

**FACTORS TO MENSTRUAL HYGIENE PRACTICES AMONG ADOLESCENT
FEMALE SECONDARY SCHOOL STUDENTS IN NKANU WEST
LOCAL GOVERNMENT AREA OF ENUGU STATE**

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ABSTRACT

This study aimed to find out factors to menstrual hygiene practices among adolescent females in secondary schools in Nkanu West LGA of Enugu State. The study made use of descriptive survey research design. The population for the study was 3175 adolescent female secondary school students in Nkanu West LGA. A total of 318 adolescent female secondary school students were sampled as respondents using Taro Yamane formula. A self-structured questionnaire that was validated by three experts was used to obtain information from the respondents. The analysis of data was done with mean. The results of the data analysis showed that the adolescent female secondary school students in Nkanu West LGA experience personal factors to menstrual hygiene practices ($x=2.57$). Female students admitted experiencing socio-economic and school factors to menstrual hygiene practices in this locality ($x=2.65$; $x=2.50$). The study concluded that the practices of menstrual hygiene by female adolescents are hindered by some personal, economic as well as certain school-based factors. The recommendation among others is that the menstruating girls should be adequately supported with hygiene materials such as sanitary pads and others by both parents and guardians as well as the school authority in order to deal with some of the personal challenges that come with menstruation while government should provide the menstruating girl with hygiene allowance during menstruation to augment parental support.

Keywords: Hygiene, menstruation, menstrual hygiene, adolescent.

INTRODUCTION

Menstrual hygiene is a major determinant of a female hygiene level of which every female needs to be aware of at all times. Menstrual hygiene is a periodic vaginal bleeding associated with shedding of uterine mucosa. According to Farah (2022), the onset of menstruation is one of the most important changes occurring among girls. The Centre for Disease Control and Prevention (2023), states that it is the period when the uterus sheds blood and tissue from the uterine lining and it leaves the body through the vagina during the adolescent years. According to the report, menstruation is a natural biological process experienced by millions around the world each month. This goes to show that the occurrence of menstruation may be sudden and usually comes with bleeding through the vagina (which is a woman's birth canal). This therefore implies that during menstruation, the females are expected to maintain good hygiene.

Hygiene is the science of health and prevention of diseases (WHO, 2019). According to Food and Agricultural Organization and World Health Organization (2019), hygiene is any practice or activity that you do to keep things healthy and clean and includes washing of hands, coughing into your elbow and regular house cleaning among

others. Therefore, any activity being engaged by an individual that has the capacity to prevent the occurrence of diseases and infections could be called hygiene. Hygiene could be environmental or personal in nature.

It may be possible that adolescent female students in Nkanu West LGA may be exhibiting unsatisfactory menstrual hygiene practices which forms the basis for this study. Poor menstrual hygiene practices may result in contraction of sexual transmitted infections such as herpes, candidiasis and others with the resultant effects such as infertility in female and other unhealthy effects. Keeping good menstrual hygiene practices could be a function of several factors which can be personal, economic or socio-cultural factors.

According to WHO (2018), factors of health refers to the range of behavioural, biological, socio-economic and environmental factors that influence the health status of individuals or population. The major factors of good menstrual hygiene behavior have been found to be literacy of the mothers, educational status of the adolescent girls, regular exposure to mass media in the form of advertisements promoting the use of sanitary pads, prior knowledge regarding menstruation and presence of proper sanitary latrine at home

(Sushedna & Dasgupta, 2016). In the context of this study, these factors will be discussed as personal, socio-cultural and school-related factors. These variables are chosen because they impact on adolescents' personal and social lives particularly those of them in school. In this study therefore, factors refer to range of behavioural determinants such as socio-economic, school-related factors as well as personal factors that influence the menstrual hygiene practices of adolescent female students in Nkanu West LGA.

Personal factors could impact the practices of menstrual hygiene in adolescent females going through menstruation. Personal factors relate to issues like all the menstrual restraints that weigh down menstrual hygiene practice of adolescent females. Notable personal factors includes the type of feminine protection or feminine hygiene product used, lasting period of type of feminine hygiene product used, rate of menstrual flow, duration or frequency of the menstrual flow and interval of change of feminine product used. Azor (2014) noted that girls need to change their sanitary napkins regularly during the period of menstruation especially in the first two to three days, it may be possible that adolescent female secondary school students in Nkanu West LGA at one time or the other experienced one or more of those

highlighted personal factors which also may influence their menstrual hygiene practices. Therefore, it is necessary that variables of personal factors to menstrual hygiene be examined in this study. Some of those personal determinants could be on account of some socio-economic / cultural factors to menstrual hygiene practices.

Socio-economic factors are all socio-cultural and financial factors that limit purchasing power of female hygiene products which indirectly affect menstrual hygiene behavior of adolescent females. It also involves economic factors such as household income of the parents, educational level of the parent (especially that of the mother), household size, experience level of the parents and financial constraints are some of issues identified as economic factors affecting menstrual hygiene practices of the female adolescent (Azor, 2014). In that regard, Mutunda (2013), remarks that poverty, both personal and structural, emerged as a very important economic barrier to the accessibility of hygienic sanitary materials. According to the report, most girls could not buy sanitary pads because their families could not afford them hence they resorted to using old clothes and blankets torn into rags, and sometimes toilet paper during the period of menstruation for their protection.

Other socio-cultural issues like cultural beliefs are range of traditions, rituals, institutional rules and doctrines practiced within a society that influences menstrual hygiene practices of the female adolescent during menstruation. An example of this could be found in some cultures and traditions that stipulate that a woman must abstain from cooking and salting food, as it is a taboo to do so when menstruating. This belief is also confirmed by Azor (2014), which stated that Nigerian school girls often struggle to manage their menstruation due to social, cultural and economic constraints. When adolescent girls are menstruating, their mobility and behaviours are restricted due to myths, misconceptions, superstitious and cultural or religious practices which tags it as taboos hence the menstruating females are perceived as being unclean (Kumar & Srivastava, 2015). Some cultural determinants identified in this study includes cultural beliefs that regards menstruating adolescents participating in religious activities as ungodly touching holy vessels and exclusion from everyday tasks, among others. Some of these socio-cultural factors could be transported to school thereby impacting negatively to girls during menstruation.

The school related factors could be another important factor likely to influence hygiene

practices in female during this period of menstruation in female adolescents. School-related factors are all the hindrances within the school premises that tend to inhibit menstrual hygiene practices of female adolescents. School-based factors could be in form of lack of adequate menstrual protection alternatives in terms of clean, safe and private sanitation facilities of girls' in-schools which undermine girl's right of privacies, resulting in a fundamental infringement of their human rights and unfriendly infrastructure within the school premises, (Patkar & Bharadwaj, 2018). An understanding of these factors is necessary not only to the adolescent menstruating girl but also their parents as well as all those agencies responsible for adolescent reproductive health. This may provide far reaching solutions that are capable of minimizing or completely eliminating diseases and infections during menstruation.

Failure to adhere to good menstrual hygiene behavior by the menstruating girl may result in serious health consequences. According to Ilo, Nwimo and Onwunaka (2016), such health consequences ranges from physiological to social and psychological issues adding that these should be identified and addressed by the menstruating females for possible

avoidance of them in order to maintain good health status during the period.

Statement of the Problem

Menstruation occurs at a time when many learners are still attending school and many girls reach it unprepared. It is expected that adolescent females in secondary schools should have good knowledge and practices of menstrual hygiene from the right sources. They should also be provided with adequate information and also supported during menstruation to be able to maintain good hygiene level during the period. However, most often than not the information they receive is selective and surrounded by taboos. Also, the education sector which is supposed to provide adequate instructions about menstruation often avoid the issue by considering it a private matter or a problem to be addressed within the family.

This usually leave the menstruating female unprepared hence, making her get confused and unsupported, which in turn affects the quality of their learning in school due to incessant absenteeism from class lessons and sometimes dropout from school upon attaining menstruation. Poor hygiene practices may result in serious health consequences such as herpes, candidiasis that may result in infertility in females. If left unchecked might lead to large number

of adolescent girls dropping out of formal education after attaining menarche. Since most of these girls will later get married. The implication is that unhygienic menstrual practices handed down from one generation to the other will definitely persist and all these put together forms the major problems of this study.

Purpose of the Study

The general purpose of this study was to investigate factors that determine menstrual hygiene practices among adolescent female secondary school students in Nkanu West LGA of Enugu State. The specific purposes were to:

1. find out the personal factors to menstrual hygiene practices among adolescent female secondary school students in Nkanu West LGA of Enugu State.
2. examine the socio-economic factors to menstrual hygiene practices among adolescent female secondary school students in Nkanu West LGA of Enugu State.
3. find out the school-related factors to menstrual hygiene practices among adolescent female secondary school students in Nkanu West LGA of Enugu State.

Research Questions

The following research questions guided the study;

1. What are the personal factors to menstrual hygiene practices among adolescent female secondary school students in Nkanu West LGA of Enugu State?
2. What are the socio-economic factors to menstrual hygiene practices among adolescent female secondary school students in Nkanu West LGA of Enugu State?
3. What are the school management factors to menstrual hygiene practices among adolescent female secondary school students in Nkanu West LGA of Enugu State?

Method

The research design used in this study was descriptive survey research design. The area of the study was Nkanu West Local Government Area in Enugu State. The population for the study comprised of 3175 adolescent female secondary school students from the 12 public secondary schools in Nkanu West LGA. To get this sample, the principles of the rule of the thumb were applied. Purposive sampling

n rule was that responses of 2.50 and above were regarded as agreeing to the item statement highlighted while responses below 2.50 signified disagreement.

Results

was used to select the required number of respondents in each of the sampled schools. A total of 318 adolescent female secondary school students from six out of twelve public secondary schools in Nkanu West LGA served as respondents in this study. The instrument for data collection was structured questionnaire titled “Factors to Menstrual Hygiene Practices Questionnaire (FMHPQ)”. The instrument was validated by three experts. The instrument was administered to the respondents by the researcher with the help of three research assistants who were form teachers in the sampled schools. The research assistants were briefed on the purpose of the study and that they should not teach or interfere with the respondents while filling was on but could offer help in areas that required clarifications. The administration of the instrument took place during school hours and was collected on the spot. After the administration of the instrument, it was discovered that the respondents did not properly fill seven of them. Therefore, 311 (97.8%) were used during data analysis.

The data collected was analyzed with mean. The decisio

Research Question One: What are the personal factors to menstrual hygiene practices among adolescent females in Nkanu west LGA?

Table 1: Mean Response Scores of the Female Students on Personal factors to Menstrual Hygiene Practices

n=311

S/N	The following are personal factors to menstrual hygiene practices	SA	A	D	SD	X	DECI
1	Body reactions to sanitary pad example pad rashes	89	99	81	42	2.76	A
2	Difficulty in choosing the right menstrual hygiene products to use	80	88	77	66	2.59	A
3	Difficulty trying to manage menstrual materials to absorb and collect menstrual blood	69	73	87	82	2.41	D
4	Visible stains on cloth reduces one's self esteem	84	93	74	60	2.65	A
5	Menstrual fatigue does not allow for practice of menstrual hygiene	61	71	90	78	2.30	D
6	Females feel shy to disclose they are going through menstruation and result in poor handling.	79	111	70	51	2.70	A
Grand Mean						2.57	A

Table 1 data shows that item 1 (2.76), 2 (2.59), 4 (2.65), and 7 (2.70) received mean scores above 2.50. This shows agreement. However, items 3 (2.41) and 5 (2.30) shows agreeing to the variable investigated as a factor to menstrual hygiene practices in the locality. This therefore, means that female adolescents in Nkanu West LGA were able

to identify the personal factors to menstrual hygiene practices.

Research Question Two: What are the socio-economic factors to menstrual hygiene practices among adolescent females?

Table 2: Mean Response Scores of the Female Students on Socio-economic factors to Menstrual Hygiene Practices

n=311

S/N	The following are socio-economic factors to menstrual hygiene practices	SA	A	D	SD	X	DECI
7	Household income of parent that is low may affect support	86	96	74	55	2.68	A
8	Occupation of parents	82	100	76	53	2.68	A
9	Use of tissue paper due to financial constraint	101	100	57	53	2.76	A
10	Lack of facilities to change and dispose feminine hygiene products used at home	97	99	74	41	2.81	A
11	Cultural belief that regards menstruation as “taboo”	82	88	76	65	2.60	A
12	Lack of toilets at home	90	80	66	75	2.59	A
13	Use of cloths and napkins due to financial constraints	103	80	70	58	2.73	A
14	Safety of disposable sanitary materials	98	96	83	34	2.82	A
15	Social attitudes/harassment/teasing by teachers and other girls	79	94	79	59	2.62	A
16	Restriction on discussing menstrual issues with parents	67	70	83	91	2.36	D
17	Restriction from everyday tasks (e.g. cooking, socializing and interacting with others, cleaning and touching water)	81	89	77	64	2.60	A
18	Humiliation by male students when noticed stained on cloths cause shyness thereby affects menstrual hygiene behaviour	97	100	75	39	2.82	A
19	Religious beliefs that regards as ungodly touching holy vessels	66	69	90	86	2.37	D
20	Females feel shy to disclose they Are going through menstruation.	79	111	70	51	2.70	A
Grand Mean						2.65	A

Data presented in Table 2 shows that items 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18 and 19 all received mean scores above 2.5. This shows agreement. However, items 17 and 21 received mean scores below 2.5. This shows that female adolescents in Nkanu

West LGA experience socio-economic factors to menstrual hygiene practices.

Research Question Three: What are the school-related factors to menstrual hygiene practices among adolescent females?

Table 3: Mean Response Scores of the Female Students on School-Related factors to Menstrual Hygiene Practices

n=311

S/N	The following are school factors to menstrual hygiene practices	SA	A	D	SD	X	DECI
22	Lack of privacy to change sanitary and lack of toilets for girls in school	88	89	70	64	2.65	A
23	Lack of proper disposal facility in school for used menstrual materials	85	84	77	65	2.60	A
24	Inadequate water supply facility in schools for washing and changing pads/cloths hygienically	90	87	76	59	2.66	A
25	School rules that limits access to wash facilities in schools	67	70	86	88	2.37	D
26	Lack of medical attention in schools for getting first aid against menstrual pain	84	86	78	63	2.61	A
27	School rules that proper dressing code must be maintained	87	82	78	64	2.62	A
28	Inadequate recess time (resting) assigned in school	47	55	90	119	1.77	D
29	School rules that makes active participation in sports compulsory during menstrual cycle	83	81	78	89	2.65	A
30	Inadequate health awareness by health educators teachers	79	84	73	75	2.54	A
Grand Mean						2.50	A

Data presented in Table 3 shows that items 22, 23, 24, 25, 26, 27, 29 and 30 all received mean scores above 2.5. This show agreement. However items 25 and 28 received mean scores below 2.5. This shows disagreement. The grand mean of 2.50 shows agreement. This means that female adolescents in Nkanu West LGA experience school management factors to menstrual hygiene practices.

Discussion

The findings of the study as presented in table 1 on personal factors to menstrual hygiene practices show that female students in secondary schools admitted that reaction to sanitary pad, difficulty in choosing right type of materials, stains on their clothes and shyness to disclose they menstruating

influences their practice of hygiene during menstruation. This finding is in agreement with Azor (2014), who identified personal factors to menstrual hygiene practices to include the type of protection or feminine hygiene products used, lasting period of type of feminine hygiene products used, rate of menstrual flow and interval of change of type of feminine products used.

This findings also agree with Dhingra, Kumar and Kour, (2019), report which found tribal adolescent girls (96.9%) practicing very poor menstrual management as they used dirty clothes or old used clothes which were recycled for absorption of menstrual blood, improper washing of used cloth and improper disposal of used cloth. The main reasons for this agreement could be that in all studies, adolescent females served as respondents are secondary school students who are already menstruating and may have experienced some of the personal factors that were investigated. It could also be possible that some of the personal factors may have been discussed with their mothers and older adults around them. Perhaps, the Health Education instructional programmes may have impacted positively on them which made it possible for them to recognize some of the personal factors.

The finding as presented in table 2 on socio-economic factors to menstrual hygiene also revealed that female students agreed that lack of finance, toilets, harassment from teachers and peers, social restrictions, safety of used materials and other religious factors negatively influence their practices of menstrual hygiene. This finding is in line with Azor (2014) report which observed economic factors to menstrual hygiene practices as household income of the

parents, educational level of the parents and financial constraints. The finding also falls in line with Mutunda (2013), report which stated that poverty emerged as a very important economic barrier to the accessibility of hygienic sanitary materials as most girls could not buy sanitary pads because their families could not afford them hence, they resorted to using old clothes and blankets torn into rags, and sometimes toilet paper during the period of menstruation for their protection. This agreement is quite expected. Majority of female secondary school students come from families of low socio-economic backgrounds and may have been experiencing financial constraints during menstruation. It could also be attributed to the fact that the locality being a rural setting lack basic amenities for hygiene practices such as pipe borne water supply to facilitate wash during the period, perhaps some of their peers both in school and around their homes are facing financial constraints during menstruation which some of them may have observed.

The finding of this study as presented in table 3 on school-related factors to menstrual hygiene shows that the identified school factors that influence female students' practices of menstrual hygiene include lack of menstrual room for privacy, disposal facilities, and the school rules that

make it compulsory for approved dress code and sports participation during menstruation. The finding also agrees with Water Aid (2010) report which found unsatisfactory hygiene practices among adolescent girls who stated that they do not get adequate times and opportunities to clean and change timely at school. This finding of the study falls in line with Patkar and Bharawaj (2018), which reported school-based factors to menstrual hygiene practices to be in form of lack of adequate menstrual protection alternatives in terms of clean, safe and private sanitation

Conclusion

From the various findings of this study, it was concluded that the practices of menstrual hygiene by female adolescents are hindered by some personal, economic as well as certain school-based factors,

Recommendations

From the findings of this study, the following recommendations were made;

1. The menstruating girls should be adequately supported by parents and guardians as well as the school authority in order to deal with some of the personal challenges that come with menstruation.
2. There is the need for government to be providing the menstruating girls with hygiene allowance during

facilities for girls in schools which undermine girl's right and privacies, resulting in a fundamental infringement of their human rights and unfriendly infrastructure within the school premises. This agreement may have been due to the fact that most of the schools in the locality lack basic infrastructural facilities for hygiene practices. It is possible that their schools may be lacking menstrual rooms to provide privacies in their schools which may have made some of them to recognize some of the school factors investigated.

menstruation to augment parental support in order to make purchases of hygiene materials needed during the period.

3. Schools should be able to relax some of the school rules such as compulsory dress code and sports participation for the menstruating girls.
4. The school authority should endeavor to provide menstrual room for privacy as well as other hygiene materials in school to support the menstruating girls during menstruation.

References

- Adinma, E.D. & Adinma, J.B. (2018). Perceptions and practices on menstruation amongst Nigeria Secondary schools girls. *Africa Journal of Reproductive Health* 12(1):74-83
- Agbede, C.O. & Ekeanyanwu, U.C. (2021). An outcome of educational intervention on menstrual hygiene practices among school girls in Ogun State. *Pan Afr Med J*, 40, 214-219.
- Bathija, V., Bant, D. D. & Itugumath, S.R. (2013). Study on usage of women hygiene kit among menstruating age group in field practice areas of KIMS, Hubli. *Int J. Biomed Res* 2023; 4:95-98.
- Bhardwarj, S. & Patkar, A. (2019). Menstrual hygiene management in developing countries taking stock. *Junction Social* 3(6): 4-9.
- Blayreh, Z. & Mekuviaw, B. (2019). Knowledge and menstrual hygiene practices among adolescent school girls in Southern Ethiopia: A cross-sectional study. *British Medical Council Public Health*, 19(1595): S2889.019-797.
- Centre for Disease Control and Prevention (2023). Menstrual hygiene. Available online at <https://www.cdc.gov/hygiene/personal-hygiene/menstrual/html.retrieved> on 28th October, 2023.
- Dhingra, R., Kumar., A & Kour, M., (2019). Knowledge and practices related to menstruation among tribal adolescent girls. *Journal of Ethno Medicine* 3(1) 43-48.
- Disgupts, A. & Sarkar, M. (2018), menstrual Hygiene: How hygienic is the adolescent girl?, *Indian Journal of Community Medicine*, 13(2); 77-80.
- Ezeama, C.N., Ikechukwu, J.I., Obiechina, N.J. & Ezeama, Presentation of uterine fibroids in Nnewi, Nigeria: A 5 year Review. Department of Obstetrics and Ecynecology, Nnamdi Azikiwe University Teaching Hospital, Nnewi, Anambra State. *Ann Med Health Sci. res* 1(1): 114-118.
- Farah, A. (2022). *Period Matters: Menstruation IN SOUTH Asia* (1st ed.) Ind Pan Macmillian.
- Gizachew, A.B. (2021). Knowledge on menstruation and practice of menstrual hygiene management among school adolescent girls in Central Ethiopia: A study. *Dove Press Journal Risk Management and Health Care Policy*, 14. 911-923.
- Gorah, K.Y., Haruna, E.A, & Ufwil, J.J. (2020). Knowledge, Attitude and Practices of menstrual hygiene management among students in Bokkos Local Government Area of plateau State, Nigeria. *Nigeria KIU J Soc Sci*, 2020, 6, 365-374.
- Herz, B. K.. & Sperling, G.B. (2014). What works in girl's education: Evidence and policies from the developing world. *IOSR Journal of Nursing and Health Science*; 3(4) 38-44.
- Ibeagha, N. (2022). Attitude ad practices of Menstrual Hygiene among public secondary school students in Akinyele Local Government Area of Oyo State, Nigeria *Acad Forum*, 2022, 19, 1-14.
- Ilo, C.I., Nwimo, I.O. & Onwunaka, C. (2016). Menstrual hygiene practices, sources of information among adolescent school girls in Abakiliki Education Zone of Ebonyi State. *journal of Education and Practice*, 7(31); 88-95.
- Jamin, S., Felix, I. Olufemi, O., Olugbenga, A., Kumolu, G. & Osinowo, O.

- (2023). Attitude and practices of menstrual hygiene management among orphans and vulnerable adolescents in Lagos State. *Int. J Gend Stud* 2023, 6, 1-16.
- Koff, E. & Riedan, J. (2017). Monitoring Menstrual Health and Hygiene available from <https://menstrualhygiene.org/iopcontent/uploads/2019/08/green-paper-monitoring-menstrual-health> and hygiene, accessed on 5th March, 2019.
- Mutunda, A. (2013). Factors Impacting on the Menstrual Hygiene among school going adolescent girls in Mongu District, Zambia. *Pak J Med Sci* 26(3):619-622.
- Oche, M.O., Umar, A.S., Gana, G.J. & Ango J.T. (2012). Menstrual health: The Unmet Needs of Adolescent Girl's in Sokoto, Nigeria. *Scientific Research and Essays*. 7(3): 410-418.
- Ommer, M. (2010). Utilizing participatory and quantitative methods for effective menstrual hygiene management related policy and planning. Paper for the UNICEF-GPIA Conference, New York.
- Perception of and Attitude towards Menstruation among Women with Fibroids in Lagos, Nigeria. Hindawi Publishing Corporation Scientifica, Article ID 809536, 1-5.
- Rasheed, T. & Afolabi, W.A. (2021). Menstrual and adolescent factors associated with menstrual hygiene of girls in senior secondary schools in Lagos, Nigeria. *J. Matern Child Health* 2021, 6, 35-45.
- Riddhi, O. (2011). Information preferences and practices among people living with HIV/AIDS: Results from a nation-wide survey. *Journal of Medical Library*.
- Samira, S.S. (2015). Talking Menstruation, About Time. *Dhaka Tribune*. Retrieved 29 May, 2015.
- Sarka, I.O. & Dasgupta B.N. (2008). A systematic Review of the Health and Social Effects of Menstrual Hygiene Management, 8(4). <https://doi.org/10.1371/journal.pon6.0062004>.
- Shruti, T., (2015). The Periodic misogyny of tribal Maadhya Pradesh. *Hindustan Times*. Retrieved 29 June 2015 via Newspaper source.
- Sushedna, R. & Dasgupta, A. (2014). Determinants of menstrual hygiene among adolescent Girls: a multivariate analysis. *Journal of Human Ecology*; 14(4) 305-307.
- Ten, V.T.A. (2019). Menstrual Hygiene: A Neglected Condition for the Achievement of Several Millennium Development Goals. *Europe External Policy Advisors*. Available: <http://www.eepa.be/wcm/dmdocuments/BGpaper Menstrual-Hygiene.pdf>.
- Ugbelu, J. & Onunze R.A. (2021). Menstruation knowledge among in-school female adolescents in Agbani Education Zone, Enugu State. *International Journal of Human Kinetics, Health and Education (IJoHKHE)*, 6(2); 2021.
- Water Aid (2010). Menstrual hygiene in South Asia; A neglected issues for WASH (Water Sanitation and Hygiene) programmes.
- Water Aid (2019). Sanitation and Economic Development: making a case for the MDG Orpahn, <http://www.wateraid.org/documents/sanitationandeconomicdevelopment.pdf>.
- WHO, (2022). Education and Provisions for Menstrual Hygiene Management at School can prevent Adverse Health

Consequences 2022, available online from
<https://www.who.int/europe/news/item/21-05-2022.educationand-provisions-for-adequate-menstrual-hygiene-management-at-school-can-prevent-adverse-consequences>,
retrieved on 9 May, 2023.

World Health Organization (WHO) 2018.
Child growth standards & Child
Growth Standards: Backgrounder 4.
Available at
<http://www.who.int/childgrowth/en/?&http://www.who.int/entity/childgrowth/4_double_burden.pdf>.