
On TV	415(83)	350(70)	84(84)	152(98.1)
On Radio	81(16.2)	63(12.6)	30(30)	74(47.7)

In the study 84.8 per cent AGs, 75.4 per cent mothers, 87 per cent WOLs and 99.3% women functionaries observed and were aware about the advertisements on menstrual hygiene on television. Twenty two per cent AGs, 20 per cent mothers, 36 per cent WOLs and 55.4 per cent women functionaries agreed on having heard advertisements for menstrual hygiene on the radio. When information was sought regarding quality of advertisements on menstrual hygiene and use of sanitary napkins, 83 per cent AGs, 70 per cent mothers, 84 per cent WOLs and 98 per cent women functionaries agreed that these advertisements were appealing and quite informative.

Table 4.6.2 reveals that 64.4 per cent of AGs felt shy and 48.2 per cent felt embarrassed to see the advertisements in front of the male members of the family. Nearly 49 per cent mothers, 30 per cent WOLs and 19.3 per cent women functionaries felt shy to see the advertisements; 93.5 per cent women functionaries and 81.8 per cent AGs felt that these advertisements were quite informative, but 31.4 per cent AGs felt that these should be banned. The taboo associated with menstruation is still entrenched in minds of Indian women and this is the reason why women still feel shy to talk about it in public.

Table 4.6.2: Reaction of Respondents Regarding Advertisements Related to Sanitary Napkins

Reaction on the ads of sanitary napkins	Adolescent Girls	Mothers of Adolescent Girls	WOLs	Women Functionaries
	2012 n=500	2012 n=500	2012 n=100	2012 n=155
Feel shy in front of male members	322(64.4)	246(49.2)	30(30)	30(19.3)
No reaction	147(29.4)	118(23.6)	32(32)	32(20.6)
Feel embarrassed	241(48.2)	206(41.2)	25(25)	25(16.1)
Ads should be banned	157(31.4)	129(25.8)	32(32)	32(20.6)
Are these ads are informative	409(81.8)	368(73.6)	145(145)	145(93.5)
Advertisements with high appeal				
Sanitary pads	242(48.4)	170(34)	106(106)	106(68.3)
Knowledgeable ads	59(11.8)	46(9.2)	7(7)	7(4.5)
Beauty products	53(10.6)	4(0.8)	0(0.0)	0(0.0)

Regarding opinion of AGs, mothers, WOLs and women functionaries regarding use of sanitary napkins, every adolescent girl/ women in all the categories felt that they should use sanitary napkins during menstruation. This is a very positive aspect that women do want to change their menstrual hygiene habits. Maximum respondents felt that it was important to use sanitary napkins and get rid of cloth so as to

maintain hygiene during menstruation and to feel confident during their periods. Women functionaries were most aware of the fact that menstrual hygiene relates to RTI (96.7%), but only 60.4 per cent AGs knew that with use of sanitary napkins RTI incidence could be reduced **(Table 4.6.3).**

Table 4.6.3: Opinion of Adolescent, Mothers, Women Opinion Leader & Women Functionaries Regarding Use of Sanitary Napkins

Opinion use of sanitary napkins	Adolescent Girls	Mothers of Adolescent Girls	WOLs	Women Functionaries
	2012 n=500	2012 n=500	2012 n=100	2012 n=155
To maintain hygiene during menstruation	388(77.6)	390(78)	94(94)	149(96.1)
To feel confident during this period	360(72)	363(72.6)	87(87)	143(92.2)
To be free from RTI	302(60.4)	323(64.5)	85(85)	150(96.7)
To get rid of clothes, cleaning drying & storing	350(70)	346(69.2)	78(78)	142(91.6)

A) Awareness about Government Programmes

Awareness of respondents regarding Government Programmes like Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (RGSEAG) - Sabla, Kishori Shakti Yojana, Adolescent Reproductive and Sexual Health (ARSH) and Menstrual Hygiene Programme was very poor.

Among women functionaries 71.6 per cent, 84 per cent, 71 per cent and 49 per cent of them knew about SABLA, Kishori Shakti Yojana, ARSH and Menstrual hygiene programme respectively **(Figure 4.6.1).** The ICDS and health functionaries who are social agents in bringing positive impact in health status of population and deal with adolescent population need to have in-depth knowledge about reproductive health so that they can impart the same to the community.

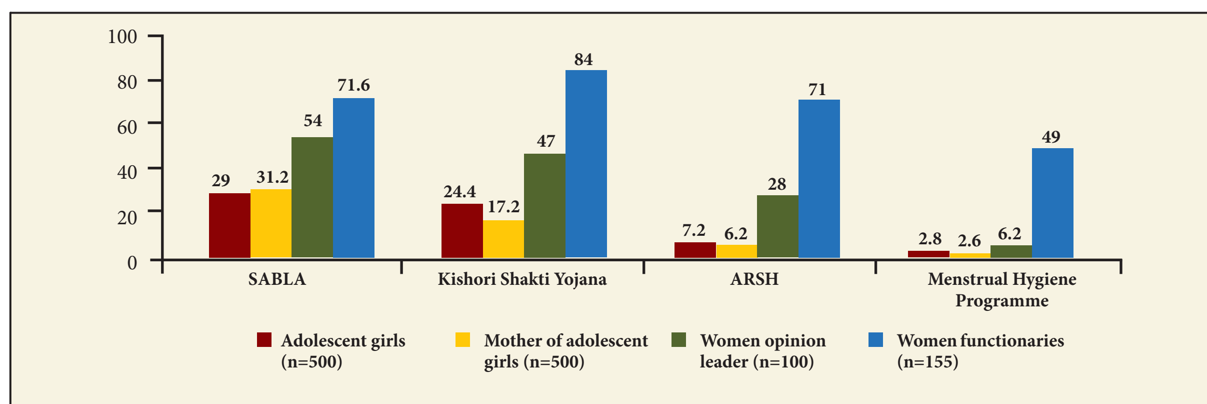
State-wise awareness about Government programmes among Adolescent girls revealed that awareness on ARSH and Menstrual Hygiene programme was very low among all the states. Forty-nine per cent and 28 per cent AGs in South West district of Delhi were aware about SABLA and KSY respectively, followed by 41 per cent in Mysore district of Karnataka and 39 per cent in Kamrup district of Assam. In Dhar district of Madhya Pradesh and Barabanki district of Uttar Pradesh, awareness about government programmes was lower as compared to South West district of Delhi, Mysore district of Karnataka and Kamrup district of Assam. Visibility of government programmes and their advocacy is a must and certainly calls for

awareness generation of the same at grass root level. Awareness regarding ARSH and Menstrual Hygiene programme was very poor which indicates that more advocacy is required so as to increase awareness about ARSH among the population including the adolescent girls. The fact that ARSH is an important aspect in the life of an adolescents has to be brought to the forefront in the government policies and awareness regarding the menstrual hygiene programme is important so as to increase demand for the supply of sanitary napkins among the adolescent girls.

Table 4.6.4: Improvement and Awareness on Menstrual Hygiene

Awareness through	Adolescent Girls	Mothers of Adolescent Girls	WOLs	Women Functionaries
	2012 n=500	2012 n=500	2012 n=100	2012 n=155
Newspaper	80(16)	55(11)	54(54)	68(43.8)
Magazines	45(9)	34(6.8)	47(47)	73(47.1)
Pamphlet	86(17.2)	138(27.6)	28(28)	75(48.3)
Meetings	341(68.2)	378(75.6)	13(13)	124(80)
School	300(60)	196(39.2)	0(0.0)	130(83.8)

Figure 4.6.1: Awareness of Government Programmes



Improvement and Awareness on Menstrual Hygiene: When the respondents were asked regarding the choice of media for spreading awareness on menstrual hygiene, 68.2 per cent AGs and 80 per cent women functionaries felt that meetings could be the best methodology for creating awareness and also that counselling could bring changes and encourage good menstrual hygiene practices. The schools for AGs were regarded as the best forum to spread information on the subjects as reported by 60 per cent AGs and 83.8 per cent women functionaries.

5. DISCUSSION

The Repeat Assessment Study on "Knowledge and Practices of Adolescent Girls Regarding Reproductive Health with Special Emphasis on Hygiene during Menstruation (Between 2007-2012)" has provided leads towards understanding the change in knowledge and practices of adolescent girls over five years and highlighted the gaps which could bring about a change in addressing reproductive health issues and menstrual hygiene practices of adolescent girls (AGs) in specific. Though the study has shown positive results, still there is a need for creating awareness on menstrual hygiene issues highlighting the social and educational impact and for ensuring 'Dignity' which is crucial for girls and women to feel empowered to engage in regular daily work without much discomfort and also for reducing the incidence of RTI/STI.

The study shows a significant increase in literacy levels of AGs in 2007 as compared to 2012 (93.6% in 2007 and 96.4% in 2012) study. All AGs in 2012 study were literate in South West district of Delhi, 99 per cent in Mysore district of Karnataka, 97 per cent in Kamrup district of Assam, 95 per cent in Dhar district of Madhya Pradesh and 91 per cent in Barabanki district of Uttar Pradesh. According to the 2011 Census,[3] more Indian women gained literacy over the past decade than men. Female literacy has jumped from 53.6% in 2001 to 65.4% in 2011. The study shows a significant increase in AGs going to school in 2012 as compared to 2007 (67% in 2012 and 49.2% in 2007). With nearly 88 per cent AGs going to school in South West district of Delhi, 68 per cent in Mysore district of Karnataka, 66 per cent in Kamrup district of Assam, 58 per cent in Dhar district of Madhya Pradesh and 55 per cent in Barabanki district of Uttar Pradesh. In terms of school enrollment, the AGs of Uttar Pradesh and Madhya Pradesh seem to be lagging behind as compared to AGs of Delhi, Karnataka and Assam. Sarva Shiksha Abhiyan launched in 2001 along with universalisation of the Mid-Day Meal Scheme across government schools are some of the critical interventions that have shown improvement both in terms of improving overall literacy and in escalating female literacy rate.

Early marriage during adolescence having deterrent impact on health of adolescent girls is a well-known fact and it was heartening to know that there was a significant decrease in the number of married AGs from 8 per cent in 2007 to only 2 per cent in 2012. However, when compared with NFHS -3 data,[13] as many as 46 per cent of young women (aged 18-29 years) were married before the age of 18, which is the legal age of marriage for girls in India.

A significant increase was seen in the availability of toilets in households of AGs (59% in 2007 to 67% in 2012). As high as 95 and 94 per cent AGs of South West district of Delhi and Kamrup district of Assam respectively reported of having toilets in their homes. Only one third (32%) AGs from Mysore district of Karnataka reported of having toilets in their homes. In Dhar district of Madhya Pradesh and Barabanki district of Uttar Pradesh, 68 per cent and 40 per cent had toilets in their homes respectively. According to 69th round NSSO,[73] 2012, as many as 59.4 per cent rural households do not have access to toilet facility. In this context it may be mentioned that the Department of Drinking Water and Sanitation which is implementing the Total Sanitation Campaign (TSC) with key intervention areas of providing sanitary latrines can prove to be a positive effort towards improving overall hygiene in general and menstrual hygiene management practices in particular.

Menstruation is a phenomenon unique to all females. In a study[74] by Drakshayani Devi et al (1994) in rural Andhra Pradesh, the age of menarche was 12-13 years which is in agreement with the present study. As per the 2007 study, the mean age at menarche was 12 years as against 12.1 years in 2012 for AGs. The age of onset of menstruation varies from 9 to 18 years with the average in United States being about 12.8 years whereas in India it is slightly lower and has been reported to be around 12 years Khadilkar VV et al 2006,[75] Chumlea WC et al,2003.[4] Mean age of menarche for mothers of AGs was 12.3 years, for women functionaries of ICDS and Health it was 13.9 years and 14.05 years for women opinion leaders as reported by them in 2012. Intergenerational effects on mean age of menarche can be noted as elderly women like women opinion leaders reported to have their menarche at the age group 14.05 years which presently has come down to 12 years and 12.09 years in 2007 and 2012 respectively.

The perception and reaction of girls towards menstruation depends to a large extent on their awareness and knowledge about this phenomenon. Prior awareness regarding menarche and menstruation among girls is generally low in most cultures. (Nair, P, V. Grover, and A. Kannan, 2007;[76] Ahuja A, T.S 1995;[9] Tiwari H.O.U, Tiwari R, 2006.[24] A survey[25] of 160 girls in West Bengal reported that 67.5 per cent AGs were aware about menstruation prior to menarche, but 97.5 per cent did not know the source of menstrual bleeding. In most cases there is very little awareness about menstruation among girls when they first experience it (Dasgupta Sarkar 2008[25]). The results of the present study show a significant increase in awareness about menstruation in AGs of 2012 (72.6%) as compared to 2007 (29.4%). It was observed that the awareness regarding onset of menstruation among AGs was higher in South West district of Delhi (95%) and Mysore district of Karnataka (90%) in comparison to Kamrup district of Assam (63%), Barabanki district of Uttar Pradesh (58%) and Dhar district of Madhya Pradesh (57%).

A significant decrease was observed in perception of menstruation to be dirty and polluting, in provoking negative reactions in AGs (fear/crying spells, shock) and in perceiving it as a wound. The results of the present study show a positive trend as compared to earlier studies, for example, fear/ panic were the dominant reactions among girls when they had their first menses (Singh, 2006[27]). During the 2007 study, 62.3 per cent AGs were scared and cried when they had their first menstruation whereas the same reaction was reported by only 10.1 per cent in the 2012 study. Only 9.4 per cent in 2012 thought it to be a wound as compared to 22.7 per cent in 2007. Forty-four per cent reported that they were shocked on onset of first menstruation in 2007 as compared to 7.9 per cent in 2012.This can be attributed to awareness generation through media and IEC component of government programmes.

It is a well-known that social prohibitions and negative attitude of parents in discussing menstruation and related issues openly block the access of adolescent girls to the right kind of information especially in rural and tribal communities (Swensen, 1987;[78] Mudey et al., 2010;[49] Adinma et al., 2008[79]). Gupta, Sarkar (2008)[25] reported that 67.5 per cent girls were aware about menstruation prior to attainment of menarche and mother was the first informant regarding menstruation in case of 37.5 per cent girls. The data in the present study reports that almost double the number (54.8 %) of mothers in 2012 prepared their daughters about onset of menarche as compared to only 27.6 per cent mothers in 2007, showing a significant change ($p<0.001$) which falls well in line with the findings reported earlier by Gupta, Sarkar,

2008. In 2012, none of the AGs reported of any ceremony being performed on attainment of menarche as against 56.8 per cent in 2007, showing a positive change in terms of transformation in socio-cultural practices in the society regarding menstruation. Data indicated that restrictions were still being imposed on AGs during menstruation, as the same is evident from 2007 and 2012 data; however there is a significant decrease ($p<0.001$) in terms of the restrictions imposed on AGs in 2007 (74.8%) as compared to 2012 (60.4%). Significant change ($p<0.001$) was noted with respect to restriction of AGs regarding movement in the kitchen. As high as 90.9 per cent AGs in 2007 were not allowed to enter the kitchen which has reduced to as low as 2.9 per cent in 2012 ($p<0.001$). It was surprising to note that 75 per cent of AGs in 2012 reported that they did not visit the temple/place of worship during menses as compared to 77.4 per cent in 2007 showing no significant change. Visiting worship places during menstruation is still a taboo which is strongly rooted in the society with very few women visiting temples during this time.

Nielsen AC (2010)[47] reported that only 12 per cent of women out of the total sample of 335 million menstruating women use sanitary napkins and over 88 per cent resort to alternatives like sanitised cloth, ashes and husk and sand. In rural India 97 per cent of women lack access to basic hygiene means that allows them to stay clean throughout their menstrual cycle. In the present study, it was heartening to note that none of the respondents used materials such as cardboard etc. (which was reported to be 1.4% in the 2007 study and also females using nothing during menstruation (which was 3.5% in 2007) was reported as nil in the 2012 study. In case of AGs, there was a significant increase ($p<0.01$) in the use of sanitary napkins (23.8% 2007 and 74% in 2012); a significant decrease ($p<0.01$) in the use clean cloth (84.0% 2007 and 14% in 2012) as the respondents were using sanitary pads or indigenous pads made of cotton and gauze.

The use of sanitary pads was reported by 92 per cent AGs of South West district of Delhi, followed by Mysore district of Karnataka (90%) and Kamrup district in Assam (85%). The use of sanitary pads by AGs in Barabanki district of Uttar Pradesh and Dhar district of Madhya Pradesh was little lower i.e. 58 and 45 per cent respectively. Almost one third of AGs (31.0% in UP and MP) still use clean cloth during their menses. The use of indigenous pad made of cotton and gauze was very low in South West district of Delhi, Mysore district of Karnataka and Kamrup district of Assam as the AGs were using sanitary napkins. The use of indigenous pad made of cotton and gauze was reported to be 24 per cent and 11 per cent in Dhar district of Madhya Pradesh and Barabanki district of Uttar Pradesh respectively.

About 94.5 per cent AGs reported changing the pad/cloth two to three times a day on the first two days of menstruation as against 72 per cent in 2007. This shows a significant change ($p<0.001$) in menstrual hygiene practices of AGs. Narayan et al (2001)[80] found that cleaning of cloth is often done without soap and drying done indoors rather than in sunlight or open air due to social restrictions and taboos which may lead to reuse of cloth that has not been adequately sanitised. Across studies poor menstrual hygiene practices were found to be particularly acute in rural areas and amongst women and girls belonging to lower socio-economic groups.

In the present study (2012), comparison within the five states reported that nearly 92 per cent of AGs used sanitary napkins in Delhi. The success of improving menstrual hygiene habits among AGs in Delhi can be attributed to Kishori Scheme under which sanitary napkins are provided to AGs every month in their school and it covers AGs studying from class VI to class XII and also to the Ladli Scheme launched by NCT of Delhi to empower the AGs by linking financial assistance with their education up to senior secondary level. Such kinds of programmes and initiatives are instrumental in bringing a change in the menstrual hygiene practices of Indian AGs. Scaling up Menstrual Hygiene programme for adolescent girls to all districts across the country which provides sanitary napkins at subsidised prices could prove to be beneficial. Using existing mechanisms of the School Health Programme to ensure supply of sanitary napkins and provision of adequate mechanisms in schools for the disposal of menstrual waste could also prove to be useful in the long run in improving reproductive health of Adolescent girls in India. For this, various stakeholders working on this novel venture could be identified at state level and strong impetus is required for sustaining such programmes in their true spirits.

Reproductive and sexual health is a major area of concern as the adolescents do not have adequate awareness and knowledge about these. The chances of having STIs, teenage pregnancy and unsafe abortions are much higher among adolescents. Awareness regarding RTI/STI among AGs in 2012 revealed that only 41.0 per cent AGs across India had heard about RTI/STI. As was reported in DLHS–3[81], 2007-08, only 30 per cent of unmarried women aged 15 to 24 have heard about RTI/STI. According to the National Family Health Survey-3[13] (NFHS-3) almost 11per cent of females and 7per cent of males in age 15-24 had a history of STI in the preceding 1 year of the survey. In the present study (2012), the awareness on RTI/STI ranged from as low as 40 per cent (Kamrup district of Assam) to as high as 62 per cent (South West district of Delhi). Half of the AGs (50%) from Mysore district of Karnataka had knowledge on RTI/STIs as compared to 25 per cent and 28 per cent in Dhar district of Madhya Pradesh and Barabanki district of Uttar Pradesh respectively. Knowledge of RTI/STI was poor both in 2007 and 2012 study and no significant change was seen in any of the attributes. In a study conducted by Garg et al (2002)[82] in urban slums of Delhi, majority (88%) of women were found to have one or the other symptom of reproductive morbidity. Clinical examination of 301 women revealed high prevalence of major reproductive infections like bacterial vaginosis (41.5%), chlamydia (28.7%), candidiasis (18.6%), trichomoniasis (4.3%), syphyilis (4.2%), hepatitis B (5.8%) and hepatitis C (1.8 %).

In India, according to NFHS-3, HIV prevalence in the 15-19 years category is 0.04 per cent and in 15 years and above category it is 0.36 per cent. The results related to knowledge about HIV/AIDS among adolescent girls revealed that 87 per cent in 2012 had heard about HIV/AIDS. The awareness was higher amongst AGs of South West district of Delhi (98%), Mysore district of Karnataka (90%) and Kamrup district of Assam (88%) as compared to Dhar district of Madhya Pradesh (79%) and Barabanki district of Uttar Pradesh (75%). Data regarding knowledge about HIV/AIDS among AGs revealed that no significant change was seen in 2012 when compared to 2007 data. To propel progress in addressing HIV/

AIDS among adolescents, it is important that correct and authentic information regarding causative, preventive and curative aspects is made available to them. Counselling would improve health outcomes in adolescents by reducing the incidence of HIV-associated complications and delaying the progression of HIV infection, thereby improving quality of life and ultimately reducing disease-related mortality.

Similarly it is recommended that knowledge about RTI/STI and awareness regarding Government programmes pertaining to improving reproductive health status of women seem to be the areas which require due attention. The present study shows a significant increasing trend in Health seeking behaviour of AGs in 2012 in comparison to 2007. 78.1 per cent in 2012 had approached Medical Officers for guidance and consultation regarding vaginal infection as compared to 7.9 per cent in 2007 showing significant change ($p<0.001$). It was appreciable to note that the AGs seeking guidance and consultation of AWW (65.1% in 2012 and 3.7% in 2007) and ANM (52.0% in 2012 and 21.7% in 2007) had increased significantly ($p<0.001$). The ICDS and Health functionaries should be equipped with correct and comprehensive knowledge about RTIs/STIs for transcending to the beneficiaries.

The National Rural Health Mission (NRHM), the Government of India's flagship programme, underscores Adolescent Reproductive and Sexual Health (ARSH) as a top development priority in its Reproductive and Child Health (RCH-II) programme. National Rural Health Mission should be utilised as a core package in preventing, promoting, curing and counselling so as to bridge the knowledge gap evident in AGs. This strategy focuses on reorganising the existing public health system to enable it to meet the service needs of adolescents. The Medical Officers (MOs), Auxiliary Nurse Midwives (ANMs) and Lady Health Visitors (LHVs) are required to ensure service delivery at sub-centres and PHCs at fixed day and timings.

The findings of the study have provided a lead in developing strategies for improving reproductive health status of adolescent girls through programmes and schemes implemented by Government of India. Scaling up Sabla implemented by MWCD, popularizing Peer to Peer menstrual Hygiene programme could prove to be beneficial for improving overall health of AGs. In order to increase help seeking behaviour of adolescents, apart from health and life skill education, their medical screening with a focus on reproductive health by trained physicians, parental involvement, supported by Adolescent Friendly Health Services (Adolescent Health Clinics) for counselling, referral and follow up are essential. Reproductive Maternal Newborn Child and Adolescent Health (RMNCH +A), 2013 is a strategy that embodies a vision for mothers, children including adolescents with special provision of Adolescent Friendly Health Services (Adolescent Health Clinics). The challenges in providing services for adolescent health is to make the 'adolescent friendly health services' more accessible, equitable, acceptable, appropriate, comprehensive, effective and efficient.

Awareness of respondents regarding Government Programmes like Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (RGSEAG) - Sabla, Kishori Shakti Yojana, Adolescent Reproductive and Sexual Health (ARSH) and Menstrual Hygiene Programme was very poor. State-Wise awareness about Government programmes among Adolescent girls revealed that awareness on ARSH and Menstrual Hygiene Program was very low among all the states. Forty-nine per cent and 28 per cent AGs

in South West district of Delhi were aware about SABLA and KSY respectively, followed by 41 per cent in Mysore district of Karnataka and 39 per cent in Kamrup district of Assam. In Dhar district of Madhya Pradesh and Barabanki district of Uttar Pradesh, awareness about government programmes was lower as compared to South West district of Delhi, Mysore district of Karnataka and Kamrup district of Assam. Visibility of Government programmes and their advocacy is a must and certainly calls for awareness generation of the same at grass root level. The ICDS and health functionaries who are social agents in bringing positive impact in health status of population and deal with adolescent population need to have in-depth knowledge about reproductive health so that they can impart the same in the community.

To summarise, state-wise comparison revealed that among the five states selected for the study, Dhar district of Madhya Pradesh and Barabanki district of Uttar Pradesh seem to be lagging behind as compared to South West district of Delhi, Mysore district of Karnataka, Kamrup district of Assam comparatively in parameters like AGs going to school, awareness regarding onset of menstruation, menstrual hygiene practices, Knowledge about RTI/STI, HIV/AIDS and awareness on Government programmes. Targeted approach is essential and bringing about a social change among women in general and adolescent girls in particular in these states calls for immediate action.

To assess the impact of media on awareness regarding menstruation and menstrual hygiene management, the present study's respondents reported that TV was the main source of information followed by radio, newspaper, magazines and internet compared to awareness through GOI programmes. During the current study (2012), the responses with regards to the opinion on use of sanitary napkins were positive. All adolescent girls/women in all the categories felt that they should use sanitary napkins during menstruation.

Media has proved and can further be an effective medium in bridging knowledge gap of AGs. It can also act as a useful channel for advocating menstrual hygiene by bringing it as a politico- public agenda and make the issue visible and credible in policy debates. It can act as a potential tool to provide information to the public about the issue and also propose solutions, change public attitudes, taboos and behaviour towards menstrual hygiene. Media including radio, newspapers, television, and information leaflets could definitely prove to be useful. Different groups need to be targeted with different Information, Education and Communication materials through relevant communication channels, so that information reaches all walks of society. This is especially important for those who are illiterate, have communication difficulties and/or do not have access to radio or television. Popular media (drama, songs, street theatre, dance, etc.) might also prove to be effective in this venture. Adolescent girls are a crucial segment in our society and investments on improving nutritional and health status especially reproductive health with special emphasis on hygiene during menstruation is important for making them a socially and economically productive force.

6. CONCLUSION AND RECOMMENDATIONS

Adolescent Girls (AGs) and Education

- Majority of adolescent girl were literate both in 2007 (93.6%) and 2012 (96.4%) study. There was a significant increase ($p < 0.05$) in literacy levels of AGs in 2012 as compared to 2007. All AGs in 2012 study were literate in South West district of Delhi, 99 per cent in Mysore district of Karnataka, 97 per cent in Kamrup district of Assam, 95 per cent in Dhar district of Madhya Pradesh and 91 per cent in Barabanki district of Uttar Pradesh.
- There was a significant increase ($p<0.01$) in AGs going to school in 2012 (67%) as compared to 2007 (49.2%). With nearly 88 per cent AGs going to school in South West district of Delhi, 68 per cent in Mysore district of Karnataka, 66 per cent in Kamrup district of Assam, 58 per cent in Dhar district of Madhya Pradesh and 55 per cent in Barabanki district of Uttar Pradesh.
- The percentage of girls going to co-educational schools has significantly increased ($p<0.05$) in 2012 (90%) as compared to 2007 (85.8%).
- A significant decrease ($p<0.001$) in the percentage of AGs girls staying at home in 2012 (3%) was observed as compared to 2007 (40%).
- It was heartening to know that there was a significant decrease ($p<0.01$) in the number of married AGs in 2012 (2%) as compared to 2007 (8.2%).

Living Condition

- There was a significant increase ($p<0.001$) in AGs living in pucca houses in 2012 (84.8%) as compared to 2007 (50.4%).
- Majority (83%) of the AGs lived in clean surroundings in 2012 showing significant difference ($p<0.01$) as compared to the 74.8 per cent AGs in 2007.
- A significant increase ($p<0.01$) was seen in toilet facility available in households of AGs (59% in 2007 and 67% in 2012). As high as 95 and 94 per cent AGs of South West district of Delhi and Kamrup district of Assam respectively reported of having toilets in their homes. Only one-third (32%) AGs from Mysore district of Karnataka reported of having toilets in their homes. In Dhar district of Madhya Pradesh and Barabanki district of Uttar Pradesh, 68 per cent and 40 per cent had toilets in their homes respectively.

Awareness about Menstruation, Perception and Reactions

- A significant increase ($p<0.001$) in awareness about menstruation was seen in AGs of 2012 (72.6%) as compared to 2007 (29.4%). It was observed that the awareness regarding onset of menstruation among AGs was higher in South West district of Delhi (95%) and Mysore district of Karnataka (90%) in comparison to Kamrup district of Assam (63%), Barabanki district of Uttar Pradesh (58%) and Dhar district of Madhya Pradesh (57%).

- There was a significant increase (p<0.01) in number of AGs who informed their confidante immediately after the onset of menstruation in 2012 (93.8%) as compared to 2007 (85%).
- Perception of menstruation to be dirty and polluting was evident in all categories of respondents, but there was significant decrease in perception of AGs, Mothers of AGs, and WOLs and in general all women in 2012 as compared to 2007 study.
- Regarding onset of menstruation, there was a significant decrease (p<0.001) in negative reactions in AGs in 2012 as compared to 2007 with respect to having fear/crying spells (10.1% in 2012 and 62.3% in 2007), shock (7.9% in 2012 and 43.9% in 2007) and in perceiving it as an wound (9.4% in 2012 and 22.7% in 2007).
- Data indicated that restrictions were imposed on AGs during menstruation as the same is evident from 2007 and 2012 data and shows a significantly decreasing trend (p<0.001) on the restrictions imposed on AGs in 2007 (74.8%) as compared to 2012 (60.4%).

Socio-Cultural Practices

- In 2012, no AGs reported of any ceremony being performed on attainment of menarche as against 56.8 per cent in 2007 showing a positive change in terms of socio-cultural practices in the society regarding menstruation.
- It was surprising to note that 75 per cent of AGs in 2012 reported that they did not visit the temple/ place of worship during menses as compared to 77.4 per cent in 2007 showing no significant change.
- Significant change (p<0.001) was noted with respect to restriction of AGs regarding movement in the kitchen. As high as 90.9 per cent AGs in 2007 were not allowed to enter the kitchen which has reduced to as low as 2.9 per cent in 2012 (p<0.001).
- In 2012, about 69 per cent mothers were always worried about safety of their AGs and this had significantly decreased (p<0.05) as compared to 91 per cent in 2007. The main worries of mothers of AGs were about marriage, and fear of her safety/ family honour as seen in 2007 and 2012.
- There was a significant decrease (p<0.001) in mothers rebuking their daughters for being born a girl in 2012 (21%) as compared to 2007 (40%).
- 54.8 per cent mothers in 2012 prepared their daughters about onset of menarche as compared to only 27.6 per cent mothers in 2007 data, showing significant change (p<0.001).

Menstrual Hygiene Practices

- In case of AGs, there was a significant increase (p<0.01) in the use of sanitary napkins (23.8% 2007 & 74% exclusively in 2012); a significant decrease (p<0.01) in the use clean cloth (84.0% 2007 & 14% in 2012) and a significant increase (p<0.001) in use of indigenous pad made of cotton and gauze in 2012 (12%) as compared to 2007 (1.6%).

- The use of sanitary pads was reported by 92 per cent AGs of South West district of Delhi, followed by Mysore district of Karnataka (90%) and Kamrup district in Assam (85%). The use of sanitary pads by AGs in Barabanki district of Uttar Pradesh and Dhar district of Madhya Pradesh was little lower i.e. 58 and 45 per cent respectively. Almost one-third of AGs (31.0% in UP and MP) still use clean cloth during their menses. The use of indigenous pad made of cotton and gauze was very low in South West district of Delhi, Mysore district of Karnataka and Kamrup district of Assam as the AGs were using sanitary napkins. The use of indigenous pad made of cotton and gauze was reported to be 24 per cent and 11 per cent in Dhar district of Madhya Pradesh and Barabanki district of Uttar Pradesh respectively.
- In case of mothers of AGs, there was a significant increase ($p<0.01$) in the use of sanitary napkins (7.8% in 2007 & 56% exclusively in 2012), a significant decrease ($p<0.01$) in the use of clean cloth (92.2% in 2007 to 25.4% in 2012) and a significant increase ($p<0.001$) in use of indigenous pad made of cotton and gauze in 2012 (18.4%) as compared to 2007 (3.2%).
- In case of Women Opinion Leaders, a significant change ($p<0.001$) was seen with regard to use of sanitary napkins as against 24.7 per cent women using sanitary pads in 2007, 96 per cent of them used the same exclusively in 2012. It was surprising to note that none of the WOLs used cloth during menstruation and 14.9 per cent still used indigenous pad made of cotton and gauze in 2007 as compared to 9.3 per cent in 2007 showing no significant change.
- With regard to use of sanitary napkins significant change ($p<0.001$) was seen in case of women functionaries wherein it was noticed that as against 38 per cent women using sanitary pads in 2007, 85.8 per cent of them used the same exclusively in 2012.
- It was heartening to note that none of the respondents used cardboard and females using nothing during menstruation was reported nil in 2012 study.
- About 94.5 per cent AGs reported changing the pad/cloth two to three times a day on the first two days of menstruation as against 72 per cent in 2007 data showing a significant change ($p<0.001$) and similar significant changes were seen in mothers of AGs, WOLs and women functionaries ($p<0.001$).

Knowledge about Pubertal Changes in AGs

- The awareness of AGs regarding pubertal changes in 2012 had significantly increased ($p<0.001$) in comparison to the 2007 study especially with regard to gain in height (69.6% in 2007 and 96.6% in 2012) and weight (66.8% in 2007 and 94.6% in 2012), growth of auxiliary and pubic hair (64.2% in 2007 and 97.0% in 2012), onset of menstruation (68.8% in 2007 and 96.8% in 2012) and development of body contours.

Knowledge of AGs about RTI/STI

- Awareness regarding RTI/STI among AGs in 2012 revealed that only 41.0 per cent AGs across India had heard about RTI/STI. The awareness on RTI/STI ranged from as low as 40 per cent (Kamrup district of Assam) to as high as 62 per cent (South West district of Delhi). Half of the AGs (50%) from

Mysore district of Karnataka had knowledge on RTI/STIs as compared to 25 per cent and 28 per cent in Dhar district of Madhya Pradesh and Barabanki district of Uttar Pradesh respectively.

- Knowledge on RTI/STI was poor both in 2007 and 2012 and no significant change seen in any of the attributes. Only 33.8 per cent of AGs in 2012 knew that RTI/STI is curable as compared to 35.4 per cent AGs in 2007. Similarly, the knowledge regarding the use of condoms for prevention of RTIs/STIs was 25.4 per cent in 2007 as compared to 24.8 per cent in 2012. STI may even cause sterility was known to 11.8 per cent AGs in 2007 and 11 per cent AGs in 2012. It was disappointing to note that the knowledge about partner treatment in RTI/STI, repeated abortions could be due to STI were known to only few girls both in 2007 and 2012 (18.2% in 2007 and 19.6% in 2012). Even in this era few girls also believed that having sex with virgin (a myth) is a means to cure STI (12% in 2007 as compared to 12% in 2012). Repeated abortion may be due to STI was known to 9.6 per cent in 2007 and 10.8 per cent in 2012.

Awareness on HIV/AIDS

- The results related to knowledge about HIV/AIDS among adolescent girls revealed that 87 per cent in 2012 had heard about HIV/AIDS. The awareness was higher amongst AGs of South West district of Delhi (98%), Mysore district of Karnataka (90%) and Kamrup district of Assam (88%) as compared to Dhar district of Madhya Pradesh (79%) and Barabanki district of Uttar Pradesh (75%).
- Regarding knowledge about HIV/AIDS among adolescent girl's data revealed that no significant change was seen in 2012 when compared to 2007 where 85 five per cent AGs in 2007 and 87 per cent in 2012 mentioned that they had heard about HIV/AIDS respectively. Acronym of AIDS and causative agent of AIDS was known to 5.6 per cent of AGs in 2007 and 6 per cent AGs knew the same in 2012 study showing no significant change. Awareness about modes of transmission of HIV/AIDS was dismal both during the study conducted in 2007 and 2012.
- AIDS awareness had tremendously increased among health functionaries (100% in 2012 and 66.6% in 2007) and ICDS functionaries (93.3% in 2012 and 64.3% in 2007) and causative agents of AIDS were known to 72 per cent of health functionaries in 2012 as compared to only 19.7 per cent in 2007 and 53.3 per cent in ICDS functionaries as compared to only 21.4 per cent in 2007.
- About 96 per cent and 65.3 per cent women functionaries during 2012 and 2007 study respectively reported that they knew about HIV/AIDS (significant at $p<0.01$). Both health and ICDS functionaries in 2012 fared well in comparison to 2007 showing significant change ($p<0.01$).

Gynaecological Morbidities and Health Seeking Behaviour

- Majority of the AGs, nearly 78.1 per cent in 2012 had approached Medical Officers for guidance and consultation regarding vaginal infection as compared to 7.9 per cent in 2007 showing significant change ($p<0.001$).
- It was appreciable to note that the AGs seeking guidance and consultation of AWW (65.1% in 2012 and 3.7% in 2007) and ANM (52.0% in 2012 and 21.7% in 2007) had increased significantly ($p<0.001$).

- Nearly 62.5 per cent AGs in 2012 and 51.9 per cent in 2007 had approached family members which included mother/sister/sister-in-law/aunt for guidance regarding vaginal infections showing significant change($p<0.05$).
- 65.1 per cent AGs in 2012 and 13.8 per cent in 2007 approached the local doctor showing significant difference ($p<0.01$).
- 26.0 per cent of AGs consulted the TBA in 2012 as compared to 1.6 per cent in 2007 showing significant change($p<0.001$).
- None of the AGs in 2012 in contrast to 5.3 per cent in 2007 treated self with medicine.
- Significant increase ($p<0.001$) is seen in mothers approaching local doctor (7.4% in 2007 and 57.8% in 2012), ANM (31.3% in 2007 and 41.4% in 2012) and AWW (11.1% in 2007 and 47.9% in 2012) in guidance and consultation in vaginal infections 2012 as compared to 2007.
- A significant increasing trend ($p<0.001$) is seen in the persons whom Women Opinion Leaders had ever approached for vaginal infections namely Medical officer (89.4% in 2012 and 44.9% in 2007), AWW (78.9% in 2012 and 16.3% in 2007, local doctor (50% in 2012 and 6.1% in 2007), ANM (38.8% in 2012 and 24.5% in 2007).

Media and Awareness Regarding Government Programmes

- In 2012 study, with regards to the opinion on use of sanitary napkins, every adolescent girl/ women in all the categories felt that they should use sanitary napkins during menstruation.
- Only 60.4 per cent AGs in 2012 knew that with use of sanitary napkins RTI incidence could be reduced, 77.6 per cent used sanitary napkins in order to maintain hygiene, 72 per cent AGs girls felt confident and 70 per cent reported that sanitary napkin was the best option in order to get rid of cloth, cleaning drying & storing; 96.7 per cent women functionaries were aware that menstrual hygiene relates to RTI and that with use of sanitary napkins, RTI incidence could be reduced.
- All the respondents reported that TV was the main source of information followed by radio, newspaper, magzines and internet.
- State-wise awareness about Government programmes among Adolescent girls revealed that awareness on ARSH and Menstrual Hygiene Programme was very low among all the states. Forty-nine per cent and 28 per cent AGs in South West district of Delhi were aware about Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (RGSEAG) - Sabla and Kishori Shakti Yojana (KSY) respectively, followed by 41 per cent in Mysore district of Karnataka and 39 per cent in Kamrup district of Assam. In Dhar district of Madhya Pradesh and Barabanki district of Uttar Pradesh, awareness about government programmes was lower as compared to South West district of Delhi, Mysore district of Karnataka and Kamrup district of Assam.
- In case of women functionaries 71.6 per cent were aware about Sabla, 84 per cent about Kishori Shakti Yojana, 71 per cent about ARSH and 49 per cent about Menstrual Hygiene Programme. It is expected that women functionaries both from health and ICDS, who are the main agents for bringing about a social change in the society should be aware of Government programmes.

RECOMMENDATIONS

The major recommendations for improving practices related to menstrual hygiene of adolescent girls include the following.

1. Correct, authentic and accurate information regarding RTIs/STIs should be made available to all women including AGs. **ARSH programme** under the Reproductive and Child Health (RCH-II) programme implemented by NRHM has to be reinforced strongly whose main objectives include reducing early marriage, adolescent pregnancy and the incidence of sexually transmitted infections (STIs) and human immunodeficiency virus (HIV), meeting needs for Family Planning and lowering maternal mortality and promoting menstrual hygiene through free distribution of sanitary napkins to adolescent girls in rural areas.

2. Popularise and scale up **Menstrual Hygiene Programme** for adolescent girls in all districts which provide sanitary napkins at subsidised prices to adolescent girls in 259 districts and are supporting the production of sanitary napkins by women's groups in 45 additional districts, so that low cost sanitary napkins are available to every adolescent girl in rural areas. Ensuring regular availability of sanitary napkins to the adolescents (including sourcing, procurement, storage and distribution of sanitary napkins to the adolescent girls) is very important. Periodic monitoring of programme implementation at Sub-Centre and village levels would help in the long run. The programme would require convergence with other departments such as: Education, Water and Sanitation, Women and Child Development, Rural Development, Social Welfare, Youth and Sports Affairs, Social Justice and Empowerment.

3. **The Rajiv Gandhi Scheme for the Empowerment of Adolescent Girls (RGSEAG) or Sabla** implemented by the Ministry of Women and Child Development for adolescent girls between the ages 11-18 years across 205 districts in the country which looks at the overall development of the adolescents seeks to address supplementary nutrition, IFA supplementation, health check-up, referral services, nutrition & health education, counselling/guidance on family welfare, child care practices and home management, life skill education and access of public services, and vocational training. Adolescent Reproductive and sexual health, an important component of Sabla has to be reinforced in a strong way to empower the adolescent girls. Scaling up Sabla across all states is also the need of the hour. Popularising Kishori Diwas under SABLA and utilising Sakhi and Saheli as role models and social change agents for managing Menstrual Hygiene safely would be useful. Sanitary Pads may be included as one of the additional services to school going and out of school girls.

4. Menstrual Hygiene Education Programme could benefit from utilisation of peer education techniques i.e. **Peer to Peer menstrual hygiene programme.** The goal of peer-to-peer menstrual hygiene education campaigns is to educate girls about the issue and then to support the students in conveying this information to their peers. Because of the sensitive nature of menstrual hygiene, it is believed that girls will feel more comfortable discussing the topic with peers instead of adults. Peer education

programme may help girls to "Break the Silence" surrounding menstruation. This could possibly allow for greater knowledge and uptake of practices.

5. **Reproductive Maternal Newborn Child and Adolescent Health (RMNCH +A), 2013** is a strategy that embodies a vision for comprehensive and integrated health services most importantly for the adolescents, mothers and children. The 'Plus' in the strategic approach of RMNCH+A denotes the inclusion of adolescence as a distinct 'life stage' in the overall strategy and prioritising its interventions would certainly help the AGs. One of its main interventions is through the **Adolescent-Friendly Health Services (Adolescent Health Clinics)** keeping in mind the fact that access to reproductive and sexual health information and services, including access to contraceptives and safe abortion services, delivered in an adolescent-friendly environment are critical to reducing incidences of STIs, unplanned and unwanted pregnancies and unsafe abortions would be a good option for the adolescents. Such Adolescent friendly Health Services could prove to be excellent Counselling centres for Adolescents as they need privacy to discuss their problems and find solutions.

6. The current study has highlighted the need of the adolescent girls to have accurate and adequate information about menstruation and on how to manage menstruation and body hygiene with confidence. On the basis of the above finding it is strongly recommended that information about menarche be introduced and reproductive health should be strongly reinforced into the school curriculum from the 5th grade onwards along with the involvement of parents particularly mothers so as to wipe away the age-old misconceptions. It is also essential for the teachers, who may not have necessary skills to impart reproductive health education including menstrual hygiene to their student, to be given requisite skills – usually through workshops or training.

7. Existing mechanisms of the School Health Programme may be used if sanitary napkins are to be distributed through the school route to ensure supply of commodities. Inadequate mechanisms in schools for the disposal of used menstrual materials or menstrual waste. Adequate disposal facilities include those within the latrine or toilets stall/block itself (such as a dustbin) and a system for safe, culturally and environmentally appropriate disposal of the collected waste (such as an incinerator or burying pit).

8. It is utmost important that the mothers be armed with the correct and appropriate information on reproductive health, to give to their growing girl child on a 'dose-related' continuous basis. Hence, it is recommended that reproductive health issues need to be built into the nutrition and health education (NHED) components of both the Integrated Child Development Services (ICDS) and Reproductive and Child Health (RCH) programme for reaching out to the mothers/caregivers in the community.

9. The Department of Drinking Water and Sanitation which is implementing the Total Sanitation Campaign (TSC) with key intervention areas such as Individual household latrines (IHHL), School Sanitation and Hygiene Education (SSHE), Community Sanitary Complex, *Anganwadi toilets* supported by Rural Sanitary Marts (RSMs) and Production Centres (PCs) can prove to be a positive effort towards improving menstrual hygiene management.

10. Accessibility, availability, affordability and acceptability of menstrual sanitary materials could be one of the main answers to improve menstrual hygiene management among adolescent girls. Examples of the decentralised models for production of low cost sanitary napkins which are definitely feasible, implementable and are bound to benefit should be explored. All efforts to involve corporate sector under Corporate Social Responsibility (CSR) in manufacturing low cost sanitary pad needs to be explored.

11. Create awareness on health and hygiene at the national, state and local level and also through training and capacity building of ICDS and health workers and constantly upgrading the knowledge and capacity of various stakeholders on menstrual hygiene. Media could be the most effective techniques to disseminate information on reproductive health of adolescent girls/women with special emphasis on hygiene during menstruation. A nationwide IEC campaign for spreading awareness on importance of healthy menstrual hygiene practices and improving reproductive health of women is the need of the hour.

12. Many organisations and NGOs are involved in implementing WASH (Water, Sanitation and Hygiene) across the globe like UNICEF. In India UNICEF is all focused to support national programmes that increase equitable and sustainable access to, and use of, safe water and basic sanitation services, and promote improved hygiene. Collaboration with UNICEF and important NGOs working towards improving menstrual hygiene practices would also prove to be effective.

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Annexure-2.1

Female Reproductive System and Physiology of Menstruation

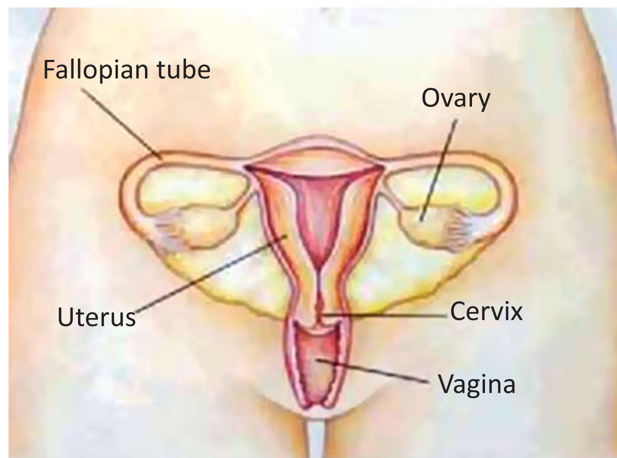
The human female reproductive system (or female genital system) contains two main parts: the uterus, which hosts the developing fetus, produces vaginal and uterine secretions, and passes the male's sperm through to the fallopian tubes; and the ovaries, which produce the female's egg cells. The female Reproductive organs include:

1. Internal Organs

   - Ovaries: These are oval-shaped structures containing egg cells, that produce female sex hormones- estrogen and progesterone
   - Fallopian tubes: This is the passage –way for the egg to travel from the ovary to the uterus. This is where the man's sperm meets and fertilises the egg.
   - Uterus (womb) – This is where the fertilized egg grows to become a baby.
   - Cervix- It is also called the neck of the womb. It connects the womb to the vagina and normally has a small opening.
   - Vagina – It is the channel between the womb and the outside of the body. It is the canal through which the baby passes during child birth, a passage way for the menstrual flow outside the body and the place where man inserts his penis during sexual intercourse.

2. External Organs

   - There are three openings in the genital area: urethra, the vagina and the anus. Urethra is the passage for urine. Vaginal opening is the outlet for the menstrual flow. The anus (not a part of the reproductive system) is the outlet for the expulsion of faeces.
   - Labia Majora and labia minora- These are two sets of folds on either side of the vagina protecting the clitoris and the urethral and vaginal opening.

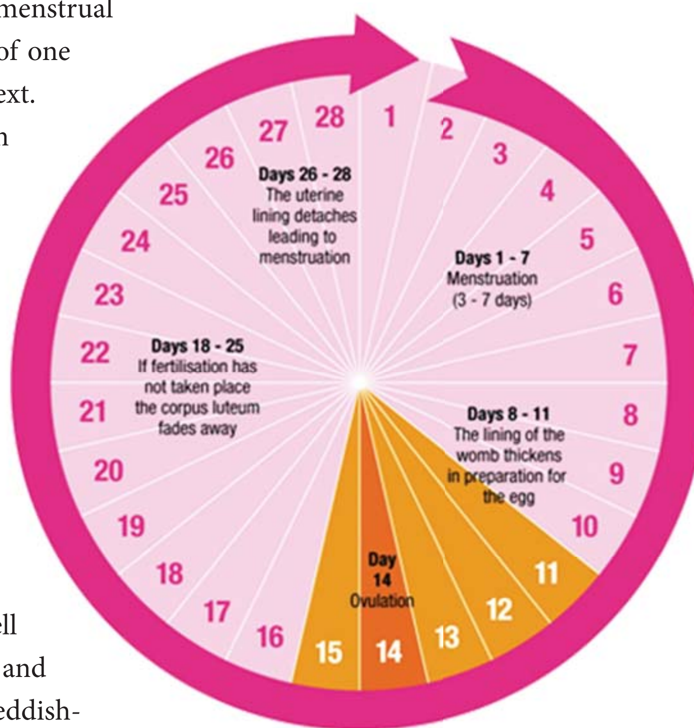


The female reproductive system

   - Clitoris –It is the small structure located above the urethral opening point where the labia meet and the focal point for stimulation.

Menstruation is the periodic discharge of blood and mucosal tissue (the endometrium) from the uterus and vagina. Regular menstruation lasts for a few days, usually 3 to 5 days, but anywhere from 2 to 7

days is considered normal. The average menstrual cycle is 28 days long from the first day of one menstrual period to the first day of the next. A normal menstrual cycle in adult women is between 21 and 35 days.

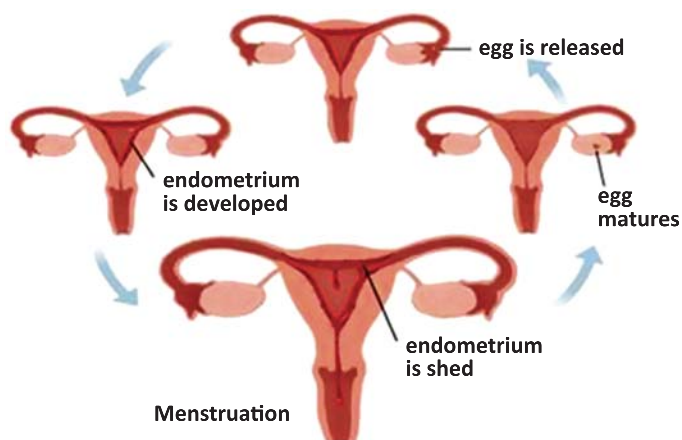


The average volume of menstrual fluid during a monthly menstrual period is 35 milliliters (2.4 tablespoons of menstrual fluid) with 10–80 mililiters (1–6 tablespoons of menstrual fluid) considered typical. Menstrual fluid is the correct name for the menstrual flow, although many people prefer to refer to it as menstrual blood. Menstrual fluid in fact contains some blood, as well as cervical mucus, vaginal secretions, and endometrial tissue. Menstrual fluid is reddish-brown, a slightly darker colour than venous blood.

Menstrual cycle is divided into two cycles:

- Ovarian Cycle
- Uterine Cycle

Ovarian cycle is a series of monthly repetitive physiological and developmental changes in the ovaries, which prepare the ovaries for ovulation and hormones will assist in regulating the uterine cycle and, if the implantation of a developing embryo occurs, assist in regulating the pregnancy. It is regulated by FSH and LH from the anterior pit.The changes that occur in the ovary during each cycle can be divided into three phases:



- Follicular phase (day 1-13)
- Ovulatory phase (day 13-15)
- The luteal phase (day 15-28).

These phases run in parallel with the phases of the uterine cycle and together comprise the menstrual cycle.

- **The follicular phase** is the first part of the ovarian cycle. During this phase, the ovarian follicles mature and ready to release an egg. The latter part of this phase overlaps with the proliferative phase of the uterine cycle.
- **Ovulation** is the second phase of the ovarian cycle in which a mature egg is released from the ovarian follicles into the oviduct. During the follicular phase, estradiol suppresses production of luteinising hormone (LH) from the anterior pituitary gland. When the egg has nearly matured, levels of estradiol reach a threshold above which this effect is reversed and oestrogens actually stimulates the production of a large amount of LH. This process, known as the LH surge, starts around day 12 of the average cycle and may last 48 hours.
- **The luteal phase** is the final phase of the ovarian cycle and it corresponds to the secretory phase of the uterine cycle. During the luteal phase, the pituitary hormones FSH and LH cause the remaining parts of the dominant follicle to transform into the corpus luteum, which produces progesterone. The increased progesterone in the adrenals starts to induce the production of estrogen. The hormones produced by the corpus luteum also suppress production of the FSH and LH that the corpus luteum needs to maintain itself. Consequently, the level of FSH and LH fall quickly over time, and the corpus luteum subsequently atrophies. Falling levels of progesterone trigger menstruation and the beginning of the next cycle. From the time of ovulation until progesterone withdrawal has caused menstruation to begin, the process typically takes about two weeks, with 14 days considered normal. For an individual woman, the follicular phase often varies in length from cycle to cycle; by contrast, the length of her luteal phase will be fairly consistent from cycle to cycle.
- **Uterine cycle** Menstruation (also called menstrual bleeding, menses, or a period) is the first phase of the uterine cycle. The flow of menses normally serves as a sign that a woman has not become pregnant. (However, this cannot be taken as certainty, as a number of factors can cause bleeding during pregnancy; some factors are specific to early pregnancy, and some can cause heavy flow). An enzyme called plasmin inhibits clotting in the menstrual fluid. Painful cramping in the abdomen, back, or upper thighs is common during the first few days of menstruation. Severe uterine pain during menstruation is known as dysmenorrhea, and it is most common among adolescents and younger women (affecting about 67.2% of adolescent females). When menstruation begins, symptoms of premenstrual syndrome (PMS) such as breast tenderness and irritability generally decrease. Many sanitary products are marketed to women for use during their menstruation.
- **Proliferative phase** The proliferative phase is the second phase of the uterine cycle whereby a hormone causes the lining of the uterus to grow, or proliferate, during this time. As they mature, the ovarian follicles secrete increasing amounts of estradiol, an estrogen. The estrogens initiate the formation of a new layer of endometrium in the uterus, histologically identified as the proliferative endometrium. The estrogen also stimulates crypts in the cervix to produce fertile cervical mucus, which may be noticed by women practicing fertility awareness.

- **Secretory phase** The secretory phase is the final phase of the uterine cycle and it corresponds to the luteal phase of the ovarian cycle. During the secretory phase, the corpus luteum produces progesterone, which plays a vital role in making the endometrium receptive to implantation of the blastocyst and supportive of the early pregnancy, by increasing blood flow and uterine secretions and reducing the contractility of the smooth muscle in the uterus; it also has the side effect of raising the woman's basal body temperature.

Annexure: 2.2

Key RMNCH+A interventions as a 'continuum of care' across life cycle and different levels of health system

<table>
<tr><th></th><th>Reproductive care</th><th>Pregnancy and child birth care</th><th colspan="2">Newborn and childcare</th></tr>
<tr><td>Clinical</td><td>• Comprehensive abortion care
• RTI/STI case management,
• Postpartum IUCD and sterilisation; interval IUCD procedures
• Adolescent friendly health services</td><td>• Skilled obstetric care and immediate newborn care and resuscitation
• Emergency obstetric care
• Preventing Parent to Child Transmission (PPTCT)of HIV
• Postpartum sterilisation</td><td colspan="2">• Essential newborn care
• Care of sick newborn (SNCU, NBSU)
• Facility-based care of childhood illnesses (IMNCI)
• Care of children with severe acute malnutrition (NRC)
• Immunisation</td></tr>
<tr><th></th><th>Reproductive health care</th><th>Antenatal care</th><th>Postnatal care</th><th>Child health care</th></tr>
<tr><td>Outreach/Sub centre</td><td>• Family planning (including IUCD insertion, OCP and condoms)
• Prevention and management of STIs
• Peri-conception Folic acid supplementation</td><td>• Full antenatal care package
• PPTCT</td><td>• Early detection and management of illnesses in mother and newborn
• Immunisation</td><td>• First level assessment and care for newborn and childhood illnesses
• Immunisaton
• Micro-nutrient supplementation</td></tr>
<tr><td>Family & Community</td><td>• Weekly IFA supplementation
• Information and counselling on sexual reproductive health and family planning
• Community based promotion and delivery of contraceptives
• Menstrual hygiene</td><td>• Counselling and preparation for newborn care,breast feeding, birth preparedness
• Demand generation for pregnancy care and institutional delivery (JSY, JSSK)</td><td colspan="2">• Home-based newborn care and prompt referral (HBNC scheme)
• Antibiotic for suspected case of newborn sepsis
• Infant and Young Child Feeding (IYCF), including exclusive breast feeding and complementary feeding,
• Child health screening and early intervention services (0–18 years)
• Early childhood development
• Danger sign recognition and care-seeking for illness
• Use of ORS and Zinc in case of diarrhoea</td></tr>
<tr><td></td><td colspan="4">Intersectoral: Water, sanitation, hygiene, nutrition, education, empowerment</td></tr>
</table>

Annexure-3.1

मासिक धर्म के दौरान स्वच्छता पर विशेष बल देते हुए प्रजनन स्वास्थ्य के बारे में किशोरियों की जानकारी और प्रथाएं – पुनर्मूल्यांकन (2007–2012 के बीच)

Knowledge and Practices of Adolescent Girls regarding Reproductive Health with Special Emphasis on Hygiene during Menstruation – A Repeat Assessment (Between 2007 –2012)

किशोरियों/माताओं /किशोरियों के घर की मुखिया तथा महिला नेताओं के लिए अनुसूची

Schedule for Adolescent Girls/Mother/Female Head of the Household of Adolescent Girls and Women Opinion Leaders

अनुसूची संख्या 1
Schedule No. 1

उत्तरदाता संख्या 1
Respondent No. 1

Q1 राज्य का नाम
Name of the State:

Q2 जिले का नाम
Name of the District:

Q3 आई सी डी एस परियोजना का नाम
Name of the ICDS Project :

Q4 आई सी डी एस परियोजना/क्षेत्र का प्रकार
Type of ICDS Project/Area :

ग्रामीण
Rural

शहरी
Urban

जन–जातीय
Tribal

Q5 उत्तरदाता का नाम
Name of the Respondent :

Q6 उत्तरदाता की उम्र
Age of the Respondent :

प्रश्न 7 से प्रश्न नं0 10.1 केवल किशोरियों के लिए
7 – Q. 10.1 Only for Adolescent Girls

Q7 पिता की शैक्षिक योग्यता
Educational qualification of the father

1 अनपढ़
Illiterate

2 पांचवीं कक्षा तक पढ़ाई
Schooling till primary

3 आठवीं कक्षा तक पढ़ाई
Schooling till middle

4 दसवीं कक्षा तक पढ़ाई
Schooling till 10 class

5 स्नातक
Graduate

6. स्नातकोत्तर
Post graduate

7 कोई अन्य (उल्लेख करें)
Any other (specify)

Q8 किशोरी के पिता के व्यवसाय का प्रकार
Type of occupation of the father of adolescent girl

1 खेतीहर मजदूर
Agriculture labourer

2 अनियत मजदूर
Casual worker

3 सरकारी कर्मचारी
Govt. employee

4 निजी व्यवसाय / स्वरोजगार
Pvt. Business/Self employed

5 बेरोजगार
Unemployed

6 कोई अन्य (उल्लेख करें)
Any other (specify)

Q9 माता की शैक्षिक योग्यता
Educational qualification of the mother

1 अनपढ
Illiterate

2 पांचवीं कक्षा तक पढ़ाई
Schooling till primary

3 आठवीं कक्षा तक पढ़ाई
Schooling till middle

4 दसवीं कक्षा तक पढ़ाई
Schooling till 10 class

5 स्नातक
Graduate

6 स्नातकोत्तर
Post graduate

7. कोई अन्य (उल्लेख करें)
Any other (specify)

Q10. किशोरी अगर विवाहित है तो उसके पति की शैक्षिक योग्यता
Educational qualification of husband of adolescent girl, if married

1 अनपढ़
Illiterate

2 पांचवीं कक्षा तक पढ़ाई
Schooling till primary

3 आठवीं कक्षा तक पढ़ाई
Schooling till middle

4 दसवीं कक्षा तक पढ़ाई
Schooling till 10 class

5 स्नातक
Graduate

6 स्नातकोत्तर
Post graduate

7 कोई अन्य (उल्लेख करें)
Any other (specify)

Q10.1 अगर विवाहित हैं तो पति के व्यवसाय का प्रकार
Type of occupation of husband, if married

1 बेरोजगार
Unemployed

2 खेतीहर मजदूर
Agriculture labourer

3 अनियत मजदूर
Casual worker

4 सरकारी नौकरी
Govt. service

5 कोई अन्य (उल्लेख करें)
Any other (specify)

प्रश्न 11 – प्रश्न 11.1 सबके लिए

Q. 11 – Q. 11.1 For All

(किशोरियां/माताओं /किशोरियों के घर की मुखिया तथा महिला नेता)

(Adolescent Girls/ Mother/Female Head of the Household of Adolescent Girls and Women Opinion Leaders)

Q11 उत्तरदाता का शैक्षिक स्तर
Educational status of the respondent

1 अनपढ़
Illiterate

2 पांचवीं कक्षा तक पढ़ाई
Schooling till primary

3 आठवीं कक्षा तक पढ़ाई
Schooling till middle

4 दसवीं कक्षा तक पढ़ाई
Schooling till 10 class

5 कोई अन्य (उल्लेख करें)
Any other (specify)

Q11.1 उत्तरदाता के व्यवसाय का प्रकार
Type of occupation of respondent

1) गृहणी
House wife

2) खेतीहर मजदूर
Agriculture labourer

3) अनियत मजदूर
Casual worker

4) सरकारी नौकरी
Govt. service

5) घरेलू नौकरानी
Domestic help

6) स्कूल जाने वाली
School Going

7) पढ़ाई छूट गयी है
School Dropout

8) कोई अन्य (उल्लेख करें)
Any other (specify)

किशोरियां (5, 6,7) / माताओं / किशोरियों के घर की मुखिया तथा महिला नेता

Mother/Female Head of the Household of Adolescent Girls and Women Opinion Leaders /Adolescent Girls (5, 6,7)

Q11.2 स्कूल आपके घर से कितनी दूरी पर है ?
How far is the school from your residence?

1) किलोमीटर के भीतर
Within 1 km

2) एक से दो किलोमीटर के बीच
Between 1 and 2 km

3) दो किलोमीटर से ज्यादा
More than 2 km

प्रश्न 11.2 – प्रश्न 12 केवल किशोरियों के लिए

Q. 11.2. – Q. 12 Only for Adolescent Girls

Q11.3 क्या यह स्कूल
Is the school for –

1) सिर्फ लड़कों का है
Boys only

2) सिर्फ लड़कियों का है
Girls only

3) सहशिक्षा
Coeducation

Q12 वैवाहिक स्थिति

Marital Status	हां Yes (1)	नहीं No (2)
i) अविवाहित Unarmarried	__	__
ii) विवाहित और पति के साथ रह रही Married and living with husband	__	__
iii) विवाहित किंतु अभी गौना नहीं हुआ Married but 'Gauna' not done	__	__
iv) सगाई हो गई है Engaged to be married	__	__
v) कोई अन्य (उल्लेख करें) Any other (specify)	__	__

प्रश्न 13 – प्र0 39 सभी के लिए
Q. 13 – Q. 39 For All

(किशोरियां/माताएं/किशोरियों के घर की मुखिया तथा महिला नेता)

(Adolescent Girls/ Mother/Female Head of the Household of Adolescent Girls and Women Opinion Leaders)

Q13 मकान का प्रकार
Type of House

1 पक्का
Pucca

2 कच्चा
Kuchcha

3 छप्पर वाला
Thatched House

Q14 कमरों की संख्या
Number of rooms/units

1) एक
One

2) दो
Two

3) तीन
Three

4) कोई अन्य (उल्लेख करें)
Any other (specify)

Q15 आसपास का माहौल
Surroundings

	हां Yes (1)	नहीं No (2)
i) साफ सुथरा Clean	—	—
ii) भीड़भाड़ वाला Congested	—	—
iii) खुला Open area	—	—
iv) घर के आसपास कीचड़ Puddles around the house	—	—
v) कोई अन्य (उल्लेख करें) Any other (specify)	—	—

Q16 घर में शौचालय सुविधा
Toilet facility at home

हां Yes (1) | नहीं No (2)

Q16.1 अगर नहीं तो क्या वहां सामुदायिक शौचालय है?
If No, is there a community toilet?

हां Yes (1) | नहीं No (2)

Q17 पानी का स्रोत
Source of water

		हां Yes (1)	नहीं No (2)
i)	खुला तालाब Open pond	__	__
ii)	खुला कुंआ Open well	__	__
iii)	हैंडपंप Bore well hand pump	__	__
iv)	नलकूप Tube well	__	__
v)	नगर निगम की आपूर्ति Municipal supply	__	__
vi)	कोई अन्य (उल्लेख करें) Any other (specify)	__	__

Q18 आपको मासिक धर्म किस उम्र में शुरू हुआ?
At what age did you get your first periods?

		हां Yes (1)	नहीं No (2)
i)	9 वर्ष 9 years	__	__
ii)	10 वर्ष 10 years	__	__
iii)	11 वर्ष 11 years	__	__
iv)	12 वर्ष 12 years	__	__
v)	कोई अन्य (उल्लेख करें) Any other (specify)	__	__

Q19 क्या आप मासिक धर्म या महीना शुरू होने से पहले इसके बारे में जानती थीं?
Did you know about 'menstruation' or 'monthly bleeding' (local terms to be used) before you got your first period?

हां Yes (1)	नहीं No (2)

Q19.1 अगर हां तो बतायें कि आपको यह जानकारी किससे मिली
If Yes, specify your source of information

	हां Yes (1)	नहीं No (2)
i) मित्र Friends	__	__
ii) बहन Sister	__	__
iii) माता Mother	__	__
iv) आंटी Aunt	__	__
v) अध्यापिका School teacher	__	__
vi) स्वास्थ्य कार्यकर्ता Health worker	__	__
vii) आंगनवाड़ी कार्यकर्ता AWW	__	__
viii) कोई अन्य (उल्लेख करें) Any other (specify)	__	__

Q19.2 अगर, नहीं तो रक्तस्राव के समय आपकी पहली प्रतिक्रिया क्या थी?
If No, what was your first reaction to the bleeding?

हां Yes (1)	नहीं No (2)

		Yes	No
i)	स्तब्ध Shocked	—	—
ii)	भयभीत Scared	—	—
iii)	सोचा शायद जख्म है Thought it was a wound	—	—
iv)	कोई अन्य (उल्लेख करें) Any other (specify)	—	—

Q20 रक्तस्राव के बारे में आपने सबसे पहले किसको बताया?
Whom did you tell first about the bleeding?

		हां Yes (1)	नहीं No (2)
i)	माता Mother	—	—
ii)	बहन Sister	—	—
iii)	सखी Friends	—	—
iv)	आंटी Aunt	—	—
v)	कोई अन्य (उल्लेख करें) Any other (specify)	—	—

Q21 आपने रक्तस्राव के बारे में कब बताया?
When did you tell her about the bleeding?

		हां Yes (1)	नहीं No (2)
i)	तुरन्त Immediately	—	—
ii)	एक दिन बाद A day later	—	—
iii)	कोई अन्य (उल्लेख करें) Any other (specify)	—	—

Q22 क्या मासिक धर्म होने के बाद आपने जीवन में किसी तरह की परेशानी हुई?
Did your getting the 'periods' (please use local term) in any way disturb you life?

	हां Yes (1)	नहीं No (2)

Q22.1 अगर हां तो किस तरह से
If yes in what way/s?

	हां Yes (1)	नहीं No (2)
i) मां और ज्यादा सख्त हो गई Mother became more strict	—	—
ii) पिता बोले नहीं Father does not talk	—	—
iii) तेजी से हो रही शारीरिक वृद्धि के लिए लगातार डांट खाना Get constantly scolded/rebuked for fast body growth	—	—
iv) स्कूल जाना छोड़ दिया Stopped going to school	—	—
v) बाहर खेलने की अनुमति नहीं Not allowed to go out and play	—	—
vi) अपनी पंसद के कपड़े पहनने की अनुमति नहीं Not allowed to wear dress of your choice	—	—
vii) घर में आने वालों के सामने जाने की अनुमति नहीं Not allowed to come in front of visitors	—	—
viii) विवाह के बारे में बातचीत शुरू Talk of marriage started	—	—
ix) घर में भी इधर–उधर जाने की मनाही (रसोई घर और पूजाघर आदि में जाने की मनाही) Restriction of movement even within the household (not allowed in the kitchen, Puja ghar, etc)	—	—
x) कोई अन्य (उल्लेख करें) Any other (specify)	—	—

Q22.2 क्या आपके विचार में मासिक धर्म गंदा है?
Do you think menstruation (use local term) is dirty?

हां Yes (1)	नहीं No (2)

Q22.3 क्या आप महसूस करती हैं कि मासिक धर्म आपका अशुद्व और गंदा करता है?
Do you feel menstruation make you impure or polluted?

हां Yes (1)	नहीं No (2)

Q22.4 अगर हां तो इस बात का कोई फर्क नहीं पड़ता अगर आप मासिक धर्म के दौरान स्वच्छता नहीं बरततीं? क्या आप सहमत हैं।
If yes, then it makes no difference if you do not maintain cleanliness during menstruation.
Do you agree?

हां Yes (1)	नहीं No (2)

Q23 आपके विचार में आपने माता–पिता की प्रतिक्रिया क्या थी?
What according to you was your parent's reaction?

	हां Yes (1)	नहीं No (2)
माता Mother		
i) सामान्य Normal	—	—
ii) चिड़चिड़ी Irritable	—	—
iii) बहुत परेशान Very upset	—	—
पिता Father		
i) सामान्य Normal	—	—

		हां Yes (1)	नहीं No (2)
ii)	चिड़चिड़े Irritable	—	—
iii)	बहुत परेशान Very upset	—	—
iv)	अपमानजनक Abusive	—	—

Q24 जब आपको पहली बार मासिक धर्म हुआ उस समय कोई विशेष समारोह किया गया?
Was there any special ceremony performed when you had first got your period?

		हां Yes (1)	नहीं No (2)
i)	मां द्वारा धार्मिक स्नान Ritual bath given by mother	—	—
ii)	नए कपड़े दिए गए New clothes were given	—	—
iii)	नई चूड़ियां दी गईं New bangles were given	—	—
iv)	आरती की गई 'Arti' was performed	—	—
v)	आशीर्वाद देने के लिए रिश्तेदारों को बुलाया गया Relatives were invited to bless them	—	—
vi)	पूजा स्थल पर ले जाया गया Went to the place of worship	—	—
vii)	कोई अन्य (उल्लेख करें) Any other (Specify)	—	—

Q25 मासिक धर्म के दौरान आप क्या इस्तेमाल करती है?
What do you use during the monthly periods?

		हां Yes (1)	नहीं No (2)
i)	सैनिटरी नैपकिन (किस्म का उल्लेख करें) Sanitary napkins (specify the brand)	—	—
ii)	रूई और पतला कपड़ा		

Cotton and gauze	—	—
iii) साफ कपड़ा Clean cloth	—	—
iv) कुछ नहीं Nothing	—	—
v) कोई अन्य Any other	—	—

Q26 आप पैड कितनी बार बदलती हैं?
How often do you change the pad?

	हमेशा Always (1)	अकसर Most often (2)	कभी कभार Rarely (3)
i) दिन में दो या तीन बार Twice or thrice a day	—	—	—
ii) दिन में एक बार Once a day	—	—	—
iii) मासिक धर्म के दिनों में दो या तीन बार Twice or thrice during the period	—	—	—
iv) मासिक धर्म की पूरी अवधि में एक बार Once during the whole period	—	—	—
v) कोई अन्य (उल्लेख करें) Any other (specify)	—	—	—

Q27 अगर आप नैपकिन या रूई इस्तेमाल करती हैं तो उसे कहां फैंकती हैं?
If you are using sanitary napkins or cotton where do you throw it/dispose it?

	हमेशा Always (1)	अकसर Most often (2)	कभी कभार Rarely (3)
i) सामान्य कूड़ेदान In the regular dustbin	—	—	—
ii) जलाती हैं Burn it	—	—	—
iii) गाड़ती हैं			

		हमेशा Always (1)	अकसर Most often (2)	कभी कभार Rarely (3)
	Bury it	—	—	—
iv)	कोई अन्य (उल्लेख करें) Any other (specify)	—	—	—

Q28 अगर आप कपड़ा इस्तेमाल करती हैं तो उसका क्या करती हैं?
If you are using cloth then what do you do with it?

		हमेशा Always (1)	अकसर Most often (2)	कभी कभार Rarely (3)
i.	फैंक देती हैं Throw it off	—	—	—
ii.	धोकर दोबारा इस्तेमाल करती हैं Wash it and reuse it	—	—	—
iii.	कोई अन्य (उल्लेख करें) Any other (specify)	—	—	—

Q29 अगर आप कपड़े को दोबारा इस्तेमाल करती हैं तो उसे कहां धोती हैं?
If you reuse the cloth then where do you wash it?

		हां Yes (1)	नहीं No (2)
i)	घर में किसी साफ जगह पर At home in a clean place	—	—
ii)	घर में किसी गंदी जगह पर At home in unclean place	—	—
iii)	गोशाला में In the cowshed	—	—
iv)	तालाब में In the pond	—	—
v)	कोई अन्य (उल्लेख करें)		

	हां Yes (1)	नहीं No (2)
Any other (specify)	—	—

Q29.1 अगर आप कपड़े को दोबारा इस्तेमाल करती हैं तो उसे किससे धोती हैं?
If you reuse the cloth then with what do you wash with?

	हां Yes (1)	नहीं No (2)
i) बाहर बह रहे पानी से Running water outside	—	—
ii) घर के बाहर बहने वाले पानी से Running water outside at home	—	—
iii) घर में रखे हुए पानी से Stored water at home	—	—
iv) तालाब के पानी से Pond water	—	—
v) कोई अन्य (उल्लेख करें) Any other (specify)	—	—

Q30 क्या आप इस्तेमाल किए गए कपड़े को धोने के बाद कोई अन्य चीज़ भी इस्तेमाल करती हैं
Is there anything that you do to the used cloth after wash?

	हां Yes (1)	नहीं No (2)
i) एंटीसेप्टिक घोल में डुबोती हैं Dip it in antiseptic solution	—	—
ii) कोई अन्य (उल्लेख करें) Any other (specify)	—	—

Q31 अगर आप कपड़े को दोबारा इस्तेमाल करती हैं तो उसे कहां सुखाती हैं?
If you reuse the cloth then where do you dry it?

	हां Yes (1)	नहीं No 2)

i) घर में किसी साफ जगह पर At home in a clean place	—	—
ii) घर में किसी गंदी जगह पर At home in unclean place	—	—
iii) गोशाला Cowshed	—	—
iii) धूप में खुली जगह पर In the open space under the sun	—	—
iv) कोई अन्य (उल्लेख करें) Any other (specify)	—	—

Q32 क्या आपके घर में मासिक धर्म के दिनों में खान–पान संबंधी किसी प्रकार की पाबन्दी लगाई जाती है?
Are there any food restrictions that are observed during the period in your house?

	हां Yes (1)	नहीं No (2)

Q32.1 कौन सी चीज़ खाने के लिए मना की जाती हैं
Food not allowed to eat

	हां Yes (1)	नहीं No (2)
i) अचार Pickle	—	—
ii) मिठाई Sweet	—	—
iii) नमकीन भोजन Salty food	—	—
iv) तला हुआ भोजन Fried food	—	—
v) खट्टा भोजन Sour food	—	—
vi) मसाले Spices	—	—
vii) खसखस Poppy seeds	—	—

viii) खोपरा (सूखा नारियल)
Khopra (dried coconut) — —

ix) मछली
Fish — —

x) दही
Curd — —

xi) दूध
Milk — —

xii) कोई अन्य (उल्लेख करें)
Any other (specify) — —

a) (क) — —

b) (ख) — —

c) (ग) — —

Q32.2 मासिक धर्म के दौरान खाये जाने वाले खाद्य पदार्थ
Foods recommended during the periods

i)

ii)

iii)

Q33 क्या आपके माता–पिता आपके स्कूल जाने में कोई आपत्ति करते हैं?
Did your parents raise any objections to your going to school?

	हां Yes (1)	नहीं No (2)
	—	—
	—	—

Q33.1 अगर हां तो क्यों? क्या इस वजह से कि
If yes, why? Was it because

	हां Yes (1)	नहीं No (2)
(i) गांव में स्कूल नहीं है School is not in the same village	—	—
(ii) स्कूल जाने के लिए लम्बा रास्ता तय करना पड़ता है Need to travel long distance to school	—	—

(iii) खेतों को पार करके जाना पड़ता है
Need to cross fields — —

(iv) कोई साथ नहीं है
No company — —

(v) स्कूल में कोई महिला अध्यापक नहीं है
No female teachers in the school — —

(vi) स्कूल में शौचालय नहीं है
No toilet in the school — —

(vii) स्कूल में पानी नहीं है
No water in the school — —

(viii) लड़के–लड़कियां इकट्ठे पढ़ते हैं
It is co-educational school — —

(ix) लड़की बड़ी हो गई है सब कुछ समझने लगी है
Attaining puberty is equated to acquiring knowledge — —

(x) माता–पिता को डर है कि लड़की परिवार की इज्जत न खराब कर दे।
Fear of parents that the girl might hamper the family honour — —

(xi) कोई अन्य (उल्लेख करें)
Any other (specify) — —

Q34 आपको मासिक धर्म प्रायः कितने दिनों में आता है?
How often do you get your periods?

1 हरेक 28–30 दिनों में
Every 28–30 days

2 महीने में दो बार
Twice in a month

3 दो महीने में एक बार
Once in two months

4 अनियमित रूप से
Irregular

Q35 मासिक धर्म के दौरान आपको किन समस्याओं से जूझना पड़ता है?
What are the problems that you experience/had experienced during menstruation ?

	हां Yes (1)	नहीं No (2)
i) पेट में दर्द Pain in abdomen	__	__
ii) पीठ में दर्द Pain in lower back	__	__
iii) चेहरे और शरीर पर सूजन Swelling on face and body	__	__
iv) स्तनों में दर्द Pain in breast	__	__
v) थकान Tiredness	__	__
vi) चिड़चिड़ापन Irritation	__	__
vii) खराब मनोदशा/उदासी Low moods/ Depression	__	__
viii) कब्ज Constipation	__	__
ix) कोई अन्य (उल्लेख करें) Any other (specify)	__	__

Q36 क्या योनि मार्ग से सफेद पानी आता है/था?
Do/Did you have discharge from the vagina?

हां Yes (1)	नहीं No (2)

Q36.1 क्या इसके साथ खुजली भी होती है/थी?
Is/Was it accompanied with itching?

हां Yes (1)	नहीं No (2)

Q36.2 क्या यह स्राव बदबूदार है/था?
Is/Was it a foul smelling discharge?

	हां Yes (1)	नहीं No (2)

Q37 क्या आपको मासिक धर्म के दिनों में बहुत अधिक दर्द होता है?
Do you have very painful periods?

	हां Yes (1)	नहीं No (2)

Q37.1 अगर हां तो आप अपनी परेशानी किसे बताती हैं?
If, yes, then whom did you approach with the problem?

	हां Yes (1)	नहीं No (2)
i) बहन Sister	—	—
ii) मां Mother	—	—
iii) आंटी Aunt	—	—
iv) स्वास्थ्य कार्यकर्ता/चिकित्सक Health worker/Doctor	—	—
v) कोई अन्य (उल्लेख करें) Any other (specify)	—	—

Q38. क्या आपने प्रजनन अंगों के संक्रमण का इलाज कराया?
Did you get yourself treated for RTI ?

	हां Yes (1)	नहीं No (2)

Q38.1 अगर हां तो वे किसके पास गईं?
If yes, then whom did you go to?

	हां Yes (1)	नहीं No (2)
i) स्वास्थ्य परिचारिका/दाई		

	ANM	—	—
ii)	टी.बी.ए. TBA	—	—
iii)	चिकित्सा अधिकारी MO	—	—
iv)	आंगनवाड़ी कार्यकर्ता AWW	—	—
v)	स्थानीय चिकित्सक Local doctor	—	—

Q39 किशोरी के शरीर में क्या बदलाव आते हैं?
What are the bodily changes that takes place in an adolescent girl?

		हां Yes (1)	नहीं No (2)
i)	लम्बाई बढ़ोतरी Gain in height	—	—
ii)	वज़न बढ़ोतरी Gain in weight	—	—
iii)	तेलीय त्वचा और मुंहासे Oily skin and pimples	—	—
iv)	स्तनों के आकार में परिवर्तन Changes in breast size	—	—
v)	बगलों में बाल बढ़ना Growth of hair in axilla	—	—
vi)	जननांगों में बाल आना Growth of hair in pubic region	—	—

प्रश्न 40–प्रश्न 42.2 केवल किशोरियों के लिए

Q. 40 – Q. 42.2 Only for Adolescent Girls

vii)	मासिक धर्म Menstruation	—	—
viii)	कोई अन्य		

	Any other	—	—
Q40	आपके शरीर में हो रहे बदलावों के प्रति आपकी क्या प्रतिक्रिया है? What has been your reaction to the changes that are taking place in your body?		
	i) उत्सुक Anxious	—	—
	ii) परेशान Worried	—	—
	iii) भयभीत/असुरक्षित Scared/ Insecure	—	—
	iv) उदास Depressed	—	—
	v) गर्व/खुशी Proud/ happy	—	—
	vi) वृद्धि का एक हिस्सा Part of Growing up	—	—
	vii) महिला बनने का बोध Conscious of becoming a Woman	—	—
	viii) कोई अन्य Any other	—	—
Q41	क्या आप अपने शरीर में आ रहे बदलावों को अपने मित्रों तथा पड़ौसियों के साथ तुलना करती हैं? Do you compare the changes that are taking place in your body with that of your friends and neighbours?		
		हां Yes (1)	नहीं No (2)
	अगर हां तो आप कैसा महसूस करती हैं? If Yes, what do you feel?	हां Yes (1)	नहीं No (2)
	i) उत्सुक Anxious	—	—
	ii) परेशान Worried	—	—

iii) भयभीत / असुरक्षित Scared/ Insecure	—	—
iv) उदास Depressed	—	—
v) गर्व / खुशी Proud/ happy	—	—
vi) ईर्ष्या Jealous	—	—
vii) अलग होने का बोध Conscious of being different	—	—
viii) कोई अन्य Any other	—	—

Q41.1 क्या इस भावना के कारण आपने वे सब काम करने छोड़ दिए जो आप पहले करती थीं?
Has this feeling stopped you from doing things that you used to do earlier, like?

	हां Yes (1)	नहीं No (2)
i) सामाजिक समारोहों में जाना Attending social functions	—	—
ii) स्कूल जाना Going to school	—	—
iii) रिश्तेदारों से मिलना–जुलना Meeting relatives	—	—
iv) मित्रों से मिलना जुलना Meeting friends	—	—
v) खेलना Playing	—	—
vi) पानी लाना Fetch water	—	—
vii) पूजा स्थलों पर जाना Going to place of worship	—	—

Q41.2 क्या आपने कम खाना शुरू कर दिया ताकि आप में हो रहे शारीरिक बदलाव की गति धीमी हो जाए?

Have you started eating less so that the physical changes you are experiencing is slow?

	हां Yes (1)	नहीं No (2)

Q42 क्या आपको पता है कि गर्भधारण कैसे होता है?
Do you know how pregnancy occurs?

	हां Yes (1)	नहीं No (2)

Q42.1 क्या आपको परिवार नियोजन के तरीकों की जानकारी है?
Do you know about the methods of family planning?

	हां Yes (1)	नहीं No (2)

Q42.2 यदि हां तो तरीकों का उल्लेख करें
If yes, specify the methods

पुरूषों के लिए
For men

i)

ii)

iii)

iv)

महिलाओं के लिए
For women

प्रश्न 43–प्रश्न 44.3 सभी के लिए
(किशोरियों/माता/परिवार की महिला मुखिया तथा महिला नेता)

Q. 43 – Q. 44.3 For All

(Adolescent Girls/Mother/Female Head of the Household of Adolescent Girls and Women Opinion Leaders)

i)

ii)

iii)

iv)

Q43 क्या आपने प्रजनन अंगों के संक्रमण (आरटीआई) यौन संचारित रोगों (एसटीडी) के बारे में सुना है?
Have you heard of Reproductive Tract Infections/Sexually Transmitted Diseases (STD)?

हां Yes (1)	नहीं No (2)

43.1 आपने आर टी आई/एस टी आई के क्या लक्षण देखे?
What are the signs and symptoms of RTI/STI ?

	हां Yes (1)	नहीं No (2)
i) योनि से स्राव Discharge from Vagina	—	—
ii) पेशाब में जलन Burning during urination	—	—
iii) जननांगों में खुजली Itching in private parts	—	—
iv) जननांगों में फोड़ा Ulcer in pubic region	—	—
v) ग्रोइन में सूजन Swelling in groin region	—	—

vi) पीठ के निचले हिस्से में दर्द
Pain in lower back region — —

viii) कोई अन्य
Any other — —

Q43.2 क्या आप निम्नलिखित विवरण से सहमत हैं?
Do you agree to the following statements?

	हां Yes (1)	नहीं No (2)	मालूम नहीं DK (3)
i) आरटीआई/एसटीआई ठीक हो सकता है RTI/STI is curable	—	—	—
ii) एसटीआई से बांझपन आ सकता है STI may cause sterility	—	—	—
iii) निरोध के इस्तेमाल से एसटीआई की रोकथाम की जा सकती है Using condom prevents STI	—	—	—
iv) कुंआरी लड़की के साथ यौन संबंध एसटीआई का उपचार है Sex with virgin girls cure STI	—	—	—
v) आरटीआई/एसटीआई इलाज के लिए यौन साथी का उपचार आवश्यक है Treatment of sex partners essential for getting cured of RTI/STI	—	—	—
vi) एसटीआई महिलाओं में बार–बार गर्भपात का कारण है । Repeated abortion in a woman may be due to STIs	—	—	—
viii) एसटीआई वाले अधिकांश व्यक्तियों में इसके कोई लक्षण दिखाई नहीं देते Many persons with STI don't show any symptoms	—	—	—

Q44 क्या आपने एड्स के बारे में सुना है?

Have you heard of AIDS?

	हां	नहीं
	Yes	No
	(1)	(2)

Q44.1 एड्स क्या है?
What is AIDS?

इसका क्या कारण है?
How is it caused?

Q44.2 एचआईवी/एड्स कैसे फैलता है?
How does HIV/AIDS spread?

i)

ii)

iii)

iv)

Q44.3 एचआईवी/एड्स कैसे बचा जा सकता है?

प्रश्न 45 –प्रश्न 45.4 केवल किशोरियों के लिए

Q. 45. – Q. 45.4 Only for Adolescent Girls

How can HIV/AIDS be prevented ?

i)

ii)

iii)

Q45 क्या आपका कोई भाई है?
Do you have brother/brothers at home?

	हां	नहीं
	Yes	No
	(1)	(2)

3 बड़ा
Elder

4 छोटा
Younger

5 कोई नहीं
Do not have one

Q45.1 क्या आपके माता–पिता लड़के और लड़की में भेदभाव करते हैं?
Is there any difference in the way your parents deal with a boy and a girl?

हां Yes (1)	नहीं No (2)

Q45.2 यदि हां, तो किस तरह से
If Yes, in what all ways

	भाई Brother		आप स्वयं Yourselves	
	हां Yes (1)			नहीं No (2)
i) खेलने के लिए जाने दिया जाता है Allowed to go to play	__	__	__	__
ii) सहेली के घर अकेले जाने दिया जाता है Allowed to go to friend's house alone	__	__	__	__
iii) रिश्तेदारों के घर अकेले जाने दिया जाता है Allowed to go to relative's house alone	__	__	__	__
iv) अपनी पंसद के कपड़े पहनने दिए जाते हैं Allowed to wear dress of one's choice	__	__	__	__
v) लड़का लड़की के रूप में पैदा होने के नाते डांट फटकार की जाती है Rebuked for being born as a boy/girl	__	__	__	__
vi) पिता सख्त हैं Father is strict	__	__	__	__
vii) बाहरी व्यक्तियों के सामने आने नहीं दिया जाता Not allowed to come in front of visitors	__	__	__	__

viii) तेज शारीरिक वृद्धि के लिए तिरस्कृत किया जाता है
Rebuked for fast physical growth — — — —

ix) कोई अन्य (उल्लेख करें)
Any other (specify) — — — —

Q45.3 क्या आपने कभी चाहा है कि आप लड़की की बजाए लड़का होती?
Do you ever wish that you were born a boy instead of a girl?

हां Yes (1)	नहीं No (2)

Q45.4 यदि हां, तो सबसे ज्यादा कब महसूस होता है। घटनाओं का उल्लेख करें।
If yes, when do you feel it the most? Please mention the incidents.

प्रश्न 46– प्रश्न 53 केवल माता/परिवार की महिला मुखिया/किशोरियों और महिला नेताओं के लिए है

Q. 46 – Q. 53 Only for Mother/Female Head of the Household of Adolescent Girls and Women Opinion Leaders

i)

ii)

iii)

Q46. क्या आपने अपनी सबसे बड़ी बेटी को मासिक धर्म के बारे में तैयार किया था?
Did you prepare your eldest daughter about menstruation?

हां Yes (1)	नहीं No (2)

Q46.1 यदि हां तो आपने उसे क्या जानकारी दी थी?
If yes, then what all information did you provide her?

	हां Yes (1)	नहीं No (2)
i) मासिक चक्र के समय के बारे में Periodicity of the menstrual cycle	—	—

ii) मासिक धर्म की तकलीफ के बारे में Painful menstruation	—	—
iii) सैनिटरी पैड/कपड़े के इस्तेमाल के बारे में Sanitary pads/cloth to be used	—	—
iv) पैड कैसे धोना है How to wash the pads	—	—
v) पैड कहां धोना/कहां सुखाना है Where to wash/and where to dry the pad	—	—
vi) खाने पर नियंत्रण Food restrictions	—	—
vii) आने जाने पर नियंत्रण Movement restrictions	—	—
viii) यौन संबंधों के बारे में जानकारी Warning against sexual relations	—	—
ix) मासिक धर्म संबंधी सफाई Menstrual hygiene	—	—
x) योनि स्राव/खुजली Vaginal discharge/itching	—	—

Q47 क्या आप मानती हैं कि उसे उन शारीरिक बदलावों के बारे में पहले से तैयार करना जरूरी है जो यौवन आरंभ के बाद उसमें आएंगे?
Do you feel there is a need to prepare her about bodily changes that she will experience after the onset of puberty?

हां Yes (1)	नहीं No (2)

Q47.1 क्या आप चिन्तित रहती हैं कि वह बड़ी हो रही है?
Are/Were you worried that she is/was growing up?

हमेशा Always (1)	कभी–कभी Sometimes (2)	कभी नहीं Never (3)

Q47.2 यदि हां तो आपकी चिन्ता का क्या कारण है?
If yes, what is/was your worry/worries?

हां	नहीं

		Yes (1)	No (2)
1	उसकी शादी के बारे में About her marriage	—	—
2	परिवार की इज्जत के बारे में संदेह Risk to family honour	—	—
3	उसकी सुरक्षा के बारे में Fear of her safety	—	—
4	कोई अन्य (उल्लेख करें) Any other (specify)	—	—

Q48 क्या लड़की के रूप में पैदा होने के बारे में आप उससे डांट–फटकार करती हैं?
Do you rebuke/scold her for being born a girl?

हमेंशा Always (1)	कभी–कभी Sometimes (2)	कभी नहीं Never (3)

Q49 क्या आपको लगता है कि उसे स्कूल नहीं जाना चाहिए?
Do you feel she should not go to school?

हां Yes (1)	नहीं No (2)

Q49.1 यदि हां, तो इसका कारण है –
If yes, is it because -

		हां Yes (1)	नहीं No (2)
i)	गांव में स्कूल नहीं है School is not in the same village	—	—
ii)	स्कूल जाने के लिए लम्बा रास्ता तय करना पड़ता है Need to travel long distance to school	—	—
iii)	खेतों को पार करके जाना पड़ता है Need to cross fields	—	—
iv)	कोई साथ नहीं है No company	—	—

v)	स्कूल में कोई महिला अध्यापक नहीं है No female teachers in the school	—	—
vi)	स्कूल में शौचालय नहीं है No toilet in the school	—	—
vii)	स्कूल में पानी नहीं है No water in the school	—	—
viii)	लड़के–लड़कियां इकट्ठे पढ़ते हैं It is co-educational school	—	—
ix)	मान लिया जाता है कि लड़की सयानी हो गई है Attaining puberty is equated with 'gaining knowledge'	—	—
x)	माता–पिता का डर कि लड़की परिवार की इज्जत न बिगाड़ दे Fear of parents that the girl might hamper the family honour	—	—
xi)	कोई अन्य (उल्लेख करें) Any other (specify)	—	—

Q50 क्या आप उसे निम्नलिखित से रोकती हैं
Do you restrict her from

		हां Yes (1)	नहीं No (2)
1	सामाजिक समारोहों में जाना Attending social functions	—	—
2	स्कूल जाना Going to school	—	—
3	रिश्तेदारों से मिलना जुलना Meeting relatives	—	—
4	सहेलियों से मिलना जुलना Meeting friends	—	—
5	खेलना Playing	—	—
6	पानी लाना Fetch water	—	—

7	पूजा स्थल पर जाना Going to place of worship	—	—
8	कोई अन्य (उल्लेख करें) Any other (specify)	—	—

Q51 क्या आप सोचती है कि बेटी की जगह बेटा पैदा होता ?
Do you wish that your daughter was born a boy?

1 हमेशा
Always

2 कभी कभी
Sometimes

3 कभी नहीं
Never

4 हां
Yes

5 नहीं
No

Q52 यदि सेनिटरी पैड उचित मूल्य पर मिले तो क्या आप उन्हें खरीद सकती हैं?
If sanitary pads are made available at reasonable cost will you be able to buy them?

	हां Yes	नहीं No

मीडिया के जरिए जागरूकता
प्रश्न 54– प्रश्न 64 किशोरियों/माताओं / किशोरियों के घर की मुखिया तथा महिला नेताओं के लिए

Q. 54 – Q. 64 Awareness through Media Adolescent Girls/Mother/Female Head of the Household of Adolescent Girls and Women Opinion Leaders

	(1)	(2)

Q53 क्या आप स्थानीय उपलब्ध संसाधनों से सेनिटरी पैड बनाने के तरीके बता सकती हैं?
Can you suggest some ways of making sanitary pad from locally available resources?

Q54 आपके घर पर आपको सूचना उपलब्ध कराने वाले मीडिया के स्रोत कौन से है
What are the sources of media /information available to you at your home?

	हां Yes (1)	नहीं No (2)
i) टीवी TV	—	—
ii) रेडियो Radio	—	—
iii) समाचार पत्र Newspaper	—	—
iv) पत्रिकाएं Magazines	—	—
v) कंम्यूटर और इंटरनेट Computer and Internet	—	—
vi) कोई अन्य स्पष्ट करें Any other, specify	—	—

Q55 क्या आपने मासिक धर्म के दौरान बरती जाने वाली स्वच्छता और सैनिटरी नैपकिन पर टीवी में विज्ञापन देखे?
Have you observed /heard advertisements on TV on menstrual hygiene and sanitary napkins?

हां Yes (1)	नहीं No (2)

Q56 क्या आपने मासिक धर्म के दौरान स्वच्छता और सैनिटरी नैपकिन के बारे में रेडियो पर विज्ञापन सुने हैं?
Have you heard advertisements on radio on menstrual hygiene and sanitary napkins?

हां Yes (1)	नहीं No (2)

Q57 क्या सैनिटरी नैपकिन के इस्तेमाल के बारे में टीवी पर दिखाए जाने वाले विज्ञापन आपको आकर्षित करते हैं?
Do advertisements regarding use of sanitary napkins on TV appeal you?

हां Yes (1)	नहीं No (2)

Q58 क्या सैनिटरी नैपकिन के इस्तेमाल के बारे में रेडियो पर

आने वाले विज्ञापन आपको आकर्षित करते हैं?
Do advertisements regarding use of sanitary napkins on radio appeal you?

हां Yes (1)	नहीं No (2)

Q59 टेलीविजन पर सैनिटरी नैपकिन के विज्ञापन देखकर आपको क्या प्रतिक्रिया होती हैं?
What is your reaction on seeing sanitary pad advertisements on TV?

i) पुरूष सदस्यों के सामने शर्म आती है और महसूस होता है कि चैनल बदल दिया जाए (हां/नहीं)
Feel shy in front of male members and feel like changing the channel (Yes /No)

ii) कोई प्रतिक्रिया नहीं (हां/नहीं)
No reaction (Yes /No)

iii) लज्जित महसूस होता है (हां/नहीं)
Feel embarrassed (Yes /No)

iv) इस तरह के विज्ञापनों पर रोक लगा देनी चाहिए (हां/नहीं)
Such advertisements should be banned (Yes /No)

v) ये विज्ञापन आवश्यक है और नियमित रूप से दिखाए जाने चाहिए (हां/नहीं)
Essential and should be regular Yes /No)

Q60 क्या ये विज्ञापन सूचनाप्रद हैं (हां/नहीं)
Are these advertisements informative? Yes/ No

Q61 आपको किस तरह के विज्ञापन सबसे ज्यादा आकर्षित करते हैं? कृपया स्पष्ट करें?
Which are the advertisements which appeal you the most? Please specify?

Q62 क्या आप को लगता है कि प्रत्येक किशोरी/महिला को मासिक धर्म के दौरान सैनिटरी नैपकिन इस्तेमाल करने चाहिए?
Do you feel every adolescent girl/woman should use sanitary napkins during menstruation?

हां Yes	नहीं No

(1) (2)

अगर हां तो क्यों?
If Yes Why?

i)	मासिक धर्म के दौरान स्वच्छता बरतने के लिए To maintain hygiene during menstruation	__	__
ii)	इन दिनों में आश्वस्त महसूस करने के लिए To feel confident during this period	__	__
iii)	प्रजनन अंगों के संक्रमण (आर टी आई) से बचने के लिए To be free from RTI	__	__
iv)	कपड़े के इस्तेमाल और इन्हें साफ करने, सुखाने और रखने के झंझट से पीछा छुड़ाने के लिए To get rid of using clothes and the tedious process of cleaning, drying and storing them	__	__
v)	अगर नहीं तो कारण बताएं If no, specify reasons?	__	__

Q63 क्या आपको किशोरियों की स्वास्थ्य पोषणिक स्थिति में सुधार लाने वाले सरकारी कार्यक्रमों की जानकारी है? नीचे दिए गये विकल्पों में से एक विकल्प चुनें।
Are you aware about the Government programmes for adolescent girls to improve their health and nutritional status? Select from options given below.

		हां Yes (1)	नहीं No (2)
i)	राजीव गांधी किशोरी सशक्तिकरण योजना (आर जी एस ई ए जी), सबला Rajiv Gandhi Scheme for Empowerment of adolescent girl (RGSEAG), SABLA	__	__
ii)	किशोरी शक्ति योजना Kishori Shakti Yojana	__	__

iii) एन आर एच एम/आर सी एच –2 के अन्तर्गत किशोरी प्रजनन एवं यौन स्वास्थ्य (ए आर एस एच) रणनीति
Adolescent Reproductive and Sexual Health (ARSH) Strategy under NRHM / RCH-II — —

iv) क्या आप आर सी एच –2 के अन्तर्गत किशोरी प्रजनन यौन स्वास्थ्य के एक भाग के रूप में चलाए जा रहे मासिक धर्म के दौरान स्वच्छता कार्यक्रम के बारे में जानती है जिसके तहत 'फ्रीडेज' नामक सैनिटरी नैपकिन की बिक्री को बढ़ावा देने के लिए सभी किशोरियों के लिए ये नैपकिन 'आशा' द्वारा 6/– प्रति पैक के एक समान मूल्य पर बेचे जाते हैं और प्रत्येक पैक में 6 नैपकिन होते हैं ।

Menstrual hygiene programme as part of the Adolescent Reproductive Sexual Health (ARSH) in RCH II promoting Sanitary napkins with brand name 'Freedays', sold by ASHA at a uniform selling price of Rs.6/ per pack of 6 sanitary napkins for all adolescent girls. — —

v) कोई अन्य
Any other

Q64 हम मासिक धर्म के दौरान स्वच्छता के बारे में जागरूकता कैसे बढ़ा सकते हैं ताकि किशोरियों के प्रजनन स्वास्थ्य संबंधी स्थिति में सुधार हो सके।
How can we improve awareness on menstrual hygiene resulting in improvement of reproductive health status of adolescent girls?

1 समाचार पत्र
Newspaper

2 पत्रिकाएं
Magazines

3 पैम्फलैट
Pamphlet

4 बैठक

Annexure-3.2

राष्ट्रीय जन सहयोग एवं बाल विकास संस्थान

NATIONAL INSTITUTE OF PUBLIC COOPERATION AND CHILD DEVELOPMENT

मासिक धर्म के दौरान स्वच्छता पर विशेष बल देते हुए प्रजनन स्वास्थ्य के बारे में किशोरियों की जानकारी और प्रथाएं – पुनर्मूल्यांकन (2007–2012 के बीच)

Knowledge and Practices of Adolescent Girls regarding Reproductive Health with Special Emphasis on Hygiene during Menstruation – A Repeat Assessment (between 2007 –2012)

महिला कार्यकर्ताओं के लिए अनुसूची

Schedule for Women Functionaries

(सीडीपीओ, सुपरवाइज़र, आंगनवाड़ी कार्यकर्ता, चिकित्सा अधिकारी, स्वास्थ्य निरीक्षिका, सहायक परिचारिका दाई)

(CDPOs, Supervisors, AWWs, Medical Officers, LHVs, ANMs)

अनुसूची संख्या 2
Schedule No. 2

उत्तरदाता संख्या 1
Respondent No. 1

Q1 राज्य का नाम
Name of the State:

Q2 जिले का नाम
Name of the District:

Q3 आई सी डी एस परियोजना का नाम
Name of the ICDS Project:

Q4 क्षेत्र का प्रकार
Type of Area :

1) ग्रामीण
   Rural

2) शहरी
   Urban

3) जनजातीय
   Tribal

Q5 उत्तरदाता का नाम
Name of the Respondent :

Q6 उत्तरदाता की उम्र
Age of the Respondent :

Q7 उत्तरदाता की श्रेणी
Category of Respondent

1) चिकित्सा अधिकारी (पुरूष)
   Medical Officer (Male)

2) चिकित्सा अधिकारी (महिला)
   Medical Officer (Female)

3) स्वास्थ्य निरीक्षिका
   Lady Health Visitor (LHV)

4) सहायक परिचारिका दाई
   Auxiliary Nurse Midwife (ANM)

Q8 वैवाहिक स्थिति
Marital Status

1) अविवाहित
   Unmarried

2) विवाहित
   Married

3) विधवा
   Widow

4) तलाकशुदा
   Divorcee

Q9 लड़कियों को मासिक धर्म किस उम्र में शुरू होता है ?

At what age do girls get their first period?

1. 9–10 वर्ष के बीच?

   Between 9-10 years

2. 10–11 वर्ष के बीच

   Between 10-11 years

3 11–12 वर्ष के बीच

   Between 11-12 years

4 12 वर्ष या उसके बाद

   12 years and above

Q10 मासिक स्राव के लिए क्या स्थानीय शब्द इस्तेमाल किया जाता है ?

What is the local term used by people for menstrual bleeding?

Q11 क्या वे मासिक धर्म या महीना शुरू होने से पहले इसके बारे में जानती हैं?

Do they know about 'menstruation' or 'monthly bleeding' (local terms to be used) before they got their first period?

हां	नहीं
Yes	No
(1)	(2)

Q11.1 पहला मासिक धर्म होने से पहले कितनी किशोरियों को मासिक धर्म के बारे में पता होता है?

How many of them know about 'menstruation' or 'monthly bleeding' (local terms to be used) before they got their first period?

1) प्रायः सभी को

   Mostly all

2) किसी किसी को

   Rarely

3) नहीं जानती

   Do not know

Q12 पहली बार मासिक धर्म होने पर क्या कोई विशेष समारोह किया गया?
Is any special ceremony performed on their first period?

	हां Yes (1)	नहीं No (2)
i) मां द्वारा धार्मिक स्नान Ritual bath given by mother	—	—
ii) नए कपड़े दिए गए New clothes were given	—	—
iii) नई चूड़ियां दी गईं New bangles were given	—	—
iv) आरती की गई 'Arti' was performed	—	—
v) आशीर्वाद देने के लिए रिश्तेदारों को बुलाया गया Relatives were invited to bless them	—	—
vi) पूजा स्थल पर ले जाया गया Visited a place of worship	—	—
vii) कोई अन्य (उल्लेख करें) Any other (Specify)	—	—

Q13 मासिक धर्म के दौरान वे क्या इस्तेमाल करती हैं ?
What do they use during the periods?

	हां Yes (1)	नहीं No (2)
i) सैनिटरी नैपकिन (किस्म का उल्लेख करें) Sanitary napkins (specify the brand)	—	—
ii) रूई और पतला कपड़ा Cotton and gauze	—	—
iii) साफ कपड़ा Clean cloth	—	—

iv) कोई अन्य Any other		—	—
v) कुछ नहीं Nothing		—	—

Q14 वे पैड कितनी बार बदलती हैं ?
How often do they change the pad?

	हमेशा Always (1)	अकसर Most often (2)	कभी कभार Rarely (3)
i) दिन में दो या तीन बार Twice or thrice a day	—	—	—
ii) दिन में एक बार Once a day	—	—	—
iii) मासिक धर्म पूरे दिनों में दो या तीन बार Twice or thrice during the period	—	—	—
iv) मासिक धर्म की पूरी अवधि में एक बार Once during the whole period	—	—	—
v) कोई अन्य (उल्लेख करें) Any other (specify)	—	—	—

Q15 वे सैनिटरी नैपकिन/रूई कहां फैंकती हैं ?
Where do they throw/dispose off their sanitary napkins/cotton?

	हमेशा Always (1)	अकसर Most often (2)	कभी–कभार Rarely (3)
i) सामान्य कूड़ेदान में In the regular dustbin	—	—	—
ii) जलाती हैं Burn it	—	—	—
iii) गाड़ती हैं Bury it	—	—	—

iv)	कोई अन्य (उल्लेख करें) Any other (specify)	—	—	—

Q16 अगर वे कपड़े का इस्तेमाल करती हैं तो बाद में उसका क्या करती हैं ?
If they are using cloth then what do they do with it later?

		हमेशा Always (1)	अकसर Most often (2)	कभी–कभार Rarely (3)
i.	फैंक देती हैं Throw it off	—	—	—
ii.	धोकर दोबारा इस्तेमाल करती हैं Wash it and reuse it	—	—	—
iii.	कोई अन्य (उल्लेख करें) Any other (specify)	—	—	—

Q17 अगर वे कपड़े का दोबारा इस्तेमाल करती है तो उसे कहां धोती हैं ?
If they reuse the cloth then where do they wash it?

		हां Yes (1)	नहीं No (2)
i)	घर में किसी साफ जगह पर At home in a clean place	—	—
ii)	घर में किसी गंदी जगह पर At home in unclean place	—	—
iii)	गोशाला में In the cowshed	—	—
iv)	तालाब में In the pond	—	—
v)	कोई अन्य (उल्लेख करें) Any other (specify)	—	—

Q18 अगर वे कपड़े को दोबारा इस्तेमाल करती है तो उसे किससे धोती है?
If they reuse the cloth then what do they wash it with?

	हां Yes (1)	नहीं No (2)
i) बाहर बह रहे पानी से Running water outside	—	—
ii) घर के बाहर बहने वाले पानी से Running water outside at home	—	—
iii) घर में रखे हुए पानी से Stored water at home	—	—
iv) तालाब के पानी से Pond water	—	—
v) कोई अन्य (उल्लेख करें) Any other (specify)	—	—

Q19. अगर वे कपड़े को दोबारा इस्तेमाल करती हैं तो उसे कहां सुखाती हैं ?
If they reuse the cloth then where do dry it?

	हां Yes (1)	नहीं No (2)
i) घर में किसी साफ जगह पर At home in a clean place	—	—
ii) घर में किसी गंदी जगह पर At home in unclean place	—	—
iii) गोशाला में Cowshed	—	—
iii) धूप में खुली जगह पर In the open space under the sun	—	—
iv) कोई अन्य (उल्लेख करें) Any other (specify)	—	—

Q20 क्या वे कपड़े को दोबारा इस्तेमाल करने के लिए कुछ और भी करती है?
Is there anything that they do to the used cloth?

	हां Yes (1)	नहीं No (2)
i) कपड़े को ऐंटीसेप्टिक घोल में डुबोती हैं Dip it in antiseptic solution	—	—
ii) कोई अन्य (उल्लेख करें) Any other (specify)	—	—

Q21 क्या मासिक धर्म के दौरान किसी तरह के खाद्य पदार्थो को खाने की मनाही की जाती है?
Are there any food restrictions that are observed during the period?

हां Yes (1)	नहीं No (2)

Q21.1 कौन से खाद्य पदार्थ नहीं खाने दिए जाते
Food not allowed to eat

	हां Yes (1)	नहीं No (2)
i) आचार Pickle	—	—
ii) मिठाई Sweet	—	—
iii) नमकीन भोजन Salty food	—	—
iv) तला हुआ भोजन Fried food	—	—
v) खट्टा भोजन Sour food	—	—
vi) मसाले		

Spices	—	—
vii) खसखस Poppy seeds	—	—
viii) खोपरा (सूखा नारियल) Khopra (dried coconut)	—	—
ix) मछली Fish	—	—
x) दही Curd	—	—
xi) दूध Milk	—	—
xii) कोई अन्य (उल्लेख करें) Any other (specify)	—	—
	a) —	(क) —
	b) —	(ख) —

Q21.2 मासिक धर्म के दौरान कौन से खाद्य पदार्थ उपयुक्त बताए जाते हैं
Foods recommended during the periods

i)

ii)

iii)

Q22 क्या उनके माता–पिता ने उनके स्कूल जाने पर किसी तरह की आपत्ति उठाई?
Do their parents raise any objections to their going to school?

हां	नहीं
Yes	No
(1)	(2)

Q22.1 अगर हां तो क्यों?
If yes, why?

	हां Yes (1)	नहीं No (2)
i) गांव में स्कूल नहीं है School is not in the same village	__	__
ii) स्कूल जाने के लिए लम्बा रास्ता तय करना पड़ता है Need to travel long distance to school	__	__
iii) खेतों को पार करके जाना पड़ता है Need to cross fields	__	__
iv) कोई साथ नहीं है No company	__	__
v) स्कूल में कोई महिला अध्यापक नहीं है No female teachers in the school	__	__
vi) स्कूल में शौचालय नहीं है No toilet in the school	__	__
vii) स्कूल में पानी नहीं है No water in the school	__	__
viii) लड़के–लड़कियां इकट्ठे पढ़ते हैं It is co-educational school	__	__
ix) लड़की बड़ी हो गई है सब कुछ समझती है Attaining puberty is equated to acquiring knowledge	__	__
x) माता–पिता को डर है कि लड़की परिवार की इज्जत न खराब कर दे । Fear of parents that the girl might hamper the family honour	__	__
xi) कोई अन्य (उल्लेख करें) Any other (specify)	__	__

Q23 मासिक धर्म के दौरान उन्हें किन–किन समस्याओं का सामना करना पड़ता है ?
What are the problems that adolescents experience

during menstruation ?

	हां Yes (1)	नहीं No (2)
i) पेट में दर्द Pain in abdomen	__	__
ii) पीठ में दर्द Pain in lower back	__	__
iii) चेहरे और शरीर में सूजन Swelling on face and body	__	__
iv) स्तनों में दर्द Pain in breast	__	__
v) थकान Tiredness	__	__
vi) चिड़चिड़ापन Irritation	__	__
vii) खराब मनोदशा/उदासी Low moods/ Depression	__	__
viii) कब्ज Constipation	__	__
ix) कोई अन्य Any other	__	__

Q24 क्या उनके योनिमार्ग से कोई स्राव होता है?
Do you get cases of discharge from the vagina?

हां	नहीं
Yes	No
(1)	(2)

Q24.1 क्या इस स्राव से खुजली भी होती है/थी?
Is/Was it accompanied with itching?

हां	नहीं
Yes	No
(1)	(2)

Q24.2 क्या यह स्राव बदबूदार है/था
Is/Was it a foul smelling discharge?

हां नहीं

	Yes (1)	No (2)
Q25 क्या आपका भी मासिक धर्म तकलीफदायक/अनियमित होता है ? Do you also get case of painful periods/ irregular periods?		
	हां Yes (1)	नहीं No (2)
Q25.1 यदि हां तो आपके पास आने से पहले इस समस्या के समाधान के लिए उन्होंने किससे बात की? If, Yes, then whom did they approach with the problem before coming to you?		
	हां Yes (1)	नहीं No (2)
i) बहन Sister	—	—
ii) मां Mother	—	—
iii) आंटी Aunt	—	—
iv) स्वास्थ्य कार्यकर्ता/चिकित्सक Health worker/Doctor	—	—
v) कोई अन्य (उल्लेख करें) Any other (specify)	—	—
Q26 क्या उन्होंने प्रजनन अंगों के संक्रमण का इलाज कराया? Did they get themselves treated for RTI ?		
	हां Yes (1)	नहीं No (2)

Q26.1 अगर हां तो वे किसके पास गईं?
If yes, then whom do they go to?

	हां Yes (1)	नहीं No (2)
i) स्वास्थ्य परिचारिका दाई ANM	—	—
ii) टी. बी. ए. TBA	—	—
iii) चिकित्या अधिकारी MO	—	—
iv) आंगनवाड़ी कार्यकर्ता AWW	—	—
v) स्थानीय चिकित्सक Local doctor	—	—

Q27 किशोरी के शरीर में क्या बदलाव आए?
What are the bodily changes that take place in an adolescent girl?

	हां Yes (1)	नहीं No (2)
i) लम्बाई बढ़ी Gain in height	—	—
ii) वज़न बढ़ा Gain in weight	—	—
iii) तेलीय त्वचा और मुंहासे Oily skin and pimples	—	—
iv) स्तनों के आकार में परिवर्तन Changes in breast size	—	—
v) बगलों में बाल बढ़ना Growth of hair in axilla	—	—
vi) जननांगों में बाल आना		

	Growth of hair in pubic region	—	—
vii)	मासिक धर्म Menstruation	—	—
viii)	कोई अन्य Any other	—	—

Q28 क्या वे अपने शरीर में हो रहे परिवर्तनों की तुलना अपने मित्रों और पड़ोसियों के साथ करती हैं?
Do they compare the bodily changes that are taking place in their body with that of their friends and neighbours?

हां Yes (1)	नहीं No (2)

अगर हां तो वे क्या महसूस करती हैं?
If Yes, what do they feel/ experience?

		हां Yes (1)	नहीं No (2)
i)	उत्सुक Anxious	—	—
ii)	परेशान Worried	—	—
iii)	भयभीत/असुरक्षित Scared/ Insecure	—	—
iv)	उदास Depressed	—	—
v)	गर्व/खुशी Proud/ happy	—	—
vi)	ईर्ष्या Jealous	—	—
vii)	अलग होने का बोध Conscious of being different	—	—

viii) कोई अन्य
Any other — —

Q29 क्या इस क्षेत्र में प्रजनन अंगों का संक्रमण/यौन संचारित रोग आम है?
Is Reproductive Tract Infections/Sexually Transmitted Diseases (STD) common in this area?

हां Yes	नहीं No

Q29.1 आपने यहां आर टी आई/एस टी आई के कौन–कौन से लक्षण देखे/सुने?
What are the signs and symptoms of RTI/STI that you get to observe/hear?

	हां Yes (1)	नहीं No (2)
i) योनि से स्राव Discharge from Vagina	—	—
ii) पेशाब में जलन Burning during urination	—	—
iii) जननांगों में खुजली Itching in private parts	—	—
iv) जननांगों में फोड़ा Ulcer in pubic region	—	—
v) ग्रोइन में सूजन Swelling in groin region	—	—
vi) पीठ के निचले हिस्से में दर्द Pain in lower back region	—	—
viii) कोई अन्य Any other	—	—

Q29.2 क्या आप निम्नलिखित विवरण से सहमत हैं?
Do you agree to the following statements?

हां	नहीं	मालूम नहीं

	Yes (1)	No (2)	DK (3)
i) आरटीआई/एसटीआई ठीक हो सकता है RTI/STI is curable	—	—	—
ii) एसटीआई से बांझपन आ सकता है STI may cause sterility	—	—	—
iii) निरोध के इस्तेमाल से एसटीआई की रोकथाम की जा सकती है Using condom prevents STI	—	—	—
iv) कुंआरी लड़की के साथ यौन संबंध एसटीआई का उपचार है Sex with virgin girls cures STI	—	—	—
v) आरटीआई/एसटीआई इलाज के लिए यौन साथी का उपचार आवश्यक है Treatment of sex partners essential for getting cured of RTI/STI	—	—	—
vi) एसटीआई महिलाओं में बार–बार गर्भपात का कारण है Repeated abortion in a woman may be due to STIs	—	—	—
viii) एसटीआई वाले अनेक व्यक्तियों में इसके कोई लक्षण दिखाई नहीं देते Many persons with STI don't show any symptoms	—	—	—

Q30 क्या आपने इस क्षेत्र में एड्स के बारे में सुना है?
Have you heard of AIDS in this area?

हां Yes (1)	नहीं No (2)

Q30.1 एड्स क्या है?
What is AIDS?

Q30.2 एड्स के क्या कारण हैं?

How is it caused?

Q30.3 एचआईवी/एड्स कैसे फैलता है ?
How does HIV/AIDS spread?
i)

ii)

iii)

iv)

Q30.4 एचआईवी/एड्स की रोकथाम कैसे की जा सकती है ?
How can HIV/AIDS be prevented ?

i)

ii)

iii)

Q31 एसटीआई से पीड़ित व्यक्ति को एचआईवी का खतरा अधिक होता है ।
A person suffering from STI is more prone to HIV.

हां	नहीं
Yes	No
(1)	(2)

Q32 क्या आपके विचार में आपके क्षेत्र की किशोरियों/महिलाओं को सुरक्षित सैनिटरी पैड्स की जानकारी देने की जरूरत है?
Do you feel there is a need to introduce safe sanitary pads for the adolescent girls/women in your area?

हां	नहीं
Yes	No
(1)	(2)

Q32.1 अगर हां तो क्या आप स्थानीय रूप से उपलब्ध संसाधनों का इस्तेमाल करके सैनिटरी पैड्स तैयार करने के उपाय सुझा सकते हैं ?
If yes, can you suggest some ways of preparing

sanitary pads using locally available resources?

Q33 क्या कोई एजेंसी/गैर सरकारी संगठन सस्ते सैनिटरी पैड्स तैयार करता है?
Is there any agency/NGO preparing cheap sanitary pads?

हां	नहीं
Yes	No
(1)	(2)

Q33.1 अगर हां तो उसकी कीमत क्या है?
If yes, what is its cost?

मीडिया के जरिए जागरूकता

Q. 34 – Q. 44 Awareness through Media

(सीडीपीओ, सुपरवाइज़र, आंगनवाड़ी कार्यकर्ता, चिकित्सा अधिकारी, स्वास्थ्य निरीक्षिका, सहायक परिचारिका/दाई)

(CDPOs, Supervisors, AWWs, Medical Officers, LHVs, ANMs)

Q34 आपके घर पर आपको सूचना उपलब्ध कराने वाले मीडिया के स्रोत कौन से हैं ?
What are the sources of media/ information available to you at your home?

	हां Yes (1)	नहीं No (2)
i) टीवी TV	__	__
ii) रेडियो Radio	__	__
iii) समाचार पत्र Newspaper	__	__
iv) पत्रिकाएं Magazines	__	__
v) कंम्यूटर और इंटरनेट Computer and Internet	__	__
vi) कोई अन्य (स्पष्ट करें) Any other, specify	__	__

Q35 क्या आपने मासिक धर्म के दौरान बरती जाने वाली स्वच्छता और सैनिटरी नैपकिन पर टीवी में विज्ञापन देखे ?
Have you observed /heard advertisements on TV on menstrual hygiene and sanitary napkins?

हां	नहीं
Yes	No
(1)	(2)

Q36 क्या आपने मासिक धर्म के दौरान स्वच्छता और सैनिटरी नैपकिन के बारे में रेडियो पर विज्ञापन सुने हैं?
Have you heard advertisements on radio on menstrual hygiene and sanitary napkins?

हां	नहीं
Yes	No
(1)	(2)

Q37 क्या सैनिटरी नैपकिन के इस्तेमाल के बारे में टीवी पर दिखाए जाने वाले विज्ञापन आपको आकर्षित करते हैं ?
Do advertisements regarding use of sanitary napkins on T.V appeal you?

हां	नहीं
Yes	No
(1)	(2)

Q38 क्या सैनिटरी नैपकिन के इस्तेमाल के बारे में रेडियो पर आने वाले विज्ञापन आपको आकर्षित करते हैं
Do advertisements regarding use of sanitary napkins on radio appeal you?

हां	नहीं
Yes	No
(1)	(2)

Q39 टेलीविजन पर सैनिटरी नैपकिन के विज्ञापन देखकर आपको क्या प्रतिक्रिया होती है?
What is your reaction on seeing sanitary pad advertisements on TV?

i) पुरूष सदस्यों के सामने शर्म आती है और महसूस होता है कि चैनल बदल दिया जाए

Feel shy in front of male members and feel like changing the channel

	हां	नहीं
	Yes	No
	(1)	(2)
ii) कोई प्रतिक्रिया नहीं	हां	नहीं
No reaction	Yes	No
	(1)	(2)
iii) लज्जित महसूस करते हैं	हां	नहीं
Feel embarrassed	Yes	No
	(1)	(2)
iv) इस तरह के विज्ञापनों पर रोक लगा देनी चाहिए	हां	नहीं
Such advertisements should be banned	Yes	No
	(1)	(2)
v) ये विज्ञापन आवश्यक है और नियमित रूप से दिखाए जाने चाहिएं	हां	नहीं
Essential and should be regular	Yes	No
	(1)	(2)
Q40 क्या ये विज्ञापन सूचनाप्रद हैं	हां	नहीं
Are these advertisements informative?	Yes	No
	(1)	(2)

Q41 आपको किस तरह के विज्ञापन सबसे ज्यादा आकर्षित करते हैं? कृपया स्पष्ट करें?
Which are the advertisements which appeal you the most? Please specify?

Q42 क्या आप को लगता है कि प्रत्येक किशोरी/महिला को मासिक धर्म के दौरान सैनिटरी नैपकिन इस्तेमाल करने चाहिएं?
Do you feel every adolescent girl/woman should use sanitary napkins during menstruation?

हां	नहीं
Yes	No
(1)	(2)

अगर हां तो क्यों?
If Yes Why?

i.	मासिक धर्म के दौरान स्वच्छता बरतने के लिए To maintain hygiene during menstruation	—	—
ii.	इन दिनों में आवश्यक महसूस करने के लिए To feel confident during this period	—	—
iii.	प्रजनन अंगों के संक्रमण (आर टी आई) से बचने के लिए To be free from RTI	—	—
iv.	कपड़े के इस्तेमाल और इन्हें साफ करने सुखाने, और रखने के झंझट से पीछा छुड़ाने के लिए To get rid of using clothes and the tedious process of cleaning, drying and storing them	—	—
v.	अगर नहीं तो कारण बताएं ? If no, specify reasons?	—	—

Q43 क्या आपको किशोरियों की स्वास्थ्य पोषणिक स्थिति में सुधार लाने वाले सरकारी कार्यक्रमों की जानकारी है नीच दिए गये विकल्पों में से एक विकल्प चुनें।
Are you aware about the Government programmes for adolescent girls to improve their health and nutritional status? Select from options given below.

		Yes हां (1)	No नहीं (2)
i.	राजीव गांधी किशोरी सशक्तिकरण योजना (आर जी एस ई जी), सबला Rajiv Gandhi Scheme for Empowerment of adolescent girl (RGSEAG), SABLA	—	—
ii.	किशोरी शक्ति योजना Kishori Shakti Yojana	—	—
iii.	एन आर एच एम/आर सी एच –2 के अन्तर्गत किशोरी प्रजनन एवं यौन स्वास्थ्य (ए आर एस एच) रणनीति Adolescent Reproductive and Sexual Health (ARSH) Strategy under RHM / NRCH-II	—	—
iv.	क्या आप आर सी एच –2 के अन्तर्गत किशोरी प्रजनन यौन स्वास्थ्य के एक भाग के रूप में चलाए		

जा रहे मासिक धर्म के दौरान स्वच्छता कार्यक्रम के बारे में जानती है जिसके तहत 'फ्रीडेज़' नामक सैनिटरी नैपकिन की बिक्री को बढ़ावा देने के लिए सभी किशोरियों के लिए ये नैपकिन 'आशा' द्वारा 6/– प्रति पैक के एक समान मूल्य पर बेचे जाते हैं और प्रत्येक पैक में 6 नैपकिन होते हैं

Menstrual hygiene programme as part of the Adolescent Reproductive Sexual Health (ARSH) in RCH II promoting Sanitary napkins with brand name 'Freedays', sold by ASHA at a uniform selling price of Rs.6/- per pack of 6 sanitary napkins for all adolescent girls. — —

v. कोई अन्य
Any other — —

Q44 हम मासिक धर्म के दौरान स्वच्छता के बारे में जागरूकता कैसे बढ़ा सकते हैं ताकि किशोरियों के प्रजनन स्वास्थ्य संबंधी स्थिति में सुधार हो सके ।
How can we improve awareness on menstrual hygiene resulting in improvement of reproductive health status of adolescent girls?

1 समाचार पत्र
Newspaper

2 पत्रिकाएं
Magazines

3 पैम्फलैट
Pamphlet

4 बैठक
Meetings

5 स्कूल
School

6 कोई अन्य
Any other

National Institute of Public Cooperation and Child Development (NIPCCD)
5, Siri Institutional Area, Hauz Khas, New Delhi-110016