MENSTRUAL HYGIENE MANAGEMENT AMONGST MARGINALIZED PHYSICALLY CHALLENGED WOMEN AND ADOLESCENT GIRLS IN 10 STATES OF NIGERIA

BY

DR. REUBEN LUBEM IBAISHWA & DR. PRISCILLA M. ACHAKPA

DECEMBER 2016

SUPPORTED BY

WSSCC
WATER SUPPLY & SANITATION COLLABORATIVE COUNCIL

WOMEN ENVIRONMENTAL PROGRAMME
WEP NIGERIA

We appreciate the financial, technical support and cooperation enjoyed with WSSCC Geneva in conducting this study.

ACRONYMS

HIV:	Human Immune Deficiency Virus
DF:	Degree of Freedom
IDP:	Internally Displaced Persons
M:	Mean
N:	Number of Participants
NGO:	Non-Governmental Organizations
SD:	Standard Deviation
STI:	Sexually Transmitted Infections
UTI:	Urinary Tract Infections

WSSCC: Water Supply and Sanitation Collaborative Council

WASH: Water Sanitation and Hygiene

ACKNOWLEDGEMENTS

On behalf of the WSSCC members in Nigeria, Board, Management, Members and Staff of the Women Environmental Programme (WEP), we appreciate the financial, technical support and cooperation enjoyed with WSSCC Geneva and UNOPS, especially Elizabeth Wamera for her time and all other support accorded to the entire WEP Team. Indeed, the project on Menstrual Hygiene Management, survey report and the implementation of some of the activities so far would not have been successful without the incisive contributions of the WSSCC team. WSSCC provided financial support for this study. The views expressed here are those of the authors and do not necessarily represent or reflect the views of WSSCC.

We would like to acknowledge and commend the Programme Coordinating Mechanism (PCM) of the Global Sanitation Fund Chair and Director, Water Quality Control and Sanitation, Federal Ministry of Water Resources, Mr. E.O Awe for the support and cooperation WSSCC Nigeria has enjoyed. Our WASH Ambassador, Engr. Ebele Okeke, Kitchnmine Bawa and WSSCC Chair, Ms Amina J. Mohammed have been an inspiration towards the implementation of all WSSCC programmes in Nigeria.

The successful completion of this work depended on the cooperation of many participants who voluntarily gave their time and consent to fill out the questionnaire and answer questions from the researchers, notably the researchers – Dr. Reuben Lubem Ibaishwa, Community Emergency Response Initiative (CERI), Africa Women for Peace and Development (AFRIWOPED), Participatory Sanitation Development Initiative (PASDI), Engr. Clement OgucheAtaguba, Humanity Family Foundation for Peace and Development (HUFFPED), Kwande Sisters Foundation, Charles Abaagu Foundation, Neighbourhood Environment Watch (NEW)

Foundation, Society for Water and Sanitation (NEWSAN) and the Youth Progressive Association in Taraba (TYPA) who assisted in conducting this study.

WSSCC Nigeria also acknowledges the respondents across all the states in which this study was conducted and WSSCC Nigeria's technical support teamled by the WSSCC's National Coordinator Dr. Priscilla Achakpa with Ruth During, Nguavese Tracy Ogbonna and John T.Baaki.

In a special way, acknowledgement is due to Dr. Reuben Ibaishwa who worked tirelessly to harmonize this report.

EXECUTIVE SUMMARY

Menstruation is an important feature throughout women's fertility. For many girls – the onset of menses is a time of biological development that immediately comes with it restrictions, rules, confinement and changed expectations in many cultures. The physical manifestations of puberty and the lack of safe, dignified practices to manage menstruation have somehow created a complex, heavy silence around this important and positive lifecycle change. The resulting restrictions in self-expression, schooling, mobility, freedom and space because of menstruation have far reaching and harmful impacts on girls and women globally. Thus, good menstrual hygiene management (MHM) has to be more than just facilities for washing and disposal of materials and products, because addressing the practical dimensions without taking on the more socio-cultural dimensions that surround this biological phenomenon with shame, silence and disgust will fail to bring dignity and safety to women (Patkar, 2011).

Being physically challenged or having a disability represents a severe chronic condition that is due to mental or physical impairment or a combination of both. Disability may manifested at any point in an individuals' life and may last a few weeks, months years or throughout an individual's lifetime. Individuals that are physically challenged may have problems with life activities such as language, mobility, learning, self-help, and independent living (Park, 2013).

Implementing standard menstrual hygiene routines tend to be difficult for women and adolescent girlsthat are physically challenged or that have disabilities. This may be due to their lack of self-help skills, but do vary with cognitive, sensory, and/or motor abilities (Park, 2013). These challenges most times also affect their families or caretakers.

Due to the documented challenges faced by physically challenged women and adolescent girls, the WSSCC Strategic Engagement Plan (SEP) 2016 for Nigeria set out to understand the contributors to the Water, sanitation and hygiene related challenges that they face and provide recommendations on scaling up existing successful sanitation approaches to complement other sanitation and hygiene programs for women and adolescent girls in Nigeria. The study primarily focused on engaging WSSCC members in ten States of Nigeria to address the sanitation challenges in both urban and rural settings.

An Expression of Interest was made by WSSCC Nigeria to conduct a research study to ascertain the level of Menstrual Hygiene Awareness regarding menstruation and menstrual practices in physically challenged and marginalized young women and adolescent girls in Borno, Lagos, Benue, Taraba, Ebonyi, Nasarawa, Kano, Yobe, Edo and Kogi States. The overall objective was to examine the influence of religious affiliation, culture and educational status on menstrual hygiene of the physically challenged and marginalized schoolgirls, girls out of school and women. The main objectives of the study was to identify challenges that physically challenged and marginalized women and adolescent girls faced during menstruation and analyzing their impact on women and girls in the 10 states from September to October 2016 with a view of stepping up the evidence based advocacy in the target States for the improvement of equitable sanitation.

One major challenge that is facing physically challenged girls and women is the managing of their menstrual hygiene. This has prompted various research work in this relatively new field of Water, Sanitation and Hygiene (WASH) revealing a lot of things that have been taken for granted or concealed as “taboo”, a “women’s issue only” and a “private matter” that has negatively affected the social, economic, educational and productivity of women mostly in developing countries. The

different practices, sanitary materials used, facilities for disposal and hand washing all have economic, environmental, social and health implications; hence the interest in Menstrual Hygiene Management (MHM).

The study adopted Ex Post Facto research design (Gravetter & Frazano, 2016). This design was adopted as it looked at differences after the fact, focusing on differences that already exist between groups. None of the independent variables under investigation were manipulated. The respondents were sampled on the streets, in their houses and schools. In Borno and Yobe States, the respondents were also sampled at Internally Displaced Persons (IDP) camps. The sampling involved only physically challenged and marginalized women and adolescent girls. Data for the study was obtained from secondary data and primary sources through stratified and purposive sampling techniques. A total of 2463 physically challenged and marginalized women and adolescent girls participated in the study from 10 states of Nigeria, namely; Benue, Borno, Edo, Kano, Taraba, Nasarawa, Kogi, Ebonyi, Yobe and Lagos. A questionnaire was used to gather data from the respondents (Appendix 1). Responses to questionnaires were coded and entered into the Statistical Package for Social Sciences (SPSS) which was used in the statistical analyses. The analysis included descriptive statistics such as frequency and percentage comparisons which were used to analyze the responses on each item on the questionnaire while simple regression analysis and independent t-tests were used to test the hypotheses formulated.

Demographically, the data showed that 1245 (50.5%) of the respondents fell between 15-25 years while 1218 (49.5%) were 26 years and above. In terms of religious affiliation, 71.7% of the respondents were Muslims. On the usage of sanitary materials, 16.0% indicated had never used sanitary pads because they were more comfortable with the menstrual cloth they used, while 47.3%

said it was expensive. For cleaning of genital parts during menstruation 61.9% said they used soap and water while 6.6% responded that they only used water and 0.7% declined to respond.

The study concluded religious affiliation was not found to influence menstrual hygiene management among physically challenged and marginalized women and adolescent girls in Nigeria while culture significantly influenced menstrual hygiene management among physically challenged and marginalized women and adolescent girls. It was recommended among other things that capacity building was critical to the sustainability of menstrual hygiene management as this would empower women and girls to have basic knowledge and skills regarding menstrual hygiene management.

TABLE OF CONTENTS

Acronyms……. 3

Acknowledgements…….. 5

Executive Summary……. 7

BACKGROUND INFORMATION…….. 13

Background information……..…… 13

Statement of the Problem…… 17

Significance of the Problem…… 18

Statement of Hypotheses…… 19

Scope of the Study…… 19

REVIEW OF RELATED LITERATURE…… 20

RESEARCH METHOD…… 26

Research Design and Procedures…… 26

Sources of Data…… 27

Sampling Procedures…… 27

Methods and Instruments of Data Gathering…… 27

Statistical Treatment…… 28

ANALYSIS OF DATA…… 29

Analysis on Demographic Characteristics…… 29

Section B: Analysis of Research Questions…….. 31

Practices Related to Menstrual Hygiene Management……. 35

Personal Hygiene…… 40

Section C: Testing of Hypotheses …….. 42

SUMMARY AND CONCLUSIONS…… 45

Conclusion…… 48

Recommendations …… 49

Recommendations for Further Investigation……. 49

REFERENCES…… 51

APPENDIX……. 55

BACKGROUND INFORMATION

Understanding the management of menstruation is vital for healthy, productive and dignified lives of women and adolescent girls. It is important for women and adolescent girls to have basic knowledge on the effective management of bleeding due to menstruation. This requires adequate access to clean water, sanitation and hygiene services. Access to information to understand menstrual cycle and how to manage menstruation hygienically contributes to better management of the menstural cycle, as women spend an equivalent of an average of six to seven years of their lives menstruating.

The global population of people living with disability is approximately one billion representing about 15% of the world population (WHO, 2011). The greatest populations of these disabled people live in developing countries such as Nigeria. In Nigeria, the 2006 Population Census revealed that about 3.3 million Nigerians live with disabilities representing 2.32% of the population of 141 million. The census also reported a total of 1.55 million women and girls are physically challenged in Nigeria, representing 47% of the disabled people in the country (Umeh & Adeola, 2013).

Women and adolescent girls living with disability are known to face different challenges in their everyday living and demands according to the category of their disability. In the area of menstrual hygiene, the plights of the physically challenged and marginalized women and adolescent girls have been taken into consideration on a global scale, hence the need to examine the menstrual hygiene management among physically challenged and marginalized women and adolescent girls on a national scale in Nigeria. Keeping clean and tidy (hygiene) during a menstrual period is a

problem for many physically challenged and marginalized women and adolescent girls, especially where information on menstruation and reproductive health are not available and poorly discussed.

Understanding menstruation is vital. Understanding menstruation among physically challenged and marginalized women and adolescent girls is not addressed sufficiently by the authorities in charge of the relevant sectors of education, health, and water and sanitation in Nigeria. Some of the key considerations include knowledge of menstrual hygiene management, presence of the necessary facilities and the proper social and cultural environment to manage menstruation hygienically and with dignity as well as addressing disability and marginalization (Mahon & Fernandes 2010; Lawan, et. al, 2010).

Being physically challenged or having a disability represents a severe chronic condition that is due to mental or physical impairment or a combination of both. Disability can manifest at any point of an individual's lifetime. Individuals that are physically challenged may have problems with life activities such as language, mobility, learning, self-help, and independent living. Implementing standard menstrual hygiene routines tend to be difficult for women and adolescent girls that are physically challenged or that have disabilities. This may be due their lack of self-help skills, but do vary with cognitive, sensory, and/or motor abilities (Park, 2013). These difficulties may also be faced by their families or caretakers. Furthermore, studies have shown an increase in problem behaviors, emotional problems, and seizure frequency at certain stages of the menstrual cycle due to cyclical hormonal changes and menstrual cramping. This is especially true when behavioral changes can be related to menstrual cramping and pain. The behavior seen in physically challenged

women and adolescent girls may include aggression, restlessness, hyperactivity, increased agitation, and self-mutilation (Backeljauw, et. al, 2004; Park, 2013).

Issues relating to the practical management of menstrual hygiene are very important because they have health implications in terms of vulnerability to infections (Anuradha, 2011), thereby increasing susceptibility to reproductive tract infections (RTI), such as bacterial vaginosis (BV) that is sited to be more common in women with unhygienic menstrual hygiene management (MHM) practices (Baisley, et al. 2009; Balamuruganet. al, 2012).Poor MHM may also lead to bad odor of menstrual blood putting girls at risk of being stigmatized.

Many factors may influence menstrual hygiene management amongst physically challenged and marginalized women and adolescent girls in Nigeria. These factors range from religious affiliation, ethnicity, availability of WASH facilities in the society, educational status, income status, knowledge of menstrual hygiene, age (level of maturity)and they may all have significant influence on menstrual hygiene management among physically challenged and marginalized women and adolescent girls in Nigeria. However, this study takes into consideration religious affiliation, culture and educational status. This study considers marginalization in terms of poverty, education, minority status and lack of appropriately designed water and sanitation facilities.

Religion is an integral component of life for individuals confronted with behavioral practices, disability, and death (Stroebe, 2004). Religion plays a significant role in the life of Nigerians. Many

individuals rely on their religious beliefs and practices to provide meaning to life experience and obtain comfort, hope, and social support (Pargament, 1997). Evidence also indicates religious belief and practices can impact human behaviour. Religion may permeate the stress process by influencing the cognitive and behavioral responses for interpreting and handling certain life events (Pargament, 1997) such as menstruation. Religion also may contribute to the handling of menstruation by providing behavioral options through the social, interpersonal, cognitive, spiritual, and behavioral aspects of religious faith (Ten, 2007). There are myths associated with religion such as women's excretions are unclean and polluting during menstruation and child birth among the Muslims in Nigeria (Ahmed, et.al, 2008; Kumar, et. al, 2011). The Muslims in Nigeria also believe that women should not go to the mosque, touch the Quran or fast during Ramadan when menstruating (Patkar, et. al, 2004; Ten 2007).The traditionalist also view women during menstruation as "polluting", and do not permit them to touch others or cook, nor can they attend religious gatherings (Ten, 2007).

Culture in this study is measured as ethnicity. Culture is a fuzzy set of basic assumptions and values, orientations to life, beliefs, policies, procedures and behavioral conventions that are shared by a group of people, and that influence (but do not determine) each member's behaviour and his/her interpretations of the 'meaning' of other people's behaviour (Spencer-Oatey, 2008). Traditional norms and beliefs influence the practices related to menstruation. For example, according to some cultural traditions in Nigeria, a woman must abstain from cooking and salting food, as it is a taboo to do so when menstruating. Myths surround the burning of used products which are thought to cause cancer or infertility (Umeora & Egwuatu, 2008), and dietary restrictions are widespread (Ali & Rizvi, 2010).

Education is the process of facilitating learning, or acquisition of knowledge, skills, values, beliefs and habits. This frequently takes place under the guidance of educators but learners may also educate themselves. Education can take place in formal or informal settings and any experience that has a formative effect on the way one thinks, feels or acts may be considered educational (Kibasan & Singson, 2016).Educational status in this study is measured as educated and non-educated, meaning that the educated are those with secondary or tertiary education while non educated are considered as those with only primary education and those without any primary education. Education may provide information on menstrual hygiene management to the Women and may have direct contribution to menstrual hygiene management.

This study examined factors that influenced menstrual hygiene management amongst physically challenged and marginalized women and adolescent girls in Nigeria in order to understand MHM practices and make recommendations that would bring positive contribution in the management of MHM among physically challenged and marginalized women and adolescent girls.

Statement of the Problem

There is considerable variability in the experience of physically challenged and marginalized women and adolescent girls in Nigeria regarding menstrual hygiene management which has led WSSCC Nigeria to conduct this study. In addition, previous studies have shown that menstrual hygiene management is a problem in Nigeria not only for physically challenged and marginalized women and adolescent girls but also those women and adolescent girls who are not physically challenged and marginalized (Aniebue, et al., 2009). Many studies have been conducted regarding

menstrual hygiene management, however, such studies did not focus on the menstrual hygiene management of physically challenged and marginalized women and adolescent girls in Nigeria.

It is therefore important for the WASH sector in Nigeria to conduct research of this nature on this category of women and girls due to their challenges which range from physical challenges such as visual impairment, hearing, physical, speech, intellectual impairment or mental derailment compared to the women and adolescent girls who are not physically challenged, or marginalized and whom their menstrual hygiene management has been examined to a degree. The challenges the physically challenged and marginalized women and adolescent girls experience havea significant impact on their menstrual hygiene management, making it imperative for research on menstrual hygiene management amongst physically challenged and marginalized women and adolescent girls in Nigeria to be conducted.

Inaccessible students' toilet at Emotan College, Benin City

Significance of the Problem

The significance of this quantitative study is to examine menstrual hygiene management with regard to religious affiliation, culture and educational status in a sample of physically challenged and marginalized women and adolescent girls in Nigeria. This study will fill a gap in the literature within the Nigerian context by investigating menstrual hygiene management among physically challenged and marginalized women and adolescent girls in Nigeria, thereby adding to the body of knowledge. Furthermore, this study will provide a contextual and theoretical understanding of menstrual hygiene management in Nigeria, particularly the influence of religious affiliation, culture and educational status on menstrual hygiene management. The literature highlights concerns

regarding menstrual hygiene management and socio-cultural processes attitudes that possibly result in a form of social control over women (Chadwick, 2006).

Studying menstrual hygiene management among physically challenged and marginalized women and adolescent girls in Nigeria may provide the opportunity to trace the patterns of health issues relating to menstruation as well as understand the requirements for equitable WASH facilities for women. It may also provide an understanding of the factors that contribute to poor menstrual hygiene management and the implications of poor menstrual hygiene which is fundamental to the promotion of menstrual health (Wong & Khoo, 2011). Since inadequate attention has been given to menstrual hygiene management among physically challenged and marginalized women and adolescent girls, this study aims to raise attention to the menstrual hygiene practices of physically challenged and marginalized women and adolescent girls.

Statement of Hypotheses

The following hypotheses were formulated and tested for the study:

i. Religious affiliation significantly influences menstrual hygiene management amongst physically challenged and marginalized women and adolescent girls in Nigeria.
ii. Culture significantly influences menstrual hygiene management amongst physically challenged and marginalized women and adolescent girls in Nigeria.
iii. Educational status significantly influences menstrual hygiene management amongst physically challenged and marginalized women and adolescent girls in Nigeria.

Scope of the Study

The study was conducted in 10 states of the Federation and the Federal Capital Territory namely; Borno, Benue, Edo, Kano, Taraba, Nasarawa, Kogi, Ebonyi, Yobe and Lagos. These states were selected because of ease of access by the researchers and it was limited to physically challenged and marginalized women and adolescent girls only.

REVIEW OF RELATED LITERATURE

Menstruation is defined as the cyclical shedding of the inner lining of the uterus, the endometrium, under the control of hormones of the hypothalamo-pituitary axis (Aniebue, Aniebue & Nwankwo, 2009). This is as a result of the profound tissue remodeling that occurs each month in reproductive-aged women and comes out as monthly bleeding. When a woman menstruates, her body sheds the lining of the uterus (womb), the blood flows from the uterus through the small opening in the cervix and passes out of the body through the vagina. A menstrual cycle entails the period between the first day of a menstrual period to the onset of the next menstrual period, with an average menstrual cycle of twenty-eight days. The first menstrual period, which a girl experiences, is called menarche. Menarche occurs between nine and fifteen years, this signals reproductive maturity and often comes with anxiety, fear, confusion and depression (Aniebue, et. al, 2009).

A study by Prajapat and Patel (2015) examined menstrual hygiene among adolescent girls entitled; *A cross sectional study in urban community of Gandhinagar*. The objectives of the study were to assess the knowledge and the practices of menstrual hygiene among adolescent girls and assess the restrictions practiced by adolescent girls during menstruation. The design of the study was cross sectional, descriptive, community based and the setting was *Anganawadi* centers *(Anganawadi is*

a type of rural mother and child care center in India that provides basic health care in Indian Villages), Gandhinagar, Gujarat, India. Data was collected regarding the menstrual cycle, knowledge about menstruation, practices during menstruation and menstrual hygiene. Statistical analysis was done by using frequency. Results showed that out of 88 respondents, 50% attained menarche at the age between 12-14 yrs. Maximum number of girls (65.9%) have blood flow for 2-5 days while 18.2% have excessive blood flow. Out of total 39.8% girls know about menstruation before menarche and majority of (48.9%) reported their mother as a source of information regarding menstruation. Only 17% girls have correct knowledge regarding the organ from where bleeding occurs while 33.1 % girls knew that menstruation is a physiological process. 21.6% girls believed that there is a toxin in menstrual blood. Sanitary pads were used by 26.1% girls. Of those who were using cloth pieces 33.8% faced the problem of washing and drying either due to shortage of water, lack of privacy or drying. Around 30% of girls were not using sanitary pads because of cost. The relation between the mother's education and knowledge regarding menstruation before menarche was not significant.

The study concluded that menstrual hygiene was satisfactory among adolescent girls, but there was a lack of knowledge and awareness regarding menstruation. It was found that education regarding reproductive health and hygiene should be given by *Anganawadi* workers as well as included as a part of the school curriculum. All mothers irrespective of their educational status should be taught to break their inhibitions about discussing menstruation with their daughters before the age of menarche. The study examined menstrual hygiene among adolescent girls in Gandhinagar which has a different context to Nigeria. Also, the objectives of the study were to assess the knowledge and the practices of menstrual hygiene among adolescent girls and assess the restrictions practiced

by adolescent girls during menstruation. The study did not take into consideration religious affiliation, culture and educational status which the present study does.

Van Gesselleen (2013) examined attitudes and beliefs of the experience of menstruation in female students at the University of the Western Cape, South Africa. The purpose of the study was to determine whether the biological factor – age at menarche – influences the attitudes and beliefs of the experience of menstruation; whether the psychological factor – preparedness – has an impact on the attitudes and beliefs of the experience of menstruation; and whether the socio-cultural factor – population group – affects the attitudes and beliefs of the experience of menstruation. 200 female students aged 18-21 years were recruited for the study. Surveys containing biographic information as well as questions from the Beliefs and Attitudes towards Menstruation questionnaire (BATM) were administered. The results indicated that there were significant associations between population group and level of secrecy as well as level of preparedness and level of pleasantness, annoyance and physical disability (something which keeps them from normal activities) associated with menstruation. Results also revealed significant differences between normal and late onset of menarche on the level of physical disability associated with menstruation. The study concluded that research focusing on the attitudes and beliefs of the experience of menstruation will contribute to the knowledge base of menstruation in the South African context, as well as informing interventions which focus on educating women about menstruation to promote positive attitudes and prevent forms of social control imposed on women because of menstruation.

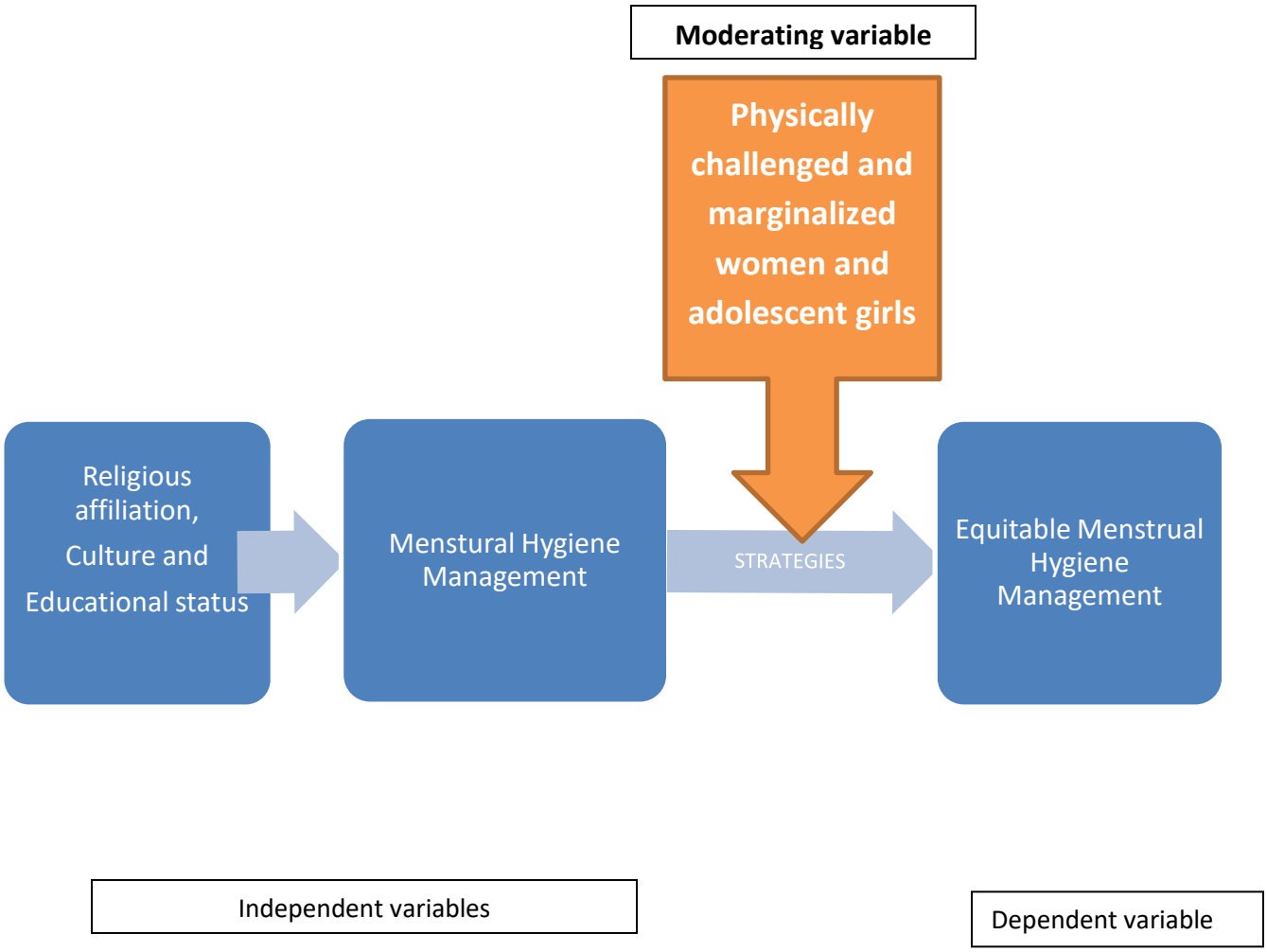
In another study conducted in Sokoto state, Nigeria, Oche, Umar, Gana and Ango (2012) examined *menstrual health: the unmet needs of adolescent girls' in Sokoto, Nigeria*. The study's aim was to

assess the level of knowledge on menstruation and hygienic practices among adolescent school girls in an urban city, in Nigeria. The study was a cross sectional survey and a total of 122 girls were recruited. Overall, a total of 79 (65%) of the respondents had high knowledge. 15% of respondents indicated their major source of information on menstruation was from their school teachers. There is a significant gap in knowledge and with minimal role played by the school environment to provide appropriate information during their formative years. The ages of the respondents, education of their mothers and the sources of information regarding menstruation were found not to be statistically significant with respect to the knowledge of menstruation while there was a statistically significant relationship between religion and level of study of the girls and knowledge of menstruation. Concerning the practice of menstrual hygiene, the majority (87% or 106) of the girls used sanitary pads, only. There was a significant statistical association between education of their mothers, religion and occupation of respondents' mothers with respect to the reported menstrual hygiene practices. The study examined knowledge on menstruation and hygienic practices among adolescent school girls but did not examine the menstruation and hygienic practices among physically challenged and marginalized women and adolescent girls.

Location of toilets and bathrooms in Christian Mission in Many Lands (CMML) Special School, Iyale, Kogi state

Based on the literature reviewed, the physically challenged and marginalized women and adolescent girls were not studied in the various literature reviews. Also, culture, religious affiliation and educational status were not considered in the previous studies that are reviewed. It is therefore, important that a study focusing on the physically challenged and marginalized be conducted focusing on the influence of culture, religious affiliation and educational status on MHM in Nigeria.

Conceptual Framework



The diagram depicts, the independent variables in the study as follows;

a) ***Religious affiliation*** in this study is the self-identification of a person with a religion, denomination or sub denominational religious group. It is considered in this study as the identification of a woman/girl with Christian, Islamic or traditional religion.

b) ***Culture*** *i*s the second independent variable of the study is considered as a fuzzy set of basic assumptions and values, orientations to life, beliefs, policies, procedures and behavioral conventions that are shared by a group of people, and that influence (but do not determine)

each member's behaviour and his/her interpretations of the 'meaning' of other people's behaviour (Spencer-Oatey, 2008).

c) ***Education*** is the third independent variable and is the process of facilitating learning, or acquisition of knowledge, skills, values, beliefs and habits under the guidance of educators but learners.

These variables were examined so as to determine their influence on the dependent variable of menstrual hygiene management among physically challenged and marginalized women and adolescent girls. Women and girls that are physically challenged and marginalized may face additional challenges with their menstrual hygiene. For example, wheel- chair users may have to crawl into a dirty latrine every time they want to use the toilet. However, with the supportive cultural, religious practices and education, a vulnerable or marginalized woman or adolescent girl will have capacities as well as vulnerabilities. Often people who are vulnerable or marginalized are very resourceful, enabling them to face considerable challenges on a daily basis. For example, people with disabilities often find innovative ways of accessing water and sanitation where services are lacking or not accessible. However, it is important to specifically consider the situation, needs and priorities of physically challenged and marginalized women and adolescents girls because they can face additional challenges in managing menstruation hygienically.

RESEARCH METHODOLOGY

This section of the study gives a detailed description of the study method. This contains research design, research setting, participants, sampling technique, instruments, procedure of data collection and elaborates on the statistical techniques used to analyze data collected.

Research Design and Procedures

This study employed Ex Post Facto research design which is often referred to as a differential design (Gravetter & Frazano, 2016). This looks at differences after the fact that already exist between groups. Also, none of the independent variables under investigation were manipulated. The method indicates the relationships amongst the variables in the study.

The respondents were sampled on the streets, in their houses and schools. In Borno and Yobe States, the respondents were also sampled at IDP camps. The sampling involved only physically challenged and marginalized women and adolescent girls. To effectively sample participants and distribute copies of the questionnaire, thirty (30) research assistants were employed, trained and instructed on how to administer the questionnaires. Before administration of the copies of the questionnaire, informed consent was presented to participants and for those who could not read, the informed consent was read to them. They were informed of their rights to participate in the study as well as to discontinue participation at will and that the information they provided would remain confidential. Respondents were also informed that there were no right or wrong answers but they would respond to the questions on how it applied to them and what they practiced. To encourage respondents to participate in the study, a motivation in the form of sanitary pads, soaps, snacks and drinks were given to participants.

Sampling respondents in secondary school was done with permission from the management of the selected schools. During the visit to the20 sampled schools, the researchers took time to create awareness to the school authorities on the purpose of the study as well as the benefits of both the school and students. With the support and cooperation of the school authorities, physically challenged and marginalized adolescent girls were identified and selected to ask for their participation in the study.

Sources of Data

Sources of data for this study were through two avenues: Primary Sources were through questionnaire/interviews with respondents, and Secondary Sources were through literature review of articles; sample survey reports; data from studies already done; and government/official statistics.

Sampling Procedures

To obtain participants for the study, stratified and purposive sampling techniques were used to select the participants. The stratified sampling technique is a procedure where participants are grouped into strata while purposive sampling is a procedure in which the investigator identifies individuals who are considered to be typical of the population and selects them for inclusion in the sample. The participants were stratified into four groups which included women and adolescent girls, educated/uneducated, ethnic group affiliation and Christians/Muslims and other religions, and they were stratified into poor and rich based on their self-report.

Methods and Instruments of Data Gathering

A questionnaire was used comprising of 3 sections (Appendix 1). The first section measured the demographic characteristics like age, religious affiliation, ethnicity, educational status, marital status, ethnic group affiliation and income status. The second section of the questionnaire contained items that measured knowledge of menstrual hygiene management. The section contained 10-items scored on a 3- point Likert scale such as agree, undecided and disagree. The third section also contained 10-items measuring practices related to menstrual hygiene management. The scale was subjected to item analysis using SPSS (statistical package for social sciences) to determine the

cronbach alpha reliability coefficient and a cronbach alpha reliability of 0.76 was arrived at, which means the instrument was highly reliable for the study.

Statistical Treatment

Responses to questionnaires were coded and entered into the Statistical Package for Social Sciences (SPSS) (version 20), and SPSS was used in the statistical analyses. The analysis included descriptive statistics which summarizes the data as well as brings out the frequency and percentage of respondents on each item of menstrual hygiene management practices, and reliability assessment of the scale used (Cronbach alpha). Simple regression analysis and independent t-tests were used to test the hypotheses formulated for the study.

Prior to data analysis, several issues were resolved to ensure reliability including the accuracy of data entry, missing values, and the fit of the data set with the assumptions of the regression and independent test. Accuracy of the data was verified through an examination of descriptive statistics. For missing values in the scale, for example, where a respondent did not answer a certain question, data was not replaced for that particular item.

ANALYSIS OF DATA

This section presents data, analysis and interpretation of the results collected from the various respondents through the interview and use of questionnaire administered by the researcher(s). A total of 2463 participants with disabilities, other forms of marginalization and adolescent girls from10 states and including the capital Abuja participated in the study. The data was analyzed using descriptive and inferential statistics. Descriptive statistics were used to analyze the research questions while inferential statistics were used to test the hypotheses. The results are presented in

the following sections, Section A presents the results of demographic variables, Section B presents analysis of the items on the research tools and Section C presents the test of hypotheses. The results of the analysis are presented in the Tables and Charts below.

Demographic Characteristics

This section presents data on the demographic factors of participants that took part in the study. The demographic factors considered here are age, marital status, educational status and level of education. The demographic variables are considered because they all have impact on the menstrual hygiene management. Menstrual hygiene management is practiced differently in accordance with age, marital status, educational status and level of education. Age at first menstruation may influence menstrual hygiene management. For example, young girls in Nigeria often receive minimal instruction on menstrual hygiene management because menstruation is seen as taboo by many communities, which makes it extremely difficult for adolescent girls to acquire necessary information and support from parents and school teachers. Marital status plays important role on menstrual hygiene management. Marital status has an overarching influence on women's way of life and influences their management of menstruation. This makes marital status an essential element required for the understanding of menstrual hygiene management in Nigeria. Educational status also has impact on menstrual hygiene management. Education influences menstrual hygiene management and lack of education may deprive a girl the necessary information/knowledge menstrual hygiene management. Thus evidence of menstrual maladjustment and menstrual related problems abound in the society which is as result of poor education regarding menstrual hygiene. Health education benefit girls as the knowledge enable girls to adopt the menses chart once their menarche is reached.

This section presents data on the demographic factors of participants that took part in the study. The demographic factors considered here are age, marital status, educational status and level of education.

Table 1; Demographic characteristics of the participants

S/No.	Variables	Frequency	Percentages
1.	**Age**		
	14-18	1245	50.5
	19 above	1218	49.5
	Total	2463	100.00
2.	**Marital Status**		
	Single	909	36.9
	Married	956	38.8
	Divorced	255	10.4
	Widowed	283	11.5
	No response	60	2.4
	Total	**2463**	**100**
3	**Educational Status**		
	Educated	1267	51.4
	Uneducated	909	36.9
	No Response	287	11.7
	Total	**2463**	**100.0**
4	**Level of Education**		
	Primary	181	7.3
	Secondary	563	22.9
	NCE	95	3.9
	Diploma	211	8.6
	B.Sc/HND	165	6.7
	M.Sc	3	0.1
	No response	49	3.9
	Total	**1267**	**100.0**

a) Age;

Findings from Table 1 above show that 1245 (50.5%) of the respondents fall between the ages of 14-18 years while 1218 (49.5%) are 26 and above. This implies that the slight majority of the respondents are between the ages of 14 - 18. Thus, slightly more physically

challenged and marginalized adolescent girls and young women took part in the study than physically challenged and marginalized older women.

b) Marital Status;

In terms of marital distribution, the Table above shows that 909 (36.9%) of the respondents are single, 956 (38.8%) of the respondents are married, 255 (10.4%) are divorced 283 (11.5%) are widowed, while 60 (2.4%) of the participants did not indicate their marital status. This entails that the largest portion of the respondents were married.

c) Educational Status

The Table shows that 1267 (51.4%) of the respondents are educated while 909 (36.9%) were not educated and 287 (11.7%) did not indicate their educational status. This result implies that more respondents with formal education participated in the study more than those without formal education.

d) Level of Education;

The level of education was classified as primary, secondary, national certificate in education (NCE), diploma, B.Sc/HND and M.Sc. Respondents' educational qualification show that of the 1267 women and girls that said they were educated, 181 (7.3%) had a primary school certificate, 563 (22.9%) went to secondary school, 95 (3.9%) had a National Certificate in Education (NCE), 211 (8.7%) had diploma level of qualifications, B.Sc/HND were 165 (6.7%) while 3 (.1%) persons had M.Sc and 49 (3.9% did not respond). This finding implies that majority of the respondents had secondary school certificate. Considering the fact that health education is taught in Nigerian primary and secondary

schools, it was believed that these participants had average knowledge of menstrual hygiene.

The findings in Table 1 have showed the characteristics of the participants. Majority of the respondents are between the ages of 14 – 18. In terms of marriage, majority of the respondents were married while respondents with formal education participated in the study more than those without formal education. Respondents' level of education indicates that majority had secondary school certificate.

Analysis of Research Questions

This section present result on the participants' knowledge of normal menstrual cycle, duration of my menstrual cycle, poor menstrual hygiene and its predisposition to infections, good menstrual hygiene and its prevention of menstrual pain and lack of Knowledge about regarding whether menstrual blood is impure. Normal menstruation cycle lasts for a few days, usually 3 to 5 days, but anywhere from 2 to 7 days is considered normal (Akpenpuun & Azende, 2014). The average menstrual cycle is 28 days long from the first day of one menstrual period to the first day of the next. A normal menstrual cycle in adult women is between 21 and 35 days. In adolescents, there is wider variation, and cycles are normally between 21 and 45 day. Knowledge of this menstrual cycle will enable physically challenged and marginalized women and adolescent girls practice menstrual hygiene. Poor menstrual hygiene predisposes a woman and adolescent girl to infections, therefore, for good health; there is need for women to have good knowledge of menstrual hygiene. In another development, knowledge of whether menstrual blood is impure also important as

this will enable the female take good care of menstrual blood as well as disposes sanitary products.

Table 2: Knowledge on Menstruation

S/No.	Variables	Frequency	Percentages
1.	**Knowledge on the duration of a normal menstruation cycle**		
	Agree	1928	78.7
	Undecided	213	8.6
	Don't Know	310	12.6
	No response	12	0.5
	Total	2463	100.0
2.	**Knowledge of the Duration of individual Menstrual Cycle**		
	Agree	1940	78.8
	Undecided	310	12.6
	Don't Know	210	8.5
	No response	3	0.1
	Total	2463	100.0
3	**Knowledge on impact of poor menstrual hygiene**		
	Agree	1843	74.8
	Undecided	282	11.4
	Don't Know	322	13.5
	No response	6	0.2
	Total	2463	100.0
4	**Proper menstrual management prevents menstrual pain**		
	Agree	1679	68.2
	Undecided	515	20.9
	Don't Know	259	10.5
	No Response	10	0.4
	Total	2463	100.0
5	**Myth on menstruation blood being impure**		
	Agree	1778	72.2
	Undecided	413	16.8
	Don't Know	260	10.6
	No response	12	0.5
	Total	2463	100.0
6	**Knowledge on cause of menstruation**		
	Agree	988	40.1
	Undecided	916	37.2
	Don't Know	550	22.3
	No response	9	0.4
	Total	2463	100.0
7	**Knowledge on normal age of menstrual cessation**		
	Agree	1083	44.0

	Undecided	757	30.7
	Don't Know	607	24.6
	No response	16	0.6
	Total	2463	100.0
8	**Knowledge on Menses as an indication of fertility**		
	Agree	1706	69.3
	Undecided	471	19.1
	Don't Know	283	11.5
	No response	3	0.1
	Total	2463	100.0

a) Knowledge on menstrual cycle

The findings in Table 2 reveal that out of the 2463 respondents, 1928 respondents representing 78.7% agreed that they know the duration of a normal menstruation cycle, 213 respondents representing 8.6% were undecided regarding whether they know the duration of normal menstruation cycle, 310 respondents which constitute 12.6% said they do not know the duration of a normal menstruation cycle while 12 respondents, representing 0.5% did not respond to the question. Results from this Table indicate that the majority of the respondents know the duration of a normal menstruation cycle.

b) Knowledge of individual menstrual cycle;

Table 2 above reveals that out of the 2463 respondents who took part in the study, 1940 respondents representing 78.8% agree that they know the duration of their menstrual cycle, 310 respondents, representing 12.6% were undecided regarding whether they know the duration of their menstrual cycle while 210 respondents, representing 8.5% said they do not know the duration of their menstrual cycle and three respondents representing 0.1% did not respond to the question. This finding entails that the majority of the respondents were aware

of the duration of their menstrual cycle which could be helpful to them in maintaining menstrual hygiene.

c) Knowledge on impact of poor menstrual hygiene

The findings also indicate that 1843 respondents representing 74.8% agree that poor menstrual hygiene predispose one to infections, 282 of the respondents representing 11.4% were undecided on whether poor menstrual hygiene predisposes one to infections. 322 respondents, representing 13.5% said they don't know whether poor menstrual hygiene predisposed them to infections. Based on these responses, the majority of the respondents are aware that poor menstrual hygiene predisposed one to infections.

d) Knowledge on proper menstrual management

Table 2 shows that out of the 2463 respondents, 1679 respondents representing 68.2% agreed that proper menstrual management prevented menstrual pain, 515 respondents representing 20.9% were undecided, 259 (10.5%) didn't know if proper menstrual management prevented menstrual pain while 10 (0.4%) did not respond to the question. This implied that majority of the respondents were aware of proper menstrual management.

e) Myth on menstrual blood being impure

Table 2 shows that 1778 of the respondents representing 72.2% agreed that they have limited knowledge on menstrual blood being impure, 413 of the respondents which represents 16.8% were undecided whether they lacked knowledge regarding menstrual blood being impure while 260 of the respondents representing 10.6% said they did not know whether menstrual blood was impure and 12 of respondents which is 0.5% did not

respondent to the question. This finding indicated that majority of the respondents did not have knowledge regarding the purity of menstrual blood.

f) Knowledge on causes of Menstruation

Results of the study also showed that the majority of the respondents who took part in this study agreed that they did not know the cause of menstruation. Particularly, 988 (40.1%) of the respondents were not aware of the cause of menstruation, 916 (37.2%) were undecided, 550 (22.3%) said they did not know whether they were unaware of the cause of menstruation while 9 (0.4%) did not respond to the question. It therefore indicated that respondents did not have the knowledge regarding the cause of menstruation.

g) Knowledge on normal age of menstrual cessation

Table 2 indicates that the majority of the respondents, 1083 (44.0%), agreed that they were unaware of the age of normal cessation of menstruation, 757 (30.7%) were undecided whether they knew of the age of normal cessation of menstruation, 607 (24.6%) said they do not know the age of normal cessation of menstruation while 16 (0.6%) did not respond to the question. This finding was an indication that many of the respondents in this study did not know the normal age of cessation of menstruation.

h) Knowledge of menses as an indication of fertility

Table 2 indicated that, 1706 (69.3%) of the respondents agreed that menses was an indication of fertility, 471 (19.1%) were undecided, 283 (11.5%) said they did not know if menses was an indication of fertility and 3 (0.1%) of the respondents did not respond to the

question. This indicated that most participants were of the view that menses is an indication of fertility.

Summary of findings in Table 2 indicates that indicate that the majority of the respondents know the duration of a normal menstruation cycle, are aware of the duration of their menstrual cycle which could be helpful to maintaining menstrual hygiene, poor menstrual hygiene predisposed one to infections and proper menstrual management while some did not have knowledge regarding the purity of menstrual blood. Similarly, some respondents did not have the knowledge regarding the cause of menstruation, did not know the normal age of cessation of menstruation and others believe that menses is an indication of fertility.

Practices Related to Menstrual Hygiene Management

This section presents result on the participants' practices related to menstrual hygiene management. The table examines participants views regarding Absorbents used during Menstruation. The use of hygienic absorbents promotes good menstrual hygiene. The frequency of changing sanitary pad/cloths per day during menstruation is also necessary for good menstrual hygiene practice. A good menstrual hygiene management also entails frequently changing of menstrual pads/cloths during menstruation. Also, the place of drying used absorbent mostly clothes entails good menstrual hygiene. In a related menstrual hygiene management practice, problems that physically challenge and marginalized women and adolescent girls faced while using cloth during washing and drying affects menstrual hygiene management. Problems such as shortage of water, lack of privacy and place to dry have impact on menstrual hygiene management of the physically challenge and marginalized women and adolescent girls. Finally, method of disposal of used Pads/Cloths/other absorbent also entails good menstrual hygiene management practice. Menstrual hygiene management also entails proper

disposal of used absorbents. The findings regarding practices related to menstrual hygiene management are presented in Table 3 of the study.

Table 3: Practices Related to Menstrual Hygiene Management

S/No.	Variables	Frequency	Percentages
1.	**Absorbents used during Menstruation**		
	Sanitary pad	1023	41.5
	New cloths	370	15.0
	Old cloths/other	823	33.4
	Toilet Tissue paper	192	7.8
	Menstrual cup	20	0.8
	Reusable sanitary materials	19	0.8
	No response	16	0.6
	Total	2463	100.0
2.	**Frequency of changing pad/cloths per day**		
	4+ times	693	28.1
	2-3 times	1509	61.3
	1 time	234	9.9
	At the end of my menses	15	.6
	No response	3	.1
	Total	2463	100.0
3	**Drying of cleaned used absorbent material?**		
	Outside room in sunlight	342	28.66
	Inside room with sunlight	557	46.68
	Inside/outside room without sunlight	231	19.36
	No response	63	5.28
	Total	1193	100.0
4	**Storage of Pads/Cloths/other absorbent**		
	Clean and covered spaces	1904	77.3
	Clean and open spaces	488	19.28
	Unclean spaces	56	2.3
	No answer	15	0.6
	Total	2463	100.0
5	**Problems faced managing absorbent cloths**		
	Shortage of Water	698	28.3
	Lack of Privacy	1275	51.8
	Drying	487	19.8
	No response	3	0.1

	Total	2463	100.0
6	**Disposal of used Pads/Cloths/other absorbent**		
	Buried/burned/dustbin	1316	53.4
	Latrine	1053	42.8
	Throw on road	91	3.7
	No response	3	.1
	Total	2463	100.0
7	**Reasons for not using sanitary pads**		
	No reason	395	16
	Difficult to discard	402	16.3
	Expensive	1165	47.3
	Did not know of sanitary pads	172	7
	Discomfort due to use	169	6.9
	No answer	160	6.5

a) Absorbents used during Menstruation

Table 3 indicated that 1023 of the respondents representing 41.5% said they used a sanitary pad as an absorbent during menstruation, 370 of the respondents which is 15.0% said they used new cloths, 823 (33.4%) used old clothes/other materials, 192 (7.8%) used toilet tissue paper, 20 (0.8%) used a menstrual cup and 19 of the respondents which is 0.8% used reusable sanitary materials while 16 (0.6%) did not respond to the question. Based on these responses, the findings indicated that the majority of the respondents used sanitary pads during menstruation. This result was further demonstrated by respondents' practices of menstrual hygiene as shown in the voices of these women from Maiduguri, Borno State.

"When I experience my monthly period, I go about my duties undisturbed. In terms of how I take care of the blood, when I have money, I buy sanitary pad but when I don't have I use toilet tissue and I change it two times in a day". (Educated woman, Borno State)

"I used cloth during menstruation so as to soak the blood. I used cloth because it makes me more comfortable and I change once in a day" (Uneducated woman, Borno State).

b) Frequency of changing pad/cloths per day

Findings in Table 3 shows that 693 (28.1%) of the respondents said they changed their pad/cloths four times a day or more, 1509 (61.3%) changed 2-3 times a day, 234 (9.9%) of the respondents said they changed their pad/cloth once a day and 15 (0.6%) of the respondents changed at the end of their menses and 3 (0.1%) respondents did not respond to the question. The findings based on

this question showed that the majority of the respondents changed their pad/cloths 2-3 times a day during their menses indicating averagely good menstrual hygiene management practice. A woman in Benue State says

"I use pads during menstruation and I change the pads mostly three to four times a day depending on the flow of blood. If the flow is much I change up to five times in a day."

c) Drying of cleaned used absorbent material

The table 3 shows that 342 representing 28.66% of the respondents said they dried the cloths which they used as absorbent outside the room in sunlight, 557 (46.68%) said they dried the cloths which they used as absorbent inside the room with sunlight while 231 (19.36%) dried the cloths which they used as absorbent inside/outside the room without sunlight and 63 (5.28%) women and girls did not respond to the question. This finding showed that the largest portion of the respondents dry the cloths which they used as absorbent inside the room without sunlight thus indicating poor menstrual hygiene management practice regarding drying of used clothes by majority of the respondents.

d) Problems faced managing absorbent cloths

Table 3 also shows that 698 (28.3%) of the respondents faced a shortage of water during washing and drying of used cloth during menstruation, 1275 (51.8%) said the lack of privacy during washing and drying of used cloth during menstruation was the problem they faced, while 487 (19.8%) complained of drying of used cloths during menstruation and 3 (0.1%) did not respond to the question. This indicated that physically challenged and marginalized women and adolescent girls in the ten states covered by the study predominantly faced the problem of lack of privacy during washing and drying of used cloth during menstruation.

"*The toilet facilities in our school are very poor that during menstruation some of us find it very difficult to go in and change and that makes me to miss school sometimes mostly when the blood flow is too much*" (In-school adolescent girl, Edo State).

This voice signified the problem in-school adolescent girls faced during menstruation in Edo state.

Amongst the physically challenged school girls, privacy was a major challenge because toilets are not easily accessible. A handicap girl in Taraba state stated that

"*There is no private place for girls to wash and change in school" (girl in Taraba State)*

"We don't have toilets for students. The one we were using got bad because it was not properly maintained so the school authority locked it up. The functional toilets in the school compound are exclusively for the teachers. We are not allowed to use them"(In-school adolescent girl, Edo State)

e) Storage of Pads/Cloths/other absorbent

Table 3 shows that 1904 (77.3%) of the respondents said they stored their washed cloths in a clean and covered place, 488 (19.28) stored in a clean and open space while 56 (2.3%) stored in an unclean and open/covered place and 15 (0.6%) of the respondents did not respond to the question. This finding shows that the majority of the physically challenged and marginalized women and adolescent girls in Nigeria stored their washed cloth which they used as absorbent in a clean and covered place thereby ensuring proper menstrual hygiene management practice.

f) Use of sanitary pads

Table 3 also showed that about 395 representing 16.0% of the respondents said they did not have a reason for not using sanitary pads, 402 (16.3%) said they did not use sanitary pads because it was difficult to discard, 1165 (47.3%) said it was costly (expensive), 172 (7.0%) said they did not know about it while 169 (6.9%) said they didn't feel comfortable with

sanitary pad and 160 (6.5%) did not respond to the question. These findings showed that the major proportion of physically challenged and marginalized women and adolescent girls considered sanitary pads to be costly or expensive for them to buy. This was further stressed by a physically challenged woman in Ebonyi State.

"I prefer using tissue paper because it's easy to dispose. I simply flush it down the toilet after use. With pads, I can't do that. If I throw my used pad in the dustbin, someone may see it and pick it up. I don't want anyone to use my pads for rituals". (A tailor in Ebonyi State.*)*

g) Disposal of the used sanitary pads

Table 3 shows that 1316 of the respondents representing 53.4% said that they buried/burned/discarded in the dustbin the used pads/cloths, 1053 (42.8%) discarded used pads/cloths in the latrine, 91 (3.7%) said they threw on the road and 3 (0.1%) of the respondent did not respond to the question. This implies that majority of the respondents properly disposed their used sanitary pads/clothes/other absorbents.

Summary of Table 3 indicated that the majority of the respondents used sanitary pads during menstruation, changed their pad/cloths 2-3 times a day during their menses indicating averagely good menstrual hygiene management practice, those who use cloths dry the cloths which they used as absorbent inside the room without sunlight, indicating poor menstrual hygiene management practice regarding drying of used clothes. In a related development, physically challenged and marginalized women and adolescent girls predominantly faced the problem of lack of privacy in washing and drying of used cloth during menstruation, stored their washed cloth which they used as absorbent in a clean and covered place, considered sanitary pads to be costly or expensive for them to buy. Furthermore, majority of the respondents properly disposed their used sanitary pads/clothes/other absorbents.

The subjects in this study demonstrated a high level of menstrual hygiene management as can be seen in their responses to the menstrual hygiene management practices questions. For instance, the majority of the respondents used sanitary pads during menstruation (Table 3). However, some participant still lacks knowledge of basic menstrual hygiene, calling for the need for more campaigning regarding menstrual hygiene management.

Personal Hygiene

Personal hygiene is vital for good menstrual hygiene management of the physically challenge and marginalized women and adolescent girls. Good personal hygiene will entail good menstrual hygiene management. The frequency of cleaning and washing of genitalia entails good personal hygiene which is applicable to menstrual hygiene management. Knowing the importance of maintaining cleanliness in the genital area, would further help them avoid various genital related problems.

Table 4: Personal Hygiene

S/No.	Variables	Frequency	Percentages
1	**Frequency of genital cleaning**		
	Every time after using the toilet	2055	83.4
	During bathing	368	14.9
	Do not clean	28	1.1
	No response	12	0.5
	Total	2463	100.0
2	**Materials used for cleaning of external genitalia during menstruation**		
	Water, Soap and antiseptic	758	30.8
	Soap and water	1525	61.9
	Only water/not cleaning	162	6.6
	No response	18	0.7
	Total	2463	100.0

a) Frequency of genital cleaning

Findings in Table 4 indicate that in terms of how frequently respondents cleaned their genitalia, 2055 of the respondents representing 83.4% said every time the used the toilet, 368 (14.9%) said during bathing and 28 (1.1%) said they did not clean their genitalia and 12 (0.5%) did not respond to the question. These findings indicate that the majority of the respondents cleaned their genitalia every time they used the toilet.

b) Materials used for cleaning of external genitalia during menstruation

Findings in Table 4 shows that 758 (30.8%) of the respondents said they used water, soap and antiseptic, 1525 (61.9%) used soap and water while 162 (6.6%) used only water or did not clean their external genitalia and 18 (0.7%) of the respondents did not respond to the question. The responses show that physically challenged and marginalized women and adolescent girls used mostly soap and water in cleaning the external genitalia during menstruation.

Summary of the findings in Table 4 indicates that the majority of the respondents cleaned their genitalia every time they used the toilet as well as used mostly soap and water in cleaning the external genitalia during menstruation indicating personal hygiene. Physically challenged and marginalized women and adolescent girls knowledge of the importance of maintaining cleanliness in the genital area would enable them avoid various genital related problems. Maintaining personal hygiene such as using water and antiseptic to wash the genital areas makes women safe against various problems related to female genitals, since antiseptic helps in killing germs and bacteria while also preventing their growth.

Restrictions Women/girls face During Menstruation

There are various kinds of restrictions placed on the women and girls during menstruation. These are restrictions that women in previous generations faced in the family, due to false perceptions about menstruation.

Table 5: Restrictions Women/girls face During Menstruation

S/No.	Variables	Frequency	Percentages
	What is the restriction among women/girls during menstruation?		
	Accessing religious place/temple/occasions	1709	69.4
	Routine household work	300	12.2
	Playing	174	7.1
	Attending school	98	4.0
	Certain types of foods	182	7.4
	Total	2463	100.0

Table 5 shows the various restrictions women and girls faced during menstruation. Findings show that 1709 of the respondents representing 69.4% said there were restrictions placed on accessing religious places/temple/ occasions for women/girls during menstruation, 300 (12.2%) said routine household work was restricted, 174 (7.1%) said playing was restricted while 98 (4.0%) said attending school was restricted and 182 (7.4%) indicated that certain types of foods were restricted during menstruation. These responses showed how religious related activities negatively affected women/girls associations during menstruation. In summary, women are not allowed into religious places during menstruation.

Testing of Hypotheses

In evaluating the research hypotheses formulated for the study, simple regression analysis and independent t-test were used. The result of regression analysis was used in testing hypotheses 1 and 2.

Table 6: Simple Regression showing the influence of religious affiliation and ethnicity on menstrual hygiene management of physically challenged and marginalized women and adolescent girls

Variables	R	R^2	Adj R^2	F	β	t	sig
Constant	.142	.020	.017	7.263		53.193	.000
Religious affiliation					.064	1.610	.108
Culture					.106	2.664	.008*

Dependent Variable: Menstrual Hygiene Management

Table 6 presents the result for the test of hypotheses 1 and 2 formulated for the study. Findings from the Table indicate that religious affiliation (Islam, Christian, traditional or other African religion) does not have significant influence on menstrual hygiene management ($\beta = .064$, $P > .05$). This means that physically challenged and marginalized women and adolescent girls' religious affiliation does not determine how they will manage menstruation. This finding is contrary to expectations that religious affiliation may influence menstrual hygiene management. Even though religion affects behavioral practices regarding religious activities during menstruation (Table 6) and also considers menstruating women to be unclean and polluting, it does not however, determine menstrual hygiene management of women according to this study finding. This entails that religion affects practices such as restriction of religious temple/places/religious occasions but it does not affect menstrual hygiene management such as use of sanitary materials, how often they are changed and where they are stored. This finding implies that religion which is an integral component of life of the people in Nigeria did not determine their menstrual hygiene management. However, religious affiliation or religiosity has placed some restrictions on menstruating women. Religious affiliation such as the Islamic religion and traditional religion which are in Nigeria has restricted

women who are menstruating from going to the mosque, touching the Quran or fasting during Ramadan when menstruating and prevents women from speaking out about menstrual issues. This limits women from living a full life due to their menses and restrictions applied on them. This finding does not tally with those of Pilliteri (2011); Ten (2007) and WaterAid (2009) as they found religious affiliation to influence menstrual hygiene practice.

The result in Table 6 indicates culture significantly influences menstrual hygiene management ($\beta = .106$, $P < .05$). This finding indicates the culture of physically challenged and marginalized women and adolescent girl has an influence on menstrual hygiene management. Certain cultural practices relating to menstruation are unhygienic for women and girls. Cultural myths such as the burning of used products for menstruation thought to cause cancer or infertility and dietary restrictions are widespread practices that prevent a menstruating woman from adhering to certain hygienic practices related to menstruation. Also, cultural norms like keeping menstruation a secret also bring about poor menstrual hygiene management. For example, study by Garg, Sharma and Sahay (2001), reported that the girls in some cultures continue to experience restrictions on cooking, work activities, sexual intercourse, bathing and religious practice during menstruation. Restriction on bathing during menstruation brings about poor menstrual hygiene practice. The overall perception is that menstrual fluid is dirty and polluting, which occasions much secrecy around its management.

Culture has a way of affecting either positively or negatively menstrual hygiene management of women. The research undertaken for this study established that menstrual hygiene management was greatly influenced by cultural norms. Certain cultural practices relating to menstruation are unhygienic for women and girls. Cultural myths such as the burning of used products for

menstruation, thought to cause cancer or infertility and dietary restrictions are widespread practices that prevent a menstruating woman from adhering to certain hygienic practices related to menstruation such as cooking, work activities and fetching water.

The cultural context of the respondents is central in shaping and coloring their beliefs and values regarding menstruation. The culture of the majority of the people who participated in this study was such that they were poor in terms of sanitation which also goes a long way in determining how frequently they clean their genitalia. Poor sanitation is a major obstacle to physically challenged and marginalized women and girls adopting healthy menstrual hygiene practices. Religious practices and high illiteracy levels contribute to poor menstrual hygiene management among physically challenged and marginalized women and adolescent girls in Nigeria.

This finding supports those of Ali and Rizvi (2010); Ten (2007); Umeora and Egwuatu (2008) who in their separate studies found culture to influence menstrual hygiene management. Particularly, Umeora and Egwuatu (2008) found that cultural myths surround the burning of used menstrual products, thought to cause cancer or infertility while Ali and Rizvi (2010) found certain dietary restrictions to be widespread on menstruating women. Ten (2007) on his part found that cultural practices related to menstrual hygiene have a significant negative impact on girls' access to education, or more precisely, lack of access to it.

The third hypothesis examined the differences between educated and uneducated physically challenged and marginalized women and adolescent girls on menstrual hygiene management. This hypothesis was tested using independent t-test. The result is presented in Table 7

Table 7: Independent t-test showing Differences on Menstrual Hygiene Management between Educated and Uneducated Physically Challenged and Marginalized Women and Adolescent Girls

Variable	Educational status	N	Mean	S.D	T	df	ρ
Menstrual hygiene management	Educated	1267	33.554	6.808	-3.826	652	.01
	Uneducated	909	35.613	6.628			

The result in Table 7 shows that there is a significant difference on menstrual hygiene management between educated and uneducated physically challenged and marginalized women and adolescent girls in Nigeria (2174 df) = -3.826; P < .01 two-tailed. It was observed that uneducated physically challenged and marginalized women and adolescent girls had higher mean score (M=35.613, SD = 6.628) on menstrual hygiene management compared to educated physically challenged and marginalized women and adolescent girls (M = 33.554, SD = 6.808). This result also showed that a significant difference exists between the educated and uneducated physically challenged and marginalized women and adolescent girls on menstrual hygiene management. It means that the educated physically challenged and marginalized women and adolescent girls have better menstrual hygiene management than the uneducated. This hypothesis was accepted indicating significant difference between educated and uneducated physically challenged and marginalized women and adolescent girls on menstrual hygiene management. The finding implies that the educated physically challenged and marginalized women and adolescent girls have better menstrual hygiene management than the uneducated. The women who are educated have a more positive attitude towards menstrual hygiene management than uneducated women and are more likely to process it as a natural process thereby ensuring hygienic management of this process. Most of the uneducated women have incomplete and inaccurate information about the menstrual physiology and hygiene while the educated women may have complete and accurate information

about the menstrual physiology and hygiene and the practices to be adopted during menstruation. Besides, education provides information on menstruation which also goes a long way in providing the needed information on menstrual hygiene management to women. Good hygienic practices, such as, the use of sanitary pads and adequate washing of the genital area among other options, are more likely adopted when a woman is educated. Educated women and girls have more information on the importance of clean and soft, absorbent sanitary products which can in the long run protect their health (Singh, 2006). Therefore, those women and girls who are educated have more information and maintain more menstrual hygiene practices.

SUMMARY AND CONCLUSIONS

This study examined menstrual hygiene management amongst physically challenged and marginalized women and adolescent girls in Nigeria, taking into consideration the influence of religious affiliation, culture and educational status. The study is among the very few studies conducted in Nigeria that measure religious affiliation, culture and educational status on menstrual hygiene management amongst physically challenged and marginalized women and adolescent girls. The present study demonstrates that menstrual hygiene management is an issue/challenge among physically challenged and marginalized women and adolescent girls in the country. It also demonstrates that religious affiliation, culture and educational status play a role in menstrual hygiene management. In Nigeria, most especially in the northern part of the country, menstruation and other reproductive health issues are often not discussed openly. In this study, the ages of the women ranged from 14 and above.

Conclusion

This ex post facto study was conducted in 10 states in Nigeria. In the process of gathering data, a questionnaire was administered to physically challenged and marginalized women and adolescent

girls. Data from the adolescent girls was also gathered in secondary schools. Furthermore, the research undertook a literature review on the variables of interest and their link to menstrual hygiene management. Hypotheses were formulated based on the variables in the study.

Based on the findings, one of the main conclusions of this study was that religious affiliation was not found to affect proper menstrual hygiene management among physically challenged and marginalized women and adolescent girls in Nigeria. However, the study found culture to significantly influence menstrual hygiene management among physically challenged and marginalized women and adolescent girls as well as a significant difference between the educated and uneducated physically challenged and marginalized women and adolescent girls on menstrual hygiene management. The study has also concluded that religion place restrictions on menstruating women and girls.

Recommendations

Based on the findings and conclusion drawn from the study, recommendations are made which are addressed to relevant stakeholders for their consideration when planning initiatives on menstrual hygiene management for women and children in Nigeria.

i. Capacity building: Targeting women and girls for training and capacity building is critical to the sustainability of menstrual hygiene management. This will empower them to have basic knowledge and skills regarding menstrual hygiene management. The empowerment of women on menstrual hygiene management should also be done at the grassroots level. Training programs targeting women are essential so that women are equipped with skills to manage menstruation.

ii. Education and public awareness: It is important to sensitize all the stakeholders, men and

women on the importance of proper menstrual hygiene management. Extensive and intensive social awareness should be carried out so as to create a sense of awareness and to bring about attitude change regarding menstrual hygiene.

iii. Improved access to water, sanitation and hygiene: Providing appropriate WASH facilities for the physically challenged is essential for enabling women and girls to maintain proper menstrual hygiene. The government together with other development partners should provide water at standard distance, quality and quantity. This should be done not only to address health and sanitation issues, but also to reduce the everyday drudgery or women by providing them with more time for wellbeing.

Recommendations for Further Investigation

Future research should examine other independent variables that may influence or correlate with menstrual hygiene management to have a broader knowledge of the factors that may influence menstrual hygiene management, such as age, life time experiences, personality traits, awareness, parental and peer support and socioeconomic status.

We recommend further research on the nature of WASH facilities that are supportive of menstruation available in the schools, homes and public places and how the communal management of menstruation affects these utilities.

REFERENCES AND FURTHER READING

Ahmed, R. &Yesmin, K. (2008). *Menstrual hygiene: Breaking the silence*. [Online], Available:

http://www.wateraid.org/.../ch21_menstrual_hygiene_breaking_the_silence..... [Accessed 6 September, 2016]

Akpenpuun, J.R., &Azende, P.M. (2014). Menstrual knowledge and practicesamong adolescent femalesin Makurdi metropolis. Global journal of interdisciplinary social sciences, 3(3), 113-121

Ali, T.S., & Rizvi, S.N. (2010). Menstrual knowledge and practices of female adolescents in urban Karachi, Pakistan. *Journal of Adolescence*, *33*(4), 531–541.

Aniebue, U., Aniebue, T., &Nwankwo, I. (2009). The impact of pre-menarcheal training on menstrual practices and hygiene of Nigerian school girls. *Pan Africa Medical Journal, 2*(9), 1–9.

Anuradha, K. (2011). *Menstrual hygiene practices and reproductive morbidity: A community based survey in rural Thruvananthapuram*. Available from: http://www.sctimst.ac.in /amchss/research/ge3.htm [Accessed 6 September, 2016]

Backeljauw, P., Rose, S., & Lawson, M. (2004). *Clinical management of menstruation in adolescent females with developmental delay*. The Endocrinologist, 14, 87–92.

Baisley, K., Changalucha, J., Weiss, H.A., Mugeye, K., Everett, D., Hambleton, I, et al. (2009) Bacterial vaginosis in female facility workers in north-western Tanzania: prevalence and risk factors. *Sex Transm Infect, 85*, 370–375. doi:10.1136/sti.2008.035543PMID:19473997

Balamurugan, S.S.,&Bendigeri, N. (2012). Community-based study of reproductive tract infectionsamongwomen of the reproductive age group in the urban health training centre area in hubli, karnataka. *Indian Journal of Community Medicine, 37*, 34–38. doi:10.4103/0970-0218.94020PMID:22529538

Crofts, T. (2014). *Menstruation hygiene management for schoolgirls*. WEDC, Loughborough University.

Dhingra, R., Kumar, A., &Kour, M. (2009). Knowledge and practices related to menstruation among tribal (Gujjar) adolescent girls. *Studies on Ethno Medicine, 3*(1), 43-48.

Garg, S. Sharma, N.,& Sahay, R. (2001). Socio-cultural aspects of menstruation in an urban slum in Delhi, India. *Reproductive Health Matters, 9*(17), 16–25.

Gesselleen, M. (2013). *Attitudes and beliefs of the experience of menstruation in female students at the University of the Western Cape*. A mini-thesis submitted in partial fulfillment of the requirements for the M.A Psychology (Research) Degree in the Department of Psychology, in the Faculty of Community and Health Sciences, University of the Western Cape.

House, S., Mahon, T., & Cavill, S. (2012). *Menstrual hygiene matters: A resource for improving*

menstrual hygiene around the world. [Online Available: www.wateraid.org/mhm. [Accessed 6 September, 2016]

Joshi, D., & Fawcett, B. (2001). *Water, Hindu mythology and an unequal social order in India*. Paper presented at the Second Conference of the International Water History Association, Bergen, Norway. [Online], Available: www.wateraid.org/documents/hindumyth.pdf [Accessed 6 September, 2016].

Kibasan, J. A., &. Singson, E.C. (2016). Culture and Education: A Study on Learning Style of Libyan College Students in Tripoli, Libya. *Education, 6*(1), 17-24 DOI: 10.5923/j.edu.20160601.04

Kirk, J., & Sommer, M. (2006). *Menstruation and body awareness. Linking Girls Health With Girls Education*. Amsterdam: Royal Tropical Institute (KIT).

Kumar, A., & Srivastava, K. (2011). Cultures and social practices regarding menstruation among adolescent girls. *Social Work in Public Health, 26*(6), 594-604.

Lawan, U. M., Nafisa, W. Y., &Aisha, B. M. (2010). Menstruation and menstrual hygiene among adolescent school girls in Kano, North-western Nigeria. *African Journal of Reproductive Health, 14*(3), 201- 207.

Mahon, T., &Fernandes, M. (2010). Menstrual hygiene in South Asia: A neglected issue for WASH (Water, Sanitation And Hygiene) programmes. *Gender & Development, 18*(1), 99–113.

Mutunda, A. (2013). *Factors impacting on the menstrual hygiene among school going adolescent girls in Mongu District, Zambia*. A thesis submitted in partial fulfillment of the requirements for the degree of Master in Public Health at the School of Public Health, University of the Western Cape

Nagar, S., &Aimol, R.K. (2011). Knowledge of adolescents girls regarding menstruation in tribal areas of Meghalaya. *Study Tribes Tribals, 8*(1), 27-30.

Narayan, K. A., Srinivasa, D. K., Pelto, Y., &Veerammal, S. (2001). Puberty rituals, reproductive knowledge and health of adolescents schoolgirls in South Asia. *Asia-Pacific Population Journal, 16*(2), 225–238.

Nelson, D.B., Bellamy, S., Nachamkin, I., Ness, R.B., Macones, G.A., &Allen-Taylor, L. (2007). First trimester bacterial vaginosis, individual microorganism levels, and risk of second trimester pregnancy loss amongurban women. *Fertility and Sterility, 88*, 1396–1403. PMID: 17434499

Ness, R.B., Kip, K.E., Hillier, S.L., Soper, D.E., Stamm, C.A., Sweet, R.L., et al. (2005). A cluster analysis of bacterial vaginosis associated microflora and pelvic inflammatory disease. *American Journal of Epidemiology 162,* 585 – 590. PMID:16093289

Oche, M. O., Umar A. S., Gana G. J., &Ango J. T. (2012). Menstrual health: The unmet needs

of adolescent girls' in Sokoto, Nigeria. *Scientific Research and Essays, 7*(3), 410- 418.

Omidvar, S., & Begum, K. (2010) Factors influencing hygienic practices during menses among girls from South India: A cross sectional study. *International Journal of Collaborative Research on Internal Medicine & Public Health, 2*(12), 411–423.

Pargament, K. I. (1997). *The psychology of religion and coping*. New York: The Guilford Press.

ParK, H.R. (2013). *Menstrual Support for Females with Developmental Disabilities: Survey and Interview of Parents or Caretakers*. Unpublished thesis Submitted to the graduate degree program in Special Educationand the Graduate Faculty of the University of Kansas in partial fulfillment of therequirements for the degree of Doctor of Philosophy. Accessed on 27th September, 2017 from https://kuscholarworks.ku.edu/bitstream/handle/1808/15062/Park_ku_0099D_13173_DATA_1.pdf;se

Patkar, A., &Bharadwaj, S. (2004). Menstrual hygiene and management in developing countries: Taking stock, Mumbai: *Junction Social*. [Online], Available: www.mum.org/menhydev.htm Accessed 9 September, 2016].

Pillitteri, S. P. (2011). School menstrual hygiene management in Malawi: More than toilets [online]. Available from: http://www.shareresearch.org/LocalResources/MenstrualHygieneManagement_Malawi.pdf (Accessed 9 September, 2016).

Prajapati, J., & Patel, R. (2015). Menstrual hygiene among adolescent girls: A cross sectional study in urban community of Gandhinagar. *The Journal of Medical Research, 1*(4), 122-125.

Singh, A.J. (2006). The place of menstruation in the reproductive lives of women of rural north India. *Indian Journal of Community Medicine, 31*(1), 10-14.

Sommer, M. (2008) *Menstruation and school attendance in Sub-Saharan Africa: Girls' experiences of menstruation and schooling in urban and rural Kilimanjaro, in Northern Tanzania*.[Online],Available:http://2008youthconference.blogspot.com/2008/04/menstruation-and-school-attendance.htm [Accessed 9 September, 2016].

Spencer-Oatey, H. (2008). *Culturally speaking. Culture, communication and politeness theory*, 2nd edition. London: Continuum.

Stroebe, M. S. (2004). Religion in coping with bereavement: Confidence of convictions or scientific scrutiny? *International Journal of the Psychology of Religion, 14*, 23–26.

Ten, V. T. A. (2007). *Menstrual hygiene: A Neglected condition for the achievement of several Millennium Development Goals.* Europe External Policy Advisors.

Umeora, O. U., &Egwuatu, V. E. (2008). Menstruation in rural Igbo women of south east Nigeria: Attitudes, beliefs and practices. *African Journal of Reproductive Health, 12*(1), 109– 115.

Warenius, L., Pettersson, K. O., Nissen, E., Hojer, B., Chishima, P. &Faxelid, E. (2007). Vulnerability and sexual and reproductive health among Zambian secondary school students. Culture, health & sexuality. *International Journal for Research, Intervention and Care*, *9*(5), 533 - 44.

Wateraid (2009). *Is menstrual hygiene and management an issue for adolescent school girls? A Comparative study of four schools in different settings of Nepal*. Retrieved 9/9/2016. http://www.wateraid.org/documents/plugin_documents/wa_nep_mhm_nepa_march2009

WaterAid (2010). Menstrual hygiene in South Asia: A neglected issue for WASH (water, sanitation and hygiene) programmes. Available from ttp://www.informaworld.com/smpp/title~db=all~content=g919513531 [Accessed 9 September, 2016]

WHO-UNICEF. (2012). Consultation on Draft long list of goal, target and indicator options for future global monitoring of water, sanitation and hygiene. WHO-UNICEF Joint monitoring programme.

Wiesenfeld, H.C., Hillier, S.L., Krohn, M.A., Landers, D.V., &Sweet, R.L. (2003). Bacterial vaginosis is a strong pre-dictor of Neisseria gonorrhoeae and Chlamydia trachomatis infection. *Clinical Infectious Diseases, 36*, 663 – 668. PMID: 12594649.

WSSCC (Editor) (2013). *Celebrating Womanhood: How Better Menstrual Hygiene Management is the Path to Better Health, Dignity and Business*. London: Water Supply & Sanitation Collaborative Council (WSSCC).

APPENDIX 1

QUESTIONNAIRE

Dear Respondent

Request to Complete Questionnaire

We are conducting a study on Menstrual Hygiene Management (MHM) amongst the Physically Challenged and Marginalized Women and Adolescent Girls in Nigeria. Please, answer the questions below honestly and rest assured that any information given will be treated confidentially and only for the purpose of this research.

Thanks

General Instruction

Please tick (√) where appropriate

Section A: Demographic Information

1. Age: { }15-25. { } 26-Above)
2. Marital status: { } single { } married { } divorce { } widowed
3. Religious affiliation: { } Islam { } Christianity { } others
4. Ethnicity: ----------
5. Educational Status: { } Educated { } Uneducated
6. If educated at what level: ……..
7. Income status: { } Low { } Average { } High

Section B

Menstrual Hygiene Management

Instructions: I am interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement

S/N		Agree	Undecided	Don't know
1	I know the duration of a normal menstruation cycle.			
2	I know the duration of my menstrual cycle.			
3	Poor menstruation hygiene predisposes one to infection.			
4	Good hygiene prevents menstrual pain.			
5	I lack knowledge about menstruation blood is impure.			
6	Proper sanitary products should be used for menstruation.			
7	I am unaware of the cause of menstruation.			
8	I don't know about the origin of menstrual blood.			
9	Unaware about the age of normal cessation of menstruation.			
10	Unaware on the Influence of hot or cold food on menses.			

11	Menses is an indication of fertility.			

Section C
Practices Related to Menstrual Hygiene Management
Please, choose the option that you frequently use during menstruation. There are no right or wrong answers.

1. Which of the following absorbents do you use during menstruation?

    i. Sanitary pad
    ii. New cloths
    iii. Old cloths/other
    iv. Toilet Tissue paper
    v. Menstrual cup
    vi. Reusable sanitary materials

2. How frequently do you change pad/cloths per day?
    i. 4+ times
    ii. 2–3 times
    iii. 1 time
    iv. At the end of my menses

3. If you used cloths as an absorbent, where do you dry your used absorbent?
    i. Outside room in sunlight
    ii. Inside room with sunlight
    iii. Inside/outside room without sunlight

4. What problem do you face while using cloth during washing and drying?
    i. Shortage of water
    ii. Lack of privacy
    iii. Drying

5. Where do you store your washed cloths?
    i. Clean and covered place*
    ii. Clean and open space†
    iii. Unclean and open/covered place‡

6. What are your reasons for not using sanitary pads?
    i. No reason
    ii. Difficulty in discard
    iii. Costly
    iv. Don’t know about it
    v. Don’t feel comfortable with it

7. What is your method of disposal of used pads/cloths?
    i. Buried/burned/dustbin
    ii. Latrine
    iii. Throw on road

8. How frequently do you clean your genitalia?
    i. Every time use toilet
    ii. During bathing
    iii. Do not clean

9. What material do you use for cleaning of external genitalia?
    i. Water, Soap and antiseptic
    ii. Soap and water
    iii. Only water/not cleaning

10. What is the restriction among ladies/girls during menstruation?
    i. Religious place/temple/religious occasion
    ii. Routine household work
    iii. Playing
    iv. Attending school
    v. Certain types of foods