A Comparative Study To Assess The Knowledge Regarding Menstrual Hygiene Among Adolescent Girls Of Urban And Rural School Of Kashmir Division With a View To Develop A Self-Instructional Module.

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ABSTRACT:

Purpose

India is a country of contrasts, with extreme wealth, poverty and gender-related disparities, which results in significant variation in health and social indicators among girls and women. 3 There is empirical evidence that of the 113 million adolescent girls, 68 million attend about 1.4 million schools, with poor MHM (Menstrual hygiene management) practices and cultural taboos considered to be impediments to their school attendance. 4-6 Therefore, it is imperative to recognise the importance of health, education and well-being of the young girlsThe aim of the study is to enhance knowledge and develop self-instruction module regarding menstrual hygiene among adolescent girls of Govt high school Goripora (rural) and Govt high school khanyar (urban) of Kashmir division

Materials and Methods:

In view of the nature of the problem and to accomplish the objectives of the study a quantitative research approach was adopted. This approach was considered appropriate for the present study to assess the knowledge regarding menstrual hygiene among adolescent girls in studying in rural and urban Govt schools, of Kashmir. The main study was conducted at Goripora Govt high school (Rural) and Khanyar Govt high school (urban) in the month of March 2023.The population of the adolescents girls findings were 60. The investigator selected samples of adolescent girls including 30 from rural school and 30 from urban school of Kashmir. The samples were chosen according to the inclusive and exclusive criteria of the study. The consecutive sampling technique was used. Analysis of the data was done in accordance with the objectives. It was done by using the descriptive and inferential statistics

Results:

The results of the study revealed that 30(50%) of study subjects were from 9th standard and 30 (50%) belonged to 10th standard. the maximum number of the study subjects 45 (75%) had illiterate mothers and least i.e., 2(3%) had graduate mothers. the majority of the study subjects 58(96.66%) had house wife mothers. the maximum number of the study subjects 28 (47%) had third birth order child and least i.e., 4(7%) had above third birth order child. that maximum number of the study subjects 33(55%) had family income of Rs10, 000-20,000 and least i.e., 3(5%) had family income of Rs30, 001-40,000. The score was assessed by using a structured knowledge questionnaire. The knowledge scores obtained were divided into four categories that is knowledge level 0-9 (below average), knowledge level 10-18 (average), knowledge level 19-27 (good) and knowledge level 28-37 (excellent) respectively. The frequency was converted into percentage by dividing frequency obtained by the total number of subjects multiplied by 100 that in pre test maximum number of the study subjects 34(56.7%) had average knowledge and least i.e.,1(1.7%) had excellent knowledge regarding reproductive health in post test majority of the study subjects had excellent knowledge 53(88.3%) had excellent knowledge and least i.e.,7(11.7%)had good knowledge regarding reproductive health pre test knowledge scores range was 21 (29-8). The data also depicts that their mean pre test knowledge score with SD was (16.52±4.436) and mean percentage knowledge score was 44.64%.

post test knowledge scores range was15 (36-21). The data also depicts that the mean post test knowledge score with SD was (31.10± 3.040) and mean percentage knowledge was 84.05%.

in pre test maximum number of the study subjects 34(56.7%) had average knowledge and least i.e.,1(1.7%) had excellent knowledge regarding reproductive health and in post test majority53(88.3%) had excellent knowledge and least i.e.,7(11.7%)had good knowledge regarding reproductive health.

Conculsion:

The following conclusion drawn based on the findings of the study i.e. maximum of adolescent girls in rural and urban had inadequate knowledge i.e. 73.3% and 80% respectively.26.7% of rural adolescent girls had average knowledge score whereas 20% of urban adolescent girls was in this knowledge score. The mean of knowledge score of rural adolescent girls was 16.50, whereas the mean of knowledge of urban adolescent girls was 16.00. The calculated (4.313 and -3.991) 't' value found non-significant at p<0.05. It is concluded that there was non-significant difference between knowledge score of rural and urban adolescent girls regarding menstrual hygiene. Inadequate knowledge regarding menstrual hygiene in adolescent girls is higher in urban area. Along with that average knowledge is also higher in urban area. The knowledge regarding menstrual hygiene has a relation with all demographic variables taken in study such as age, type of family, family residing in, studying in the class, mother's education, mother's occupation, menarche attained at the age, family monthly income and source of information about menstrual hygiene.

INTRODUCTION

Adolescence is a changeover period from childhood to adulthood. This complex passage from childhood to adulthood is particularly hectic for girls. The healthy adolescent population is considered as a social agent of change toward a population with a healthier way of life. The period of adolescence for a girl is a time of physical and psychological preparation for secure maternity. One of the major physiological changes that take place in adolescent girls is onset of menarche which is generally connected with a number of troubles. With the developmental milestone associated with the adolescence the onset of initial menstrual phase is a qualitative episode of main consequence in women's life. Menstruation is still regarded as something unclean or dirty in India. The reaction of girls towards the menstruation depends upon the manners in which she learns. Although the menstruation is a natural process with several misconception and practice. This results lots of health problem **(Anice.G.J 2005)**

WHO has defined adolescence as the age range of 10 – 19 years. It is the period between babyhood and adulthood, noticeable by improved food necessity and basal metabolic activities and biochemical behavior endogenous processes include hormonal secretion with their influence on the various organ systems **(WHO 2001).**

Menstruation is derived from the Latin word "mensis" meaning month. It is the periodic vaginal bleeding that occurs with the shedding of the uterine mucosa. Menstruation occurs one or two years after the appearance of secondary sexual characteristics. The average cycle is 28 days, ranging from 21 days to 35 days. Every mature female menstruates on the average 3-5 days (ranges 2 days-7 days) each month until menopause10. The amount and the length of menstrual bleeding vary for individuals. Menstrual hygiene deals with the special health care needs and requirements of women during menstrual cycle. (**Kanagabala**

KEY WORDS: Adolescents; hygiene; knowledge; menstruation; perception

MATERIAL AND METHODS

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In this we study the various steps that are generally adopted by a researcher in studying their research problem along with the logic behind them. Its purpose is to maximize control over factors that can interfere with the validity of the research findings.

This chapter discusses the methodology used for comparative study. The present study aims at assessing the knowledge regarding menstrual hygiene among adolescent girls in studying in rural and urban Govt schools, of Kashmir.

So, for the present study a comparative research design was utilized to achieve the objectives of the study.

SAMPLE SIZE

The investigator selected samples of adolescent girls including 30 from rural school and 30 from urban school of Kashmir. The samples were chosen according to the inclusive and exclusive criteria of the study. The consecutive sampling technique was used.

INCLUSION AND EXCLUSION CRITERIA

Inclusion criteria

- Adolescent girls who will be willing to participate in the study.

- Adolescent girls who are studying in high school

- Adolescent girls who will be present at the data collection.

Exclusion criteria

- Adolescent girls who will are sick at the time of data collection

Content Validity of Tool: To ensure the content validity of the tool, tool was determined by expert's opinion on the relevance of items. The tool was given to 16 experts from field of Community Health Nursing, Mental Health Nursing, Child Health Nursing, Medical and Surgical Nursing, and Obstetric and Gynecological Nursing for suggestion and further modification. Modifications were done in the tool according to the expert's suggestion. Knowledge questionnaire initially had 60 statements, 10 statements were deleted from the tool. The revised tool had 50 questions for assessing knowledge.

Ethical Considerations:

Approval was taken from research and ethical committee of Bibi Halima College Of Nursing

And Medical Techonlogy, A written permission was taken from principal of Bibi Halima

College Of Nursing And Medical Techonlogy, Kathidarwaz, Rainawari, Srinagar, Kashmir. Administrative permission was taken from Govt high school of selected Goripora (rural) and Khanyar (urban) areas respectively. The purpose of the study was explained to the middle age adults and verbal consent was taken before collecting the data. They were also told about their right to refuse from participating in the study. To gain the confidence, the adolescent girls were assured that the information given by them would be kept confidential and will be utilized for research purpose.

RESULTS

analysis and interpretation of data collected from 60 adolescent girls regarding their knowledge on reproductive health. The data collected from 60 adolescent girls students before and after administering the health education package, was organized, analyzed and interpreted by using descriptive and inferential statistics.

The results of the study revealed that 30(50%) of study subjects were from 9th standard and 30 (50%) belonged to 10th standard. the maximum number of the study subjects 45 (75%) had illiterate mothers and least i.e., 2(3%) had graduate mothers. the majority of the study subjects 58(96.66%) had house wife mothers. the maximum number of the study subjects 28 (47%) had third birth order child and least i.e., 4(7%) had above third birth order child. that maximum number of the study subjects 33(55%) had family income of Rs10, 000-20,000 and least i.e., 3(5%) had family income of Rs30, 001-40,000. The score was assessed by using a structured knowledge questionnaire. The knowledge scores obtained were divided into four categories that is knowledge level 0-9 (below average), knowledge level 10-18 (average), knowledge level 19-27 (good) and knowledge level 28-37 (excellent) respectively. The frequency was converted into percentage by dividing frequency obtained by the total number of subjects multiplied by 100 that in pre test maximum number of the study subjects 34(56.7%) had average knowledge and least i.e.,1(1.7%) had excellent knowledge regarding reproductive health in post test majority of the study subjects had excellent knowledge 53(88.3%) had excellent knowledge and least i.e.,7(11.7%)had good knowledge regarding reproductive health pre test knowledge scores range was 21 (29-8). The data also depicts that their mean pre test knowledge score with SD was (16.52±4.436) and mean percentage knowledge score was 44.64%.

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Table 2

Frequency and percentage distribution of study subjects according to educational standard. n=60

Educational Standard	Frequency (f)	Percentage (%)
9th	30	50
10th	30	50
Total	60	100

The data presented in table 2 and figure 5 shows that 30(50%) of study subjects were from 9th standard and 30 (50%) belonged to 10th standard.

Table 3

Frequency and percentage distribution of study subjects according to mothers education. n=60

Mothers education	Frequency (f)	Percentage (%)
Illiterate	45	75
Up to high School	13	22
Graduate	2	3
Professional	0	0
Total	60	100

The data presented in table 3 and figure 6 shows that the maximum number of the study subjects 45 (75%) had illiterate mothers and least i.e., 2(3%) had graduate mothers.

Table 4

Frequency and percentage distribution of study subjects according to mothers occupation. n=60

The data

Mothers occupation	Frequency (f)	Percentage (%)
Teacher	1	1.67
Health Worker	1	1.67
House Wife	58	96.66
Any Other	0	0
Total	60	100

presented in table 4 and figure 7 shows that the majority of the study subjects 58(96.66%) had house wife mothers.

Table 5

Frequency and percentage distribution of study subjects according to birth order.

n=60

Birth order	Frequency (f)	Percentage (%)
First Child	12	20
Second Child	16	27
Third Child	28	47
Above third Child	4	7
Total	60	100

The data presented in table 5 and figure 8 shows that the maximum number of the study subjects 28 (47%) had third birth order child and least i.e., 4(7%) had above third birth order child.

Table 6

Frequency and percentage distribution of study subjects according to family income. n=60

Family income	Frequency (f)	Percentage (%)
Rs.10000-20000	33	55
Rs. 20001-30000	13	22
Rs. 30001-40000	3	5
Rs. 40001-50000	11	18
Total	60	100

The data presented in table 6 and figure 9 shows that maximum number of the study subjects 33(55%) had family income of Rs10, 000-20,000 and least i.e., 3(5%) had family income of Rs30, 001-40,000.

Table 7

Frequency and percentage distribution of pre test knowledge level of study subjects regarding reproductive health. n=60

Pre test knowledge level of study subjects	Frequency	Percentage
Below Average (0-9)	5	8.3%
Average (10-18)	34	56.7%
Good (19-27)	20	33.3%
Excellent (28-37)	1	1.7%

The data presented in table 7 and figure 10 shows that in pre test maximum number of the study subjects 34(56.7%) had average knowledge and least i.e.,1(1.7%) had excellent knowledge regarding reproductive health.

Table 8

Frequency and percentage distribution of post test knowledge level of study subjects regarding reproductive health.   n=60

Post test knowledge level of study subjects	Frequency	Percentage
Below Average (0-9)	0	0 %
Average (10-18)	0	0%
Good (19-27)	7	11.7%
Excellent (28-37)	53	88.3%

The data presented in table 8 and figure 11 shows that in post test majority of the study subjects had excellent knowledge 53(88.3%) had excellent knowledge and least i.e.,7(11.7%)had good knowledge regarding reproductive health.

Table 9

Mean, standard deviation, median score, maximum, minimum, range, mean percentage of pre test knowledge scores of study subjects regarding reproductive health.   n=60

Mean ± SD	Median score	Maximum	Minimum	Range	Mean %
16.52±4.436	17	29	8	21 (29-8)	44.64

Data in table 9 shows that pre test knowledge scores range was 21 (29-8). The data also depicts that their mean pre test knowledge score with SD was (16.52±4.436) and mean percentage knowledge score was 44.64%.

Table 10

Mean, standard deviation, median score, maximum, minimum, range, mean percentage of post test knowledge scores of study subjects regarding reproductive health.
n=60

Mean ± SD	Median score	Maximum	Minimum	Range	Mean %
31.10±3.040	32	36	21	15 (36-21)	84.05

Data in table 10 shows that post test knowledge scores range was15 (36-21). The data also depicts that the mean post test knowledge score with SD was (31.10± 3.040) and mean percentage knowledge was 84.05%.

Table 11

Comparison of pretest and post test knowledge level of study subjects regarding reproductive health. n=60

pre test and post test knowledge level of study subjects	Pre test		Post test	
	Frequency	percentage	Frequency	percentage
Below Average (0-9)	5	8.3 %	0	0 %
Average (10-18)	34	56.7 %	0	0 %
Good (19-27)	20	33.3 %	7	11.7 %
Excellent (28-37)	1	1.7 %	53	88.3%

The data presented in table 11 and figure 12 shows that in pre test maximum number of the study subjects 34(56.7%) had average knowledge and least i.e.,1(1.7%) had excellent knowledge regarding reproductive health and in post test majority53(88.3%) had excellent knowledge and least i.e.,7(11.7%)had good knowledge regarding reproductive health.

Table 12

Comparison between pre-test and post-test knowledge score and the significance of difference between the mean pre-test and post-test knowledge scores of study subjects regarding reproductive health.

To find out the significance of difference between the mean pre test and post test knowledge scores, paired t test is used. In order to find the statistical difference between the mean pre test and post test scores the following null hypothesis is formulated:

H_{01}: There is no significant difference in knowledge about reproductive health among adolescent girls after administration of health education package at0.05 level of significance.

n=60

Knowledge Score	Mean	S.D	Mean Diff.	Paired t Test	P value
Pre-test Knowledge Score	16.52	4.44	14.583	33.507	<0.001*
Post –test Knowledge Score	31.10	3.04			

*Significant

The data in the table 12 and figure 13 shows that the mean post test knowledge score (31.10±3.040) of the study subjects on over all reproductive health is significantly higher than that of the mean pre test knowledge scores (16.52±4.436) at 0.05 level of significance hence null hypothesis **(H_{01})** is rejected and the research hypothesis (H_1) is accepted which states that there is significant difference in knowledge about reproductive health among adolescent girls after administration of health education package at 0.05 level of significance, which shows the effectiveness of health education package.

Table 13

Area wise comparison of pretest and post test knowledge scores of study subjects and the significance of difference between the mean pretest and post test knowledge scores of study subjects regarding reproductive health.   n=60

Area wise comparison		Mean	S.D.	Mean %	Mean Difference	Paired t Test	P value
Anatomy and physiology of reproductive system	Pre test	6.07	1.635	50.56	3.983	20.250	<0.001*
	Post test	10.05	1.241	83.75			
Menstruation and menstrual hygiene	Pre test	5.43	2.037	41.79	5.567	21.436	<0.001*
	Post test	11.00	1.473	84.62			
Early pregnancy and care	Pre test	3.12	1.541	38.96	3.617	23.179	<0.001*
	Post test	6.73	0.821	84.17			
Contraception and Contraceptives	Pre test	1.73	0.861	43.33	1.583	13.803	<0.001*
	Post test	3.32	0.651	82.92			

*significant

Data in the table 13 shows that the mean pre test knowledge score of study subjects regarding anatomy and physiology of reproductive system is (6.07±1.635) ,regarding menstruation and menstrual hygiene is (5.43±2.037), regarding early pregnancy and care is(3.12±1.541) and regarding contraception and contraceptives is (1.73±0.861).The data also depicts that the mean post score regarding anatomy and physiology of reproductive system is (10.05±1.241) ,regarding menstruation and menstrual hygiene is (11±1.473), regarding early pregnancy and care is(6.73±0.821) and regarding contraception and contraceptives is(3.32 ±0.651) is significantly higher than the mean pre test knowledge score respectively at 0.05 level of significance hence null hypothesis **(H$_{01}$)** is rejected and the research hypothesis (H$_1$) is accepted which states that there is significant difference in knowledge about reproductive health among adolescent girls after administration of health education package at 0.05 level of significance, which shows the effectiveness of health education package.

Comparison of frequency and percentage distribution of correct responses of items in pre test and post test of study subjects.   **n=60**

Item wise analysis	Pretest frequency of correct responses	Pretest percentage of correct responses	Post test frequency of correct responses	Post test percentage of correct responses
Section "A" knowledge regarding anatomy and physiology of reproductive system				
Q1: which age of a girl is considered as physically mature? 15-17years	12	20.0%	30	50.0%
Q2: Puberty means Process of physical change and period of sexual maturity	5	8.3%	50	83.3%
Q3: Female reproductive Organs consists of Ovaries, fallopian tubes ,Uterus, Vagina	16	26.7%	52	86.7%
Q4: Female sex cell is named as Ovum	34	56.7%	56	93.3%
Q5: Male sex cell is named as Sperm	36	60.0%	53	88.3%
Q6: Name of the organ which produces female sex cell is Ovary	54	90.0%	55	91.7%
Q7: The release of female sex cell from Ovary is called Ovulation	24	40.0%	45	75.0%
Q8: Number of female sex cells produced during each cycle One	24	40.0%	55	91.7%
Q9: Released female sex cell is carried to uterus through Fallopian tube	30	50.0%	53	88.3%
Q10: Fusion of female sex cell and male sex cell is called as Conception	35	58.3%	47	78.3%
Q11: Hormones produced by ovary are Estrogen and progesterone	39	65.0%	50	83.3%
Q12: Hereditary traits are passed from parents to children through Genes	55	91.7%	57	95.0%
Section "B" knowledge regarding Menstruation and menstrual hygiene				
Q1: **Menstruation is a process in which**	8	13.3%	38	63.3%

Destruction of endometrium layer of uterus takes place which comes out through vagina every month				
Q2: **The first Menstruation is known as** Menarche	39	65.0%	51	85.0%
Q3: **The reason for menstruation is** Hormonal changes	15	25.0%	48	80.0%
Q4: **Common age for attaining menarche is** 9-13years	26	43.3%	49	81.7%
Q5: **Duration of normal menstrual cycle is** 3-5 days	24	40.0%	58	96.7%
Q6:**Average interval period between each menstrual period is** 28 days	46	76.7%	58	96.7%
Q7: **Menstrual hygiene means** Personal hygiene during menstruation, bathing and showering during menstruation and using of sanitary protection products during menstruation	6	10.0%	36	60.0%
Q8: **Menstrual hygiene is important to** Prevent infection	31	51.7%	57	95.0%
Q9: **Best way to maintain menstrual hygiene is to use** Clean cloths ,homemade sanitary napkins, readymade sanitary napkins	22	36.7%	44	73.3%
Q10: **If the cloth is used, it should be washed in** Cold water first and then in hot water and dry in sunlight	24	40.0%	55	91.7%
Q11: **Sanitary pad should be changed** 2-4 times a day	17	28.3%	59	98.3%
Q12: **The best method of disposing used pads is to** Burning of used pads	17	28.3%	47	78.3%
Q13: **After changing the pad the hands should be** Washed with soap and water	51	85.0%	60	100%

Section "C" knowledge regarding early pregnancy and care				
Q1: **Early pregnancy means** Pregnancy at age of 13-19yrs or pregnancy before reaching legal adulthood (18-21yrs)	11	18.3%	42	70.0%
Q2: **Another term for early pregnancy is** Teen age pregnancy or adolescent pregnancy	12	20.0%	49	81.7%
Q3:**Recommended age of marriage for girls in India** 18-20 years	52	86.7%	60	100%
Q4: **Early marriage is not advisable because it has adverse effects on** Mothers health and baby's health	20	33.3%	48	80.0%
Q5: **Early pregnancy can result in** Anemia, abortion ,mother's death	16	26.7%	44	73.3%
Q6**: The effects of early pregnancy on young women can lead to** Incomplete education, poverty, unemployment	20	33.3%	52	86.7%
Q7: **Early pregnancy is not recommended because** Adolescents body is not fully mature	19	31.7%	52	86.7%
Q8: **A pregnant women should have regular antenatal checkups to prevent complications to** Mother and baby	37	61.7%	56	93.3%
Section "D" knowledge regarding contraception and contraceptives				
Q1: **Contraceptive means** Avoid unwanted pregnancy Regular interval between pregnancy	14	23.3%	48	80.0%
Q2: **The various methods of contraception are** Temporary methods ,Permanent methods	38	63.3%	57	95.0%
Q3: **Temporary method of female contraception is** copper T, oral pills	5	8.3%	38	63.3%
Q4: **Permanent method of female contraception is** Cutting the tube which carries ovum	47	78.3%	56	93.3%

Table 15

Association of pre test knowledge score of study subjects regarding reproductive health with selected demographic variables.   n=60

Variables		Excellent	Good	Average	Below average	Chi square test	df	P value
Educational Standard	9th	1	9	18	2	1.519	3	0.678 NS
	10th	0	11	16	3			
Mothers Education	Illiterate	0	17	23	5	7.894	6	0.246 NS
	Up to high School	1	3	9	0			
	Graduate	0	0	2	0			
	Professional	0	0	0	0			
Mothers Occupation	Teacher	0	0	1	0	1.580	6	0.954 NS
	Health Worker	0	0	1	0			
	House Wife	1	20	32	5			
	Any Other	0	0	0	0			
Birth Order	First Child	0	5	5	2	20.922	9	0.013*
	Second Child	0	7	9	0			
	Third Child	0	6	19	3			
	Above third Child	1	2	1	0			
Family Income	Rs.10000-20000	0	20	11	2	42.845	9	0.000*
	Rs. 20001-30000	0	0	12	1			
	Rs. 30001-40000	0	0	1	2			
	Rs. 40001-50000	1	0	10	0			

NS= Not significant   S*= significant

The data presented in table 15 shows that there was no significant association between selected demographic variables like educational standard, mother's education and mother's occupation and the pre-test knowledge score. But pre test knowledge score has significant association with birth order and family income. Hence the null hypothesis (H_{02}), which states that there is no significant association between pre test level of knowledge and selected demographic variables such as educational standard, mother's education, mother's occupation, birth order and family income at the significant level of 0.05 is partially accepted and partially rejected. It is partially rejected for birth order and family income and partially accepted for educational standard, mother's education and mother's occupation.

Major findings

Demographic profile

According to age, most of the rural and urban area adolescent girls were from age group of 15 years i.e. 33% and 33% respectively. Most of samples belong to nuclear family in both rural and urban area i.e. 37% and 57% respectively. Maximum number of rural and urban area adolescent girls studying in 10th std i.e 77% and 77% respectively. As per mother's education, maximum 40% of rural adolescent girl's mothers are graduate and maximum 53% of urban adolescent girl's mothers are graduate. As per mother's occupation, maximum 50% of rural and urban adolescent girl's mothers are working as other profession. According to menarche attained at the age, most of the rural and urban area adolescent girls attained menarche at the age of 12 & 13 years i.e 40% and 43% respectively. As per family monthly income, According to family monthly income, most of the rural area adolescent girls i.e. 40% were belongs to Rs.20,001 -30,000 and 47% of urban area adolescent girls are belongs to Rs. 40,001-50,000 and In terms of source of information analysis revealed that more than half of both rural and urban area middle age adults got information through Blood relations (i.e. 27% and 23% for rural and urban area).

According to objectives:-

Objective 1. To assess the knowledge regarding menstrual hygiene among adolescent girls of rural and urban area.

The maximum of adolescent girls in rural and urban group had inadequate knowledge i.e. 73.3% (22) and 80% (24) respectively. In rural and urban group, minimum 26.7% (8) and 20% (6) adolescent girls were equipped with average knowledge regarding menstrual hygiene.

Objective 2 - to compare the knowledge regarding menstrual hygiene among adolescent girls of rural and urban area.

The mean of knowledge score of rural and urban adolescent girls was 16.50 and 16.00 respectively.

Objective 4 - to find out the relationship of knowledge regarding menstrual hygiene between rural and urban adolescent girls with selected demographic variables such as age, type of family, family residing in, studying in the class, mother's education, mother's occupation, menarche attained at the age, family monthly income and source of information about menstrual hygiene.

Findings related to age: Maximum 17.00 mean knowledge score was obtained from rural and urban area adolescent girls belonged to age group of 15 years and minimum 15.86 mean knowledge score was found in age group 16 years

Findings related to type of family: maximum mean of knowledge score rural adolescent girls found maximum was 16.82 who were living in nuclear families and minimum mean knowledge score as 16.25 among who were living in joint families. The mean knowledge score of urban adolescent girls was found maximum as 17.80 in who were in joint family and minimum 15.50 mean knowledge score of urban adolescent girls was found among those who were at extended family.

Findings related to family residing in: the mean of knowledge score 16.50 of rural adolescent girls and the mean of knowledge score of urban adolescent girls is 16.00.

Findings related to studying in the class: the mean knowledge score of rural and urban adolescent girls found maximum as 16.57 and 15.91 respectively who are studying in 10th std and mean knowledge score 16.29 among rural and urban adolescent girls who were studying in 9th std.

Findings related to mother's education: the maximum mean knowledge score of rural adolescent girls was found 17.50 who had high school completed mother and 15.42 among adolescent girls had graduate mother.

Similarly, the mean knowledge score of urban adolescent girls was found 16.38 had graduate mother and 15.57 among adolescent girls who were having the professional mother.

Findings related to mother's occupation: maximum mean knowledge score 19.00 and 17.40 respectively of rural and urban adolescent girls found whose mother were health worker and minimum mean knowledge score 15.47 and 15.47 respectively of rural and urban adolescent girl's mother are doing other profession.

Findings related to Menarche attained at the age: the maximum mean knowledge score 18.08 and 17.38 of rural and urban adolescent girls found who attained menarche at the age of 12&13 years and minimum mean knowledge score 14.63 among rural adolescent girls found who attained menarche at the age 10 &11 years and 13.83 minimum mean knowledge score of urban adolescent girls who attained menarche at more than 13 years.

Findings related to family income: the maximum mean knowledge score 22.00 of rural adolescent girls found who had Monthly Family Income of ≥50,000 and minimum 16.00 mean of knowledge score of adolescent girls who had Monthly Family Income of 40,001 -50,000. Similarly the maximum mean knowledge score 16.36 of urban adolescent girls found who had monthly family income of Rs 40,001 -50,000 and minimum mean knowledge score 15.62 of urban adolescent girls who had monthly family income Rs.20,001 -30,000.

Findings related to source of information: maximum mean of knowledge score 16.80 of rural adolescent girls found who were acquired information from mass and social media and maximum 17.33 mean of knowledge score of urban adolescent girls who were exposed to relatives and minimum knowledge score was found from friends among adolescent girls i.e. 14.00.

Conclusion

The following conclusion drawn based on the findings of the study i.e. maximum of adolescent girls in rural and urban had inadequate knowledge i.e. 73.3% and 80% respectively.26.7% of rural adolescent girls had average knowledge score whereas 20% of urban adolescent girls was in this knowledge score. The mean of knowledge score of rural adolescent girls was 16.50, whereas the mean of knowledge of urban adolescent girls was 16.00. The calculated (4.313 and -3.991) 't' value found non-significant at $p<0.05$. It is concluded that there was non-significant difference between knowledge score of rural and urban adolescent girls regarding menstrual hygiene. Inadequate knowledge regarding menstrual hygiene in adolescent girls is higher in urban area. Along with that average knowledge is also higher in urban area. The knowledge regarding menstrual hygiene has a relation with all demographic variables taken in study such as age, type of family, family residing in, studying in the class, mother's education, mother's occupation, menarche attained at the age, family monthly income and source of information about menstrual hygiene.

IMPLICATIONS & RECOMMENDATIONS
 Implication
The results of the present study have several implications, which are discussed in the following areas:-
1. Nursing Education
 2. Nursing Services
3. Nursing Administration
4. Nursing Research
The nurse's role may be essentially unchanged or it may entail different duties by possessing and practicing competencies making nurses better prepared to handle all types of emergencies. The investigator has drawn the following implications in the field of nursing education, nursing service, nursing administration and nursing research.

Nursing Practice

Nurses are key personnel of a health team, who play a major role in the health promotion and maintenance. Nursing is a practicing profession so, the investigator, generally integrates findings into practice.

- The nurse as a service provider should periodically organize and conduct school education programme on menstrual hygiene among adolescent girls.
  - The nurse implements the information, education, communication to create aware to the adolescent girls about menstrual hygiene.
  - As a service provider the nurse should implement some measures to ensure the availability of sanitary napkins in school campus with the support of school administration.
  - Organize any form of education programme like workshop, seminar, and project will provide information regard menstrual hygiene.
  - Nurses, being the key member of the health team have a vital role to play in handling the situation with competencies in taking care adolescent girls.

Nursing Administration

• The nurse as an administrator should implement formal teaching programme on menstrual hygiene among adolescent girls

 • Provide opportunities for adolescents to attend health related programmes.

 • The nurse must instrumental in pointing out relevant policies of the state and central level of ensure effective programme to educate the public and facilitate optimal recourses allocation for implementation of the programme and create awareness about menstrual hygiene.

 • Nurse administrators should take responsibility in improving the knowledge level of adolescent girls related to menstrual hygiene.

 • The nurse administrator should assume leadership roles in training and providing health education to adolescents.

Nursing Education

 Nursing curriculum should incorporates activities like preparation of self-teaching materials and also give importance to health education, seminars, symposium and workshop can be organized regarding the aspect of reproductive system, puberty, menstrual hygiene.

Nursing Research

Nursing research is the means by which nursing profession is growing; more research should be done related to puberty and menstrual hygiene.

• Nurse researchers can promote more research with regard physical and psychological preparation during menstruation.

• Nurse researchers can collaborate with the other health team members in developing evidence based nursing practice.

 • Nursing researcher can encourage clinical nurse to apply the research findings in their daily nursing care activities.

 • There is a need for extensive and intensive research in this area so that strategies for improving the skills of researcher can be developed.

• This study will serve as a valuable reference material for future investigators.

Recommendations

Based on the experience gained during the period of study and from the results of the study, the following recommendations were made that the study can be replicated on large sample to validate and generalize its findings;

• A descriptive study can be conducted to assess the knowledge among B.Sc. Nursing students regarding menstrual hygiene in selected nursing colleges of kashmir.

• A cross sectional study can be done to assess the knowledge and attitude among adolescent girls regarding menstrual hygiene in selected schools at Kashmir.

• A quasi experimental study can be conducted to assess the effectiveness of structured teaching program regarding menstrual hygiene among adolescent girls in selected school, kashmir.

• A comparative study can be done to assess the knowledge among mothers of adolescent in selected rural and urban area at Kashmir.

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