

# POPULATION RESEARCH CENTRE

*(An establishment of Ministry of Health and Family Welfare, GoI)*

University of Kashmir, NAAC Accredited Grade "A+" SRINAGAR

Jammu and Kashmir 190006

## MENSTRUAL HEALTH AND HYGIENE AMONG ADOLESCENT GIRLS IN CLIMATE VULNERABLE AREAS

OF  
JAMMU AND KASHMIR

*(PART OF PAN-INDIA STUDY)*

Submitted to  
Ministry of Health and Family Welfare, (Statistics Division)  
Government of India  
New Delhi

*SYED KHURSHEED AHMAD*

April, 2023



POPULATION RESEARCH CENTRE, UNIVERSITY OF KASHMIR  
SRINAGAR-190006

## CONTENTS

S. No	Title of Topic	Page No.
I	List of Tables	03
II	List of Figures	05
III	Acknowledgement	07
1	Executive Summary	08-09
2	Introduction and Methodology	10-20
3	Household and Adolescents Socio-Demographic Characteristics	21-30
4	Menarche and Menstruation	31-35
5	Menstrual Hygiene Management	36-41
6	Menstrual problems, Reproductive Tract Infections (RTI) and Treatment Seeking Behaviour	42-44
7	Marriage and Fertility	45-45
8	Cultural Practices around Menstruation	46-46
9	Impact of National Programmes of Adolescent Girls on Menstrual Hygiene	47-50
10	Climate Vulnerability and Menstrual Hygiene	51-54
11	Conclusion	55-57
	References	58-59
	Annexures	60-76

## LIST OF TABLES

S. No	Table Number and Title of the Table	Page
1	Table 1: Sample coverage in the selected districts State by place of residence and type of climate vulnerability J&K	17
1.1	Table 1.1: Selection of districts in Jammu and Kashmir for Menstrual Health and Hygiene among Adolescent Girls in Climate Vulnerable areas in India	18
2	Table 2: Distribution of adolescent girls by household characteristics in J&K	60
3	Table 3: Distribution of adolescent girls by individual and parental Characteristics in J&K	61
4	Table 4: Educational status of adolescent girls and details of educational institutions they are attending by place of residence and type of climate vulnerability in J&K	62
5	Table 5: Educational aspirations of adolescent girls and perceived encouragement received from parents by place of residence and type of climate vulnerability in J&K	63
6	Table 6: Standard at which discontinued studies, perceived regularity in studies and reasons for discontinuing/never attending school among drop-out adolescent girls by place of residence and type of climate vulnerability in J&K	63
7	Table 7: Proportion of girls engaged in household activities, working outside, nature of work, cash handling by place of residence and type of climate vulnerability in J&K	64
8	Table 8: Perceived knowledge on age at menarche, actual age at menarche, ceremony organized and reaction towards attaining menarche by place of residence and type of climate vulnerability in J&K	65
9	Table 9: Perceived changes occurred in dress, movement, playing, work and studies due to menarche by place of residence and type of climate vulnerability in J&K	65
10	Table 10: Proportion of girls received knowledge on menarche before attaining menarche, and knowledge on menstrual hygiene before or soon after menarche and source of knowledge by place of residence and type of climate vulnerability in J&K	66
11	Table 11: Regularity of menstruation, duration and flow of bleeding, material used to absorb bleeding by place of residence and type of climate vulnerability in J&K	67
12	Table 12: Proportion of adolescent girls having access to Government supplied sanitary napkins and place, cost, frequency of getting them and girls'	67

	opinion on their quality by place of residence and type of climate vulnerability in J&K	
13	Table (13): Place of Purchasing Sanitary Napkins and Options Considered While Purchasing them in J&K	69
14	Table 14: Ways of disposing used sanitary napkins and preparations made before disposing them by place of residence and type of climate vulnerability in J&K	69
15	Table 15: Frequency of changing the sanitary napkins/cloths and criteria considered to change them by place of residence and type of climate vulnerability in J&K	70
16	Table 16: Procedure followed to clean and dry the cloth used to absorb menstrual bleeding by place of residence and type of climate vulnerability in J&K	70
17	Table 17: Type and frequency of menstrual problems experienced by the adolescent girls, person with whom shared and seeking treatment for it by place of residence and type of climate vulnerability in J&K	71
18	Table 18: Proportion of adolescent girls experienced symptoms related to Reproductive Tract Infections during last one year and treatment seeking behaviour by place of residence and type of climate vulnerability in J&K	72
19	Table 19: Proportion of adolescent girls who got married by place of residence and type of climate vulnerability in J&K	72
20	Table 20: Practices around menstruation like observing separation, not touching children, going to worship Centres, restricting activities, bathing, dietary restrictions followed by adolescent girls by place of residence and type of climate vulnerability in J&K	73
21	Table 21: Proportion of adolescent girls received knowledge on menstrual health and hygiene through National programmes, person who provided the knowledge menstrual, place of getting, issues covered and benefits received through attending these National programmes by place of residence and type of climate vulnerability in J&K	73
22	Table 22: Proportion of adolescent girls experienced crisis situation due to climate extremes problems faced relating to getting water, washing menstrual cloth, taking bath and staying in camps/tents by place of residence and type of climate vulnerability, J&K	75

## LIST OF FIGURES

S. No	Figure Number and Title of the Figure	Page
1	Fig 1: Religion of the Respondents	22
2	Fig 2: Family Size of the Respondents	22
3	Fig 3: Ownership of Land and Source of Income of the Respondents	23
4	Fig 4: Age Distribution of Respondents	23
5	Fig 5: Fathers and Mothers Ages	24
6	Fig 6: Father's and Mother's Education of the Respondents	25
7	Fig 7: Educational Status of the Respondents	26
8	Fig 8: Standard at Which Studying	26
9	Fig 9: Educational aspirations of adolescent girls and perceived encouragement received from parents	27
10	Fig 10: Formal schooling of the Respondents	28
11	Fig 11: Standard at which Respondents discontinued Studies	28
12	Fig 12: Proportion of Respondents engaged in household activities	29
13	Fig 13: Type of Work of Respondents	30
14	Fig 14: Perceived knowledge on age at menarche	31
15	Fig 15: Age at menarche of adolescent Girls	32
16	Fig 16: Sources of Knowledge Before Menarche Attained	33
17	Fig 17: Regularity in Menstruation of the Respondents	34
18	Fig 18: Interval between last two Cycles	35
19	Fig 19: Perceived Flow of Bleeding	35
20	Fig 20: Use of Material for blood absorption	35
21	Fig 21: Access to Govt. Supplied Sanitary Napkins	37
22	Fig 22: Place of Getting Govt. Supplied Sanitary Napkins	37
23	Fig 23: Frequency of getting Govt. supplied sanitary napkins	38
24	Fig 24: Ways to disposing Used Sanitary Napkins	40
25	Fig 25: Preparation before disposing Sanitary Napkins	40

26	Fig 26: Percentage of girls Using Cloth	41
27	Fig 27: Procedure to clean used cloth	41
28	Fig 28: Different Menstrual Problems Experienced	42
29	Fig 29: Frequency of experiencing problems	43
30	Fig 30: Person with whom shared menstrual problem	43
31	Fig 31: Place/Type from where treatment sought	43
32	Fig 32: Experienced Symptoms Related to RTI/UTI	44
33	Fig 33: Practices around menstruation like observing separation	46
34	Fig 34: Percentage received knowledge from Sources	48
35	Fig 35: Place of getting the knowledge	48
36	Fig 36: Received knowledge on Different Components of Menstruation	49
37	Fig 37: Way this information benefitted Got knowledge on Menstruation	50
38	Fig 38: Experience/face crisis situation (Flood/Cyclone/Drought/Snowfall)	52
39	Fig 39: Usually How long this crisis situation continues in a year	52
40	Fig 40: Problems Related to Get Water during crisis	53
41	Fig 41: How to Manage During Water Crisis during crisis situation	53
42	Fig 42: Problems related to washing/drying menstrual cloth or disposal of sanitary pads during crisis situation	54
43	Fig 43: How to Manage disposal of sanitary pads during crisis situation	54
44	Fig 44: Problems related to bathing during crisis situation	54

## ACKNOWLEDGEMENT

Adolescence has been recognized as a special period, especially for girls, that requires specific attention as it marks the onset of menarche, an important milestone. Hence, good hygienic practices during menstruation are crucial for maintaining a healthy life. Menstrual health and hygiene are critical aspects of overall health and well-being for adolescent girls, particularly in communities in the downtrodden societies. In India, menstrual health and hygiene among adolescent girls remain a major challenge, despite efforts to improve access to resources and education. Adolescent girls lack access to adequate menstrual health education and resources, such as sanitary napkins and clean water for washing, which leads to plentiful issues in the country, including poor health outcomes, absence from school, and stigma surrounding menstruation. Menstrual hygiene management in disaster-prone and fragile contexts is a challenge for adolescent girls, and even at times of distress, the frequency of availability of sanitary pads/tampons, appropriate disposal of pads, washing the clothes, proper cleaning of genitals is usually given lesser focus. It was found that worldwide, especially in developing countries, secrecy, shame, and taboo that frequently surround menstruation hindered adequate assessment and identification of contextually appropriate solutions and emerged as a significant challenge in addressing menstrual hygiene management barriers in emergencies. In this context, an attempt has been made in this PAN-India study to assess the knowledge, attitude, and practices of adolescent girls with respect to menstrual health and hygiene focusing on climate-vulnerable regions.

First and foremost, I would like to thank Ms. Anjali Rawat, Dy. Director-General, and Mr. Kumar Sundaram, Director, Ministry of Health and Family Welfare, Government of India, New Delhi, and their team for providing the necessary financial and moral support during all phases of this study. **I would also like to thank Professor Jyoti Hallad and her team at PRC Dharwad for working tirelessly on all the components of this study and providing maximum support to us for completing this state report.** At the outset, I would like to thank Mr. Bashir Ahmad Bhat, coordinator at our PRC, for his continuous support and guidance for this study. I am highly thankful to Jammu and Kashmir UT Health Officials, District Health Officials, especially their DPMUs, ANMs, and ASHAs of the selected districts, for all the support and cooperation during different phases of this study. My special thanks to all the adolescent girls and their parents who cooperated by giving us consent and for sharing their personal experiences with us. Last but not least, **I would like to thank, from the core of my heart, the data collection team coordinated by Dr Mohd. Ibrahim (RI), data editing/data entry team, and all others who helped us to complete this study.**  
**Syed Khursheed Ahmad, April, 2023**

## 1. EXECUTIVE SUMMARY

Overall, a total of 401 respondents were interviewed for this study and thus the results are based on these interviewed respondents. A total of 271 (68 percent) adolescent girls from rural areas and 130 (32 percent) from urban areas were interviewed. On the basis of the climate vulnerability, 401 respondents were bifurcated into three climate vulnerable zones (districts) which include drought, flood/cyclone and snowfall. From drought vulnerable district, i.e., Srinagar, 102 (25 percent) respondents were interviewed while as from flood vulnerable district, i.e. Rajouri 99 (25 percent) respondents and from snow vulnerable zone which consisted of two districts (Kupwara and Kulgam) 200 (50 percent) respondent were interviewed for this study. The selection of the districts for drought and flood vulnerable, was exclusively done on the basis of an index developed by the Council on Energy, Environment, and Water (CEEW), Government of India. The main findings of the study are:

- About one-third of the respondents (30 percent) belonged to age of 13–14 years, 32 percent belonged to 15–16 years and another 37 percent to 17 years or above.
- Majority (90 percent) of the adolescents were enrolled in schools. Insignificant proportion of adolescent girls discontinued their studies due to menstruation.
- Major cause of discontinuation of education among adolescents was found to be the financial and family issues.
- In flood-prone areas and rural areas, the mean age of menarche was marginally higher (13 years) as compared to drought vulnerable areas and urban areas where the mean age at menarche was found to be 12.63 years.
- Significant proportion (around one-half) of adolescents changed their dress, moment, playing activities, HH work, and outside work after attaining the menarche.
- About one-half of adolescents had prior knowledge on menarche and major source of providing knowledge was mother. Teachers and friends have played an effective role in disseminating the information among the adolescent girls regarding menarche but the role of health workers and media was found to be disappointing.
- Majority of the respondents use sanitary napkin and in flood prone areas, sanitary napkins were used by adolescents more than in other areas of vulnerability.



- Less than half (47 percent) adolescents have access to government supplied sanitary napkins at a minimal cost but in the absence of distribution of sanitary napkins in urban slums and limited supply/quality of napkins from government supplies in other areas, adolescents were found constrained to use cloth during their menstruation thus compromising with the sufficient use of sanitary napkins to maintain proper menstrual hygiene.
- Majority of adolescents dispose the used sanitary napkins properly while as only one-tenth of the adolescents used to throw them in open area.
- Though Srinagar is the capital city of Jammu and Kashmir, and this district was selected on the basis of drought vulnerability, it was found that maximum deprivation in case of accessibility to the government supplied sanitary napkin (as the scheme with regard to menstrual hygiene programme was not implemented in this district) and awareness about the menstrual hygiene.
- There is not any significant difference of climatic vulnerability on different practices of menstrual hygiene among the adolescents.
- In the snowfall vulnerable regions, due to the freezing temperatures, water crisis arises and shortage of water becomes an acute problem for all sections of the society.
- Most of the respondents face crisis situation during the climate vulnerability, particularly in snow vulnerable areas as the water freezes and it becomes difficult for most of them to take bath, make daily cleaning, wash their cloths and even get safe drinking water.
- The management during the crisis situation is done by the adolescents and their families by boiling the water, purchase bottled water and getting the water from un-affected areas for use.
- Overall, the management of vulnerabilities was found to be good among all the adolescents in the UT of Jammu and Kashmir.

## SECTION 2

### 2. INTRODUCTION AND METHODOLOGY

Adolescence has been recognized as a special period, especially for girls, that requires specific attention as it marks the onset of menarche, an important milestone, and hence good hygienic practices during menstruation are crucial for maintaining a healthy life. Menstruation is a periodic vaginal bleeding that occurs with the shedding of the uterine mucosa, one of the symbols of puberty and procreation, and this stage usually occurs between the age groups of 12-13 years. On an average, a female experiences almost 455 bleeding cycles across her reproductive years. Menstrual health and hygiene are critical aspects of overall health and well-being for adolescent girls, particularly in the downtrodden societies. Hygiene during menstruation is an inevitable part of a girl's life, and it is during this period that an adolescent girl is regarded as most vulnerable for developing any kind of reproductive tract infection, urinary tract infection, or various sexually transmitted diseases. Among the adolescent girls, stigma and lack of education attainments makes them ashamed about different menstrual health and hygiene practices. They feel ashamed or embarrassed about their periods and lack the knowledge to manage them effectively. As a result, there is a negative impact on their physical and mental health, as well as their ability to attend school or participate in daily activities.

In India, menstrual health and hygiene among adolescent girls remains to be a major challenge, despite efforts to improve access to resources and education. In the country, adolescent girls lack access to adequate menstrual health education and resources, such as sanitary napkins and clean water for washing, which lead to plentiful issues in the country, including, poor health outcomes, absence from school, and stigma surrounding menstruation. Moreover, the inadequate and improper disposal of menstrual waste may lead to environmental pollution and poses risk to public health. This could be a significant problem in rural areas where there is a shortage of proper sanitation facilities.

A review of various earlier studies indicates that poor menstrual health and hygiene, early marriages, teenage pregnancy, and high prevalence of anemia continues to be the major problems of adolescent girls in the country, despite the significant improvements made on the

various aspects of adolescent girls by the various national health schemes like the Rashtriya Kishor Swasthya Karyakram (RKSK), the Peer Education Programme (PEP), the Adolescent Friendly Health Clinics (AFHCs), and Anemia Mukta Bharat (AMB).

The Union Territory (UT) of Jammu and Kashmir is located in the extreme north of the country and covers an area of 2,22,236 Sq. Kms. It lies between the latitudes of 32° 17' and 37° 5' north and the longitudes of 72° 31' and 80° 20' east. Broadly, the UT has two distinct climatic regions: the temperate region of Kashmir Valley and the subtropical region of Jammu. Jammu region has plains, valleys, hills, and mountains of the Pir-Panjal and Shivalik ranges, comprising the districts of Kathua, Jammu, Samba, Udhampur, Reasi, Doda, Ramban, Kishtwar, Rajouri, and Poonch. The climate of Jammu varies greatly owing to its rugged topography. The southern part of Jammu and Kashmir has a typical monsoon tropical climate. In summer, the southern part is very hot, and the maximum temperature reaches above 45°C. The Kashmir region is situated between the Pir-Panjal and the western end of the great Himalayan ranges, which stops monsoon winds from the southeast and south, and cold winds coming from Central Asia. As such, the climate of the sheltered valley of Kashmir has its own peculiarities and exhibits exceptions in the peripheral region. The valley experiences a temperate climate. The winter from November to March is cold with moderate and heavy snowfall. Summers from mid-March to June are mild and of very short duration, and it rains. The Kashmir valley comprises the districts of Anantnag, Badgam, Bandipora, Kulgam, Shopian, Pulwama, Srinagar, Ganderbal, Baramulla, and Kupwara.

The area under each climate pattern in Jammu and Kashmir is based on Koppen's classification. This broad classification is based on the annual and monthly means of precipitation in centimeters and temperature in degree Celsius (°C). The climate type - Interior Mediterranean, mild winter, dry and hot summer (Csa) - applies to Kathua and Udhampur districts, as well as parts of Anantnag, Bandipora, Baramulla, Kupwara, Ramban, Shopian, and Srinagar. Jammu and Samba districts and some parts of Poonch, Reasi, and Rajouri districts come under the same climate type: subtropical monsoon, mild and dry winters, hot summers (Cwa). Some parts of Doda, Ganderbal, Kishtwar, Kulgam, Pulwama, and Ramban districts come under this climate type: humid subtropical, mild winter, moist all seasons, long hot summer (Cfa). Some elevated

areas of Ramban district come under the climate types: marine, mild winter, moist all seasons, warm summer (Cfb). The high altitudinal (peaks) area of Rajouri and Reasi districts comes under the climate type of tropical upland, mild winter, dry winter, short warm summer (Cwb). Budgam district and some high altitudinal areas of Anantnag, Baramulla, Bandipora Ganderbal, Kupwara, Kulgam, Poonch, Pulwama, Shopian, and Srinagar districts come under the climate type humid continental, severe winter, moist all seasons, short warm summer (Dfb). High altitudinal areas of Kishtwar, Kargil, and Leh districts come under the mid-latitude desert arid cool or cold (BWk) climate type. High altitudinal (peak) areas of Anantnag, Bandipora, Baramulla, Doda, Kargil, Kishtwar, and Leh districts come under the tundra and very short summer (ET) climate types.

## **2.1 Climate Vulnerability in Jammu and Kashmir**

Given the topographic nature, Jammu and Kashmir is proven to varied types of climatic vulnerability which are discussed below:

A meteorological drought over an area or a place may be defined as a situation when the annual rainfall over the area or place is less than 75 percent of the normal. Areas where the frequency of drought, as defined above, is greater than 20 percent of the years examined are classified as "drought areas" and areas having drought conditions for more than 40 percent of the years under consideration are "chronically drought affected areas". Baramulla, Pulwama, Ganderbal Shopian, Jammu, Udhampur, Bandipora, and Srinagar districts in Jammu and Kashmir experienced 14, 8, 8, 4, 7, 3, 4 and 8 years of drought, respectively, out of the 41, 25, 32, 17, 32, 14, 20 and 40 years under consideration during 1951-2019, satisfying the criteria for "drought areas". The higher reaches of Jammu and Kashmir often get heavy snowfall during the winter season. There are four districts that are comparatively more climatically vulnerable (in terms of drought, flood, and snow) such as Kupwara, Srinagar, Kulgam, and Rajouri were chosen for the present study. In order to make a proper selection of districts for this study we approached many departments in the UT of Jammu and Kashmir which included Disaster Management and Geography Department, Department of Environmental Science at the University of Kashmir and State Disaster Management and Metrological Department of the Government of Jammu and Kashmir. As such, these departments had no documents pertaining to the ranking of the climatic vulnerability of

Jammu and Kashmir except for the Seismic-V zone, and therefore, we could not get any information regarding the climate vulnerability ranking at the UT level. Therefore, we selected four (04) districts of Jammu and Kashmir out of twenty (20), which were comparatively more vulnerable than the rest sixteen (16) districts. Finally, two districts regarding snow vulnerability were selected on the basis of maximum impact of snow and other districts (drought and flood/cyclone districts) were selected purely on the basis of an index developed by the *Council on Energy, Environment, and Water (CEEW), Government of India* as was done by all other PRCs in the country. The climatic situations of these selected districts are as follows:

### **2.1.1 District Kupwara**

Kupwara is a hilly district located in Kashmir valley between the Pir-Panjal and Shamsbiri mountain ranges, surrounded by snow clad mountains and dense forest. The climate of the district is temperate, cum mediterranean. In the high-elevation areas, the temperature remains low throughout the year. Winter is cold and chilly. The winter season starts in the middle of November, and severe cold conditions continue till mid-March with heavy snow fall thus a sizable number of areas remain cut-off from the rest of the world. During these months, strong winds bring rain and snow from Mediterranean depressions.

### **2.1.2 District Srinagar**

Srinagar district located in the centre of the Kashmir valley. Srinagar district is situated at an altitude of 1,587 meters above sea level, spread on both sides of the river Jhelum. The average annual rainfall in the district is 698 mm. The annual rainfall in the district does not vary much over a large range. The rainfall in the southwest monsoon season (June to September) is about 27 percent of the annual normal rainfall, while the rainfall in pre-monsoon months (March to May) accounts for 39 percent of the annual rainfall, with March being the month with highest rainfall with an average of 111.4 mm. On average, there are 56 rainy days (i.e., days with rainfall of 2.5 mm or more) in a year in the district. However, district Srinagar has witnessed drought conditions from time to time due to the scanty rain fall, and the same has been highlighted by the vulnerability index document as well.

### **2.1.3 District Kulgam**

Kulgam is hilly and mountainous district situated towards the west, with inter-mountain valleys in the northeast. Winter starts from the middle of November, when both the day and night temperatures fall rapidly till mid-February. January is the coldest month, with a mean maximum temperature of about 6.3°C and a mean minimum temperature of about –3.1°C. In association with cold waves, the minimum temperature may sometimes drop to below –15°C at Kulgam on individual days, and a considerable amount of precipitation is received in the district in the form of snow. About 163 cm of annual snowfall occurs annually at Qazi-gund Place in the district, and almost 70 percent of the annual snowfall is received in the winter months, such as January and February, which are the months with the heaviest snowfall. Therefore, given the nature of the climate, the district is proven to experience heavy snow avalanches and extreme cold conditions during the winters, due to which the issue of water scarcity emerges.

### **2.1.4 District Rajouri**

Rajouri district is located in the foothills of the Pir-Panjal range. Physio-graphically, the district is characterized by mountain ranges trending northwestward and deep, narrow valleys. The climate varies from sub-tropical in the southern part to temperate in the mountainous northern part. The sub-tropical region receives rainfall during the monsoon season and winter, whereas the northern part, which is prone to hailstorms, experiences more rain. The average annual rainfall in the district is 957.1mm. The rainfall in the southwest monsoon season (June to September) is about 69 percent of the annual normal. July and August are the wettest months, contributing about 53 percent to the annual rainfall, while the rainfall in the pre-monsoon months (March to May) accounts for 10 percent of the annual. However, as per the documentary proof pertaining to the vulnerability index developed by CEEW and the nature of climate, the parts of district are proven to flood due to the heavy rainfall during the monsoon times, and therefore, water percolates down and damages the existing crops of the district.

## **2.2 Menstrual Health and Hygiene in Climate Vulnerable Areas**

Menstrual health and hygiene management in disaster-prone and fragile contexts is a challenge to adolescent girls and even at times of distress, frequency of availability of sanitary

pads/tampons, appropriate disposal of pads, washing the clothes, proper cleaning of genitals is usually given lesser focus. It was found that worldwide especially in developing countries, secrecy, shame and taboo that frequently surround menstruation, hindered adequate assessment and identification of contextually appropriate solutions and emerged as a significant challenge in addressing menstrual hygiene management barriers in emergencies. In this context, an attempt has been made in this PAN-India study to assess the knowledge, attitude and practices of adolescent girls with respect to menstrual health and hygiene focusing on climate vulnerable regions with following specific objectives.

1. To assess the knowledge and attitude, of adolescent girls on menstrual health and hygiene and reproductive health concepts;
2. To assess the status of menstrual and Gynae health among adolescent girls and treatment seeking behavior; and
3. To understand the existing practices related to menstrual hygiene among adolescent girls.

## 2.3 Methodology

### 2.3.1 Sample size

*Sample size determination:* The present study is designed to collect the information on menstrual health and hygiene among adolescent girls who have attained menarche (aged 13-19 years) living in climate vulnerable areas. To find out the required number of sample size the following formula has been applied:

$$\text{Sample Size (n)} = \frac{z^2 pq * (1 + R) * \text{Deff}}{d^2}$$

Where,

n = Sample size required

z= z value (1.96 at 5% level of significance)

p= prevalence of hygienic methods of protection during menstrual period = **77% (NFHS-5)**

q=1-p=**23%**, R = non-response adjustment (assumed to be 40%), D eff= Design effect (assumed to be 1.25), d = margin of error (assumed to be 5%)

$$n = \frac{((1.96)^2 * (0.77) * (0.23)) * (1.40) * (1.25)}{(0.05)^2} = 476, n=476 \text{ (rounded to 480).}$$

Overall, a total of 417 adolescent girls were contacted. Finally, with a response rate of 96 percent, a total of 401 adolescent girls were interviewed while as a small number of adolescents declined to participate in the survey. Consent of either of the parents/guardians was taken along with the consent of the girls in case of girls below 18 years and only individual consent was taken for the girls of 18 and 19 years. Ethical Review Committee approval was taken for this study by PRC Dharwad for all the PRCs.

### 2.3.2 Selection of Districts, Taluks, PHCs and Adolescent girls

This study was conducted in the UT of Jammu and Kashmir. All districts of the UT were categorized into two groups based on NFHS-5 indicator- “proportion of women aged 15-24 years who use hygienic methods of protection during their menstrual period” as ‘*better performing districts*’ (those above the UT average) and ‘*poor performing districts*’ (those below the overall UT average). One drought, two snow-affected district and one flood affected district were selected from each of these two categories. To identify the districts “Mapping India’s Climate Vulnerability: A District Level Assessment” (2021) published by The Council of Energy, Environment and Water (CEEW) has been used for selection of drought and flood vulnerable districts. (Mohanty and Wadhawan, 2020)

As mentioned above, 4 districts were selected - 2 from *better performing category* and 2 from *poor performing category*, 2 of them *snow affected* and one each of them were *flood/cyclone and drought affected*. Within each selected district, 1 block was selected and from each selected block, 3 Primary Health Centres (PHCs) were selected which were located in climate vulnerable areas. In case of Srinagar district all the three PHCs selected were urban while in other selected districts we could not find any UPHC but care was taken to select atleast one PHC near to or within the municipal or town area limits. The blocks and the PHCs were selected in consultation with the concerned CMOs and DPMUs of the respective districts. Block **Kupwara**, block **Khanyar**, block **Qazigund**, and block **Sunderbunni** were selected in the respective districts of Kupwara, Srinagar, Kulgam, and Rajouri. In block Kupwara, PHC Drugmulla, PHC Gonipura, and PHC Shortpora were taken for the study. In block **Khanyar**, UPHC **Kathidarwaza**, UPHC **Kohankhan**, and UPHC **Abinowpora** were taken for the field study. In block Qazigund, PHC Vessu,



Checkwangdu, and Dewsar were selected for this study. In block Sunderbuni, PHC Bal Shama, Upper Hathal, and Siot were taken for this study.

List of adolescent girls (aged 13-19 years) was collected from Health department (through ANMs/ASHAs/AWCs) covering all the 3 PHCs' geographical areas. From the final updated list, 120 Girls were selected using systematic random sampling method considering non-response rate and availability of the girls, not attaining menarche, in the age group 13-19 years. Finally, in total 401 adolescent girls who had attained menarche, who were available during our visit and who were willing to take part in the study were interviewed from a total of four districts.

The response rates for the present study conducted for the UT of Jammu and Kashmir is presented in table 1 according to place of residence and by climate-vulnerable regions. A total of **417** adolescent girls were selected, of which **401** were successfully interviewed, with a response rate of **96 percent**. Almost **4 percent** of adolescent girls were not interviewed because of their refusal to participate in the survey. The details of coverage are given below in table 1 and 1.1.

**Table 1: Sample coverage in the selected districts State by place of residence and type of climate vulnerability Jammu and Kashmir**

			Type of residence		Type of Climate Vulnerability			Total
			Rural	Urban	Drought	Flood/Cyclone	Snowfall	
<b>Parents' consent</b>	Agree		274	134	105	100	203	408
	Do not Agree		3	2	2	1	2	5
<b>Adol consent</b>	Agree		271	130	102	99	200	401
	Don't agree		3	4	3	1	3	7
<b>Name of District</b>	Srinagar	Interviewed	0	102	102	0	0	102
		Refused	0	3	3	0	0	3
	Kulgam	Interviewed	100	0	0	0	100	100
		Refused	1	0	0	0	1	1
	Kupwara	Interviewed	72	28	0	0	100	100
		Refused	1	1	0	0	2	2
	Rajouri	Interviewed	99	0	0	99	0	99
		Refused	1	0	0	1	0	1
<b>Total Interviewed</b>			<b>271</b>	<b>130</b>	<b>102</b>	<b>99</b>	<b>200</b>	<b>401</b>

**Table 1.1: Selection of districts in Jammu and Kashmir for Menstrual Health and Hygiene among Adolescent Girls in Climate Vulnerable areas in India**

	<b>NFHS-5 (2019-20)*</b>	<b>Vulnerability Index**</b>	<b>Event**</b>	<b>Vulnerability **</b>	<b>Selected Districts</b>
J&K	<b>73</b>	<b>0.328</b>			
<b>Kupwara</b>	49	0.7013	Very High	Flood/All Events	X Snow
<b>Rajouri</b>	53	0.4769	High	Flood/All Events	X Flood
<b>Ramban</b>	59	0	Very Low	Flood/All Events	
<b>Resai</b>	60	0	Very Low	Flood/All Events	
<b>Baramulla</b>	62	0	Very Low	Flood/All Events	
<b>Bandipora</b>	64	0	Very Low	Flood/All Events	
<b>Doda</b>	69	0.3422	Moderate	Flood/All Events	
<b>Ganderbal</b>	70	0	Very Low	Flood/All Events	
<b>Shopian</b>	70	0	Very Low	Flood/All Events	
<b>Kishtawar</b>	71	0	Very Low	Flood/All Events	
<b>Anantnag</b>	74	0.1897	Low	Flood/All Events	
<b>Badgam</b>	75	0	Very Low	Flood/All Events	
<b>Udhampur</b>	75	0	Very Low	Flood/All Events	
<b>Kulgam</b>	76	0.196	Low	Flood/All Events	X Snow
<b>Punch</b>	76	0	Very Low	Flood/All Events	
<b>Kathua</b>	85	0	Very Low	Flood/All Events	
<b>Pulwama</b>	85	0	Very Low	Flood/All Events	
<b>Srinagar</b>	85	0.3784	Moderate	Flood/Drought	X Drought
<b>Samba</b>	86	0	Very Low	Flood/All Events	
<b>Jammu</b>	95	0.1897	Low	Flood/All Events	

**Note:**

**\*Women age 15-24 years who use hygienic methods of protection during their menstrual period (%)**

**\*\*Mapping India’s Climate Vulnerability: A District Level Assessment, Abinash Mohanty and Shreya Wadhawan, Report October 2021**

**In addition, the selected districts of Kulgam and Kupwara also remain highly vulnerable for snow/ snow avalanches therefore, these two districts were ultimately selected on the basis of snow vulnerability.**

### 2.3.3 Study Tools

A detailed schedule was administered to eligible respondents in their vernacular language. The questionnaire includes questions regarding the respondent’s and households or parents demographic and socio-economic background; knowledge, attitude, and practices of adolescent girls with respect to menstrual health and hygiene. Data was collected from the selected

households following the proper sampling procedure, i.e., random sampling, and girls were asked questions using a predesigned, pretested questionnaire specially designed for this purpose and was developed by **PRC Dharwad**. All the respondents were assured that the information collected would be confidential throughout the study. At the end of the interview, the girls were educated about the facts of menstruation and explained about cleanliness during their menstrual periods.

#### **2.3.4 Data Collection**

An extensive training, including demonstration interviews, mock interviews, field practice, etc., was organized for the supervisor and field investigators by the PRC Staff for a total of 5 days. For the field data collection, a team of five (05) people, including one female supervisor and four female investigators, were hired for the purpose. The supervisor along with one Research Investigator from the PRC collected the lists of adolescent girls from all the selected blocks few days before the main survey and made the final sampling frame as well as the selection of girls. Female investigators conducted five to eight interviews per day. On average, the field data collection took three to four days per district and altogether 20 days, (i.e., 15 working days and 5 days for inter-district travel) were spent for the collection of data. Afterwards, the supervisor edited all the filled-in questionnaires wherever necessary.

The field team was provided with one vehicle of capacity five (05), and the team was provided with reasonable accommodation at block/district headquarters of the selected districts. In district Rajouri, as most of the adolescent girls were at schools or colleges during the day, efforts were made to contact these girls at their house during the evening, weekends, and holidays. Whereas, in the other three (03) selected districts like Kupwara, Kulgam, and Srinagar, the data was collected during the winter vacation in schools and colleges. The data from all four districts was collected during February 2023.

#### **2.3.5 Data Processing**

Data processing work was carried-out with the help of CS-Pro 7.6.0 software, which was developed by **PRC Dharwad**. Double entry of the data was done to avoid any data entry errors. An error list of the data entered twice was generated and was verified for discrepancies with the

help of the questionnaires. The required corrections were made in both the data sets until no error was found. The whole data entry operation was supervised by a trained supervisor and PRC staff. The entire data processing work was completed within a period of two (2) weeks. The analysis of the data has been done by using CS-Pro 7.6.0 and SPSS-28.

## SECTION 3

### 3. HOUSEHOLD AND ADOLESCENTS' SOCIO-DEMOGRAPHIC CHARACTERISTICS

#### 3.1 Household Characteristics

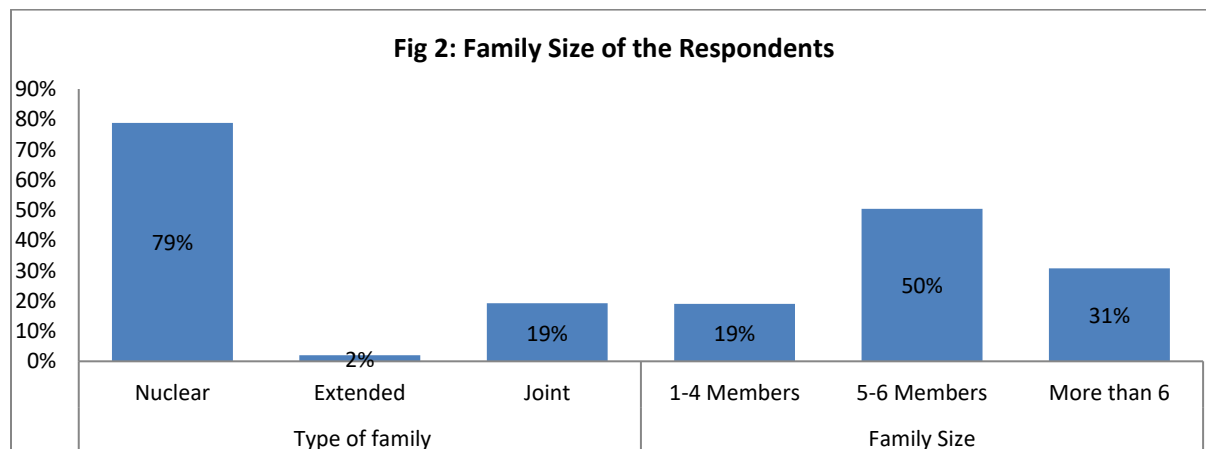
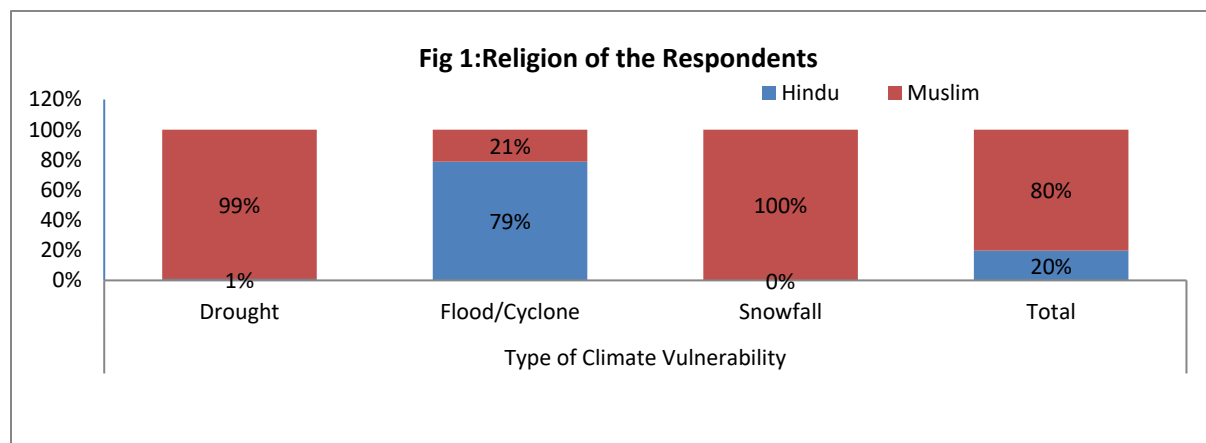
This section presents details regarding demographic and socioeconomic characteristics of households and individual level characteristics of surveyed adolescent girls from the selected districts of J&K covered during the survey. Characteristics of household includes religion, caste, primary source of income, type of family, size of family and housing characteristics such as type of house, ownership of house, owning any agricultural land and primary source of income according to place of residence and by climate vulnerability.

The analysis of the data collected (table 2) shows that majority (80 percent) of the respondents were Muslim and one-fifth of the respondents were Hindu. It was further found that in climatic vulnerable zones, Muslims were found in drought and snowfall zones, while Hindus were concentrated in flood vulnerable zones. On the basis of rural-urban distribution, one third of the Hindus and two third of the Muslims live in rural areas. In terms of different social groups, about three-fourth (74 percent) of the respondents belonged to general category, while 21 percent belonged to other backward castes (OBCs). Four percent respondents were ST and one percent belonged to SC category.

The details collected with regard to type and size of the family shows that most of the adolescents (79 percent) belonged to nuclear family followed by joint families, with 19 percent and two percent belonged to extended type of families. Nuclear families were more common in flood vulnerable zones, while joint families were more common in snowfall zones. It was found that half of the respondents had a family size of 5–6 members, while as 31 percent had a family size of more than six members. In climatic vulnerable zones, it was found that in drought vulnerable areas, the average family size was 5.69 persons, while in flood prone areas and snowfall areas, it was 5.38 persons and 5.36 persons, respectively.

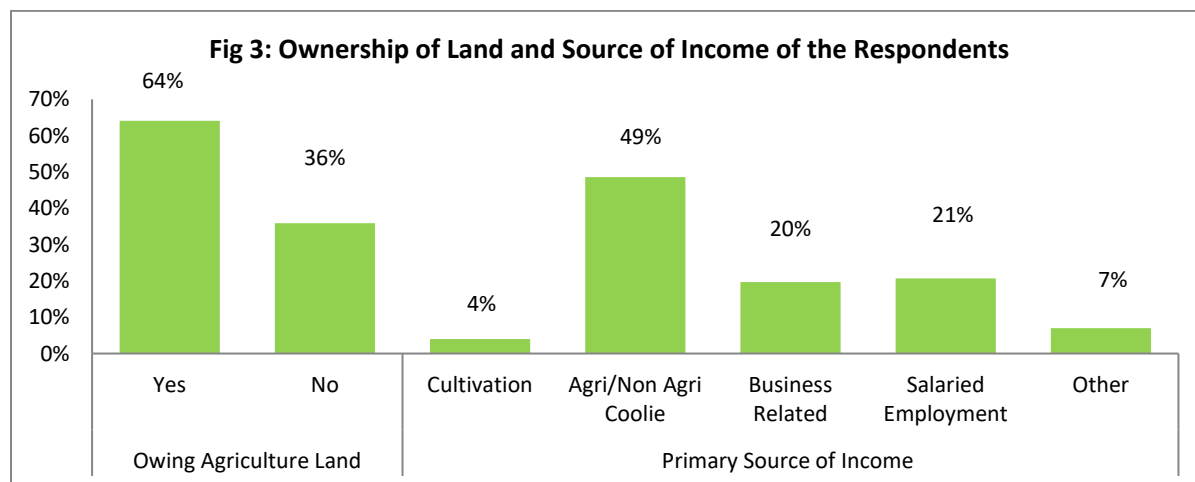
Keeping in view the harsh winters in Jammu and Kashmir, housing structure is an important component and the information collected in this regard shows that more than two-third (68

percent) of the respondents have Pucca houses, 15 percent have Semi-Pucca houses, and 17 percent have Kutcha houses. Pucca houses were found in 80 percent of snowfall vulnerable regions and only 52 percent in drought vulnerable areas. The information collected on landholding of the respondent families shows that less than two-third (64 percent) of the respondents have their own agriculture land for different types of cultivation purposes. In drought vulnerable areas, only three percent of the respondents have agriculture land, while in flood vulnerable and snowfall areas, more than three-fourth of families of adolescent girls had agriculture land. It was found that three-fourth of the respondents belonged to BPL families, with the highest BPL respondents (84 percent) being from drought vulnerable and urban areas, followed by snowfall regions (71 percent).



Further, it was found that about one-half of the respondent families had agriculture and non-agriculture labourers as their main source of income, while one-fifth of each families have their

primary source of income from business and salaried employment respectively. It was also found that the business class is concentrated in drought/urban areas, whereas the salaried class is concentrated in snowfall areas. Table 2 and figures 1,2, and 3



### 3.2 Individual and Parental Characteristics

Different personal and family characteristics of adolescent girls are closely related to the management of menstruation. From the analysis of the data presented in **table 3**, it was found that about one-third of the respondents each (30 percent) belonged to age 13–14 years and 15–16 years while as 38 percent adolescents belonged to age of 17 years or more. In drought vulnerable areas of Jammu and Kashmir, less than one-half of the respondents (48 percent) were of age 17 years or more, while in flood prone areas, most of the respondents belonged to age group of 15–16 years. The distribution in terms of climate vulnerability is given in **figure 4**.

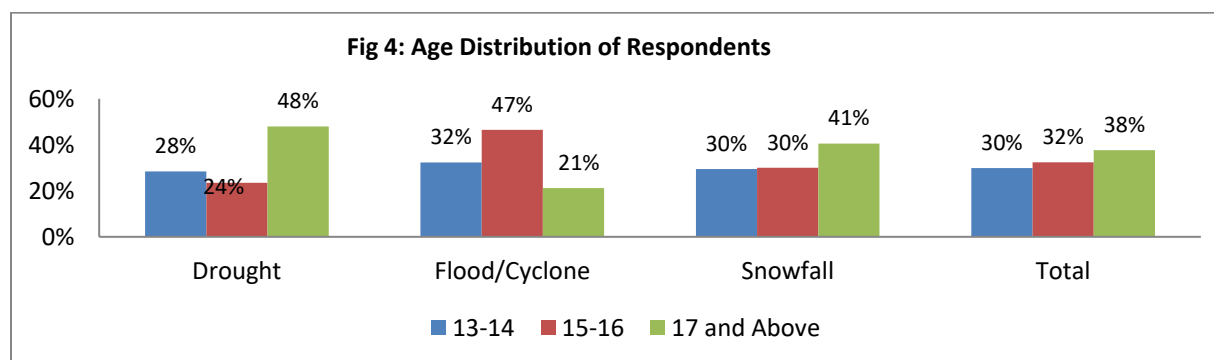
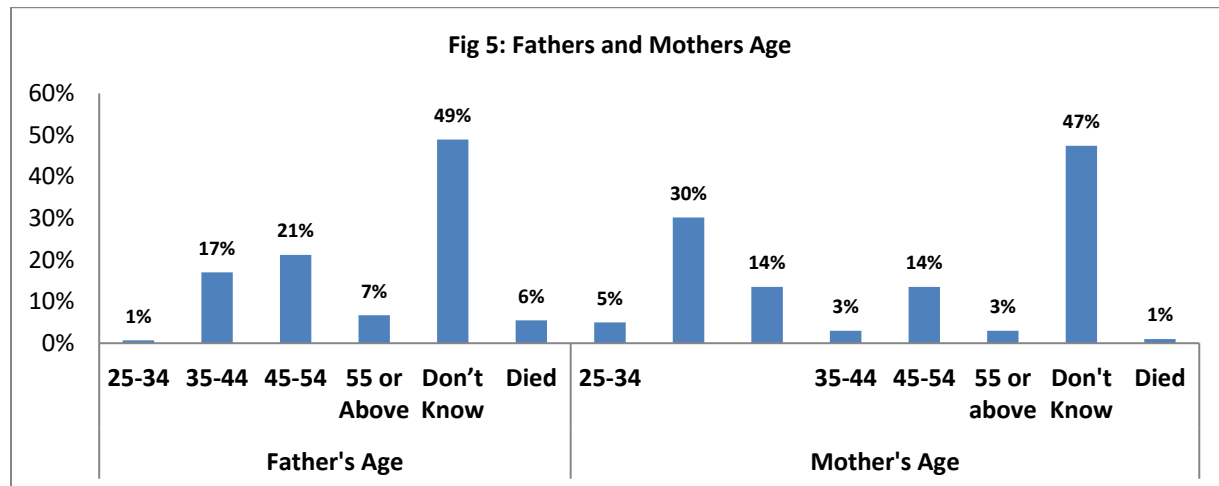
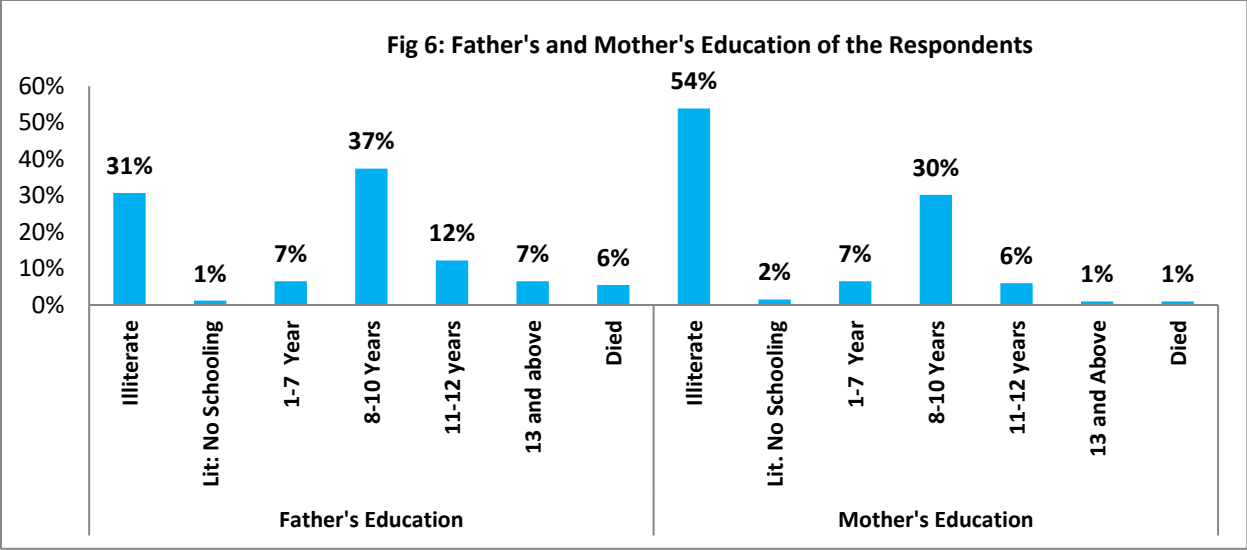


Table 3 further shows that most of the respondents (92 percent) were living with their parents (both mother and father), only five percent were living with their mother only, and one percent of each had either lost their father or mother and were living with a single parent. From the analysis, it was found that most of the adolescent respondents did not know the age of their parents. It was further found that one-third of the mothers belonged to age 35–44 years, while as one-fifth of the fathers belonged to age group of 44–55 years. **Figure 5**



Parental education makes adolescents aware of their various health issues as well as the immediate corrective measures. It was found that one-third of the fathers of the respondents (30.7 percent) and more than one-half of the mothers (53.9 percent) were illiterate. Mothers who have the dominant role regarding the health of their daughters' make-up a meagre one percent with an education level of 13 years and above. It was also found that more than one-third each of the parent of the adolescents had education level between 8-10 grade. The information collected on the occupation of the parents shows that less than one-half (42 percent) of the fathers of respondents were non-agricultural labourers, followed by salaried class of 20 percent and less than five percent were cultivators. Among the mothers of the respondents, 90 percent had no work or were housewives, while five percent were salaried employees. The information collected on the siblings of the adolescents shows that around 15 percent of the respondents have either no brother or sister, while as about three-fourth (71 percent) had 1-2 brothers, and more than one-half had 1-2 sisters. One-fourth of the respondents had more than three sisters at the time of survey. **Table 3 and figure 5**

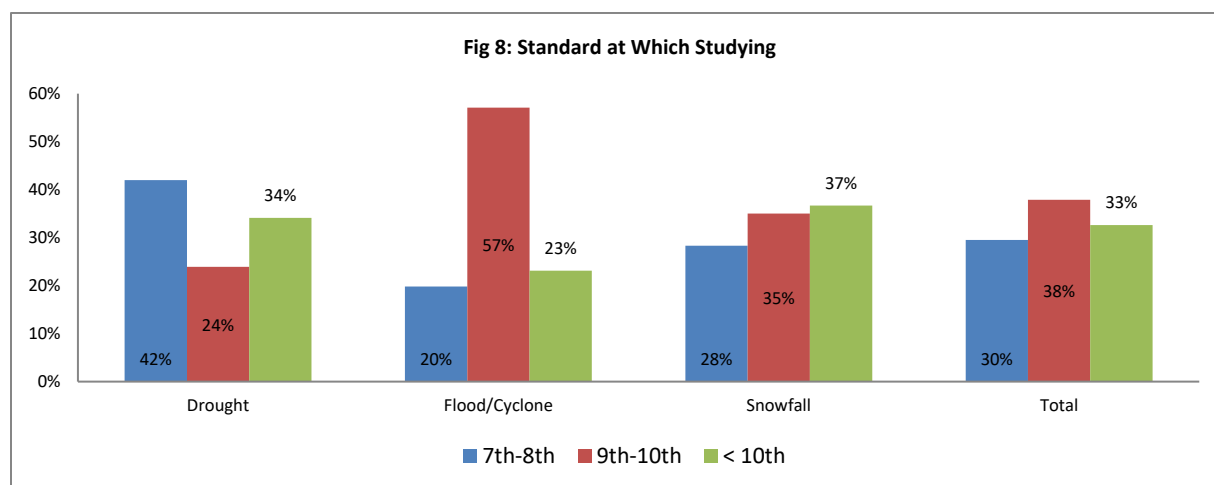
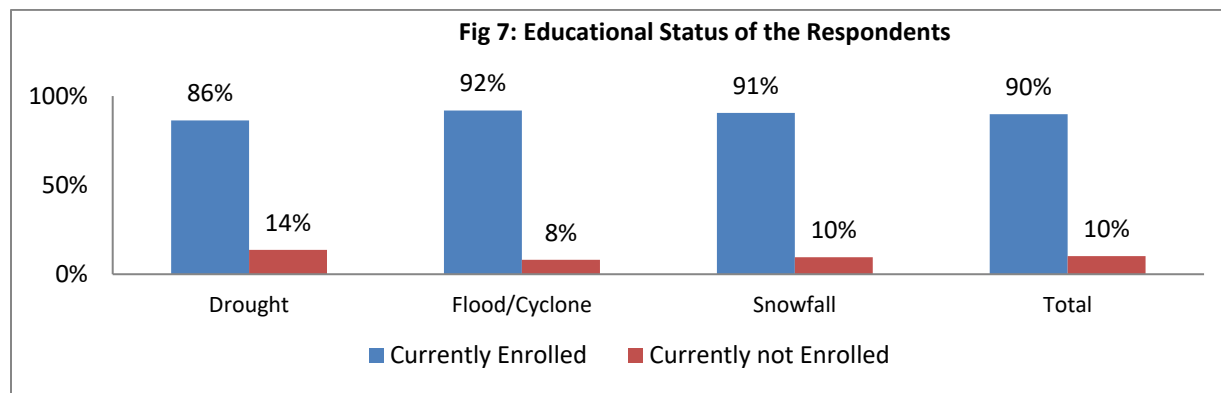




**3.2.1 Educational Status of Adolescent Girls**

Education is a driving force in raising awareness among girls about proactive and precautionary measures during menstruation. Those with a low level of education and understanding of menstruation may lead to unhygienic practices that increases the risk of reproductive and genito-urinary tract infections, cervical cancer, school drop-out, poor academic performance, and an overall poor quality of life. The information collected in **Table 4** shows that 90 percent of the respondents were enrolled in schools. It was further found that the respondents were almost equally distributed among three grades of schooling, i.e., 7<sup>th</sup>- 8<sup>th</sup>, 9<sup>th</sup>-10<sup>th</sup>, and above 10<sup>th</sup> standard with one third to each group. Among the different climatic vulnerable areas, more than one-half of the adolescent girls (57 percent) in the flood-prone areas had educational standard of 9<sup>th</sup>-10<sup>th</sup> grade, and less than half of the respondents (42 percent) in the drought prone areas had 7<sup>th</sup>-8<sup>th</sup> grade educational standard. The information collected further reveals that three-fourth of the respondents were enrolled in government schools, while one-fourth were enrolled in private schools. In drought vulnerable areas, 44 percent were enrolled in private schools. In terms of urban and rural areas, highest enrollment of respondents was found in private schools. It was found that in most of the schools, the medium of instruction was local language. It was found that 86 percent of the schools were co-educated. Majority of the respondents (75 percent) were found going to school without using any means of transportation due to less distance to

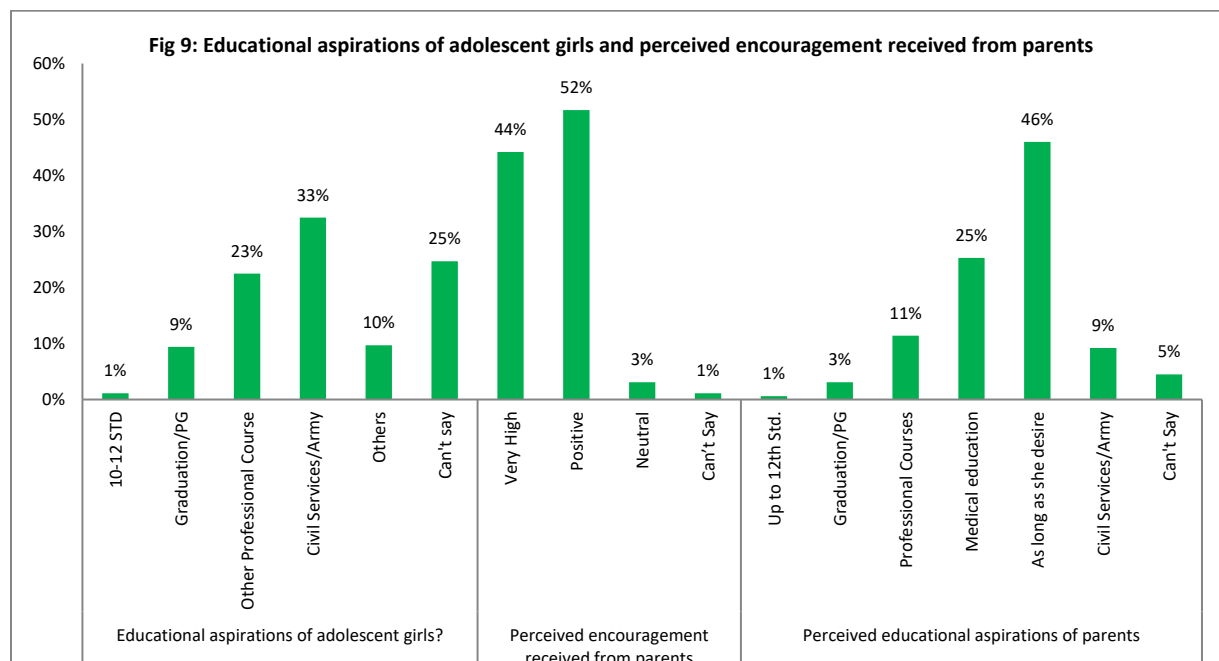
the school from home, while-as one-fifth of respondents (19 percent) were using public transport to reach school, and only 7 percent were using private transportation systems. **Figure 7 and 8**



### 3.2.2 Educational Aspirations of Adolescent Girls

The information collected on the educational aspirations of the respondents in **table 5** shows that one-third of the adolescents (32 percent) had an aspiration for medical courses, more than one-fifth (22 percent) had inclination towards various professional courses, one-tenth intend to do post-graduation and less than one percent intend to discontinue their studies after 12<sup>th</sup> standard. In urban areas, two percent of the adolescent girls intend to discontinue their studies, while in rural areas it was only one percent. Parental encouragement for perceiving higher education and encouraging their children has a positive impact on children's education, and students who are encouraged by their parents score higher grades. It was found that half of the of the parents (51 percent) had a positive approach towards the education of their children, and

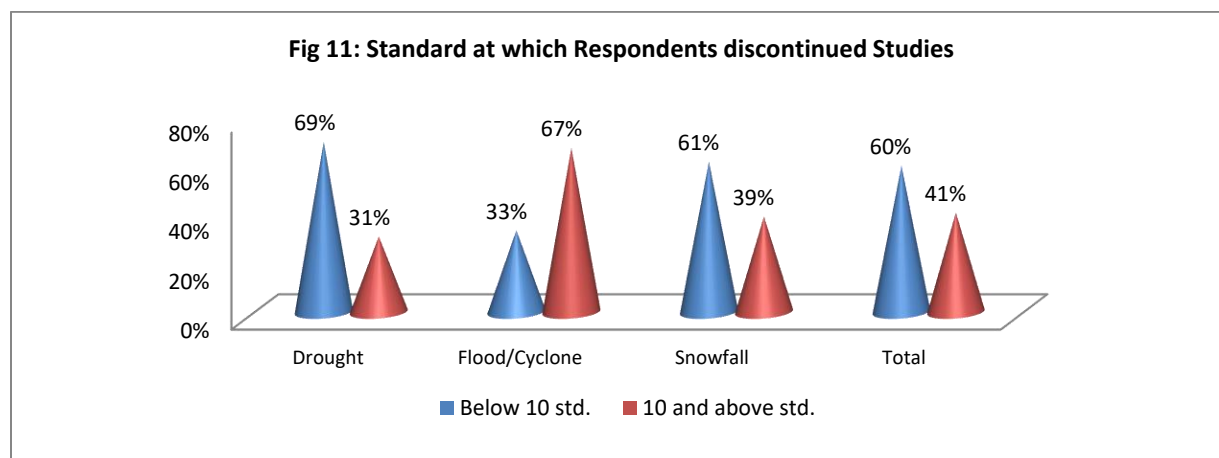
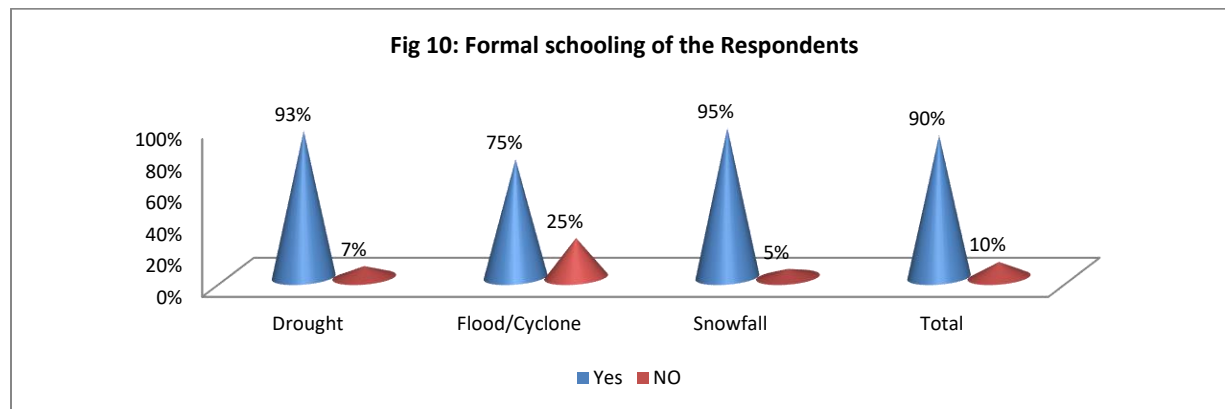
less than half (44 percent) had a very high positive approach. The very high positive approach of the parents in drought vulnerable areas was higher than those in other areas of vulnerability. It was found that one-fourth of the parents (25 percent) showed their interest for their children to perceive medical education, and less than the one-half of the parents (46 percent) had a desire as long as their children desire to continue their education. Figure 9



### 3.2.3 Dropout from formal Education and Reasons for drop out

Table 6 shows that 10 percent adolescent girls were deprived from formal schooling. The maximum deprivation for formal schooling among adolescent girls was found in flood vulnerable areas, where one-fourth of girls were not attending the school. Further, it was found that in rural areas 15 percent of the girls had no formal schooling. Overall, a total of 60 percent adolescents had discontinued their studies below the 10<sup>th</sup> standard, and the remaining 40 percent had discontinued their education after 12<sup>th</sup> standard. It was found that among the dropout respondents, more than 80 percent were studying in regular mode, but it is important to mention that in flood prone areas, one-third of the respondents revealed that they were studying in irregular mode. When it was enquired about the reason for the discontinuation of education,

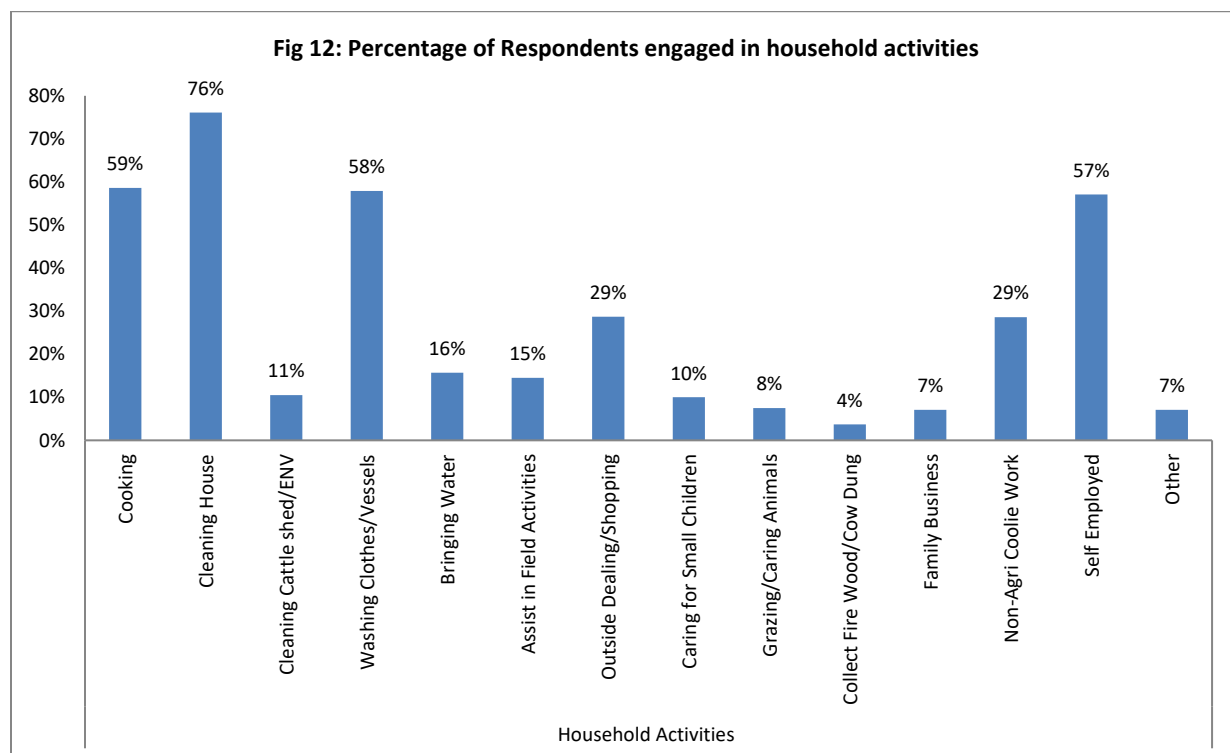
more than one-third of the respondents (36 percent) reported that either they were not interested for further studies or had failed in examinations, and less than one-third of respondents (29 percent) revealed that due to financial problems they were not in a position to continue their studies. In urban areas 10 percent of the respondents revealed that their parents were not interested for further studies. Figure 10 and 11



### 3.2.4 Occupational Status of Adolescents

The occupational distribution of a country’s population provides information regarding the radiance of occupation and main source of livelihood. It also indicates the main source of the production of Gross National Product (GNP). A high percentage of the population engaged in the agriculture sector shows that the subsistence sector is the main sector of an economy, which provides the major proportion of gross national output. The first part of **Table 7:** depicts the

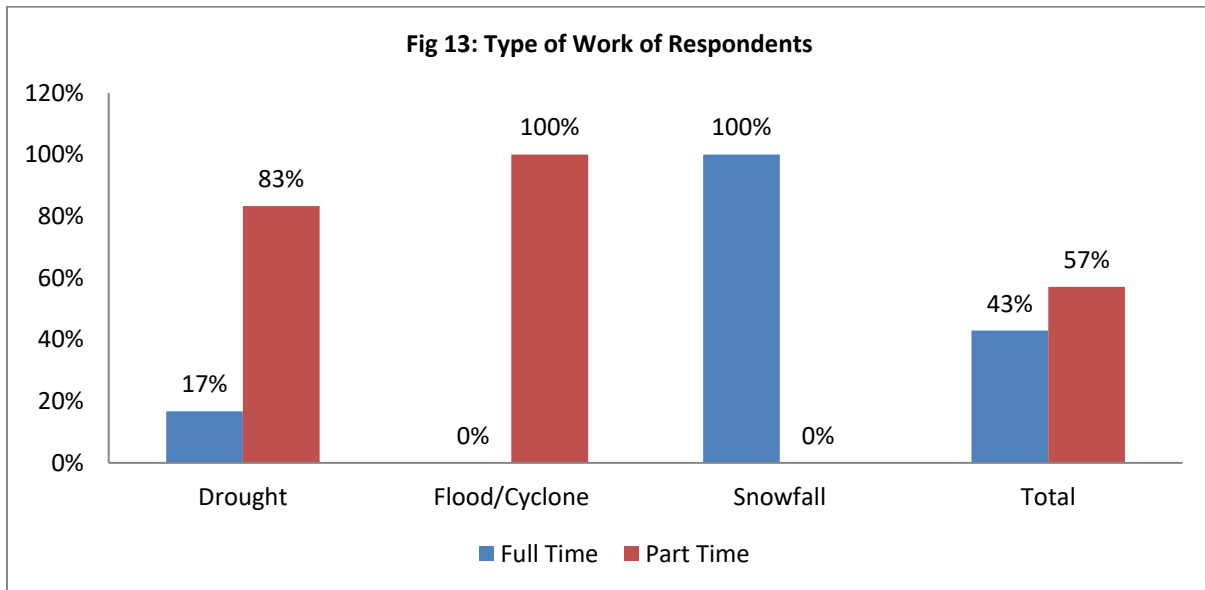
different household activities performed by the adolescents, and it was found that most of them were engaged in different types of household chores like cooking, cleaning house, and washing clothing/vessels, with 58 percent, 76 percent, and 57 percent each respectively. It was also found that less than one-third of the respondents were involved in outside shopping, one-tenth were involved in cleaning the cattle shed, and 15 percent were involved in field activities. In flood vulnerable areas, one-fourth of adolescent girls were engaged in bringing water, one fifth were caring the animals, and 15 percent were caring for small children. **Figure 12**



The data further elaborates that less than the one-half of the respondents (43 percent) had full time job and 57 percent were working on part-time basis. In flood prone areas, all working respondents work on part-time basis, in snowfall vulnerable areas, all working adolescent girl respondents had full time jobs. Further, it was found that among working respondents, less than two-third (57 percent), worked for less than four hours, and more than one-third (35 percent) worked for 4-6 hours a day. It was also found that less than 90 percent of the respondents received their salaries by themselves, and 14 percent of the respondent's salaries was received by their fathers. It was further found from the analysis that most of the working respondents (41

percent) give all their salary to the family, and half of the respondents revealed that a very little salary is given to the family. In urban areas, half of the working respondents also give all their salary to the family. In snowfall vulnerable areas, 40 percent of the respondents give their salary to the family, while in flood prone areas all working adolescent girls earn money for themselves.

**Table 7 and figure 13**



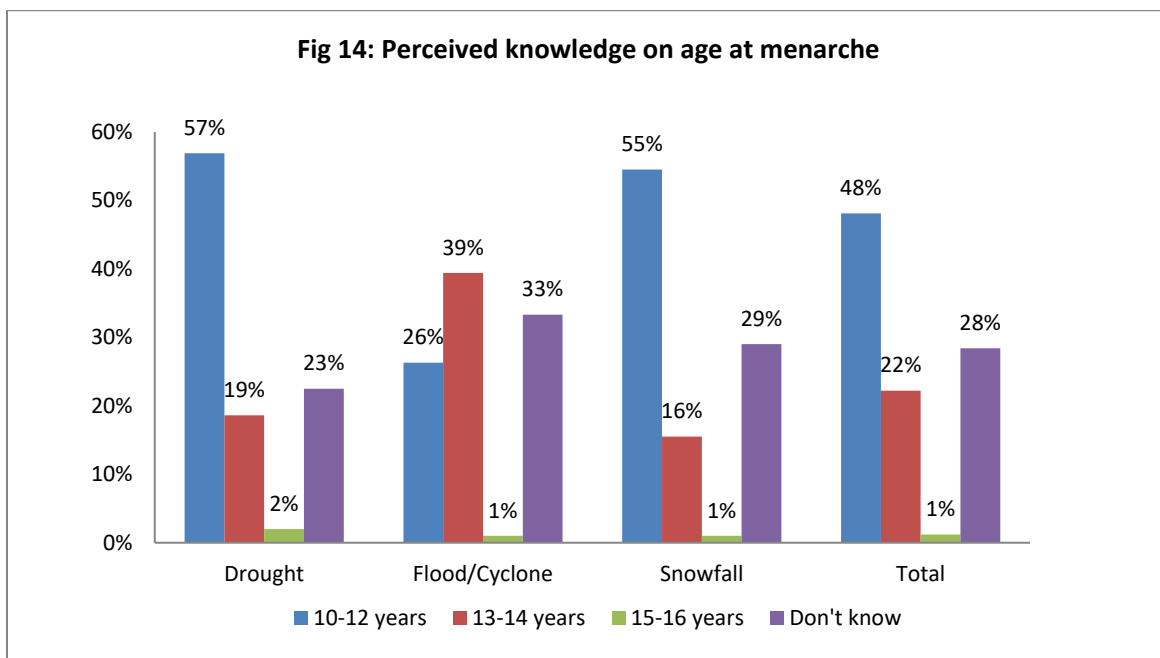
## SECTION-4

### 4. Menarche and Menstruation

#### 4.1 Perceived Knowledge, Age at Menarche and Changes Due to Menarche

The beginning of the first menstrual period is an event of major implication in a woman's life, denoting some attainment in her life. The menarche is associated with the body change, puberty affects a girl's psychological and social development, and the girl's life experiences influence of the physical changes that are occurring as well. The information collected in **table 8** shows that a sizeable number of adolescents knew the age when menarche begins. It was found that one-half of the respondents knew that menarche starts at the age between 10–12 years, and one-fifth said that menarche starts at the age between 13–14 years. It is pertinent to mention that one-third of the respondents had no knowledge regarding the age of menarche beforehand.

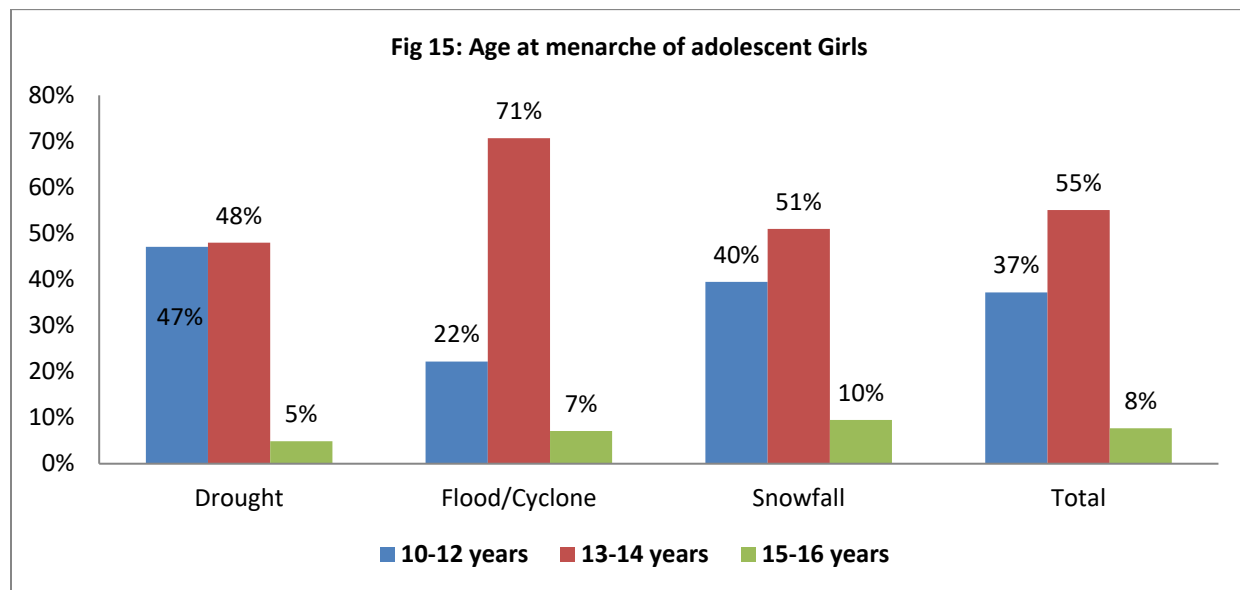
**Figure 14**



#### 4.2 Age at Menstruation and Reaction of Adolescents

It was found that more than half of the respondents (55 percent) reported that their menstrual periods started at the age between 13–14 years, followed by 10–12 years (37 percent). In rural areas, the mean age of menarche was found higher (12.96 years) than urban areas. Rural areas

have later menarche than urban areas. Also in flood vulnerable areas, age of menarche was higher than other climate vulnerable areas. The information regarding the reaction towards first menstruation shows that about three-fourth of the respondents (72 percent) got frightened, and one-fourth (26 percent) revealed that they remained normal towards the first menstruation. No ceremony was done by any of the respondent on her first menstruation in the UT. **Table 8 and figure 15**



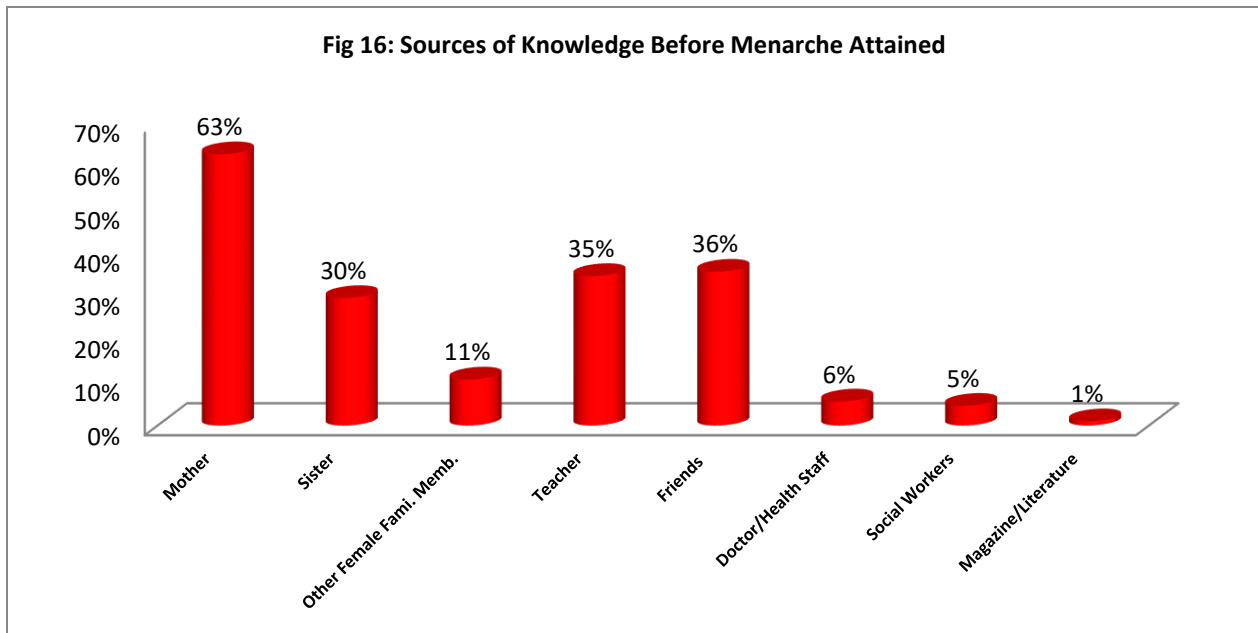
#### 4.3 Discontinuation of Studies During Menstruation and Perceived Changes

Further it was enquired from the sampled respondents regarding the discontinuity of their studies during menstruation, and **table 9** shows that 95 percent of the respondents did not remain absent during their menstruation from schools. In flood vulnerable areas, one-fourth of the respondents remained absent during the period of menstruation. When asked about the various changes they perceived during the menstruation, such as changes in dress, movement, and playing, it was found that on an average, one-half of the respondents changed their dress, movement, playing habits, and HH work during their menstruation time. In urban areas, perceived changes were found higher than in rural areas. In drought prone areas, perceived changes are higher than flood and snow vulnerable areas.



#### 4.4 Knowledge and Source of Knowledge on Menarche and Menstrual Hygiene

It is pertinent to mention about the source of knowledge before or after the menarche. As per the findings of the study depicted in **table 10**, it was found that one-half of the respondents were aware of menarche before they experienced it. Furthermore, it was found that this knowledge was more prevalent in rural areas and flood-prone areas as compared to urban, snowfall or drought-prone areas. The main sources of knowledge about the menstruation before they attained it were mothers (63 percent), sisters (30 percent), and friends (35 percent). In flood vulnerable areas, 80 percent of the mothers of the respondents had shared the knowledge of menarche with their daughters. In snowfall vulnerable areas, teachers have played an effective role in disseminating the information among the adolescent girls regarding menarche. **Figure 16**



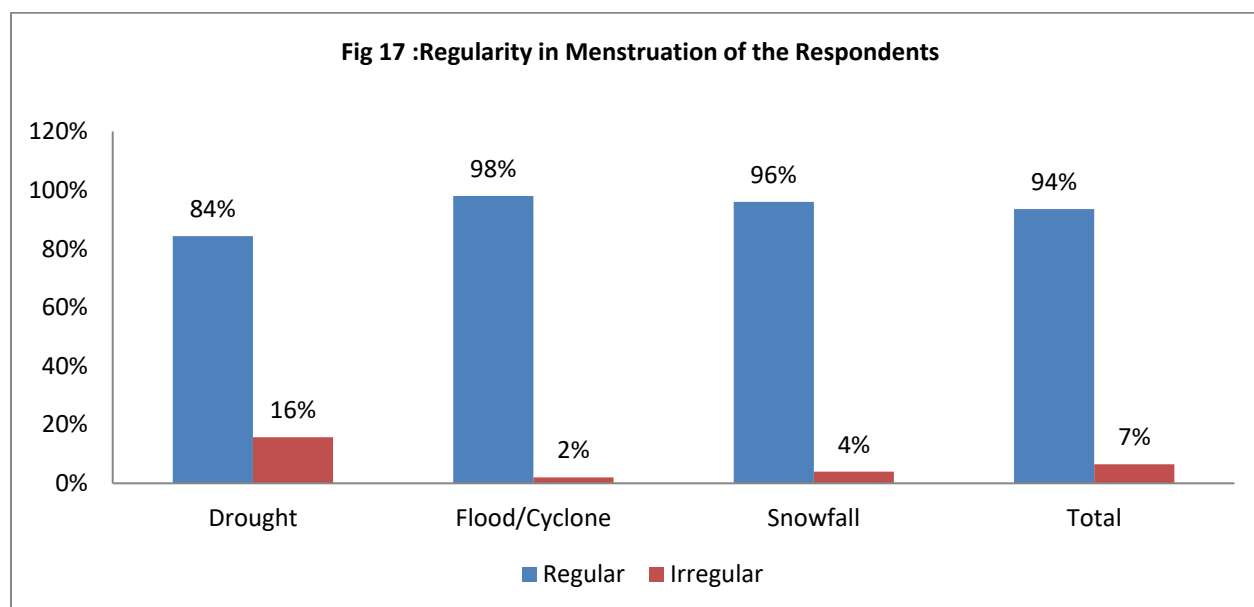
The respondents stated that they were fully aware about menstrual hygiene. The knowledge regarding menstruation hygiene was also disseminated by their mothers, sisters, friends, and other family members. It was found that more than three-quarters (80 percent) of respondents had learnt about menstruation hygiene from their mothers, followed by their sisters with 27 percent, teachers (16 percent), and other family members (14 percent). In rural areas, knowledge was more widely disseminated than in urban areas. Also, mothers in rural areas remained more cautious about the menstrual hygiene of their daughters than mothers in snowfall and drought

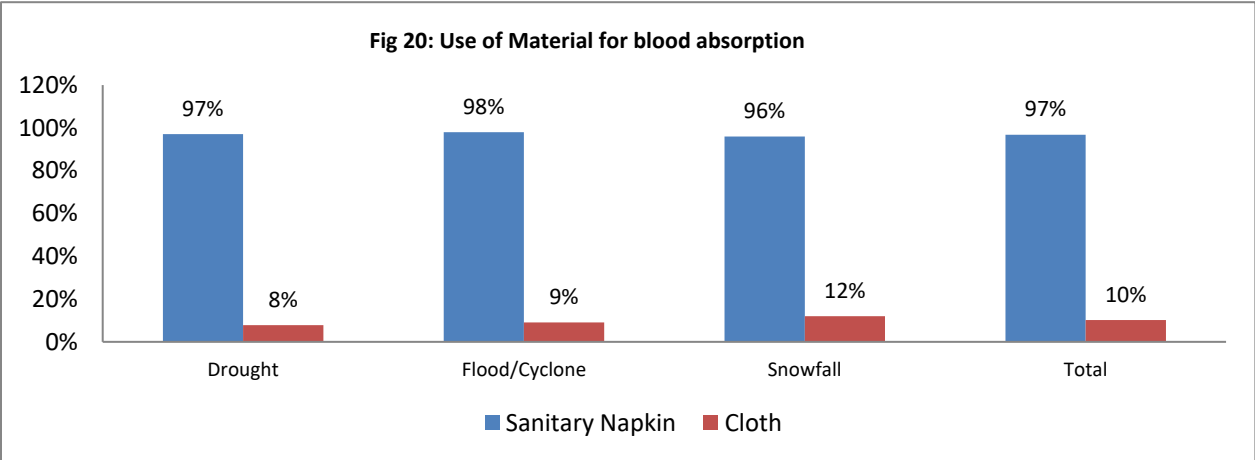
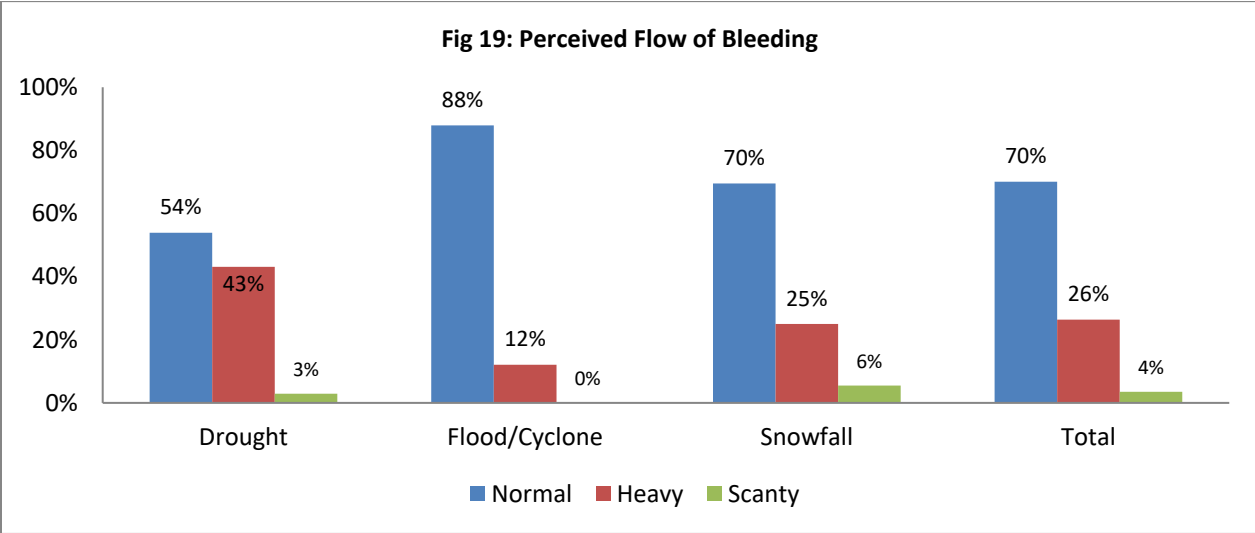
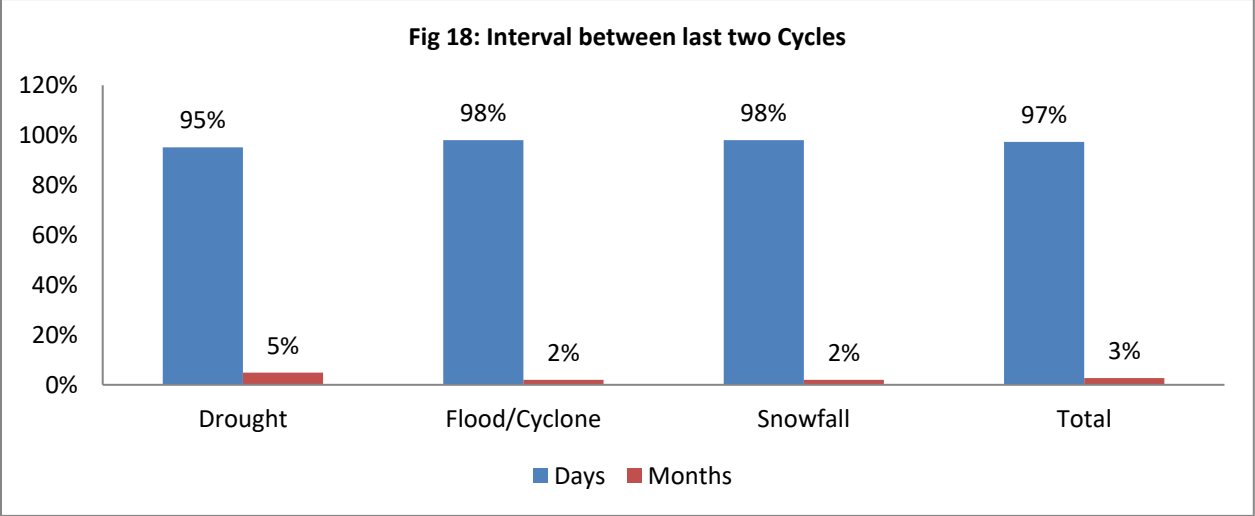
vulnerable areas. The analysis of the data revealed that role of health workers in disseminating the information about the importance and measures of menstrual hygiene was almost negligible.

**Table 10**

#### 4.5 Regularity of Menstruation, Flow of Bleeding, Interval and Use of Sanitary Napkins

From the given analysis in **table 11**, it was found that almost all of the respondents (96 percent) revealed that there was regularity in their menstrual cycles, and the regularity of cycles was found highest in flood vulnerable areas as well as in rural areas. In drought vulnerable areas, 15 percent of adolescents reported that they experienced irregular menstrual cycles **figure 17**. Further, it was found that except for a very meager percentage (4 percent) of adolescents, all other respondents reported that their interval between the two cycles remains in days, and on an average, the interval between two periods was 27 days. Further, it was found that 70 percent of the adolescents had normal bleeding, and one-fourth had heavy bleeding. In urban areas, more than half of the respondents reported that their flow of bleeding remains abnormal. In flood prone areas 88 percent of the respondents had normal bleeding, while in drought prone areas 43 percent adolescent reported that they have heavy bleeding. It was further disclosed by the respondents that during bleeding they use sanitary napkins and only a small percentage of 10 percent were using cloth for blood absorption. **Figure 17, 18, 19 and 20**





## SECTION-5

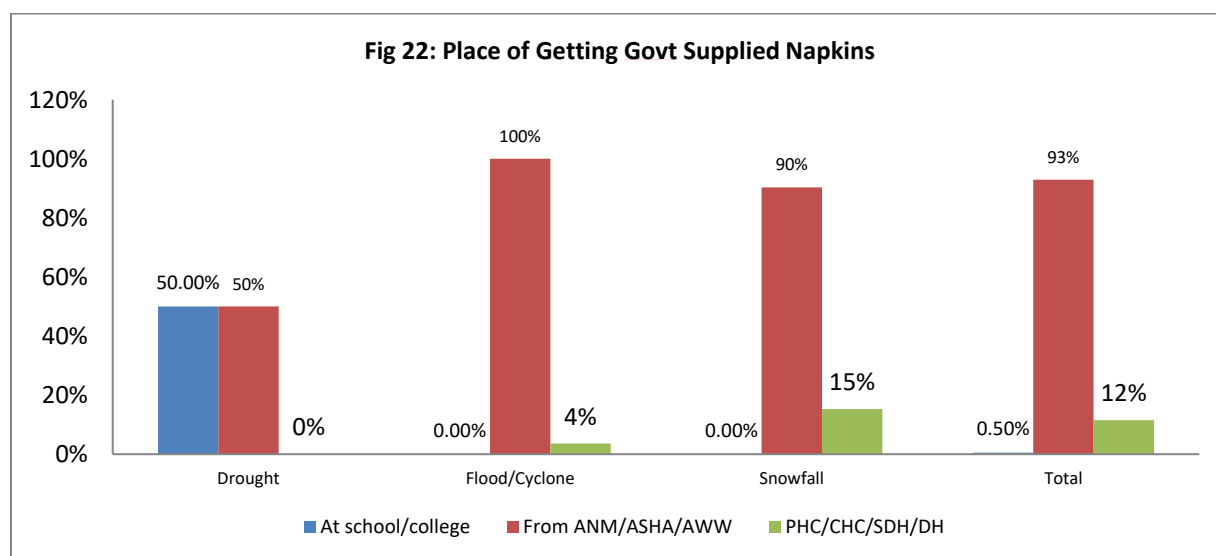
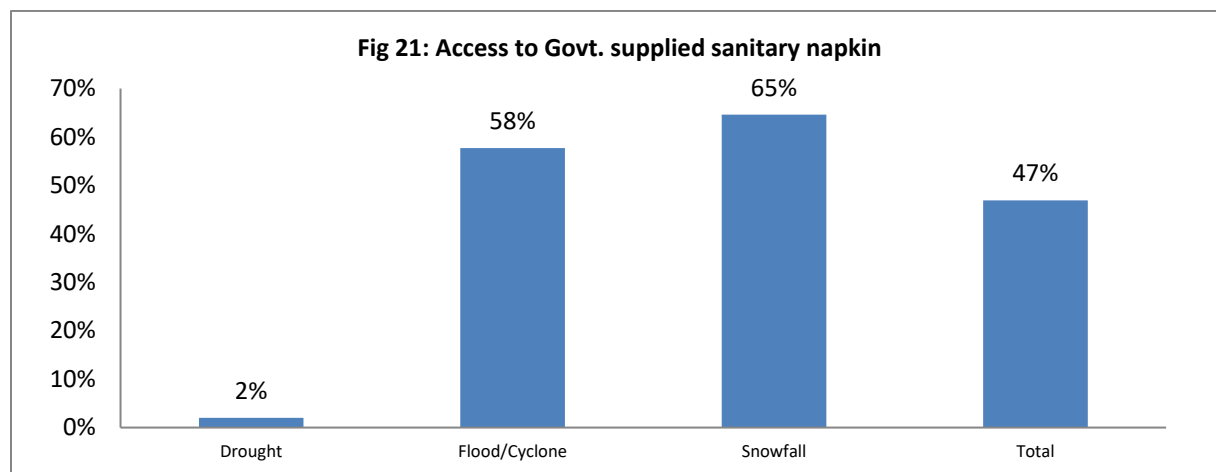
### 5. Menstrual Hygiene Management

India has been a global leader for action on menstrual hygiene since 2014, with strong Government leadership, and diverse actions by civil society, the private sector, manufacturers, and entrepreneurs. The launch of Swachh Bharat Mission (SBM) in October 2014 was a turning point for the sanitation and hygiene landscape in India, including menstrual hygiene management (MHM). State Governments showcased innovative and promising models to improve MHM; sharing of simple and effective solutions that were instrumental to build and sustain improvements for girls and women in India. WHO and UNICEF Joint Monitoring Programme has defined menstrual hygiene as using clean menstrual management material to absorb or collect menstrual blood, that can be changed in privacy as often as necessary and having facilities to dispose it (WHO/UNICEF, 2012). Under menstrual hygiene management various issues like absorbents used for menstrual bleeding, access to Government supplied sanitary napkins, purchasing of sanitary napkins, frequency of changing them and their disposal are considered.

#### 5.1 Access to Government supplied Sanitary napkins, Quality, Quantity and Other Issues

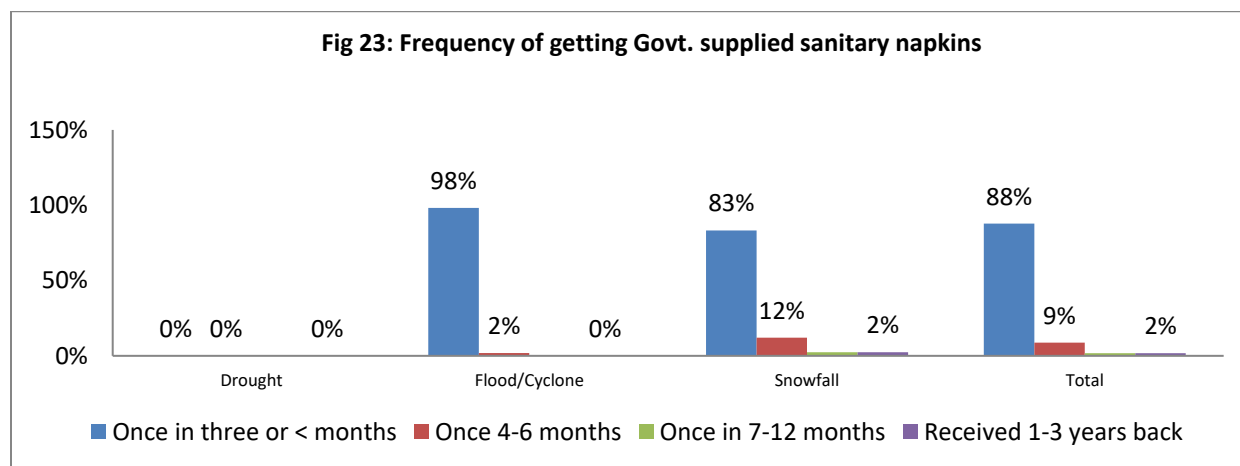
In 2011, the Menstrual Hygiene Scheme was launched by the Ministry of Health and Family Welfare, Government of India, among the adolescent girls in the age group of 10–19 years old. The main objective of this scheme was to increase awareness about menstrual hygiene among adolescent girls, increased access to and use of high quality sanitary napkins among adolescent girls in rural areas, and ensure safe disposal of sanitary napkins in an environmentally friendly manner. In this background information was collected from selected adolescent girls regarding the awareness, use of sanitary napkins and their proper disposal during the survey. The information presented in **table 12**, shows that in the sampled districts of Jammu and Kashmir, less than one-half of the respondents (47 percent) received government-supplied napkins. It was further found that two-thirds of the respondents from rural areas and 57 percent respondents from snowfall areas received these governments supplied napkins in the UT. Furthermore, it was found that majority of the respondents (93 percent), received sanitary napkins from ANMs/ASHAs, and 11 percent adolescent received them from different rural health facilities. It

is pertinent to mention that this scheme of menstrual hygiene has not been extended to district Srinagar (100 percent urban), but the concerned BMO reported that he manages free distribution/minimal charges of sanitary napkins among the most vulnerable areas (Slum) from his local funds. **Figure 21 and 22**



The information was also collected regarding the frequency, quantity, sufficiency and quality of these sanitary napkins being provided to adolescents and in this regard it was found that the majority of the respondents (88 percent) received these napkins once in three months, and 9 percent received them once in every four to six months' time. In rural areas, majority of the

respondents received sanitary napkins during the first three months during the previous year. From the data analysis, it was found that half of the respondents had received 11–20 sanitary napkins, and 40 percent had received more than 20 sanitary napkins at one time. In urban areas, 58 percent, and in flood prone areas, 62 percent, of respondents had received 11–20 sanitary napkins at one point of time. It was also found that less than half of the respondents (45 percent) in vulnerable areas affected by snowfall received more than 20 sanitary napkins at one point of time. **Table 12 and figure 23**



It was found that only one-third of adolescents were satisfied with the government supplied sanitary napkins in terms of quality of the sanitary napkins, the satisfaction was found to be 53 percent in urban areas. Furthermore, it was revealed by 60 percent adolescents in urban areas that the supply of sanitary napkins was sufficient. In rural areas, majority of the respondents revealed that there was an insufficient quantity of napkins supplied to them.

An attempt has been made to obtain opinion on the quality of government supplied napkins, and it was found that half of the respondents reported that these napkins have better absorption capacity, one-third reported that thickness is good; 93 percent stated that government supplied sanitary napkins have wings; and 73 percent reported sanitary napkins were adherent to the underwear. The respondents were further asked about various problems they faced with the government supplied sanitary napkin, and in this response, the leakage, inability to take shape,

deformation of the surface, a sense of wetness, and frequent changes were reported as the major problems with these sanitary napkins. **Table 12**

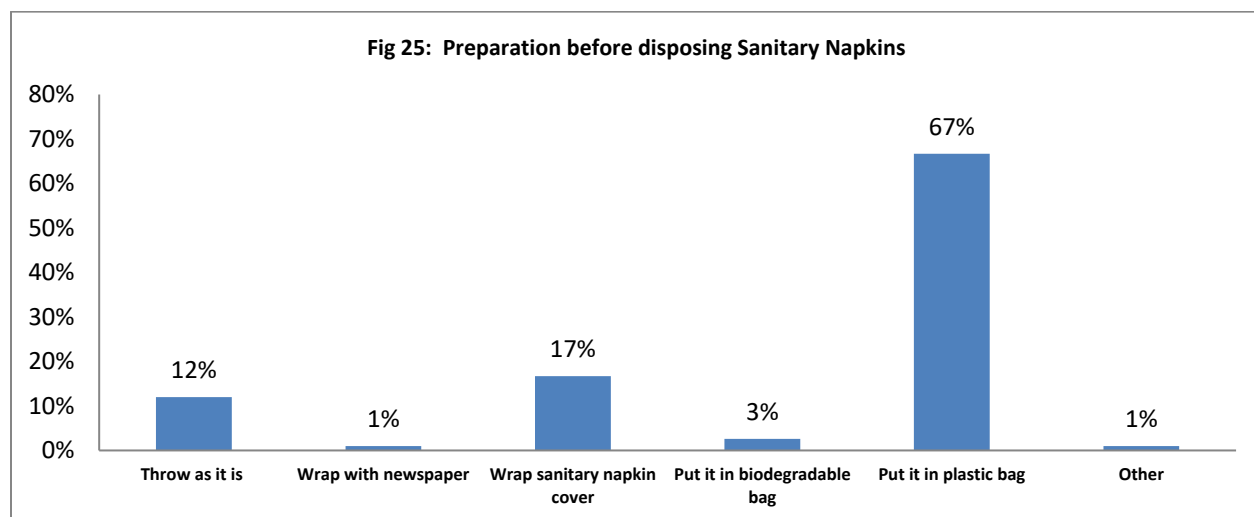
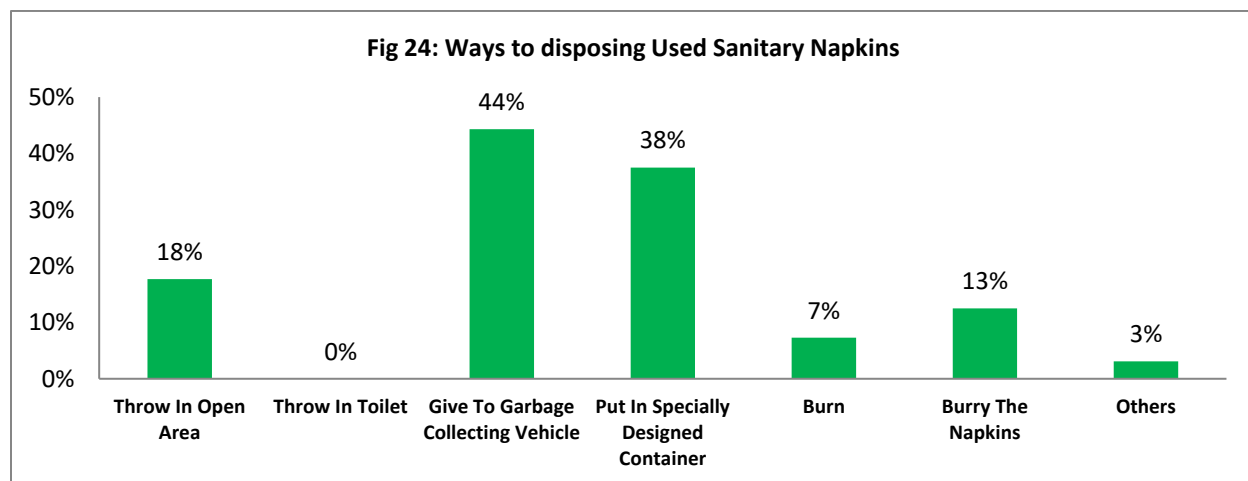
## 5.2 Place and Options considered while Purchasing Sanitary Napkins

**Table 13** presents the information regarding the place of purchase of sanitary napkins at the time of use among the adolescents. Overall about one-fifth of the respondents have never purchased any sanitary napkin themselves from the market. Furthermore, it was found that in areas of snowfall vulnerability, more than one-third (37 percent) of the respondents have not purchased sanitary napkins, while as in flood vulnerable areas, one-fourth of adolescents have not purchased sanitary napkins. Table 13 further reveals that, most of the respondents (68 percent) had purchased their sanitary napkins from shops while as 26 percent had purchased them from pharmacy. An attempt was also made to learn about the different options available to respondents when purchasing the sanitary napkins from the market and in this background it was found that majority of them (81 percent) purchased on the basis of its performance, followed by price (66 percent) and brand (29 percent). In drought vulnerable areas, brand preferences were found higher as compared to their counterparts in flood and snowfall vulnerable areas.

## 5.3 Disposal of Sanitary Napkins

There are different ways of disposing the used sanitary napkins like; burning, dumping, throwing them in the trash, etc. In this regard, the information collected in **table 14 and figure 24** shows that overall majority of the respondents were either giving the used sanitary napkin to a garbage collection vehicle or putting them in a designated container. A total of 44 percent adolescents revealed that they give it to the garbage collector while as 38 used to throw them in the designated dustbins. In urban areas, 60 percent of the respondents disposed-off the used sanitary napkins in the garbage collecting vehicles, and only one-third of the respondents (31 percent) in rural areas disposed them in garbage collecting vehicle. It is important to mention that a very small percentage of the respondents used to through them in toilets while as one-tenth of the respondents reported that they throw them in the open area. Different types of preparation performed by the respondents before disposing the used sanitary napkins were asked, and it was found that 31 percent adolescents used to put them in a plastic bag, one fourth

wrapped them in newspaper, and one-fifth left them out in the open for disposal. In climate vulnerable areas, 68 percent adolescent girls of drought vulnerable areas gave the used sanitary napkin to the garbage collection vehicle, while in flood vulnerable area this service was not available. **Figure 25**



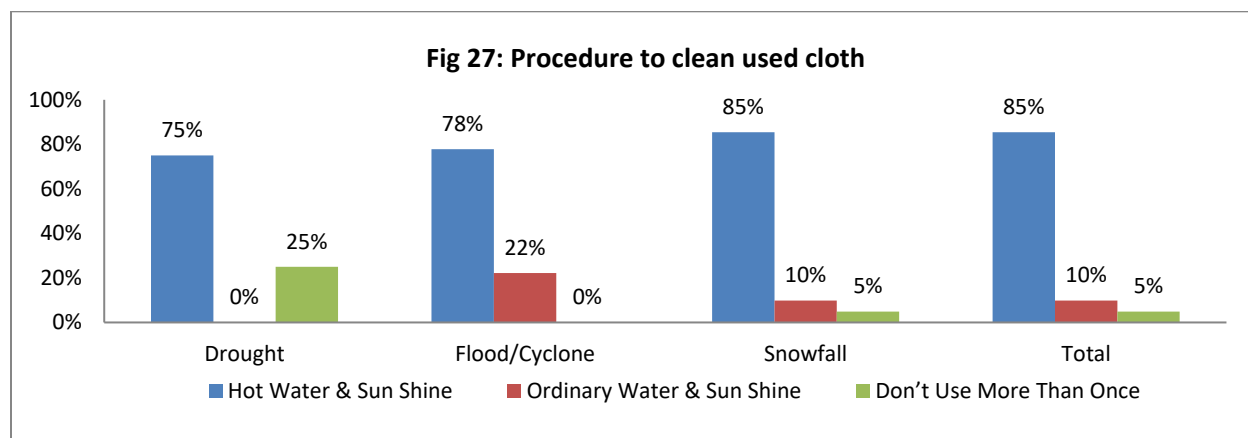
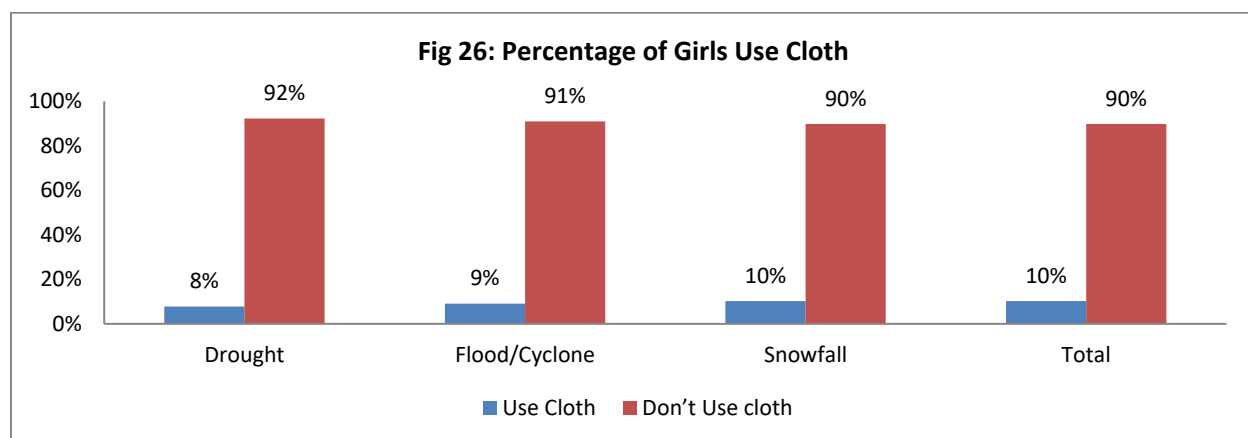
The details with regard to frequency of changing the sanitary napkins during menstruation, and the criterion for changing the sanitary napkins is given in **table 15**. In this regard hardly any variations were found across different climate vulnerable areas.



#### 5.4 Use of Cloth and Procedure Followed to Clean and Dry the Cloth

**Table 16** depicts the different procedure used to clean and dry the piece of cloth used by adolescents during their menstruation. The analysis in this regard shows that only one-tenth of the adolescents used cloth to absorb menstrual bleeding. For drying and cleaning the used cloth, different procedures were adopted by respondents that include hot water and sun shine, and ordinary water and sun shine. It was found that majority of the respondents (85 percent) wash the cloth in the hot water and dried it in the sun shine, while less than 10 percent used ordinary water for cleaning the cloth. It was further found that in rural areas the use of hot water for cleaning the cloth was more than urban areas. In snowfall vulnerable area also, use of hot water was more common than other vulnerable areas, which clearly depicts the problem that during winter water crisis are burning issues due to freezing temperature in almost all the areas of UT.

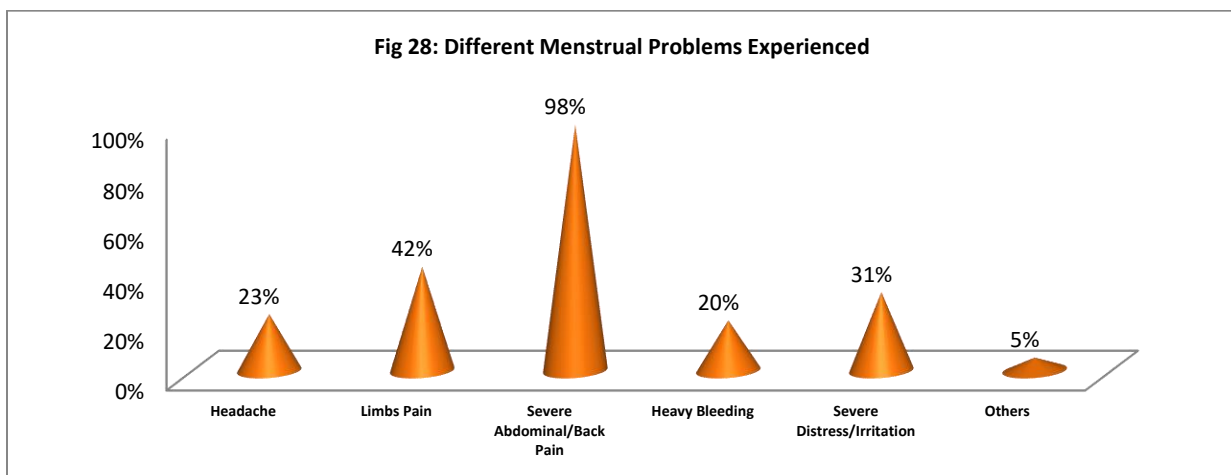
**Figure 26 and 27**

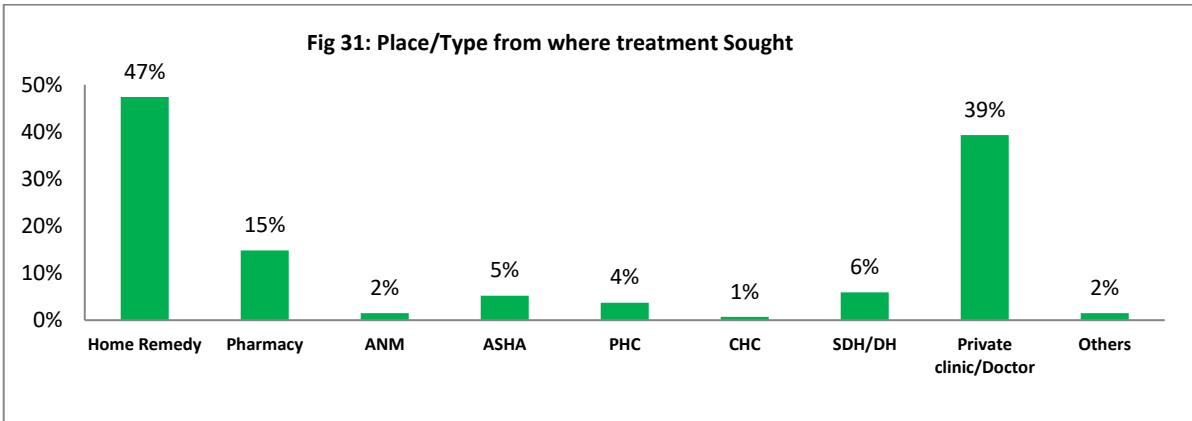
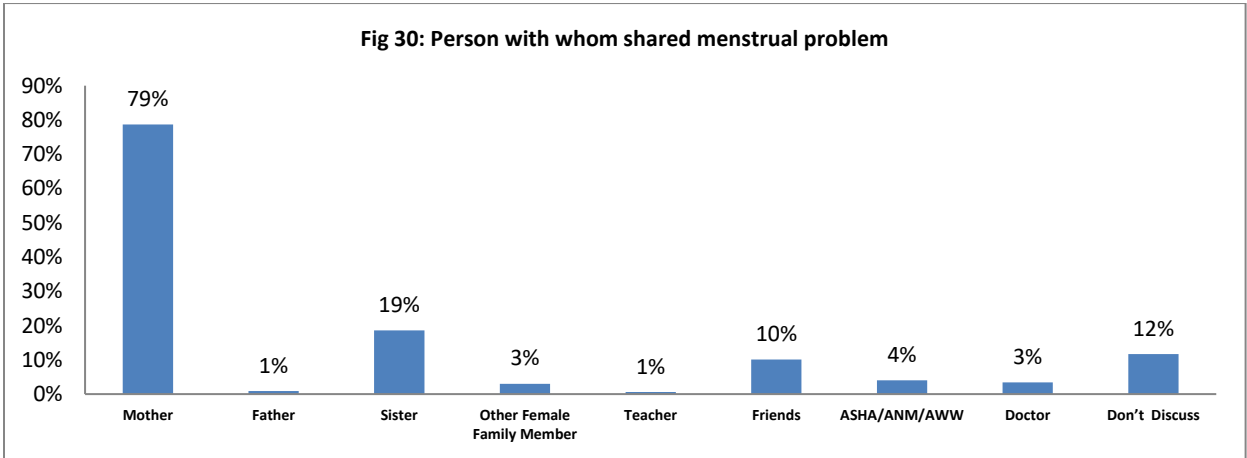
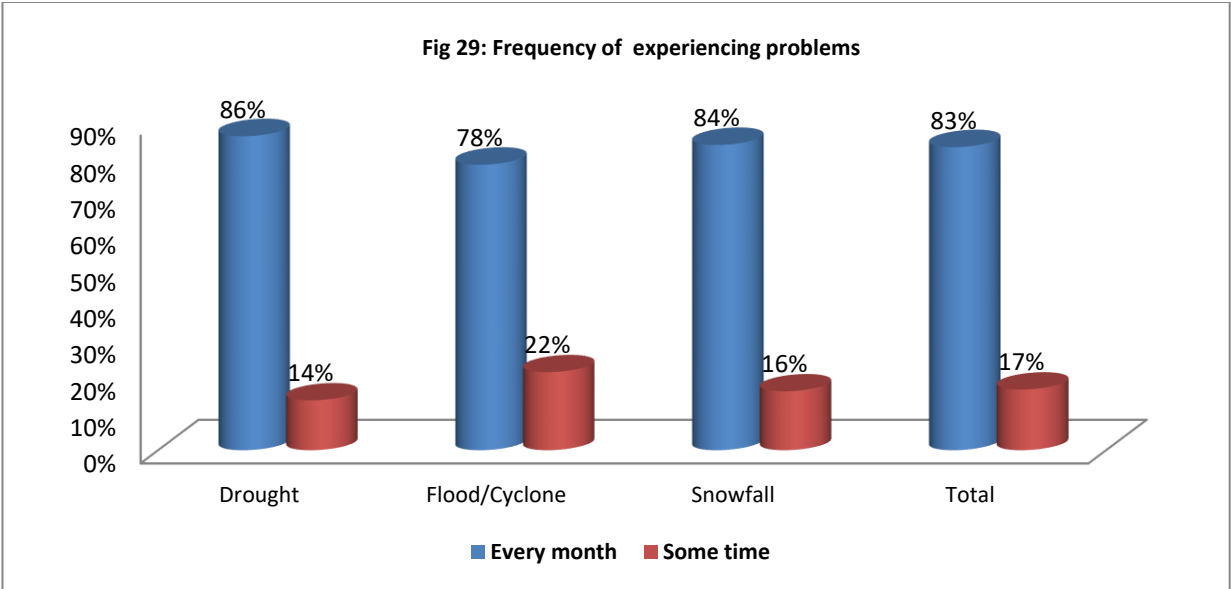


## SECTION-6

### 6. Menstrual problems, Reproductive Tract Infections (RTI) and Treatment Seeking Behaviour

**Table 17** shows that more than 80 percent of respondents faced different types of health problems/side effects during the menstrual periods. It was found that, more than 90 percent of adolescent girls disclosed that they encounter different problems during menstruation which include acute abdominal pain (98 percent), limb pain (41 percent), and one-third face severe distress and irritation. In urban areas, adolescent girls experience more menstruation related problem than rural adolescents. A slight difference was found in the severity of different types of health problems among different climate vulnerability areas. Further, it was found that more than 80 percent of the respondents faced these problems every month, and 17 percent faced various types of health problems occasionally. It was found that the lowest frequency of problems was found in drought prone areas. The information collected further shows that most of the respondents shared their health problem during menstruation with mothers (79 percent), followed by sisters with 19 percent. Overall, only 41 percent adolescents had sought treatment for menstruation related health problems and most of them belonged to urban areas. The treatment was mainly sought from private clinics by majority of the adolescents. It was further found that overall, about half of the respondents used home remedies, and 15 percent got treatment from a pharmacy. It was pertinent to mention that 40 percent of the respondents in Jammu and Kashmir sought treatment either from private clinic or from doctors. **Figures 28, 29, 30 and 31**

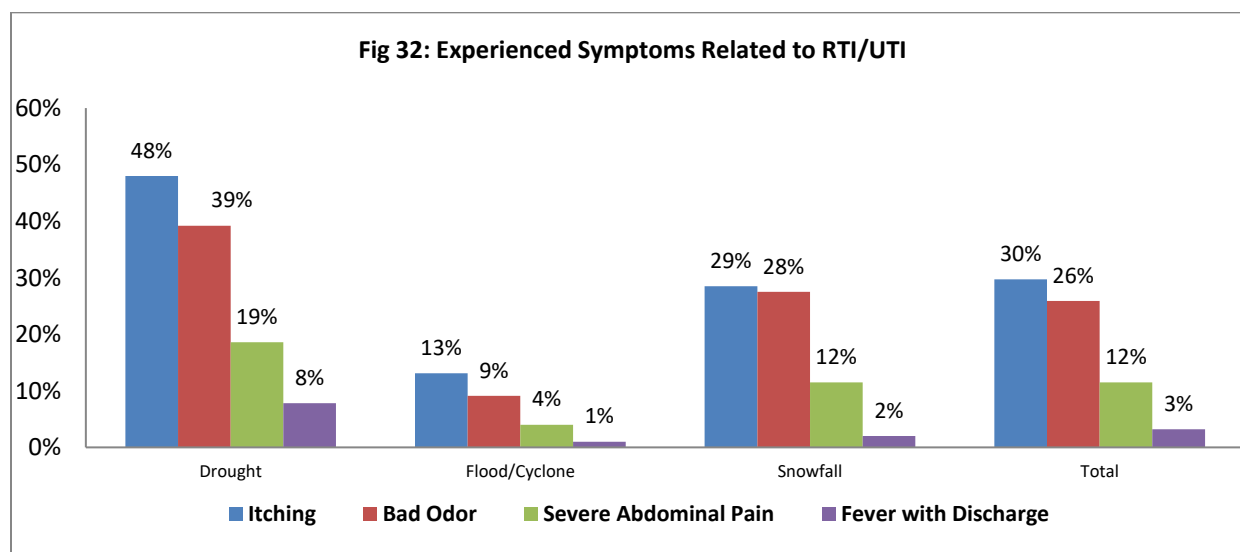




## 6.1 Reproductive Tract Infections (RTI) and Treatment seeking behaviour

RTIs are generally seen as a 'silent' epidemic and are among the leading public health problems. As observed in DHS surveys as high as 15 percent of the young women found to suffer from self-reported symptoms of reproductive morbidity but do not seek treatment due to existing taboos and inhibitions regarding sexual and reproductive health in India. An attempt has been made in this section to assess the existence of menstrual problems and self-reported RTI symptoms among adolescent girls and treatment seeking behaviour for these problems.

All the respondents were asked about any symptom or problems they developed during the last one year, and in this regard the information provided in **table 18** shows that a total of 21 percent of them had faced any problem in J&K. In different climatic vulnerable zones, flood-prone areas have witnessed the lowest percentage of such cases, with only five percent, while in the areas of drought vulnerability, about 30 percent of the adolescents experienced any problem. Further, it was also found that rashes on the genitals were experienced by one-fifth of the adolescents in the selected districts. Other problems experienced by the adolescents included: itching, bad odor, and severe abdomen pain. Further, it was found that more than half of the respondents had not experienced any problem. Among the respondents who faced any type of problem, 64 percent did not seek any treatment, while near about one-fourth (23 percent) had sought treatment from private clinics or doctors. In case of climatic vulnerability, insignificant difference was reported across the UT in seeking any treatment for RTI or UTI. **Figure 32**



## SECTION-7

### 7. Marriage and Fertility

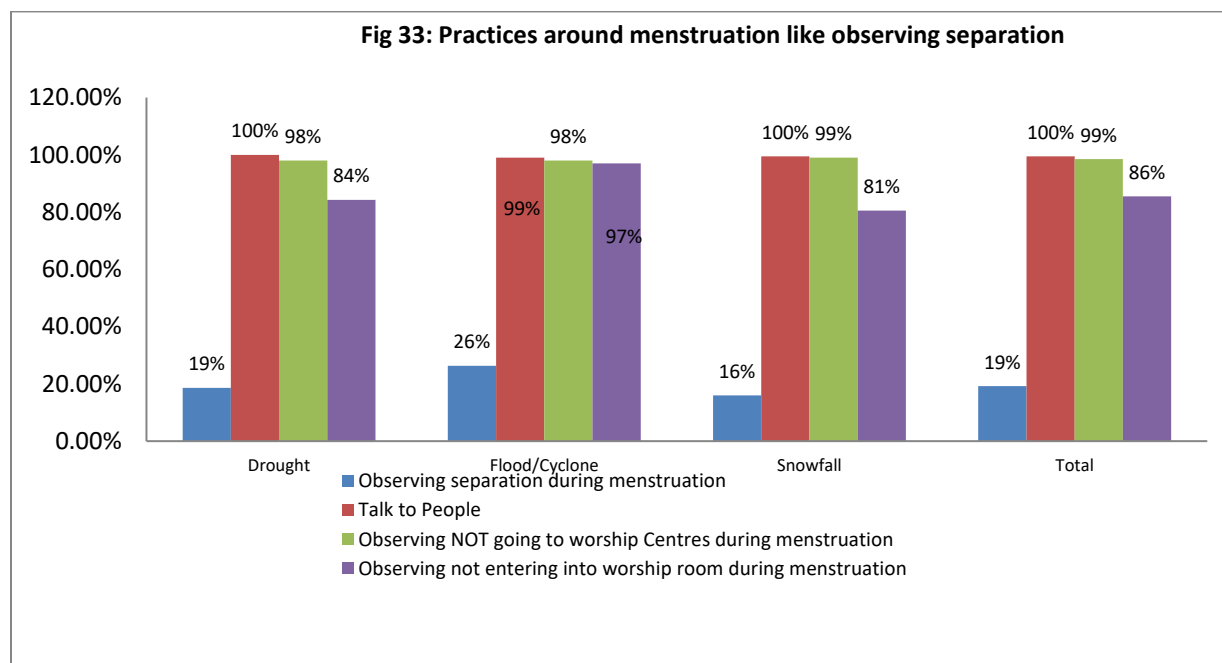
#### 7.1 Marriage and Fertility among Adolescent Girls

Child marriage violates children's rights and places them at high risk of violence, exploitation, and abuse. A girl who is married as a child is more likely to be out of school, not earning money, and not contributing to the community. She is more likely to have children when she is still a child. There are more chances of her dying due to complications during pregnancy and childbirth. *It negatively influences children's right to education, health, and protection. These consequences impact not only the girl directly, but also her family and community.* It was found that among the adolescent girl respondents, three were found married, and all of them belonged to the urban hamlet (slum) of Srinagar. Among these, one got married at the age of 14 years, one at the age of 15 years, and one at the age of 18 years. The interesting fact is that, all three were pregnant at the time of the field survey. **Table 19**

## SECTION-8

### 8. Cultural Practices around Menstruation

Among all the respondents, the different types of activities during menstruation, some were performed by the adolescent girls, while others were avoided by them. In case of different types of religious duties, most of the respondents were not following them during their menstrual periods. **Table 20** shows that overall, 98 percent of respondents do not enter the worship room and 85 percent of respondents don't perform any religious duty. In case of climate vulnerable zones, such practices were followed uniformly. In cases of separation from family during menstruation, about one-fifth (19 percent) of the respondents were following this practice; half of the respondents avoid different types of activities; one-third of girls avoid going to school; only one-third are taking the bath; and 60 percent follow dietary restrictions. In the case of non-religious activities like observing separation from family, restrictions in different activities and school restrictions, they are more followed in flood-prone areas than in drought- and snowfall-vulnerable areas. **Figure 33**



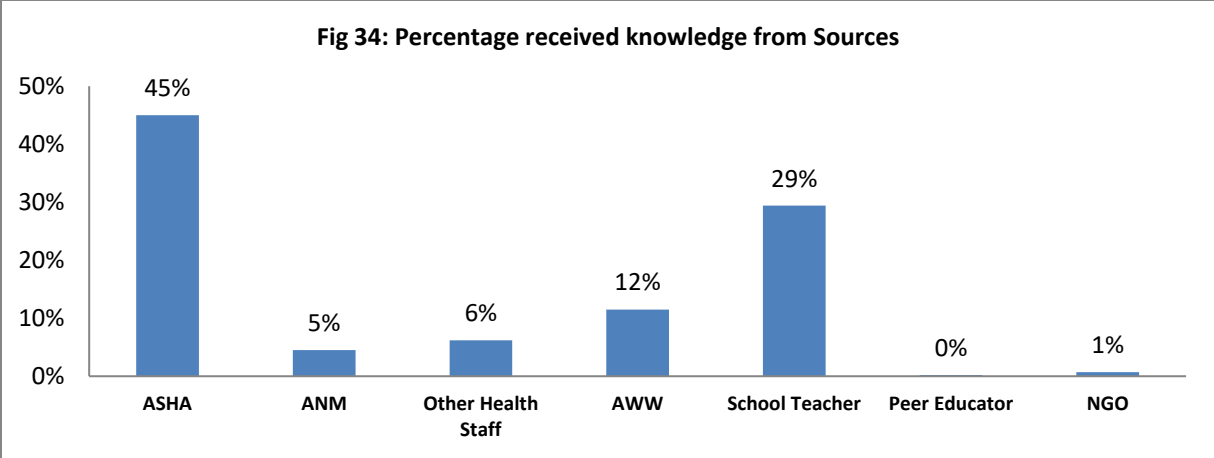
## SECTION-9

### 9. Impact of National Programmes on Adolescent Girls on Menstrual Hygiene

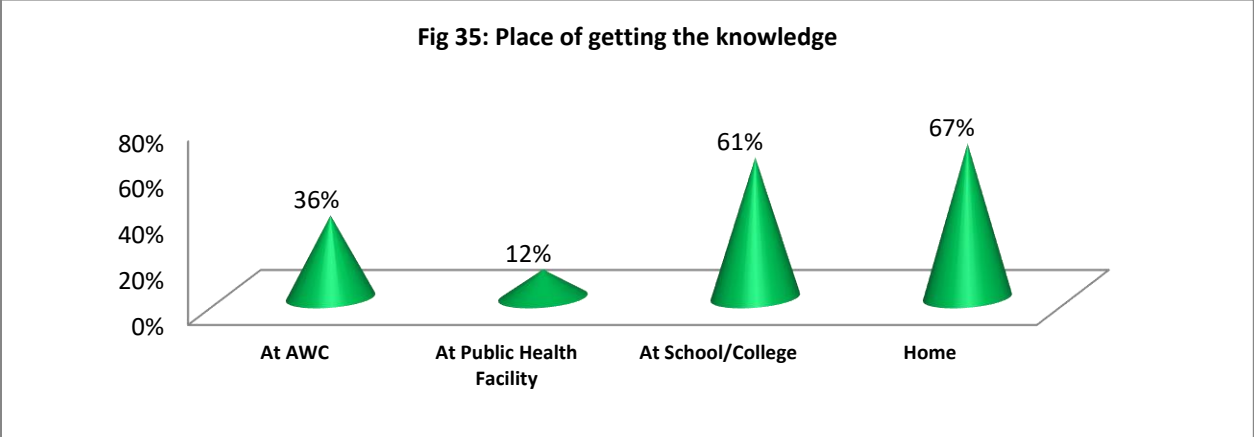
In order to ensure holistic development of adolescent population, the Ministry of Health and Family Welfare, Government of India has launched many National Health Programmes focused on adolescent girls. To list some of them are Rashtriya Kishor Swasthya Karyakram (RKSK), Peer education Programme, Adolescent Friendly Health Clinics (AFHC) and Anaemia Mukh Bharat Abhiyan. These programmes provide core package of services including preventive, promotive, curative and counselling services, routine check-ups at primary, secondary and tertiary levels of care and distribution of materials including food ingredients, IFA tablets and sanitary napkins.

#### 9.1 Knowledge about Menstrual Health and Hygiene

In order to assess the role of national programmes about the knowledge on menstrual hygiene among the adolescent girls, all the selected respondents were asked few questions about the knowledge, source of knowledge and place of knowledge about the same. **Table 21** depicts the sources, components and place of knowledge about menstrual hygiene. It was found that the role of ASHAs has been prominent while as role of various health functionaries including ANMs has been very limited. Further, the role of AWWs, NGOs and Peer Educators has been almost negligible. The information collected shows that a total of 45 percent of the respondents agreed about the fact that ASHAs and about five percent ANMs have disseminated the knowledge regarding menstrual health and hygiene to them. The role of school teachers has been very encouraging as about one-third of the respondents said that teachers have provided them with the knowledge about menstrual hygiene and health. In drought-prone and urban areas, ASHAs and ANMs have failed to provide any knowledge about menstrual hygiene among the adolescents, while teachers have played a good role in disseminating the information to them. In drought prone areas, knowledge about menstrual hygiene was found unsatisfactory. **Figure 34**



When respondents were asked about the place where they get the knowledge about menstrual health, it was found that less than two-thirds (61 percent) got the knowledge from schools and colleges, and one-third had received it from Anganwadi Centers (AWCs). In drought-prone areas, maximum knowledge is disseminated from schools and colleges, while in snowfall-vulnerable areas, AWC have an effective role in disseminating the information. **Figure 35**

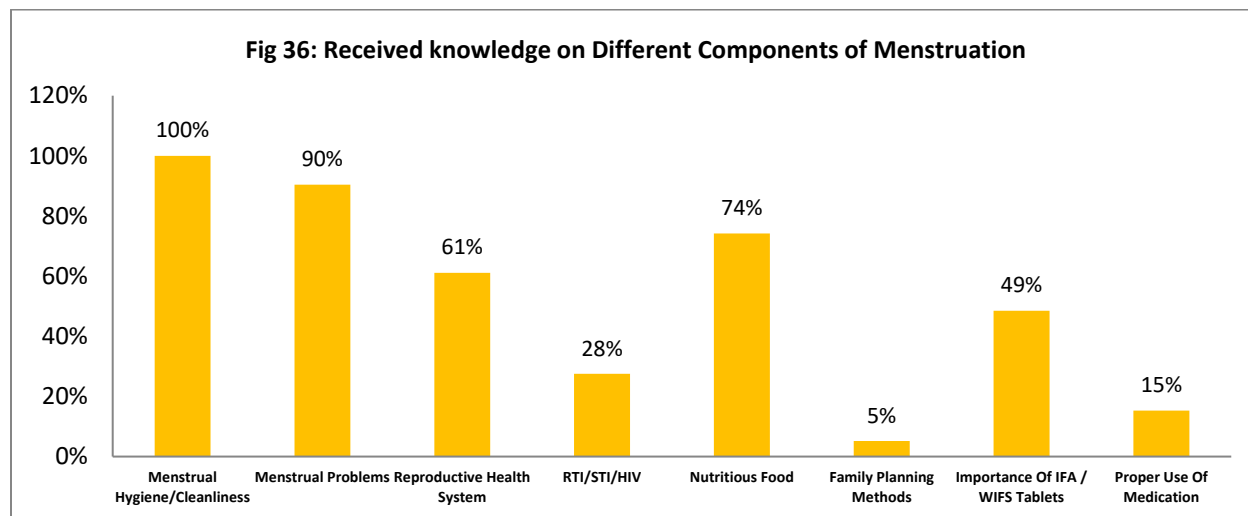


It was also found that respondents have knowledge about the different components of menstrual health and hygiene. From the sampled respondent, it was found that among those adolescents who were provided the knowledge, all had received the knowledge on menstrual hygiene, 90 percent had received knowledge of menstrual problems, three-fourth (74 percent) received knowledge on use of IFA, and two-third had received knowledge on reproductive child health. Further, information on intake of notorious food, RTI/STI/HIV and proper use of medication was



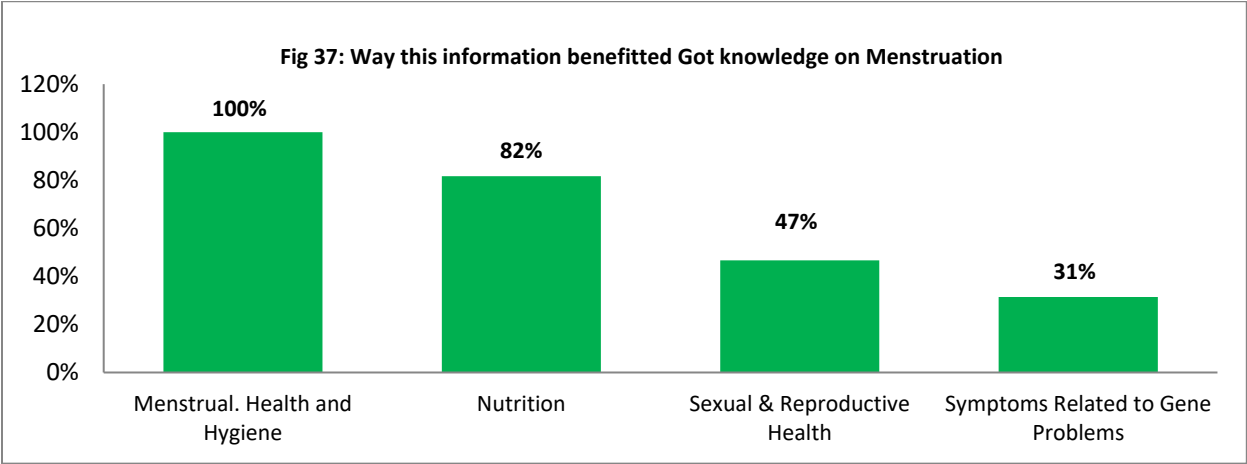
also given to substantial number of adolescents in J&K. the amount of information and knowledge among the adolescents was found almost uniform across the climate vulnerable zones. This information was found to be highly beneficial among all the respondents and the benefit was cent percent with regard to menstrual health and hygiene. **Table 21 & Figure 36**

Furthermore, respondents were asked about the different material services received during the period of menstruation and it was found that two-third of the respondents received sanitary napkins, about one-half received the IFA tablets (49 percent), and 42 percent received free health checkup. In snowfall areas, maximum respondents have received the different material services, while the least respondents from the drought prone areas received these services. **Figure 37**



In order to look into the impact of knowledge by various health officials and other related persons, the respondents were further asked that if they changed their behaviour after getting the knowledge from various health and other personnel. From the sampled respondents, it was furthermore found that during the menstruation period more than three-fourth of the respondents followed different hygienic practices, 87 percent were changing their sanitary napkins/cloths frequently, 90 percent were disposing the sanitary napkins properly, 70 percent were washing and drying the cloths under sunshine, and more than three-fourth (79 percent)

were taking nutritious food. There was not any significant difference among the climatic vulnerable areas, in case of changing behavior during the period of menstruation. **Table 21**



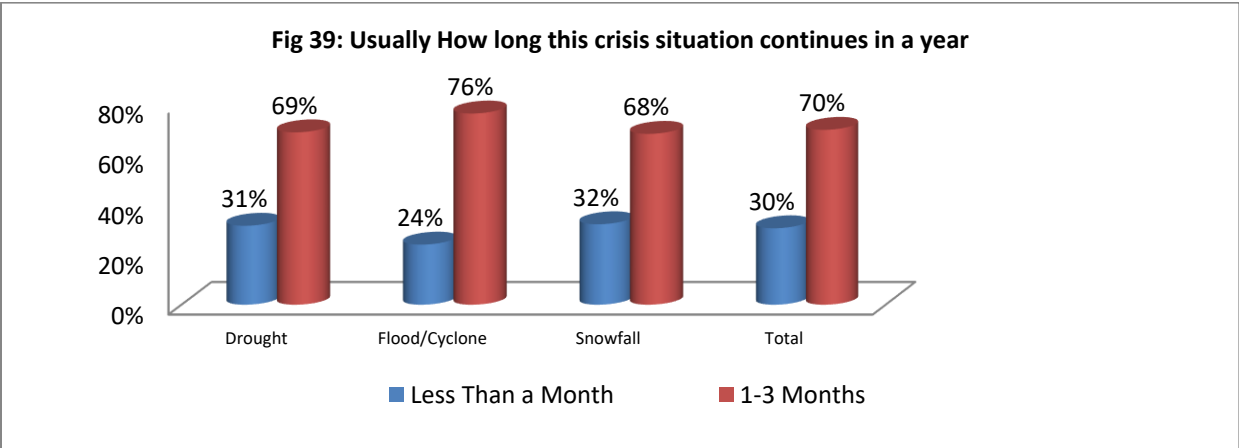
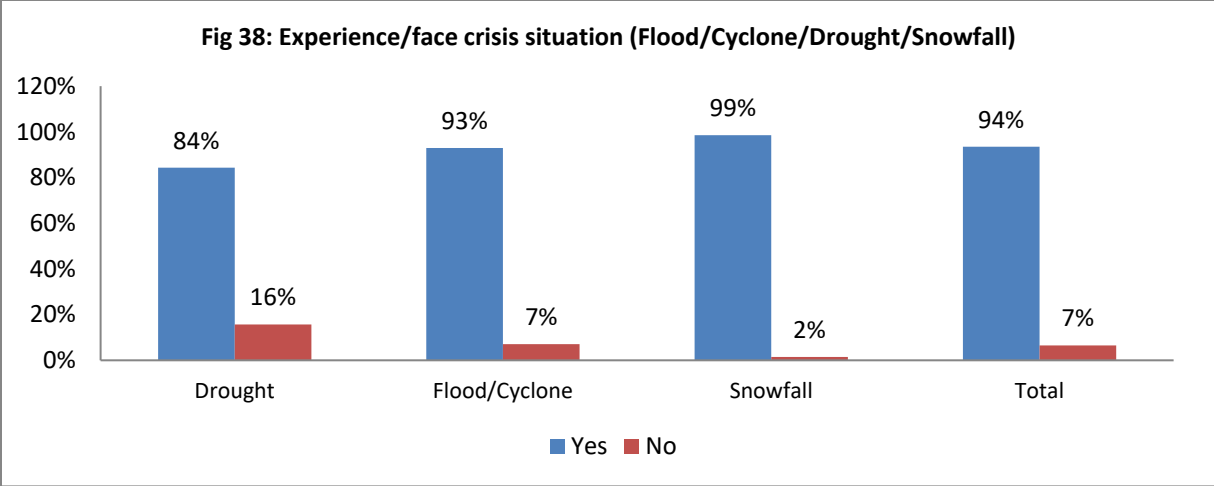
## SECTION-10

### 10. Climate Vulnerability and Menstrual Hygiene

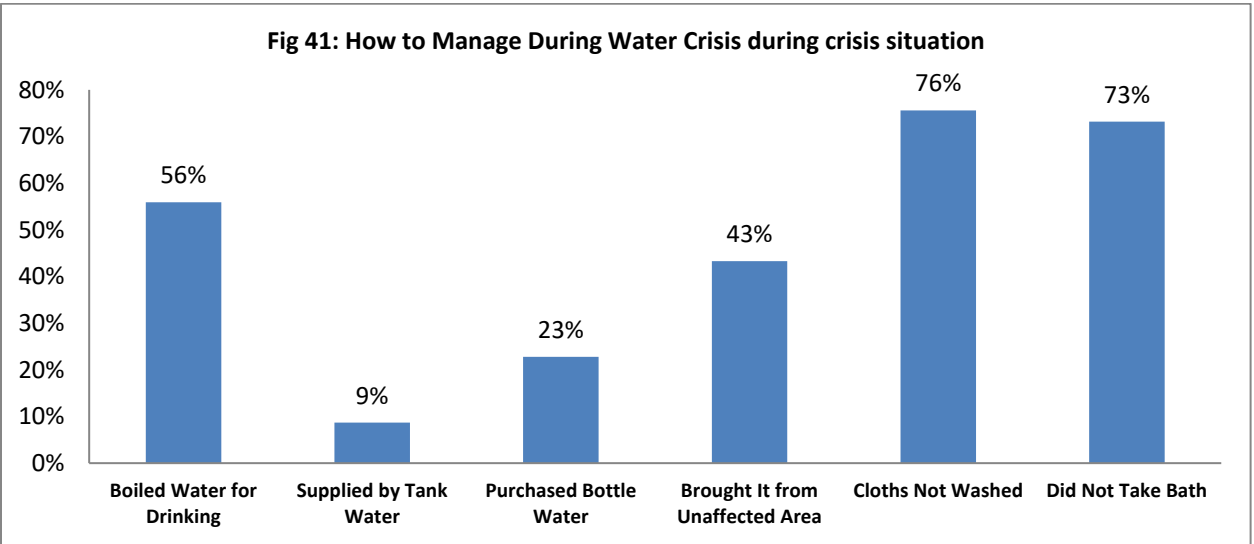
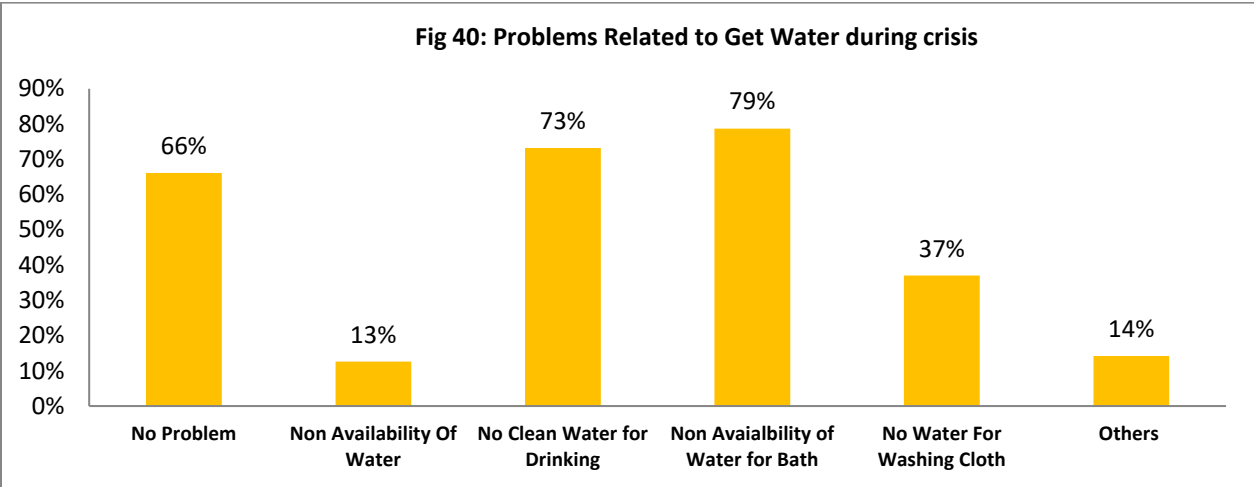
#### 10.1 Adolescent Girls experienced crisis situation due to climate extreme problems

Overall, in the Union Territory of Jammu and Kashmir water crisis and heavy snowfall disrupts the normal life in many ways which affects the normal life for quite some time and makes life difficult for all sections of the society. During this period, extreme cold conditions, vehicular moment, freezing of water and sometimes closure of market makes life difficult for a very short period of time but people always remain equipped with such climatic situations as it is a normal phenomenon for all during winters and people for such situations keep enough stocks of all essential commodities at their households. The issues of drought and flood remains to be very rare in Jammu and Kashmir and as such affects the life of people to minimal.

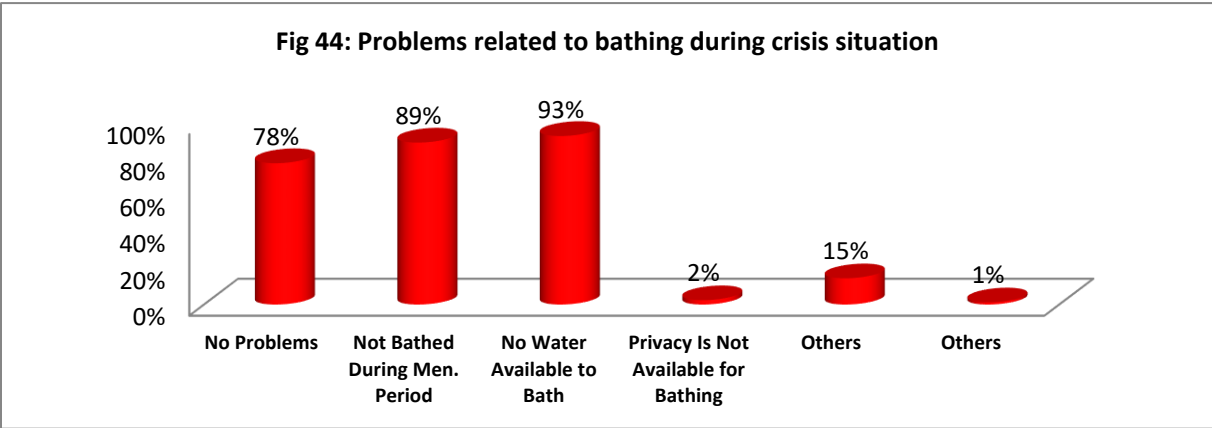
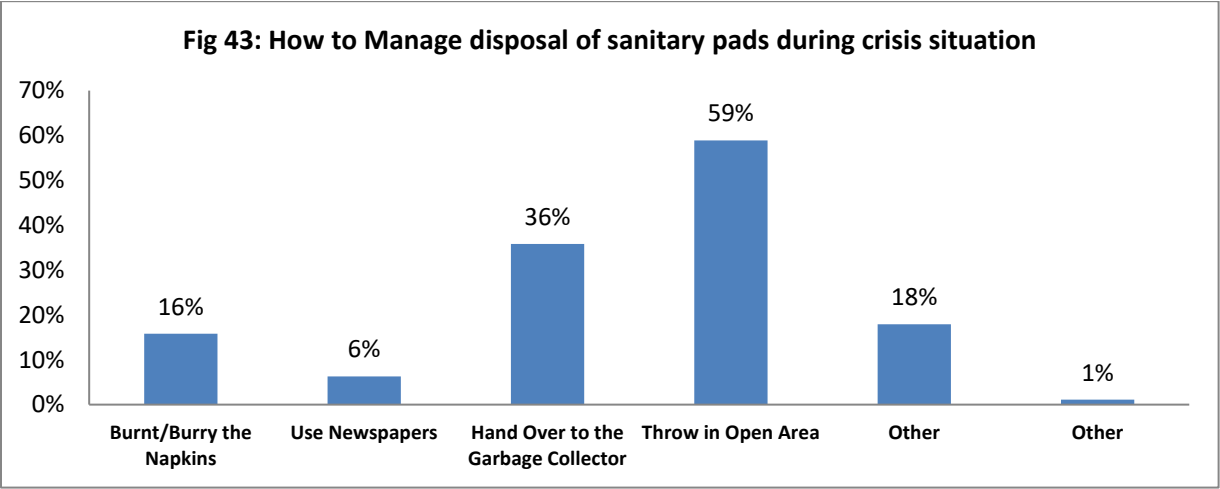
In order to ascertain the impact of climate vulnerability on menstrual health and hygiene among adolescents in the selected districts of Jammu and Kashmir a set of questions were asked to them so that climate related vulnerability can be assessed. In this regard, all the selected adolescents were asked to report about different type of crises they witnessed during different climate extreme vulnerabilities. It was that found that, majority of the respondents (93.5 percent) revealed that they faced different types of crises during the menstruation at these times. The respondents of the snowfall region faced the maximum crisis during the winter, when temperature falls below the freezing point particularly in hilly regions of Kashmir valley and water crisis arise due to freezing of water supply pipes. It was also found that these crises remain mostly for 1-3 months particularly from the mid of December to ending March. The adolescent girls in particular and other sections of the society in general are not able to bath or wash clothes frequently during this time. The details in this regard are shown in **table 22 and figure 38 and 39**.



Those respondents who reported that they face the crisis situation were further asked about getting the water for use and in this regard, two-third of the respondents reported that they didn't face any problem in getting the water for various uses while as one-third of the respondents reported that they had no water at all during the crisis time. Further, more than three-fourth of the respondents each reported about the non-availability of clean water for drinking and water for bathing. This water crisis has mostly been seen in the selected districts of Kashmir region during extreme winter conditions where the temperatures remain below 0<sup>0</sup> Celsius and water pipes and tanks containing water freeze. When asked as to how they managed such water crisis, the respondents reported that they use boiled water, bring water from the unaffected areas, don't wash cloths as long as water pipes melt or purchase bottled water for drinking purposes. **Table 22 figure 40 & 41**



Further, the information collected shows that about 94 percent respondents reported that they don't have any option for safe disposal of used cloth and sanitary napkins during the crisis time. Multiple responses were recorded with regard to disposal of used sanitary napkins/cloth during the crisis situation due to climate vulnerability and in this regard, 16 percent respondents used to burn the used sanitary napkins, 36 percent used to handover to garbage collector (when he comes) and 60 used to throw them in open during the crisis situation. Also during the crisis time, respondents were found not able to take bath due to non-availability of water as 90 percent adolescents had not taken the bath during this time in the UT. **Table 22 and figure 42, 43 and 44**



## 11. CONCLUSION

Overall, 401 respondents were interviewed during the survey. The respondents' ages were categorized into three groups, and two-thirds of them were between 13 and 16 years old. The majority of the respondents were enrolled in school. Ten percent of the respondents had no formal schooling. The dropout rate was higher in flood-prone areas than in other vulnerable areas. The main reason for discontinuing education was either failing to compete for the higher class or having family/financial problems. A sizable number of adolescents were working outside their homes for salary purposes, including both full-time and part-time jobs. Almost all respondents lived with both their father and mother, and only five percent had lost either their father or mother. The majority of the mothers of the respondents were found to be illiterate, and only one percent of the mothers had an education level above 13 years of schooling.

Furthermore, it was found that the majority of the respondents knew about menarche before they experienced it. The menarche of the respondents started at the age of 13–14 years, and in rural areas, the age at menarche was found to be later than in urban areas. The mean age at menarche was 12.96 years in Jammu and Kashmir. The main sources of knowledge about the menstrual cycle were their mothers, sisters, and teachers. The role of health workers in disseminating information about menstrual health and hygiene among adolescents was found to be very limited. The teachers have played an effective role, particularly in urban areas, in imparting knowledge of menstrual health and hygiene among adolescents. At the time of menstruation, the majority of the girl respondents had changed their dress, movement, and HH activities. The majority of the respondents reported that their menstrual cycles were regular and the flow of bleeding was also normal. In urban areas, half of the respondents had an abnormal flow of bleeding.

It was found that the majority of the respondents were using sanitary napkins. Among the total respondents, only half of the adolescents had received the government-supplied sanitary napkins, and these napkins were received from the concerned ANMs/ASHAs. Only a few respondents from urban areas, particularly those from Srinagar, had received these sanitary

napkins. In the rural areas, it was found that the quantity of government-supplied sanitary napkins was sufficient. Only one-third of the respondents were satisfied with the quality of government-supplied sanitary napkins. Ten percent of respondents were using cloth during their menstruation. The respondents were using proper methods of disposing of the sanitary napkins, and they disposed-off them either in the designated dustbin or by giving them to the garbage collection vehicle. The majority of the respondents were experiencing different problems during menstruation, and in urban areas, menstrual problems were found to be more common than in rural areas. Most of the respondents used home remedies to get relief from these problems. In flood-prone areas, one-fourth of the respondents witnessed the problem of urinary tract infection. The other types of problems adolescent girls experience included itching, bad odours, and severe abdominal pain.

In the case of different types of religious duties, most of the respondents were not practicing them during their menstrual periods. In the case of non-religious activities like observing separation from family, restrictions in different activities, and school restrictions, they were more followed in flood-prone areas than in drought- and snowfall-vulnerable areas.

ASHAs and ANMs have failed to provide knowledge about menstrual health and hygiene among the respondents, while teachers have played a vital role in disseminating the information among adolescents. The majority of the respondents (93 percent) faced different types of crisis during climatic conditions during their menstruation. The respondents of the snowfall regions faced the maximum crisis during the winter when temperatures fell below the freezing point, particularly in hilly regions of Kashmir valley. These crisis due to climatic vulnerability remain mostly for 1-3 months. In all the climate-vulnerable areas, though the management by the respondents was found to be satisfactory, the role of different government agencies (like the Social Welfare Department, Department of Health, concerned Municipalities) and NGOs was found missing for any assistance.



## 11.1 Suggestions/Action Points Based on the Findings and Field Observations

- ✚ Increase access to and availability of sanitary napkins: There is a need that government should ensure that all adolescent girls, particularly those living in remote areas and urban slums, have access to affordable and high-quality sanitary napkins. This can be done by increasing the availability of government-supplied sanitary napkins and expanding the distribution network beyond ANMs/ASHAs.
- ✚ Friendly environment at schools: Schools need to provide menstruation-friendly toilets for girls, as well as sanitary pads and separate dustbins. Soap and water need to be made available in school washrooms at all times. Separate restrooms for girls can also be made available in schools to maintain their privacy during menstruation. There is also a need to create a cordial relationship between the female teachers and adolescents so that they can share their menstrual problems and get reasonable solutions.
- ✚ Importance of menstrual health and hygiene in school curriculum: It is suggested that the schools need to emphasize on the importance of menstrual health and hygiene. This can be done by incorporating it in the school curriculum so that adolescents can acquire sufficient knowledge about menstrual health and hygiene.
- ✚ Improve knowledge dissemination: In this regard, it is suggested that the ASHAs and ANMs need to be trained further to provide accurate and comprehensive information about menstrual health and hygiene to adolescent girls. Teachers can also be trained to provide education about menstrual health and hygiene in schools.
- ✚ Increase awareness about menstrual health and hygiene: The government needs to launch extensive awareness campaigns to educate adolescent girls and their families about menstrual health and hygiene. This can be done through social media, television, radio, and other media channels. Peer Educators need to be trained in good menstrual hygiene practices, and their role in raising awareness among adolescent girls will be more effective.
- ✚ Address the challenges faced by adolescent girls during climatic vulnerability: There is a need to provide support to adolescent girls during climatic vulnerability, particularly in snowfall and flood-prone areas. This can be done by ensuring access to round the clock electricity supply, availability of sanitary napkins and proper sanitation facilities.
- ✚ Strengthen government and NGO support: It is suggested that the government should enhance the working relation with genuine NGOs and other organizations to provide support to adolescent girls in areas where government services are inadequate. This can be done by providing funding and technical support to these organizations.

## REFERENCES

1. Ahmed, K. J., Haq, S. M. A., & Bartiaux, F. (2019). The nexus between extreme weather events, sexual violence, and early marriage: a study of vulnerable populations in Bangladesh. *Population and Environment*, 40, 303-324.
2. American Academy of Pediatrics (AAP), (2006): *Menstruation in Girls and Adolescents: Using the Menstrual Cycle as a Vital Sign*. American Academy of Pediatrics, Committee on Adolescence, American College of Obstetricians and Gynecologists and Committee on Adolescent Health Care. *Pediatrics* 2006; 118:2245-2250.
3. Bhardwaj S. & Patkar A. (2004): *Menstrual Hygiene and Management in Developing Countries: Taking Stock, Junction Social*. Mumbai, India, November
4. Bhattacharjee, M. (2019). Menstrual hygiene management during emergencies: A study of challenges faced by women and adolescent girls living in flood-prone districts in Assam. *Indian Journal of Gender Studies*, 26(1-2), 96-107.
5. El-Gilany, A. Badawi K. & El-Fedawy S. (2005): *Menstrual Hygiene among Adolescent Schoolgirls in Mansoura, Egypt*. *Reproductive Health Matters* 2005;13(26):147– 152.
6. Government of Jammu and Kashmir (2020), *INSPIRING NEW HOPE Transforming Healthcare Landscape in Jammu and Kashmir*
7. Jyoti, K., Lal, M., Mahajan, S., & Singh, T. (2020). Assessing the impact of information, education and communication activities regarding menstrual hygiene practices among adolescent girls 13-17 years in the rural area of Amritsar. *International Journal of Community Medicine and Public Health*, 7(4), 1470.
8. Kumari, A., Jayanti Sinha, D., & Sinha, S. (2020). Observational cross-sectional study to determine the menstrual pattern and various associated menstrual problems among 10-19 years old females. *European Journal of Molecular & Clinical Medicine (EJMCM)*, 7(07).
9. Nikam, N. (2021). Status of Adolescent Girls Health and Hygiene in Rural Maharashtra (Barshi , Solapur ), India. *International Journal for Scientific Research & Development*, 8(11), 36–42.
10. Priya, S.; Nandi, P.; Seetharaman, N.; Ramya, M.R.; Nishanthini, N.; Lokeshmaran, A. (2017). A study of menstrual hygiene and related personal hygiene practices among adolescent girls in rural Puducherry. *Int. J. Community Med. Public Health*, 4, 2348–2355.

11. Sharma, M. & Gupta, S.(2003): *Menstrual pattern and abnormalities in the high school girls of Dharan: a cross-sectional study in two boarding schools*. Nepal Coll Med J 2003; 5:34-36.
12. Sonika Sangra , Neha Choudhary, Wahida Kouser , and Ishrat Faizal (2019), “Assessment of knowledge, attitude and practice about menstruation and menstrual hygiene among adolescent girls in rural area of district Kathua, Jammu and Kashmir”, International Journal of Community Medicine and Public Health Sangra S et al. Int J Community Med Public Health. 2019 Dec;6(12):5215-5218
13. WHO (2003): *Towards adulthood: Exploring the sexual and reproductive health of adolescents in South Asia*, WHO, Department of Reproductive Health and Research.
14. Women’s Health in Kashmir: A Menstrual and Reproductive Health Crisis, South Asia @ LSE’ blog, the LSE South Asia Centre or the London School of Economics and Political Science.
15. Zegeye D., Megabiaw B. and Mulu A. (2009): *Age at first menstrual period and the menstrual pattern of secondary school adolescents in northwest Ethiopia*, BMC Women's Health 2009, 9:29.

## ANNEXURE-1

**Table 2: Distribution of adolescent girls by household characteristics in J&K**

Background characteristics		Type of residence		Type of Climate Vulnerability			
		Rural	Urban	Drought	Flood/Cyclone	Snowfall	Total
Religion	Hindu	28.8%	.8%	1.0%	78.8%	.0%	19.7%
	Muslim	71.2%	99.2%	99.0%	21.2%	100.0%	80.3%
Caste	Scheduled caste	1.5%	.0%	.0%	1.0%	1.5%	1.0%
	Scheduled tribe	5.9%	.0%	.0%	10.1%	3.0%	4.0%
	Other backward class	21.4%	20.8%	8.8%	6.1%	35.0%	21.2%
	General/Forward	71.2%	79.2%	91.2%	82.8%	60.5%	73.8%
Type of family	Nuclear	79.7%	76.9%	80.4%	80.8%	77.0%	78.8%
	Extended	.7%	4.6%	4.9%	1.0%	1.0%	2.0%
	Joint	19.6%	18.5%	14.7%	18.2%	22.0%	19.2%
Family Size	1-4	18.1%	20.8%	25.5%	30.3%	10.0%	19.0%
	5-6	49.4%	52.3%	54.9%	49.5%	48.5%	50.4%
	More than 6	32.5%	26.9%	19.6%	20.2%	41.5%	30.7%
<b>Mean</b>		<b>5.94</b>	<b>5.97</b>	<b>5.69</b>	<b>5.38</b>	<b>5.36</b>	
Type of House	Kuchha	15.1%	21.5%	21.6%	17.2%	15.0%	17.2%
	Semi-Pucca	10.3%	25.4%	26.5%	3.0%	15.5%	15.2%
	Pucca	74.5%	53.1%	52.0%	79.8%	69.5%	67.6%
Ownership of House	Own	99.3%	96.9%	96.1%	98.0%	100.0%	98.5%
	Rented	.7%	1.5%	2.0%	2.0%	.0%	1.0%
	Other	.0%	1.5%	2.0%	.0%	.0%	.5%
Owing Agriculture Land	Yes	84.1%	22.3%	2.9%	86.9%	84.0%	64.1%
	No	15.9%	77.7%	97.1%	13.1%	16.0%	35.9%
Having BPL Card	Yes, Seen BPL Card	24.7%	26.9%	29.4%	33.3%	19.5%	25.4%
	Yes, Not Seen BPL Card	45.8%	56.2%	54.9%	38.4%	51.5%	49.1%
	No BPL Card/APL HH	17.3%	9.2%	8.8%	16.2%	17.0%	14.7%
	Don't Know	12.2%	7.7%	6.9%	12.1%	12.0%	10.7%
Primary Source of Income	Cultivation	3.7%	4.6%	.0%	5.1%	5.5%	4.0%
	Agri/Non Agri Coolie	53.9%	37.7%	38.2%	57.6%	49.5%	48.6%
	Business Related	15.9%	27.7%	30.4%	19.2%	14.5%	19.7%
	Salaried Employment	22.1%	17.7%	15.7%	13.1%	27.0%	20.7%
	Other	4.4%	12.3%	15.7%	5.1%	3.5%	7.0%
<b>No. of Adolescent Girls</b>		<b>271</b>	<b>130</b>	<b>102</b>	<b>99</b>	<b>200</b>	<b>401</b>

**Table 3: Distribution of adolescent girls by individual and parental Characteristics in J&K**

		Type of residence		Type of Climate Vulnerability			
		Rural	Urban	Drought	Flood/Cyclone	Snowfall	Total
<b>Age of Respondent</b>	13-14	31.0%	27.7%	28.4%	32.3%	29.5%	29.9%
	15-16	35.1%	26.9%	23.5%	46.5%	30.0%	32.4%
	17 -19	33.9%	45.4%	48.0%	21.2%	40.5%	37.7%
<b>Staying with your Parents</b>	Yes, With Both	94.5%	88.5%	85.3%	94.9%	95.0%	92.5%
	With Mother, Father Died	4.4%	7.7%	9.8%	5.1%	3.5%	5.5%
	With Father, Mother Died	1.1%	.8%	1.0%	.0%	1.5%	1.0%
	Both Father & Mother Away	.0%	3.1%	3.9%	.0%	.0%	1.0%
<b>Father's Age</b>	25-34	.7%	.8%	1.0%	.0%	1.0%	.7%
	35-44	16.6%	17.7%	19.6%	27.3%	10.5%	17.0%
	45-54	15.5%	33.1%	33.3%	7.1%	22.0%	21.2%
	55 or Above	6.6%	6.9%	6.9%	.0%	10.0%	6.7%
	Don't Know	56.1%	33.8%	29.4%	60.6%	53.0%	48.9%
	Died	4.4%	7.7%	9.8%	5.1%	3.5%	5.5%
<b>Mother's Age</b>	25-34	4.8%	5.4%	5.9%	7.1%	3.5%	5.0%
	35-44	27.7%	35.4%	37.3%	32.3%	25.5%	30.2%
	45-54	10.7%	19.2%	20.6%	3.0%	15.0%	13.5%
	55 or above	3.0%	3.1%	2.9%	.0%	4.5%	3.0%
	Don't Know	52.8%	36.2%	32.4%	57.6%	50.0%	47.4%
	Died	1.1%	.8%	1.0%	.0%	1.5%	1.0%
<b>Father's Education</b>	Illiterate	25.1%	42.3%	45.1%	14.1%	31.5%	30.7%
	Lit: No Schooling	.0%	3.8%	4.9%	.0%	.0%	1.2%
	1-7	4.8%	10.0%	9.8%	6.1%	5.0%	6.5%
	8-10	44.3%	23.1%	21.6%	60.6%	34.0%	37.4%
	11-12	16.2%	3.8%	1.0%	11.1%	18.5%	12.2%
	13 and above	5.2%	9.2%	7.8%	3.0%	7.5%	6.5%
	Died	4.4%	7.7%	9.8%	5.1%	3.5%	5.5%
<b>Mother's Education</b>	Illiterate	49.8%	62.3%	63.7%	26.3%	62.5%	53.9%
	Lit. No Schooling	1.1%	2.3%	2.9%	1.0%	1.0%	1.5%
	1-7	5.9%	7.7%	9.8%	10.1%	3.0%	6.5%
	8-10	33.9%	22.3%	18.6%	52.5%	25.0%	30.2%
	11-12	7.0%	3.8%	2.9%	8.1%	6.5%	6.0%
	13 and Above	1.1%	.8%	1.0%	2.0%	.5%	1.0%
	Died	1.1%	.8%	1.0%	.0%	1.5%	1.0%
<b>Father's Occupation</b>	Cultivation	3.7%	4.6%	.0%	5.1%	5.5%	4.0%
	Agricultural Coolie	4.8%	.8%	.0%	8.1%	3.0%	3.5%
	Non-Agri. Coolie	45.8%	34.6%	35.3%	44.4%	44.5%	42.1%
	Business Related	15.9%	23.8%	25.5%	20.2%	14.0%	18.5%
	Salaried Employment	21.4%	16.9%	14.7%	12.1%	26.5%	20.0%
	Household/No Work	.0%	.8%	1.0%	.0%	.0%	.2%
	Self Employed (Artisan)	.4%	1.5%	2.0%	1.0%	.0%	.7%
	Retired	3.7%	9.2%	11.8%	4.0%	3.0%	5.5%
	NA/Died	4.4%	7.7%	9.8%	5.1%	3.5%	5.5%
Non-Agri. Coolie	1.1%	1.5%	2.0%	1.0%	1.0%	1.2%	

<b>Mother's Occupation</b>	Salaried Employment	5.9%	3.8%	2.0%	7.1%	6.0%	5.2%
	Household/No Work	89.7%	93.8%	95.1%	87.9%	90.5%	91.0%
	Self Employed (Artisan)	1.8%	.0%	.0%	4.0%	.5%	1.2%
	Retired	.4%	.0%	.0%	.0%	.5%	.2%
	NA/Died	1.1%	.8%	1.0%	.0%	1.5%	1.0%
<b>Number of Brothers</b>	No Brother	13.7%	21.5%	24.5%	12.1%	14.0%	16.2%
	1-2	73.4%	73.1%	71.6%	79.8%	71.0%	73.3%
	3 or more	12.9%	5.4%	3.9%	8.1%	15.0%	10.5%
<b>Number of Sisters</b>	No sister	22.1%	32.3%	38.2%	28.3%	17.5%	25.4%
	1-2	60.5%	46.2%	46.1%	63.6%	57.0%	55.9%
	3 or More	17.3%	21.5%	15.7%	8.1%	25.5%	18.7%
<b>No. of Adolescent Girls</b>		<b>271</b>	<b>130</b>	<b>102</b>	<b>99</b>	<b>200</b>	<b>401</b>

**Table 4: Educational status of adolescent girls and details of educational institutions they are attending by place of residence and type of climate vulnerability in J&K**

		Type of residence		Type of Climate Vulnerability			
		Rural	Urban	Drought	Flood/Cyclone	Snowfall	Total
<b>Currently Enrolled</b>	Yes	92.3%	84.6%	86.3%	91.9%	90.5%	89.8%
	No	7.7%	15.4%	13.7%	8.1%	9.5%	10.2%
<b>No. of Adolescent Girls</b>		<b>271</b>	<b>130</b>	<b>102</b>	<b>99</b>	<b>200</b>	<b>401</b>
<b>Standard at which Studying</b>	7th-8th	24.5%	40.9%	42.0%	19.8%	28.3%	29.5%
	9th-10th	43.8%	24.5%	23.9%	57.1%	35.0%	37.9%
	< 10th	31.7%	34.5%	34.1%	23.1%	36.7%	32.6%
<b>Type of School /College</b>	Private	18.0%	40.0%	44.3%	2.2%	26.5%	24.7%
	Government	82.0%	60.0%	55.7%	97.8%	73.5%	75.3%
<b>Medium of instruction</b>	Local Language	92.0%	67.3%	67.0%	100.0%	85.1%	84.4%
	English	4.0%	19.1%	22.7%	.0%	6.1%	8.6%
	Other	4.0%	13.6%	10.2%	.0%	8.8%	6.9%
<b>Co-educated</b>	Yes	90.4%	70.9%	70.5%	94.5%	86.2%	84.4%
	No	9.6%	29.1%	29.5%	5.5%	13.8%	15.6%
<b>Distance from School/college from House</b>	less than 1 Km	34.5%	25.5%	20.5%	38.5%	33.9%	31.8%
	1 km	23.7%	18.2%	17.0%	26.4%	22.2%	22.0%
	2-5 km	31.7%	47.3%	54.5%	26.4%	32.8%	36.5%
	>5 km	10.0%	9.1%	8.0%	8.8%	11.1%	9.7%
<b>Means of transportation to go to school</b>	By Walk	75.2%	70.0%	65.9%	74.7%	76.8%	73.6%
	Public Transport	19.6%	17.3%	19.3%	23.1%	16.6%	18.9%
	Private Transport	5.2%	11.8%	13.6%	2.2%	6.6%	7.2%
<b>Time taken to Reach School/College</b>	10 min or less	15.2%	14.5%	9.1%	22.0%	14.4%	15.0%
	>10 min to 30 min	68.0%	67.3%	70.5%	60.4%	70.2%	67.8%
	>30 min to 1 hour	15.6%	14.5%	15.9%	17.6%	13.8%	15.3%
	More than 1 hour	1.2%	3.6%	4.5%	.0%	1.7%	1.9%
<b>Number of adolescent Girls</b>		<b>250</b>	<b>110</b>	<b>88</b>	<b>91</b>	<b>181</b>	<b>360</b>

**Table 5: Educational aspirations of adolescent girls and perceived encouragement received from parents by place of residence and type of climate vulnerability in J&K**

		Type of residence		Type of Climate Vulnerability			
		Rural	Urban	Drought	Flood/Cyclone	Snowfall	Total
<b>Educational aspirations of adolescent girls</b>	10-12 STD	.8%	1.8%	2.3%	1.1%	.6%	1.1%
	Graduation/PG	9.6%	9.1%	9.1%	4.4%	12.2%	9.4%
	Other Professional Course	23.2%	20.9%	21.6%	31.9%	18.2%	22.5%
	Civil Services/Army	33.2%	30.9%	27.3%	30.8%	35.9%	32.5%
	Others	8.4%	12.7%	13.6%	11.0%	7.2%	9.7%
	Can't say	24.8%	24.5%	26.1%	20.9%	26.0%	24.7%
<b>Perceived encouragement received from parents</b>	Very High	41.6%	50.0%	54.5%	45.1%	38.7%	44.2%
	Positive	54.4%	45.5%	39.8%	52.7%	56.9%	51.7%
	Neutral	3.2%	2.7%	3.4%	2.2%	3.3%	3.1%
	Can't Say	.8%	1.8%	2.3%	.0%	1.1%	1.1%
<b>Perceived educational aspirations of parents</b>	Up to 12th Std.	.4%	.9%	1.1%	1.1%	.0%	.6%
	Graduation/PG	3.2%	2.8%	3.4%	1.1%	3.9%	3.1%
	Professional Courses	12.4%	9.2%	10.3%	18.7%	8.3%	11.4%
	Medical education	27.2%	21.1%	19.5%	24.2%	28.7%	25.3%
	As long as she desire	43.6%	51.4%	51.7%	39.6%	46.4%	46.0%
	Civil Services/Army	8.8%	10.1%	8.0%	11.0%	8.8%	9.2%
	Can't Say	4.4%	4.6%	5.7%	4.4%	3.9%	4.5%
<b>Number of adolescent Girls</b>		<b>250</b>	<b>110</b>	<b>88</b>	<b>91</b>	<b>181</b>	<b>360</b>

**Table 6: Standard at which discontinued studies, perceived regularity in studies and reasons for discontinuing/never attending school among drop-out adolescent girls by place of residence and type of climate vulnerability in J&K**

		Type of residence		Type of Climate Vulnerability			
		Rural	Urban	Drought	Flood/Cyclone	Snowfall	Total
<b>Formal schooling</b>	Yes	85.7%	95.0%	92.9%	75.0%	94.7%	90.2%
	Never attended school	14.3%	5.0%	7.1%	25.0%	5.3%	9.8%
<b>Total</b>		<b>21</b>	<b>20</b>	<b>14</b>	<b>8</b>	<b>19</b>	<b>41</b>
<b>Standard at which discontinued Studies</b>	Below 10 std.	38.9%	78.9%	69.2%	33.3%	61.1%	59.5%
	10 and above std.	61.1%	21.1%	30.8%	66.7%	38.9%	40.5%
<b>Regular during attended school</b>	Regular	88.9%	78.9%	76.9%	66.7%	94.4%	83.8%
	Irregular	11.1%	21.1%	23.1%	33.3%	5.6%	16.2%
<b>Number of adol. Girls discontinued education</b>		<b>18</b>	<b>19</b>	<b>13</b>	<b>6</b>	<b>18</b>	<b>37</b>
<b>Reasons for discontinuing /never attending school</b>	Family Problems	9.5%	30.0%	35.7%	12.5%	10.5%	19.5%
	Financial Problems	38.1%	20.0%	21.4%	62.5%	21.1%	29.3%
	Parents Not Permitted	.0%	10.0%	.0%	.0%	10.5%	4.9%
	Not Interested/Failed	47.6%	25.0%	35.7%	25.0%	42.1%	36.6%
	Other (Never Attended School)	4.8%	15.0%	7.1%	.0%	15.8%	9.8%
<b>Total</b>		<b>21</b>	<b>20</b>	<b>14</b>	<b>8</b>	<b>19</b>	<b>41</b>

**Table 7: Proportion of girls engaged in household activities, working outside, nature of work, cash handling by place of residence and type of climate vulnerability in J&K**

		Type of residence		Type of Climate Vulnerability			
		Rural	Urban	Drought	Flood/Cyclone	Snowfall	Total
<b>Household Activities</b>	Cooking	62.7%	50.0%	49.0%	69.7%	58.0%	58.6%
	Cleaning House	74.2%	80.0%	84.3%	72.7%	73.5%	76.1%
	Cleaning Cattle shed/ENV	14.0%	3.1%	.0%	18.2%	12.0%	10.5%
	Washing Clothes/Vessels	59.4%	54.6%	58.8%	67.7%	52.5%	57.9%
	Bringing Water	17.0%	13.1%	13.7%	23.2%	13.0%	15.7%
	Assist in Field Activities	18.1%	6.9%	2.9%	12.1%	21.5%	14.5%
	Outside Dealing/Shopping	32.5%	20.8%	18.6%	32.3%	32.0%	28.7%
	Caring for Small Children	9.6%	10.8%	10.8%	15.2%	7.0%	10.0%
	Grazing/Caring Animals	10.7%	.8%	.0%	18.2%	6.0%	7.5%
	Collect Fire Wood/Cow Dung	4.8%	1.5%	1.0%	10.1%	2.0%	3.7%
	Family Business	12.5%	.0%	.0%	.0%	20.0%	7.1%
	Non-Agri Coolie Work	.0%	66.7%	66.7%	.0%	.0%	28.6%
	Self Employed	87.5%	16.7%	16.7%	100.0%	80.0%	57.1%
Other	.0%	16.7%	16.7%	.0%	.0%	7.1%	
<b>No. of Adolescent Girls</b>		<b>271</b>	<b>130</b>	<b>102</b>	<b>99</b>	<b>200</b>	<b>401</b>
<b>Type of Work</b>	Full Time	62.5%	16.7%	16.7%	.0%	100.0%	42.9%
	Part Time	37.5%	83.3%	83.3%	100.0%	.0%	57.1%
<b>Number of Hours to Work</b>	Less than 4 hours	75.0%	33.3%	33.3%	100.0%	60.0%	57.1%
	4-6 hours	25.0%	50.0%	50.0%	.0%	40.0%	35.7%
	>6 hours	more.0%	16.7%	16.7%	.0%	.0%	7.1%
<b>Number of Girls Work Full/Part time</b>		<b>8</b>	<b>6</b>	<b>6</b>	<b>3</b>	<b>5</b>	<b>14</b>
<b>Get Cash or Kind</b>	Yes	3.0%	4.6%	5.9%	3.0%	2.5%	3.5%
	No	97.0%	95.4%	94.1%	97%	97.5%	96.5%
<b>Number of girls working outside</b>		<b>8</b>	<b>6</b>	<b>6</b>	<b>3</b>	<b>5</b>	<b>14</b>
<b>Who takes salary</b>	Self	75.0%	100.0%	100.0%	100.0%	60.0%	85.7%
	Father	25.0%	.0%	.0%	.0%	40.0%	14.3%
<b>Number of girls get Salary as Cash</b>		<b>8</b>	<b>6</b>	<b>6</b>	<b>3</b>	<b>5</b>	<b>14</b>
<b>Proportion of Salary given to family.</b>	All	33.3%	50.0%	50.0%	66.7%	.0%	41.7%
	Major Part	.0%	16.7%	16.7%	.0%	.0%	8.3%
	Very little/None	66.7%	33.3%	33.3%	33.3%	100.0%	50.0%
<b>Number of girls get Salary in their hand</b>		<b>8</b>	<b>6</b>	<b>6</b>	<b>3</b>	<b>5</b>	<b>14</b>



**Table 8: Perceived knowledge on age at menarche, actual age at menarche, ceremony organized and reaction towards attaining menarche by place of residence and type of climate vulnerability in J&K**

		Type of residence		Type of Climate Vulnerability			
		Rural	Urban	Drought	Flood/Cyclone	Snowfall	Total
<b>Perceived knowledge on age at menarche</b>	10-12 years	45.4%	53.8%	56.9%	26.3%	54.5%	48.1%
	13-14 years	23.2%	20.0%	18.6%	39.4%	15.5%	22.2%
	15-16 years	1.1%	1.5%	2.0%	1.0%	1.0%	1.2%
	Don't know	30.3%	24.6%	22.5%	33.3%	29.0%	28.4%
<b>Age at menarche of adolescent Girls</b>	10-12 years	32.5%	46.9%	47.1%	22.2%	39.5%	37.2%
	13-14 years	58.7%	47.7%	48.0%	70.7%	51.0%	55.1%
	15-16 years	8.9%	5.4%	4.9%	7.1%	9.5%	7.7%
<b>Mean</b>		<b>12.96</b>	<b>12.66</b>	<b>12.63</b>	<b>13</b>	<b>12.92</b>	
<b>Reaction towards first menstruation</b>	Normal	29.5%	19.2%	18.6%	38.4%	24.0%	26.2%
	Excited	.7%	.0%	.0%	.0%	1.0%	.5%
	Frightened	68.6%	78.5%	78.4%	61.6%	73.5%	71.8%
	No Ceremony	100.0%	100%	100.0%	100.0%	100.0%	100.0%
	Other	1.1%	2.3%	2.9%	.0%	1.5%	1.5%
<b>Number of Adolescent Girls</b>		<b>271</b>	<b>130</b>	<b>102</b>	<b>99</b>	<b>200</b>	<b>401</b>

**Table 9: Perceived changes occurred in dress, movement, playing, work and studies due to menarche by place of residence and type of climate vulnerability in J&K**

		Type of residence		Type of Climate Vulnerability			
		Rural	Urban	Drought	Flood/Cyclone	Snowfall	Total
<b>Discontinue your studies due to menarche</b>	Yes	9.5%	.0%	.0%	25.0%	.0%	4.9%
	No	90.5%	100.0%	100.0%	75.0%	100.0%	95.1%
<b>Perceived Changes</b>	Change of Dress	45.8%	58.5%	58.8%	33.3%	53.5%	49.9%
	Change in Movement	45.0%	61.5%	63.7%	32.3%	52.5%	50.4%
	Change in Playing	54.2%	68.5%	69.6%	43.4%	61.0%	58.9%
	Change n HH work	45.4%	50.0%	52.0%	34.3%	50.5%	46.9%
	Change in Outwork	39.9%	47.7%	51.0%	26.3%	46.0%	42.4%
<b>Number of Adolescent Girls</b>		<b>271</b>	<b>130</b>	<b>102</b>	<b>99</b>	<b>200</b>	<b>401</b>
<b>Number of Girls Not attending School</b>		<b>21</b>	<b>20</b>	<b>14</b>	<b>8</b>	<b>19</b>	<b>41</b>

**Table 10: Proportion of girls received knowledge on menarche before attaining menarche, and knowledge on menstrual hygiene before or soon after menarche and source of knowledge by place of residence and type of climate vulnerability in J&K**

		Type of residence		Type of Climate Vulnerability			
		Rural	Urban	Drought	Flood/Cyclone	Snowfall	Total
<b>Knew menarche before you attained</b>	Yes	56.8%	32.3%	29.4%	65.7%	50.5%	48.9%
	No	43.2%	67.7%	70.6%	34.3%	49.5%	51.1%
<b>Number of Adolescent Girls</b>		<b>271</b>	<b>130</b>	<b>102</b>	<b>99</b>	<b>200</b>	<b>401</b>
<b>Person Gave Knowledge</b>	Mother	63.6%	59.5%	66.7%	80.0%	50.5%	62.8%
	Sister	31.8%	21.4%	16.7%	21.5%	38.6%	29.6%
	Other Female Family. Mem.	7.1%	23.8%	30.0%	7.7%	6.9%	10.7%
	Teacher	37.0%	26.2%	30.0%	29.2%	39.6%	34.7%
	Friends	36.4%	33.3%	30.0%	33.8%	38.6%	35.7%
	Doctor/Health Staff	5.8%	4.8%	3.3%	7.7%	5.0%	5.6%
	Social Workers	5.8%	.0%	.0%	.0%	8.9%	4.6%
	Magazine/Literature	1.3%	.0%	.0%	.0%	2.0%	1.0%
	TV/Cinema	.6%	4.8%	6.7%	.0%	1.0%	1.5%
	Social Media	1.3%	.0%	.0%	.0%	2.0%	1.0%
Other	.6%	2.4%	.0%	.0%	2.0%	1.0%	
<b>No. of girls knew about menarche earlier</b>		<b>154</b>	<b>42</b>	<b>30</b>	<b>65</b>	<b>101</b>	<b>196</b>
<b>Received knowledge on menstrual hygiene</b>	Yes	99.6%	96.2%	95.1%	100.0%	99.5%	98.5%
	No	.4%	3.8%	4.9%	.0%	.5%	1.5%
<b>Number of Girls</b>		<b>270</b>	<b>125</b>	<b>97</b>	<b>99</b>	<b>199</b>	<b>395</b>
<b>Person Gave Knowledge</b>	Mother	80.4%	77.6%	81.4%	97.0%	69.8%	79.5%
	Father	.0%	.8%	1.0%	.0%	.0%	.3%
	Sister	30.4%	21.6%	17.5%	16.2%	38.2%	27.6%
	Other Female Fam. Members	8.9%	26.4%	28.9%	4.0%	12.6%	14.4%
	Teacher	21.1%	7.2%	7.2%	28.3%	15.6%	16.7%
	Friends	14.8%	10.4%	8.2%	18.2%	13.6%	13.4%
	Doctor/Health Staff	4.1%	2.4%	1.0%	4.0%	4.5%	3.5%
	Social Worker	14.4%	.0%	.0%	13.1%	13.1%	9.9%
<b>No. of girls received knowledge</b>		<b>270</b>	<b>125</b>	<b>97</b>	<b>99</b>	<b>199</b>	<b>395</b>

**Table 11: Regularity of menstruation, duration and flow of bleeding, material used to absorb bleeding by place of residence and type of climate vulnerability in J&K**

		Type of residence		Type of Climate Vulnerability			Total
		Rural	Urban	Drought	Flood/Cyclone	Snowfall	
<b>Regularity menstruation</b>	Regular	96.3%	87.7%	84.3%	98.0%	96.0%	93.5%
	Irregular	3.7%	12.3%	15.7%	2.0%	4.0%	6.5%
<b>Interval between last two Cycles</b>	Days	97.8%	96.2%	95.1%	98.0%	98.0%	97.3%
	Months	2.2%	3.8%	4.9%	2.0%	2.0%	2.7%
<b>Mean between last two Cycles</b>		<b>27</b>	<b>27</b>	<b>27</b>	<b>27</b>	<b>27</b>	<b>27</b>
<b>Flow of Bleeding</b>	Normal	77.9%	53.8%	53.9%	87.9%	69.5%	70.1%
	Heavy	18.5%	43.1%	43.1%	12.1%	25.0%	26.4%
	Scanty	3.7%	3.1%	2.9%	.0%	5.5%	3.5%
<b>Use of Material for blood absorption</b>	Sanitary Napkin	97.4%	95.4%	97.1%	98.0%	96.0%	96.8%
	Cloth	11.1%	8.5%	7.8%	9.1%	12.0%	10.2%
<b>Number of Adolescent Girls</b>		<b>271</b>	<b>130</b>	<b>102</b>	<b>99</b>	<b>200</b>	<b>401</b>

**Table 12: Proportion of adolescent girls having access to Government supplied sanitary napkins and place, cost, frequency of getting them and girls' opinion on their quality by place of residence and type of climate vulnerability in J&K**

		Type of residence		Type of Climate Vulnerability			Total
		Rural	Urban	Drought	Flood/Cyclone	Snowfall	
<b>Access to Govt. supplied sanitary napkin</b>		64.4%	9.7%	2.0%	57.7%	64.6%	46.9%
<b>Proportion of Girls Using sanitary Napkin</b>		97.4%	95.4%	97.1%	98.0%	96.0%	96.8%
<b>Number of Adolescent Girls</b>		<b>271</b>	<b>130</b>	<b>102</b>	<b>99</b>	<b>200</b>	<b>401</b>
Place of Getting Sanitary Napkins	school/college	.0%	8.3%	50.0%	.0%	.0%	.5%
	From ANM/ASHA/AWW	92.9%	91.7%	50.0%	100.0%	90.3%	92.9%
	PHC/CHC/SDH/DH	10.6%	25.0%	.0%	3.6%	15.3%	11.5%
	Other	2.4%	.0%	.0%	.0%	3.2%	2.2%
<b>Number of adol. Girls using sanitary napkins</b>		<b>264</b>	<b>124</b>	<b>99</b>	<b>97</b>	<b>192</b>	<b>388</b>
Price Per Pack Rs.	Free	.0%	16.7%	100.0%	.0%	64.5	1.1%
	Paid	100	83.3	.0%	100	35.5%	9
Numbers per pack	1 Pack	97.6%	100%	.0%	94.6%	99.2%	97.8%
	6 Packs	2.4%	.0%	.0%	5.4%	.8%	2.2%

satisfied with the quality of napkins supplied by the Govt.	Satisfied	34.7%	16.7%	50.0%	55.4%	23.4%	33.5%
	Not satisfied	65.3%	83.3%	50.0%	44.6%	76.6%	66.5%
Supply of SNs was enough	Sufficient	58.2%	33.3%	.0%	78.6%	47.6%	56.6%
	Insufficient	41.8%	66.7%	100.0%	21.4%	52.4%	43.4%
<b>Opinion on Quality of Govt. Supplied Napkin</b>	Better Absorption	52.4%	25.0%	50.0%	71.4%	41.1%	50.5%
	Sense Of Dryness	31.8%	25.0%	50.0%	48.2%	23.4%	31.3%
	Leakage Prevention	39.4%	41.7%	50.0%	60.7%	29.8%	39.6%
	Thickness	30.0%	.0%	.0%	41.1%	22.6%	28.0%
	Soft Surface/ Not Causing Skin Irritation	50.0%	50.0%	50.0%	58.9%	46.0%	50.0%
	Flexibility/ Not Limiting Mobility	37.1%	25.0%	.0%	50.0%	30.6%	36.3%
	Having Wings	93.5%	83.3%	.0%	100.0%	91.1%	92.9%
	Adhesion To The Underwear	73.5%	66.7%	.0%	82.1%	70.2%	73.1%
	Long Time Usability	20.0%	.0%	.0%	42.9%	8.1%	18.7%
	Odor Prevention	40.6%	33.3%	.0%	57.1%	33.1%	40.1%
	Being Long	17.1%	.0%	.0%	39.3%	5.6%	15.9%
<b>Number of Total adolescents having Sufficient Quantity</b>		<b>99</b>	<b>4</b>	<b>0</b>	<b>44</b>	<b>59</b>	<b>103</b>
<b>Problems faced in Govt. Supplied Napkin</b>	Leakage	57.6%	75.0%	50.0%	37.5%	68.5%	58.8%
	Not To Take Shape	53.5%	75.0%	50.0%	33.9%	64.5%	54.9%
	Deformation Of The Surface	66.5%	75.0%	50.0%	44.6%	77.4%	67.0%
	Sense Of Wetness	68.2%	83.3%	50.0%	55.4%	75.8%	69.2%
	Need Of Frequent Changes	77.6%	83.3%	50.0%	62.5%	85.5%	78.0%
	Causing Irritation	38.2%	66.7%	50.0%	32.1%	43.5%	40.1%
	Causing Skin Rash	32.4%	33.3%	50.0%	25.0%	35.5%	32.4%
	Cause Bacteria/Fungal Infection	27.6%	25.0%	.0%	25.0%	29.0%	27.5%
	Stiffness	48.2%	66.7%	.0%	33.9%	57.3%	49.5%
	Excess Adhesion To Underwear	32.4%	33.3%	.0%	26.8%	35.5%	32.4%
	Insufficient Adhesion To Underwear	41.8%	66.7%	.0%	14.3%	57.3%	43.4%
	Others	12.9%	16.7%	.0%	21.4%	9.7%	13.2%
<b>No. Adolescent Girls access to Govt. supplied sanitary napkins</b>		<b>170</b>	<b>12</b>	<b>2</b>	<b>56</b>	<b>124</b>	<b>182</b>

**Table (13): Place of Purchasing Sanitary Napkins and Options Considered While Purchasing them in J&K**

		Type of residence		Type of Climate Vulnerability			
		Rural	Urban	Drought	Flood/Cyclone	Snowfall	Total
<b>Place of purchasing sanitary napkins</b>	Shops	65.2%	75.0%	71.7%	70.1%	65.6%	68.3%
	Pharmacy	14.4%	53.2%	61.6%	8.2%	18.2%	26.8%
	Online	.4%	.0%	.0%	.0%	.5%	.3%
	Others	.4%	.0%	.0%	.0%	.5%	.3%
	Don't Buy	30.5%	2.0%	.0%	24.7%	37.3%	20.8%
<b>Number of adol. Girls using sanitary napkins</b>		<b>264</b>	<b>124</b>	<b>99</b>	<b>97</b>	<b>192</b>	<b>388</b>
<b>Options considered while purchasing sanitary napkins</b>	Performance Properties	169	95	76.8%	84.9%	81.8%	81.0%
	Price	144	72	62.6%	72.6%	65.6%	66.3%
	Brand	51	44	39.4%	21.9%	26.0%	29.1%
	Having Perfume	15	20	18.2%	.0%	11.0%	10.7%
	Made Of Natural Raw Material	18	11	9.1%	6.8%	9.7%	8.9%
	Biodegradability	1	2	2.0%	.0%	.6%	.9%
	Others	1	0	.0%	.0%	.6%	.3%
<b>Number of adol. Girls purchasing sanitary napkins</b>		<b>212</b>	<b>159</b>	<b>132</b>	<b>76</b>	<b>163</b>	<b>371</b>

**Table 14: Ways of disposing used sanitary napkins and preparations made before disposing them by place of residence and type of climate vulnerability in J&K**

		Type of residence			Type of Climate Vulnerability		
		Rural	Urban	Total	Drought	Flood/Cyclone	Snowfall
<b>Ways to disposing Used Sanitary Napkins</b>	Throw In Open Area	13.6%	8.1%	11.9%	6.1%	6.2%	17.7%
	Throw In Toilet	.8%	.8%	.8%	1.0%	2.1%	.0%
	Give To Garbage Collecting Vehicle	31.1%	59.7%	40.2%	68.7%	3.1%	44.3%
	Put In Specially Designed Container	25.4%	37.9%	29.4%	35.4%	7.2%	37.5%
	Burn	4.5%	7.3%	5.4%	2.0%	5.2%	7.3%
	Bury The Napkins	37.9%	4.0%	27.1%	1.0%	82.5%	12.5%
	Others	1.9%	7.3%	3.6%	8.1%	.0%	3.1%
<b>Preparation before disposing sanitary Napkins</b>	Throw as it is	15.9%	8.1%	13.4%	7.1%	22.7%	12.0%
	Wrap with newspaper	4.9%	1.6%	3.9%	2.0%	11.3%	1.0%
	Wrap sanitary napkin cover	18.6%	10.5%	16.0%	6.1%	24.7%	16.7%
	Put it in biodegradable bag	2.3%	3.2%	2.6%	4.0%	1.0%	2.6%
	Put it in plastic bag	54.9%	73.4%	60.8%	78.8%	30.9%	66.7%
	Other	3.4%	3.2%	3.4%	2.0%	9.3%	1.0%
<b>No. of adol. Girls using sanitary napkins</b>		<b>264</b>	<b>124</b>	<b>99</b>	<b>97</b>	<b>192</b>	<b>388</b>

**Table 15: Frequency of changing the sanitary napkins/cloths and criteria considered to change them by place of residence and type of climate vulnerability in J&K**

		Type of residence			Type of Climate Vulnerability		
		Rural	Urban	Drought	Flood/Cyclone	Snowfall	Total
<b>Number of times during Heavy Bleeding</b>	Once	.7%	1.6%	2.0%	1.0%	.5%	1.0%
	Twice	31.7%	29.1%	30.0%	31.3%	31.2%	30.9%
	Thrice	43.5%	47.2%	44.0%	48.5%	43.2%	44.7%
	More than three Times	24.0 %	22.1%	24.0%	19.2%	25.1%	23.4%
<b>Mean</b>		<b>2.92</b>	<b>2.95</b>	<b>2.97</b>	<b>2.87</b>	<b>2.94</b>	
<b>Number of times during Scanty Bleeding</b>	Once	28.0%	17.8%	20.6%	29.3%	24.6%	24.8%
	Twice	60.9%	57.4%	52.9%	58.6%	63.8%	59.8%
	Thrice	11.1%	14.7%	14.7%	12.1%	11.1%	12.3%
	More than three Times	.0%	10.1%	11.8%	.0%	.5%	3.3%
<b>Mean</b>		<b>1.83</b>	<b>2.19</b>	<b>2.20</b>	<b>1.83</b>	<b>1.87</b>	
<b>Criteria considered to change sanitary napkins</b>	Sense Of Wetness	88.9%	91.5%	92.2%	89.9%	88.5%	89.8%
	Leakage	80.4%	81.5%	85.3%	66.7%	85.5%	80.8%
	Bad Smell	51.7%	56.2%	58.8%	59.6%	47.0%	53.1%
	Shape Deformation	34.3%	38.5%	45.1%	39.4%	29.0%	35.7%
	Others	3.3%	6.2%	6.9%	6.1%	2.0%	4.2%

**Table 16: Procedure followed to clean and dry the cloth used to absorb menstrual bleeding by place of residence and type of climate vulnerability in J&K**

		Type of residence			Type of Climate Vulnerability		
		Rural	Urban	Drought	Flood/Cyclone	Snowfall	Total
<b>Proportion of girls Uses Cloth</b>	Use Cloth	11.1%	8.5%	7.8%	9.1%	10.2%	10.2%
	Don't Use cloth	88.9%	91.5%	92.2%	90.9%	89.8%	89.8%
<b>No. of Adolescent Girls</b>		<b>271</b>	<b>130</b>	<b>102</b>	<b>99</b>	<b>200</b>	<b>401</b>
<b>Procedure to clean used cloth</b>	Hot Water & Sun Shine	90.0%	72.7%	75.0%	77.8%	85.4%	85.4%
	Ordinary Water & Sun Shine	10.0%	9.1%	.0%	22.2%	9.8%	9.8%
	Don't Use More Than Once	.0%	18.2%	25.0%	.0%	4.9%	4.9%
<b>No. of Adolescent Girls Use Cloth</b>		<b>30</b>	<b>9</b>	<b>8</b>	<b>9</b>	<b>24</b>	<b>41</b>

**Table 17: Type and frequency of menstrual problems experienced by the adolescent girls, person with whom shared and seeking treatment for it by place of residence and type of climate vulnerability in J&K**

		Type of residence		Type of Climate Vulnerability			
		Rural	Urban	Drought	Flood/Cyclone	Snowfall	Total
<b>Experience any pain during your periods</b>	Yes	77.1%	91.5%	92.2%	74.7%	80.0%	81.8%
	No	22.9%	8.5%	7.8%	25.3%	20.0%	18.2%
<b>Different Menstrual Problems Experienced</b>	Headache	18.7%	29.4%	29.8%	12.2%	23.1%	22.6%
	Limbs Pain	35.9%	51.3%	54.3%	29.7%	39.4%	41.5%
	Severe Abdominal/Back Pain	99.0%	96.6%	95.7%	98.6%	99.4%	98.2%
	Heavy Bleeding	12.0%	34.5%	40.4%	8.1%	13.8%	20.1%
	Severe Distress/Irritation	24.4%	43.7%	50.0%	12.2%	29.4%	31.4%
	Others	1.0%	12.6%	16.0%	1.4%	.6%	5.2%
<b>Number of Adolescent Girls</b>		<b>271</b>	<b>130</b>	<b>102</b>	<b>99</b>	<b>200</b>	<b>401</b>
<b>Frequency of experiencing problems</b>	Every month	82.3%	84.9%	86.2%	78.4%	83.8%	83.2%
	Some time	17.7%	15.1%	13.8%	21.6%	16.3%	16.8%
<b>Person with whom shared menstrual problem</b>	Mother	79.4%	77.3%	81.9%	85.1%	73.8%	78.7%
	Father	.0%	2.5%	3.2%	.0%	.0%	.9%
	Sister	19.1%	17.6%	14.9%	5.4%	26.9%	18.6%
	Other Female Family Member	1.0%	6.7%	7.4%	.0%	1.9%	3.0%
	Teacher	.5%	.8%	1.1%	.0%	.6%	.6%
	Friends	10.0%	10.1%	10.6%	12.2%	8.8%	10.1%
	ASHA/ANM/AWW	5.3%	1.7%	2.1%	1.4%	6.3%	4.0%
	Doctor	2.9%	4.2%	4.3%	.0%	4.4%	3.4%
	Don't Discuss	14.4%	6.1%	1.4%	14.9%	15.0%	11.7%
OTHER	.0%	.8%	1.1%	.0%	.0%	.3%	
<b>Proportion sought any treatment</b>		37.8%	47.1%	53.2%	27.0%	40.6%	41.2%
<b>Place/Type from where treatment Sought</b>	Home Remedy	45.6%	50.0%	50.0%	45.0%	46.2%	47.4%
	Pharmacy	17.7%	10.7%	10.0%	25.0%	15.4%	14.8%
	ANM	2.5%	.0%	.0%	.0%	3.1%	1.5%
	ASHA	8.9%	.0%	.0%	.0%	10.8%	5.2%
	PHC	6.3%	.0%	.0%	5.0%	6.2%	3.7%
	CHC	1.3%	.0%	.0%	.0%	1.5%	.7%
	SDH/DH	6.3%	5.4%	6.0%	5.0%	6.2%	5.9%
	Private clinic/Doctor	34.2%	46.4%	46.0%	30.0%	36.9%	39.3%
Others	1.3%	1.8%	.0%	.0%	3.1%	1.5%	

**Table 18: Proportion of adolescent girls experienced symptoms related to Reproductive Tract Infections during last one year and treatment seeking behaviour by place of residence and type of climate vulnerability in J&K**

		Type of residence		Type of Climate Vulnerability			Total
		Rural	Urban	Drought	Flood/Cyclone	Snowfall	
During last one year, had any problem		16.2%	30.0%	29.4%	5.1%	24.0%	20.7%
During last one year, had rashes on your genitals		10.3%	31.5%	37.3%	7.1%	12.0%	17.2%
<b>Total</b>		<b>271</b>	<b>130</b>	<b>102</b>	<b>99</b>	<b>200</b>	<b>401</b>
Type of Problem	Itching	22.5%	44.6%	48.0%	13.1%	28.5%	29.7%
	Bad Odor	19.6%	39.2%	39.2%	9.1%	27.5%	25.9%
	Severe Abdominal Pain	7.7%	19.2%	18.6%	4.0%	11.5%	11.5%
	Fever with Discharge	1.5%	6.9%	7.8%	1.0%	2.0%	3.2%
Experience any problems	Had problems	35.4%	66.9%	71.6%	21.2%	44.5%	45.6%
	No problem	64.6%	33.1%	28.4%	78.8%	55.5%	54.4%
<b>Total</b>		<b>271</b>	<b>130</b>	<b>102</b>	<b>99</b>	<b>200</b>	<b>401</b>
Place you sought any treatment?	Not sought	66.7%	60.9%	60.3%	66.7%	66.3%	63.9%
	Pharmacy	4.2%	4.6%	5.5%	9.5%	2.2%	4.4%
	ASHA	3.1%	.0%	.0%	9.5%	1.1%	1.6%
	PHC	3.1%	.0%	.0%	.0%	3.4%	1.6%
	CHC	.0%	1.1%	1.4%	.0%	.0%	.5%
	SDH/DH	3.1%	6.9%	8.2%	4.8%	2.2%	4.9%
	Private clinic/Doctor	19.8%	26.4%	24.7%	9.5%	24.7%	23.0%
	RMP	.0%	.0%	.0%	.0%	.0%	.0%
Others	.0%	.0%	.0%	.0%	.0%	.0%	

**Table 19: Proportion of adolescent girls who got married by place of residence and type of climate vulnerability in J&K**

		Type of residence		Type of Climate Vulnerability			Total
		Rural	Urban	Drought	Flood/Cyclone	Snowfall	
Marital Status		.0%	2.3%	2.9%	.0%	0.7%	.7%
		100.0%	97.7%	97.1%	100.0%	99.3%	99.3%
Age of Marriage	14 Years	.0%	33.3%	33.3%	.0%	.0%	33.3%
	15 Years	.0%	33.3%	33.3%	.0%	.0%	33.3%
	18 Years	.0%	33.3%	33.3%	.0%	.0%	33.3%
Has consummation of marriage taken place?		.0%	100.0%	100.0%	.0%	.0%	100.0%
Did you ever become pregnant?		.0%	100.0%	100.0%	.0%	.0%	100.0%
How many times you became pregnant?	Once	.0%	100.0%	100.0%	.0%	.0%	100.0%
<b>Number of Adolescent girls Married</b>		<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>



**Table 20: Practices around menstruation like observing separation, not touching children, going to worship Centres, restricting activities, bathing, dietary restrictions followed by adolescent girls by place of residence and type of climate vulnerability in J&K**

		Type of residence		Type of Climate Vulnerability			Total
		Rural	Urban	Drought	Flood/Cyclone	Snowfall	
<b>Observing separation during menstruation</b>	Yes	19.6%	18.5%	18.6%	26.3%	16.0%	19.2%
	No	80.4%	81.5%	81.4%	73.7%	84.0%	80.8%
<b>Talk to People</b>	Yes, People Talk/Scold	.7%	.0%	.0%	1.0%	.5%	.5%
	No(Not refrain)	99.3%	100.0%	100.0%	99.0%	99.5%	99.5%
<b>Observing NOT going to worship Centres during menstruation</b>	Don't go	98.5%	98.5%	98.0%	98.0%	99.0%	98.5%
	Go to Worship Centre	1.5%	1.5%	2.0%	2.0%	1.0%	1.5%
<b>Observing not entering into worship room during menstruation</b>	Don't go	85.6%	85.4%	84.3%	97.0%	80.5%	85.5%
	Go to Worship Room/Place	14.4%	14.6%	15.7%	3.0%	19.5%	14.5%
<b>Restrict your activities during Menstruation</b>	Yes, Restrict	49.4%	64.6%	64.7%	45.5%	53.5%	54.4%
	Don't Restrict	50.6%	35.4%	35.3%	54.5%	46.5%	45.6%
<b>Restrict school going activities during menstruation</b>	Yes, Restrict	30.3%	45.4%	47.1%	21.2%	36.0%	35.2%
	Don't Restrict	62.0%	39.2%	39.2%	70.7%	54.5%	54.6%
	Not applicable	7.7%	15.4%	13.7%	8.1%	9.5%	10.2%
<b>Allowed to take bath during your menstrual period</b>		36.5%	19.2%	20.6%	79.8%	12.0%	30.9%
<b>Follow any dietary restrictions during menstruation</b>		57.2%	63.1%	65.7%	46.5%	62.0%	59.1%
<b>Any specific practices experienced relating to menstruation</b>		8.9%	13.8%	16.7%	6.1%	9.5%	10.5%
<b>Number of adolescent Girls</b>		<b>271</b>	<b>130</b>	<b>102</b>	<b>99</b>	<b>200</b>	<b>401</b>

**Table 21: Proportion of adolescent girls received knowledge on menstrual health and hygiene through National programmes, person who provided the knowledge menstrual, place of getting, issues covered and benefits received through attending these National programmes by place of residence and type of climate vulnerability in J&K**

		Type of residence		Type of Climate Vulnerability			Total
		Rural	Urban	Drought	Flood/Cyclone	Snowfall	
<b>Proportion received knowledge from</b>	ASHA	61.6%	10.1%	3.0%	67.7%	55.0%	45.0%
	ANM	5.2%	3.1%	2.9%	1.0%	7.0%	4.5%
	Other Health Staff	7.4%	3.8%	3.9%	6.1%	7.5%	6.2%
	AWW	14.8%	4.6%	3.9%	11.1%	15.5%	11.5%
	School Teacher	31.7%	24.6%	22.5%	34.3%	30.5%	29.4%
	Peer Educator	.4%	.0%	.0%	1.0%	.0%	.2%
	NGO	.4%	1.5%	2.0%	1.0%	.0%	.7%
<b>Place of getting the knowledge</b>	At AWC	38.3%	26.1%	20.0%	13.9%	52.0%	35.8%
	Public Health Facility	11.5%	15.2%	10.0%	16.7%	10.2%	12.2%
	At School/College	57.9%	73.9%	83.3%	76.4%	47.2%	61.1%
	Home	76.5%	30.4%	26.7%	79.2%	70.1%	67.2%

<b>Number of adol. Girls Received Knowledge on Menstrual Health and Hygiene</b>		<b>183</b>	<b>46</b>	<b>30</b>	<b>72</b>	<b>127</b>	<b>229</b>
<b>Received knowledge on</b>	Menstrual Hygiene/Cleanlines	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Menstrual Problems	91.3%	87.0%	93.3%	90.3%	89.8%	90.4%
	Reproductive Health System	61.7%	58.7%	60.0%	66.7%	58.3%	61.1%
	RTI/STI/HIV	30.1%	17.4%	23.3%	38.9%	22.0%	27.5%
	Nutritious Food	73.8%	76.1%	80.0%	65.3%	78.0%	74.2%
	Family Planning Methods	5.5%	4.3%	6.7%	4.2%	5.5%	5.2%
	Importance Of IFA / WIFS Tablets	51.9%	34.8%	33.3%	44.4%	54.3%	48.5%
	Proper Use Of Medication	18.6%	2.2%	3.3%	16.7%	17.3%	15.3%
<b>In what way this information benefitted Got knowledge on</b>	Menstrual. Health and Hygiene	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Nutrition	80.9%	84.8%	86.7%	79.2%	81.9%	81.7%
	Sexual & Reproductive Health	47.5%	43.5%	36.7%	45.8%	49.6%	46.7%
	Symptoms Related to Gene Problems	31.1%	32.6%	40.0%	16.7%	37.8%	31.4%
<b>Received Material Services</b>	Got Take Home Ration	21.9%	2.2%	.0%	22.2%	19.7%	17.9%
	Got Sanitary Napkins	78.1%	17.4%	3.3%	75.0%	75.6%	65.9%
	Got IFA/WIFS/Deworming Tablets	52.5%	37.0%	36.7%	47.2%	53.5%	49.3%
	Got Health Check Up	44.3%	32.6%	36.7%	43.1%	42.5%	41.9%
	Got Immunization	31.1%	10.9%	6.7%	27.8%	31.5%	27.1%
<b>Changed Behavior</b>	Following Hygienic Practices	81.4%	67.4%	63.3%	86.1%	78.0%	78.6%
	Taking Bath During Menstruation	47.5%	19.6%	13.3%	66.7%	34.6%	41.9%
	Changing Sanitary Pads/Cloth Frequently	89.6%	69.6%	60.0%	93.1%	87.4%	85.6%
	Proper Disposal Of Sanitary Pads	92.3%	65.2%	56.7%	95.8%	89.0%	86.9%
	Washing & Drying The Clothes Under Sunshine	76.5%	45.7%	26.7%	87.5%	70.9%	70.3%
	Taking Nutritious Food	75.4%	73.9%	76.7%	68.1%	78.7%	75.1%
<b>Number of Adolescent Received Knowledge</b>		<b>167</b>	<b>13</b>	<b>3</b>	<b>67</b>	<b>110</b>	<b>180</b>

**Table 22: Proportion of adolescent girls experienced crisis situation due to climate extremes problems faced relating to getting water, washing menstrual cloth, taking bath and staying in camps/tents by place of residence and type of climate vulnerability, J&K**

		Type of residence		Type of Climate Vulnerability			
		Rural	Urban	Drought	Flood/Cyclone	Snowfall	Total
<b>Experience/face crisis situation (Flood/Cyclone/Drought /Snowfall)</b>	Yes	96.3%	87.7%	84.3%	92.9%	98.5%	93.5%
	No	3.7%	12.3%	15.7%	7.1%	1.5%	6.5%
<b>Number of Adolescent Girls Faced Crises</b>		<b>261</b>	<b>114</b>	<b>86</b>	<b>92</b>	<b>197</b>	<b>375</b>
<b>Usually How long this crisis situation continues in a year</b>	Less Than a Month	29.1%	31.6%	31.4%	23.9%	32.0%	30.4%
	1-3 Months	70.90 %	68.40%	68.6%	76.10%	68.0%	69.60%
<b>Problems Related to Get Water</b>	No Problem	79.3%	36.0%	26.7%	96.7%	69.0%	66.1%
	Non Availability Of water	11.1%	13.7%	14.3%	.0%	11.5%	12.6%
	No Water at All	24.1%	42.5%	44.4%	100.0%	21.3%	34.6%
	No Clean Water for Drinking	74.1%	72.6%	68.3%	100.0%	77.0%	73.2%
	Non Availability of Water for Bath	85.2%	74.0%	69.8%	66.7%	88.5%	78.7%
	No Water For Washing Cloth	33.3%	39.7%	44.4%	.0%	31.1%	37.0%
	Others	11.1%	16.4%	19.0%	.0%	9.8%	14.2%
<b>How to manage</b>	Boiled Water for Drinking	57.4%	54.8%	52.4%	.0%	62.3%	55.9%
	Supplied by Tank Water	1.9%	13.7%	15.9%	.0%	1.6%	8.7%
	Purchased Bottle Water	11.1%	31.5%	36.5%	.0%	9.8%	22.8%
	Brought It from Unaffected Area	44.4%	42.5%	38.1%	100.0%	45.9%	43.3%
	Cloths Not Washed	85.2%	68.5%	63.5%	66.7%	88.5%	75.6%

	Did Not Take Bath	79.6%	68.5%	65.1%	100.0%	80.3%	73.2%
	Other	5.6%	23.3%	25.4%	.0%	6.6%	15.7%
<b>Problems related to washing/drying menstrual cloth or disposal of sanitary pads</b>	No Problem	81.2%	59.6%	55.8%	98.9%	71.6%	74.7%
	No Water to Wash Men. Clothes	24.5%	17.4%	15.8%	.0%	25.0%	21.1%
	No Place to Wash	6.1%	6.5%	5.3%	.0%	7.1%	6.3%
	No Place to Dry	8.2%	4.3%	2.6%	.0%	8.9%	6.3%
	No Sunshine to Dry	14.3%	8.7%	5.3%	.0%	16.1%	11.6%
	No Options for the Safe Disposal	100.0 %	87.0%	84.2%	100.0%	100.0%	93.7%
	Other	.0%	15.2%	18.4%	.0%	.0%	7.4%
	<b>How to manage</b>	Burnt/Burry the Napkins	24.5%	6.5%	2.6%	.0%	25.0%
Use Newspapers		6.1%	6.5%	7.9%	.0%	5.4%	6.3%
Hand Over to the Garbage Collector		40.8%	30.4%	36.8%	.0%	35.7%	35.8%
Throw in Open Area		63.3%	54.3%	50.0%	100.0%	64.3%	58.9%
Other		10.2%	26.1%	31.6%	.0%	8.9%	17.9%
<b>Problems related to bathing during such situation</b>	No Problems	88.9%	52.6%	47.7%	97.8%	81.7%	77.9%
	Not Bathed During Men. Period	93.1%	87.0%	86.7%	100.0%	91.7%	89.2%
	No Water Available to Bath	89.7%	94.4%	93.3%	100.0%	91.7%	92.8%
	Privacy Is Not Available for Bathing	.0%	3.7%	4.4%	.0%	.0%	2.4%
	Others	6.9%	18.5%	22.2%	.0%	5.6%	14.5%
<b>Had to move away from home in tents /camps during such situation anytime</b>		.0%	18.4%	24.4%	.0%	.0%	5.6%
<b>Number of Adolescent Girls Faced Crises</b>		<b>261</b>	<b>114</b>	<b>86</b>	<b>92</b>	<b>197</b>	<b>375</b>