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A KAP STUDY ON MENSTRUATION AND ASSESSMENT OF DIETARY HABITS AMONG SCHOOL GOING GIRLS (12-16 YEARS) OF PRIVATE EDUCATIONAL INSTITUTIONS IN HYDERABAD

Qudsia Mohammadi

M.Sc. Clinical Nutrition and Dietetics, St. Ann's College for Women *Corresponding author: qudsia.mohammadi055@gmail.com Received: 08-08-2022; Accepted: 15-09-2022; Published: 30-09-2022 © Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License https://doi.org/10.55218/JASR.202213814

ABSTRACT

The first Menstruation also called as 'MENARCHE' is an indicator of developmental maturation in girls. Although menstruation is a natural process, it is associated with many misconceptions and practices which might sometimes result into adverse outcomes. Diet plays a very important role in growth and development of adolescent girls, during which the development of healthy eating habits is of supreme importance. The aim of the study is to assess the KAP regarding menstruation and to assess the nutritional status and dietary habits of the adolescent school going girls. The study also aims at imparting health education regarding menstruation and dietary habits and to obtain feedback about the same. This descriptive Cross-sectional study was conducted among 200 private school going girls of Hyderabad. A self-administered questionnaire was given to collect data regarding KAP on menstruation and a self-designed Food Frequency Questionnaire (FFQ) was used to obtain information on dietary habits. The data was analysed using MS Excel and SPSS Software. 64.5% (n=129) had poor knowledge, 97% (n=194) had a positive attitude. The practice scores of 92.5% (n=185) were found to be good. Cereals, milk and milk products and vegetables were consumed by most of the students on a daily basis. 37.5% and 42% of the subjects included fruits and non-veg daily. Many respondents consumed pulses only twice a week. Consumption of junk food on a daily basis was seen in 41% students. The mean age at menarche was found to be 12.02 years with a SD of 0.826 years. Many students were found to have a low BMI of <18.5 kg/m². Mother was the primary information for majority of the students. Many students did not include pulses (dals), green leafy vegetables and nuts and seeds on a daily basis. The overall dietary habits of the students were found to be unsatisfactory. Most of the respondents felt that the health education session was very informative and effective.

Keywords: Anemia, Dietary habits, KAP, Menarche.

1. INTRODUCTION

According to WHO, the term 'adolescents' refers to young people between the ages of 10 and 19 years. Adolescence is a transition period from childhood to adulthood during which pubertal development and sexual maturation take place [1].

The first menstruation also called as 'MENARCHE' is an indicator of developmental maturation in women whose arrival determines the transition from being a child to being a teenager [1]. Menstruation is the natural part of the reproductive cycle in which blood from the uterus exits through the vagina [2]. Menstruation is an important milestone that results in development of sexual and reproductive capacity of girls [3].

Woman's reproductive health is greatly influenced by the

girl's reaction to menarche, her beliefs and attitude towards menstruation, and more important her behaviour during it [4]. The reaction to menstruation depends upon awareness and knowledge about the subject. Although menstruation is a natural process, it is linked with several misconceptions and practices which sometimes result in adverse health outcomes [5]. Most of the practices during menstruation have direct implications on reproductive health. For instance, not bathing during menstruation can lead to a compromise in the hygiene of the girl and thus lead to untoward consequences [1, 2, 6].

In our society, parents do not communicate about sexual characteristics with their growing girls. The taboos surrounding this issue prevent them from communicating their needs and problems, which is the main reason for adopting unhygienic practices during menstruation. It is a critical issue that needs free and open discussions [7, 8].

Management of menstruation is linked with the adoption of hygienic practices and acceptance of womanhood right from the onset of menarche. All myths and taboos like not taking bath, avoiding hot and cold foods, avoiding exercise, have no scientific support, and need to be eliminated to liberate menstruation anxiety among girls [9].

The accurate knowledge of menarche offers a positive experience about the menstrual process among young girls. This leads to positive health behaviours and provides more satisfaction with the bodily image. Increased knowledge right from childhood may escalate safe practices and may help in mitigating and suffering of millions of women [5, 10].

Adolescents are a nutritionally vulnerable segment of the population. A balanced diet during childhood and adolescence is essential not only for the well-being and growth of the child but also for the establishment of healthy dietary habits that will persist in later life [11].

Healthy eating can be difficult for adolescents as new, trendy, palatable processed and fast foods are appearing with globalization and promoted through peers and the media [12]. Some dietary patterns appear quite common among adolescents, to mention a few: snacking, usually on energy-dense foods; meal skipping, particularly breakfast, or irregular meals; the extensive use of fast food (restaurant food); and less inclusion of fruits and vegetables [13].

Considering the tracking of food behaviours into adulthood, there is an immediate need to modify such behaviours during this pubertal phase, thus, enabling adolescents to develop healthy food practices for their adulthood [14].

It is a well-known fact that in adolescent girls, menstrual blood losses with rapid growth leads to expansion of red blood cell mass and increases tissue iron requirements, making them particularly susceptible to iron deficiency compared to male counterparts [15]. Anaemia among adolescent girls is also coupled with poor dietary intake, high rate of infection, and worm infestation [16].

Adolescent girls should be educated regarding anaemia and ways to prevent and treat it. Green leafy vegetables are fairly good sources of iron and calcium. Iron content is high in spinach. It is easily available and inexpensive source of many other nutrients other than iron [17]. Treatment of anaemia also includes IFA (Iron and Folic Acid) supplementation as prescribed by the concerned doctor or dietician, consumption of Vitamin-C tablets and deworming in every six months for better iron uptake by the body [18].

2. METHODOLOGY

A Descriptive Cross-sectional study was conducted among 200 adolescent girl students of age group 12-16 years, who had attained menarche. The students from grades 7th, 8th, 9th and 10th of Private Educational Institutions participated in the study. Permission to carry out the research work during the school hours was taken from the concerned School Authorities. Written consent of the respondents was taken prior to data collection. The data regarding knowledge, attitude and practices was collected through a self-administered questionnaire and information on dietary habits was obtained through a selfdesigned Food Frequency Questionnaire (FFQ). Privacy and confidentiality of the study participants was maintained throughout the study period.

- **Inclusion criteria:** adolescent girls already attained menarche
- **Exclusion criteria:** adolescent girls who have not attained menarche
- **Target group:** adolescent school going girls
- Age group: 12-16 years
- Sample size: 200
- Sampling procedure: Random sampling

Before collecting the data, the students were explained about the study completely. This was followed by the participants filling out the questionnaires. Doubts concerning to any question were clarified by the principal researcher herself either in English or in the local language for better understanding. After the completion of answering the questionnaires by all students, a Health Education session was taken up by the researcher. The contents of the health education included information on physiology of menstruation, common health problems related to menstruation such as irregular periods, menstrual hygiene practices, myths related to menstruation, diet during menstruation. Further, ways to prevent and treat anaemia and healthy dietary habits during adolescence was spoken about. Visual aids like a PPT was made use of to enhance their understanding of the session. Health education sessions were followed by Question/Answer session and clarification of their doubts. After which feedback forms were handed out to acquire feedback, responses and comments about the education session. A total of 11 classes were taken by the researcher.

The KAP questionnaire included both open-ended and closed-ended questions pertaining to demographic profile, health information, knowledge, attitude and practices during menstruation. Eight questions were related to demographic profile and health information. Eight questions were asked pertaining to knowledge regarding menstruation. For each correct response, they were awarded a score of 1. Hence, the total possible range of score was 0-8. A subject scoring 5 or more was considered as having good knowledge. Similarly, seven questions were asked regarding attitude, and a 5-point Likert scale was used to elicit responses. Hence, the total possible range of score was 7-35. A subject scoring 20 and above was considered to have a positive attitude. For practices during menstruation, fourteen questions were asked, and options in each question were scored according to the type of practice. The possible range of score was 0-28. A subject scoring 14 or more was considered as having good practices [18].

List of Schools and number of respondents

- MS Creative School for Girls, Muradnagar-72 Respondents
- SpringfieldS School, Masab Tank- 45 Respondents
- Venus High School, Tolichowki- 39 Respondents
- ➤ SpringfieldS School, Tolichowki- 44 Respondents Data was recorded and organized in MS Excel and was analysed using MS Excel, SPSS Software. Statistical tools of descriptive analysis like frequencies, percentages,

means and SD (Standard Deviation) were employed for analysing the data. Bar graphs and pie charts were also used for presenting the analysed data.

3. RESULTS AND DISCUSSION

3.1. Demographic profile and health information

The age of the respondents ranged from 11-16 years. Mean age of the girls was reported to be 14.06 years with a SD of 0.939 years. The respondents belonged to the classes 7^{th} , 8^{th} , 9^{th} and 10^{th} . Majority of the girls i.e. 29.5% (n=59) belonged to the classes 8^{th} and 10^{th} . About 11.5% (n=23) belonged to low income group (5,000-15000 Rs. /month), 43.5% (n=87) to middle income group (16,000-50,000 Rs./month) and 45% (n=90) were from high income group. The mean height of the subjects was 155.12cm and the SD (standard deviation) was 6.801cms. The mean weight of the subjects was 47.07kgs with a SD of 9.643kgs. The mean BMI of the subjects was 19.49kg/m² and the SD was 3.423kg/m².

According to the results the girls' age at menarche varied from 9-14 years. The mean age at menarche was found to be 12.03 years with a SD of 0.826 years.

79.5% (n=159) girls reported that the primary source of information about menstruation was their mother. Sister, course book/teacher and relatives were the primary source of information of 11.5% (n=23), 7% (n=14) and 2% (n=4) of girls respectively.

Age at Menarche	Frequency	Percentage	Mean	SD
9	1	0.5		
10	6	3	-	
11	36	18	_	
12	105	52.5	12.03	0.826
13	47	23.5	_	
14	5	2.5	_	
Total	200	100	_	

Table 1: Age at menarche

3.2. Knowledge regarding menstruation

It was found that 52% (n=104) of the girls had no knowledge about menarche/periods before its onset and 48% (n=96) knew about the same before its onset.

The study showed that 40.5% (n=81) of the girls were scared and 46.5% (n=93) felt discomfort when they first experienced menarche. Only 13% (n=26) girls had a usual reaction to it.

According to the study, 11.5% (n=23) of the respondents mentioned that the source of menstrual

bleeding is the urinary bladder, and 59% (n=23) had no knowledge about the source of menstrual bleeding. Only 29.5% (n=59) knew that uterus is the source of menstrual blood.

The majority of the girls i.e. 86% (n=172) think that the menstrual process is a physiological phenomenon and 14% (n=28) think that is a curse of God/Disease.

In our study, we found that 74.5% (n=149) of the subjects feel that the absorbent material should be changed every 3-6 hours, 12% (n=24) and 13.5%

(n=27) think that it should be changed in more than 6 hours and after it gets soaked, respectively.

Table 2: Reaction to first period			
What was your reaction to first menstruation/per iod?	Frequency	Percentage	
Scared	81	40.5	
Usual	26	13	
Discomfort	93	46.5	
Total	200	100	



Fig. 3: Frequency of changing the absorbent material

The study revealed that 83% (n=166) of the girls know that the normal menstrual flow is for 3-7 days. 12.5% (n=25) mentioned that it is for 7-10 days and 4.5 percent have no knowledge about the same.

According to the study, the majority of the respondents i.e. 62% (n=124) did not know that anaemia is a health problem, while only 38% (n=76) knew that it is a health problem.

The majority of the respondents i.e. 64% (n=128) had no knowledge about anaemia, 0.5% (n=1) stated that it is increased iron in blood and 35.5% (n=71) subjects knew that it is decreased iron in blood.

3.3. Attitude regarding menarche/ menstruation

The study revealed, 16% (n=32) of the respondents strongly disagreed with the statement that menstruation is and embarrassing experience, while 18.5% (n=37) disagreed, 25% (n=50) were neutral, 26% (n=52%) agreed and 14.5% (n=29) strongly agreed with the statement.

Most of the girls i.e. 53.5% (n=107) agreed and 22.5% (n=45) strongly agreed with fact that women can take a bath while menstruating, while 13.5% (n=27) were neutral, 8% (n=16) disagreed and only 2.5% (n=5) strongly disagreed with the same.

Table 3: Attitude 1.1		
Menarche/periods is an embarrassing	Frequency	Percentage
experience		
Strongly disagree	32	16
Disagree	37	18.5
Neutral	50	25
Agree	52	26
Strongly agree	29	14.5
	200	100
Total	200	
Total Table 4: Attitude1.2 Women can take bath during men-	Frequency	Percentage
Total Table 4: Attitude1.2 Women can take bath during men- struation/periods.	Frequency	Percentage
Total Table 4: Attitude1.2 Women can take bath during men- struation/periods. Strongly disagree	Frequency 5	Percentage
Total Table 4: Attitude1.2 Women can take bath during men- struation/periods. Strongly disagree Disagree	Frequency 5 16	Percentage
Total Table 4: Attitude1.2 Women can take bath during men- struation/periods. Strongly disagree Disagree Neutral	Frequency 5 16 27	Percentage 2.5 8 13.5
Total Table 4: Attitude1.2 Women can take bath during men- struation/periods. Strongly disagree Disagree Neutral Agree	Frequency 5 16 27 107	Percentage 2.5 8 13.5 53.5
Total Table 4: Attitude1.2 Women can take bath during men- struation/periods. Strongly disagree Disagree Neutral Agree Strongly agree	Frequency 5 16 27 107 45	2.5 8 13.5 53.5 22.5

The majority of the girls i.e. 46% (n=92) agreed and 42.5% (n=85) strongly agreed with the fact that women can enter the kitchen/cook food during menstruation /periods. While only 6% (n=12) were neutral, 3.5% (n=7) disagreed and 2% (n=4) strongly disagreed with the same.

38.5% (n=77), 51.5% (n=103), 3.5% (n=7), 5.5% (n=11) and 1% (n=2) respondents strongly agreed, agreed, were neutral, disagreed and strongly disagreed with the fact that women can sleep on the same bed as others during menstruation/periods.

The study showed that most of the girls i.e., 43.5% (n=87) strongly agreed and 43% (n=86) agreed with the fact that a girl should take more nutritious food during menstruation/periods. Only 9.5% (n=19) were neutral, 3.5% (n=7) disagreed and 0.5% (n=1) strongly disagreed with the given statement.

According to the results, 19.5% (n=39) strongly disagreed, 34% (n=68) disagreed, 23% (n=46) were neutral, 17% (n=34) agreed and 6.5% (n=13) strongly agreed with the statement that one should not know about menstruation before its onset.

Most of the subjects i.e. 68.5% (n=137) were neutral and did not have any knowledge with the fact that excess menstrual flow can cause anemia. About 1.5%(n=3) strongly disagreed, 9.5% (n=19) disagreed, 17%(n=34) agreed and only 3.5% (n=7) strongly agreed with the statement.

Table 5: Attitude 1.3		
One should not know about menstruation before its onset.	Frequency	Percentage
Strongly disagree	39	19.5
Disagree	68	34
Neutral	46	23
Agree	34	17
Strongly agree	13	6.5
Total	200	100

3.4. Practices during menarche/menstruation

Nearly the majority of the girls i.e. 49% (n=98) take bath during menstruation, while 47.5% (n=95) do not take bath in the first 2-3 days and only 3.5% (n=7) totally refrain from bathing during menstruation.

Table 6: Practices 1.1 (taking bath duringmenstruation)

Do you take bath during menstruation?	Frequency	Percentage
Yes	98	49
Not in the first 2-3 days	95	47.5
Never	7	3.5
Total	200	100

The study revealed, majority of the girls i.e. 55% (n=110) never absent from school during menstruation. 31% (n=62), 10.5% (n=21) and only 3.5% (n=7) absent themselves on the 1st day, in the first 2-3 days and all the days respectively, during menstruation.

According to the results, most of the subjects i.e. 67% (n=134) never use an analgesic/painkiller for menstrual cramps. 17.5% (n=35), 12.4% (n=25) and 3% (n=6) of the subjects use a painkiller rarely, sometimes and every time respectively.

Majority of the girls i.e. 94% (n=188) use sanitary absorbents (pads, tampons) as absorbent material and only 1.5% (n=3) and 4.5% (n=9) use cloth and both (cloth and pads) respectively while menstruating.

The study shows that all the girls wash their hands after changing the absorbent material.

In our study, we found that most of the respondents i.e. $90.55 \ (n=181)$ never reuse the absorbent material while $4\% \ (n=8)$ sometimes reuse it and $5.5\% \ (n=11)$ always reuse the same.

The majority of the subjects i.e., 84% (n=168) wash the perineal area every time after changing the

absorbent material while 13% (n=26) sometimes wash it and 3% (n=6) never wash the perineal area after changing the absorbent material.

41.5% (n=83) have normal physical activity during periods. On the other hand most of the girls i.e. 53% (n=106) are less physically active while only 5.5% (n=11) and not active at all.

Table 7. Fractices 1.2	Table	7:	Practices	1.2
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Do you reuse the absorbent material?	Frequency	Percentage
Always	11	5.5
Sometimes	8	4
Never	181	90.5
Total	200	100



Fig. 4: Physical activity during menstruation

The study showed that majority of the respondents i.e. 56% (n=112) eat the same amount of food during their periods, 15% (n=30) eat more and 29% (n=58) eat less amount of food during the same.

Nearly half of the girls i.e. 50.5% do not avoid any food item and the other half i.e. 49.5% (99) avoid certain food items during menstruation.

Most of the girls, 62.5% (n=125) have special food choices while 37.5% (n=75) have no special food choices during periods.

Only 1% (n=2) of the study subjects always visit a doctor for menstrual disorders, while others visit sometimes (8%, n=16) or only when they feel the need (34.5%, n=69). Most of the girls i.e. 56.5% (n=113) never visit a doctor for the same.

According to the results of the study, majority of the respondents i.e. 61.5% (n=123) do not know how to prevent anaemia. Others stated that increasing dietary iron intake 17% (n=34), avoiding post meal tea and coffee (3.5%, n=7) and consuming vitamin-c rich foods will help in prevention of anaemia. Only 16.5% (n=33)

girls correctly stated that all the above options help in preventing the same.

Table 8: Practices 1.4		
Do you visit a doctor for menstrual disorder	Frequency	Percentage
Always	2	1
Sometimes	16	8
Only when you feel the need	69	34.5
Never	113	56.5
Total	200	100

Table 9: Practices 1.5

How do you prevent anaemia	Frequency	Percentage
Increasing dietary iron intake	34	17
Avoiding post meal tea and coffee	7	3.5
Consuming vitamin-c rich foods	3	1.5
All of the above	33	16.5
Don't know	123	61.5
Total	200	100

Majority of the subjects (64%, n=128) did not know how to treat anemia, other said IFA supplementation (15%, n=30), consuming vitamin-c tablets (5%, n=10) and deworming (1.5%, n=3) help in the treatment of anaemia. Only 14.5% (n=29) girls correctly stated that all the above options help in the treatment of anaemia.

3.5. Knowledge

From the above table, observe that most of the students (64.5%, n=129) have poor knowledge about the mensuration, and 35,5% (n=71) students have good knowledge regarding the same.



Fig. 5: Knowledge Score

3.6. Attitude

From the above table, observe that most of the students (97%, n=194) have a positive attitude about the mensuration and only 3% (n=6) are having negative attitude about the same.





3.7. Practices

From the above table, observe that most of the students (92.5%, n=185) are having good practices during mensuration and only 7.5% (n=15) students are having poor practices.



Fig. 7: Practices Score

3.8. Food Frequencies

According to the results, the majority of the students i.e. 83% (n=166) consume cereals and millets on a daily basis. 6% (n=12) consume three or more time a week, 2% (n=4) twice a week, 8% (n=16) once a week and 1% (n=2) once a month/never.

The study showed that 22% (n=44) girls include dals/pulses in their diet on a daily basis, 19.5% (n=39) three or more time a week, 38% (n=76) twice a week, 18% (n=36) once a week and 2.5% (n=5) once a month/never.

Total 14% (n=28), 21% (n=42), 16.5% (n=33), 32.5% (n=65) and 16% (n=32) consume ready to eat/refine foods on a daily basis, three or more times a

week, twice a week, once a week and once a month/never respectively.

Tabl	e 10:	Cereals	and	millets
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Cereals and millets (rice, wheat, ragi, jowar, etc)	Frequency	Percentage
Once a month/Never	2	1.0
Once a week	16	8.0
Twice a week	4	2.0
Three or more times a week	12	6.0
Daily	166	83.0
Total	200	100.0

Table 11: Pulses (dals)

Pulses (dals)	Frequency	Percentage
Once a month/Never	5	2.5
Once a week	36	18.0
Twice a week	76	38.0
Three or more times a week	39	19.5
Daily	44	22.0
Total	200	100.0

Milk and milk products were consumed by 39% (n=78) of the respondents on a daily basis, 16.5% (n=33) three or more times a week, 11% (n=22) twice a week, 21% (n=42) once a week and 12.5% (n=25) once a month/never.

Table 12: Milk and milk products

Milk and milk products (curd, paneer, etc)	Frequency	Percentage
Once a month/Never	25	12.5
Once a week	42	21.0
Twice a week	22	11.0
Three or more times a week	33	16.5
Daily	78	39.0
Total	200	100.0

It was reported that most of the study subjects i.e. 63.5% (n=127) include vegetables in their daily diet while 24% (n=48) three or more times a week, 6% (n=12) twice a week, 4.5% (n=9) once a week and 2% (n=4) one a month/never.

In the study, it was found that green leafy vegetables were consumed by 19% (n=38) on a daily basis, 30.5%

(n=61) three or more times a week, 21% (n=42) twice a week, 21% (n-42) once a week and 8.5% (n=17) once a month/never.

Table 13: Green leafy vegetables			
Green leafy vegetables (spinach,	Frequency	Percentage	
cabbage, kulfa, etc)	1	C	
Once a month/Never	17	8.5	
Once a week	42	21.0	
Twice a week	42	21.0	
Three or more times a week	61	30.5	
Daily	38	19.0	
Total	200	100.0	

Total 37.5 % (n=75) students consumed fruits daily, 24% (n=48) three or more times a week, 20% (n=40) twice a week, 13% (n=26) once a week and 5.5% (n-11) once a month/never.

Table 14: Fruits

Fruits	Frequency	Percentage
Once a month/Never	11	5.5
Once a week	26	13.0
Twice a week	40	20.0
Three or more times a week	48	24.0
Daily	75	37.5
Total	200	100.0

Non-veg was consumed by 42% (n=84) daily, 21% (n=42) three or more times a week, 17.5% (n=35) twice a week, 13.5% (n=27) once a week and 6% (n=12) once a month/never.

According to the results, 7% (n=1) students consumed butter, cheese and cream on a daily basis, 10.5%(n=21) three or more times a week, 12% (n=24) twice a week, 31% (n=62) once a week and 39.5% (n=79) once a month/never.

The study revealed that 29% (n=58) of the subjects included nuts and oil seeds in their diet daily, 15% (n=30) three or more times a week, 20.5% (n=41) twice a week, 22.5% (n=45) once a week and 13% (n=26) once a month/never.

Fast food was consumed by only 4% (n=8) on a daily basis, 14.5% (29) three or more times a week, 17.5 (n=35) twice a week, 34.5% (n=69) once a week and 29.5% (n=59) once a month/never.

Nuts and seeds (almonds, walnuts, flax seeds, etc)	Frequency	Percentage
Once a month/Never	26	13.0
Once a week	45	22.5
Twice a week	41	20.5
Three or more times a week	30	15.0
Daily	58	29.0
Total	200	100.0

The study showed that nearly 41.5% (n=83) students eat junk food daily, 17.55 (n=35) three or more times a week, 12% (n=24) twice a week, 16% (n=32) once a week and 13% (n=26) once a month/never.

Street food was consumed by 3% (n=6) of the girls daily, 9% (n=18) three or more times a week, 16% (n=32) twice a week, 30.5% (n=61) once a week and 41.5% (n=83) once a month/never.

Table	16:	Street	food
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Street food (pani puri, chaat etc)	Frequency	Percentage
Once a month/Never	83	41.5
Once a week	61	30.5
Twice a week	32	16.0
Three or more times a week	18	9.0
Daily	6	3.0
Total	200	100.0

According to the results tea/coffee is consumed by 24% (n=48) girls on a daily basis, 9.5% (n=19) three or more times a week, 13.5% (n=27) twice a week, 22% (n=44) once a week and 31% (n=62) once a month /never

Carbonated beverages were consumed by 6.5% (n=13) daily, 13% (n=26) three or more times a week, 14.5% (n=29) twice a week, 29% (n=58) once a week and 37% (n=74) once a month/never.

Tab	le 1'	7: Ca	rbonateo	d bev	verages
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Carbonated beverages (soft drinks, soda drinks)	Frequency	Percentage
Once a month/Never	74	37.0
Once a week	58	29.0
Twice a week	29	14.5
Three or more times a week	26	13.0
Daily	13	6.5
Total	200	100.0

The study revealed that only 5% (n=10) consume desserts and bakery items on a daily basis, 12% (n=24) three or more times a week, 21% (n=42) twice a week, 37% (n=74) once a week and 25% (n=50) once a month/never.

The study showed that 6% (n=12) eat fried foods daily, 13.5% (n=27) three or more times a week, 16.5 % (n=33) twice a week, 33.5% (n=67) once a week and 30.5% (n=61) once a month/never.

3.9. Feedback Report

The majority of the students felt that the health education session was excellent (71%, n=142), very good (23.5%, n=47) and 5.5% (n=11) thought that it was good.

According to the feedback, most of the respondents i.e. 73% (n=146) felt that the session was excellent on the basis of information. 25% (n=50) felt it was very good and 2% (n=4) felt it was good.

The feedback showed that the speaker's interaction was excellent (80%, n=160), very good (19%, n=38) and good (1%, n=2).

The majority i.e. 81% (n=162) of the study subjects felt that the speaker's knowledge on the subject matter was excellent, 17% (n=34) felt it was very good and 2% (n=4) felt it was good.

According to the feedback, 74.5% (n=149) of the students felt that the content shared in the session was excellent, 22% (n=44) felt it was very good, 3% (n=6) stated it was good and only one student felt it was fair.

The feedback showed that 73% (n=146) of the respondents stated it was excellent how the knowledge gained was useful for them in their day-to-day life, 20% (n=40) felt it was very good, 6.5% (n=13) mentioned it was good and only 1 student thought it was fair.

4. CONCLUSION

In the study, the age of the respondents ranged from 12-15 years, and they belonged to classes 7th, 8th, 9th and 10th. The mean age of the girls was found to be 14.06 years with a SD of 0.939 years. About 45% of the student belonged to higher socioeconomic strata with an income of >50,000 Rs/month. The mean BMI was found to be 19.49kg/m² with a SD of 3.423kg/m². Many students were found to have a low BMI i.e., <18.5kg/m². The mean age at menarche was reported to be 12.03 years and the SD was 0.826 years. For majority of the study subjects, mother was the primary source of information about menstruation. From the study, it can be summarised that 64.5% (n=129) i.e., majority of the girls had poor knowledge (score <5) regarding Menstruation and only 35.5% (n=71) had satisfactorily knowledge (score >5). Only 3% (n=6) of the study subjects were found to have a negative attitude (score <20) towards Menstruation, while majority of the girls i.e., 97% (n=194) had a positive attitude (score >20). The practice scores of 92.5% (n=185) were found to be good (score >14) while only 7.5% (n=15) were reported to have poor practices (score <14).

Cereals, milk and milk products, vegetables are consumed by most of the students on a daily basis. Pulses were included in the diet twice a week by many respondents. Ready to eat foods, fast foods, desserts and bakery items and fried foods were consumed once a week by 39%, 34.5%, 37% and 33.5% of the respondents respectively. About 41% of the students ate junk food on a daily basis. 37.5% and 42% of the subjects included fruits and non-veg on a daily basis respectively. Consumption of green leafy vegetables and nuts and seeds on a daily basis was found to be very low among the students. Intake of carbonated beverages and tea/coffee was reported to be once a month/never by 37% and 31% of the girls respectively. About 39.5% of the respondents included butter, cheese and cream only once a month/never. The overall dietary habits of the students were found to be unsatisfactory.

From the feedback analysis it was found that majority of the respondents felt that the health education session conducted by the researcher was very informative and effective and would be useful/applicable to them in their day-to-day life. The speaker's knowledge on the subject matter and her interaction was reported to be excellent by 81% and 80% of the respondents respectively.

5. RECOMMENDATIONS

It would be recommended that all the schools should provide health education and training by teachers or health educators regarding menarche, causes of menstruation, menstrual hygiene before its onset. This would help the school girls to clear the myths and misconceptions about menstruation. It would be even better to organize health education and awareness camps in school on a regular basis where the students would also be educated about Anemia. The girls should be made aware of the healthy dietary habits and ways to prevent and treat Anemia. Nutrition counselling should be imparted to the students to make healthy food choices. Regular health check-ups should be scheduled to check the nutritional status of the students.

Conflict of interest

The Author declares no conflicts of interest.

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