Journal of General Management Research Vol. 9, Issue 1, July 2022, pp. 1-13

JOURNAL OF GENERAL MANAGEMENT RESEARCH

EXAMINING BARRIERS IN ADOPTION OF FEMININE HYGIENE PRACTICES IN DEVELOPING COUNTRIES: A SYSTEMATIC REVIEW OF LITERATURE

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Abstract

Menstruation is one of the most critical changes in girls' lives, bringing many challenges. Even being a universal practice, People connect it with societal stigmas and taboos. Females have to face several barriers in menstruation management due to these prevalent stigmas. Many researchers probe into the existing knowledge and practices of menstruation, but the barriers to adopting feminine hygiene practices are still not thoroughly studied. This paper aims to identify and classify the barriers females experience in adopting feminine hygiene practices by focusing on secondary data. We conducted a systematic literature review of articles reporting empirical findings and identified 37 studies providing evidence of barriers females face. We recognized 11 barriers from the analysis, grouped them into four categories, and composed a model consisting of personal and psychological, social, infrastructural, and economic barriers. The findings will enable the marketers to ensure the easy accessibility and affordability of sanitary materials. Public policymakers working in the field of menstrual hygiene and health can also use the findings of this research study.

Keywords: *Barriers, cultural, feminine hygiene practices, knowledge, menstruation.*

INTRODUCTION

Although menstruation is a normal phenomenon among females and requires special feminine hygiene during the period, it is poorly managed worldwide. Feminine hygiene management refers to "women and adolescent girls using clean menstrual hygiene materials to absorb or collect blood that can be changed in privacy for the duration of menstruation period" (Hennegan *et al.,* 2016). However, various social stigmas and shame are associated with the context, which is most common in developing countries. People do not discuss this topic openly, which hinders the flow of information regarding feminine hygiene practices for adolescent girls (Wilbur *et al.,* 2021). Even when adolescents try to get the information, adults and mothers feel hesitant and embarrassed to talk about the said matter. The cultural perceptions regarding menstruation make girls believe it is impure, which affects their hygiene practices; consequently, this hinders their lives in many ways (Hennegan and Sol, 2020). Females need to consider menstruation as a common biological process instead of relating it to religious beliefs; for this, the spread of awareness is necessary for society (Rahman et al., 2018). A UN secretary-general in 2003 specified that education is the most effective tool for the overall development of girls and to make them aware of the different phenomena in their life (Jewitt and Ryley, 2014).

However, besides education, there are multiple barriers that females have to face to handle their menstrual needs. These issues have always been under-addressed in research as well as in policy programs; the American College of Obstetricians and Gynecologists (ACOG) identified that females are underserved, and there is a need for knowledgeable gynaecologists who can also serve the females indulge in services (Eagan, 2019).

Seeing the importance of feminine hygiene practice in a woman's life, this paper focuses on identifying the barriers females face in adopting Feminine Hygiene Practices (FHP) by dividing them into major factors. Section II provides related literature background for barriers to hygiene practices. Section III of the research method is followed by the result and discussions in section IV; Section V describes the conclusion and implications of the study.

THEORETICAL BACKGROUND

World Health Organization (WHO) has defined adolescence as 10 to 19, when a girls' body undergoes several physical and psychological changes (Kaur *et al.,* 2018). Girls experience menarche, an integral part of their lives at this age. However, they find it challenging to manage menstruation due to many causes such as unpreparedness, embarrassment, or lack of information. Despite being a natural process, menstruation is still connected with misconceptions and taboos and is considered impure and dirty (Dasgupta and Sarkar, 2008). These dominant beliefs come in the way of females embracing hygienic practices and the absence of hygienic practices, resulting in infections and diseases like toxic shock syndrome, pelvic inflammatory diseases, and abnormal discharges (Çankaya and Yilmaz, 2015). Various researchers Adinma and Adinma (2008), Akpenpuun and Azende (2014), Alice *et al.* (2019), and Chakravarthy *et al*. (2019) have attempted to look upon the challenges in hygiene practices from different perspectives in both the developed and developing countries and many changes are made to assist the females in managing menstruation. However, still, gaps are persisting with regard to obstacles those females face in managing their menstruation hygienically. This gap exists because females are identified as a stigmatized group, and stigmas surround their reproductive health issues. Ndichu and Rittenburg (2021) have also ascertained a framework consisting of 'stigmatized identity and 'stigmatized products' to be a significant player in the context of menstruation. These prevailing taboos affect the willingness of females to accept the available feminine hygiene products despite their availability in the wide market (Palmeira *et al.,* 2015). Despite the actions already taken for the betterment of females and their feminine hygiene practices, the physiology and process of menstruation hygiene are still not well understood among them, which makes females adopt certain practices, whether good or bad for their health (Macrae *et al.,* 2019). In addition, the lack of FHP and

its adverse outcomes are linked with a range of issues. MacRae *et al.* (2019) elaborated on the poor understanding of menstruation; they explained how this phenomenon is wrongly understood among the population, and inadequate measures are taken to handle it.

Along with this, limited assistance from teachers at school, from parents and peers, difficulties in access to absorbent materials, and inadequate physical infrastructural facilities to change and clean sanitary materials and the body are also making menstruation management difficult for females (Hennegan and Sol, 2020; Jackson *et al.*, 2015). Cash constraints made the biggest hurdle for women in purchasing absorbent material, and consequently, they go for any means of porous material such as old clothes to dry leaves (Millington and Bolton, 2015). The prevailing literature provides a strong background to highlight the barriers those influence females' attitudes and negatively impact their different facets of life. Recent studies have also reported that almost 13% of women lost their duty days due to feminine hygiene-related issues (Eagan, 2019).

Based on the theoretical background, this study highlights the barriers coming in the way of adopting feminine hygiene practices. All these barriers have been understood by composing a model consisting of significant factors of barriers.

RESEARCH METHOD

The study has been undertaken as a Systematic Literature Review (SLR) based upon the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2009). PRISMA protocol consists of identification, screening, exclusion, and inclusion steps to select final articles. In this section, we provide the protocol used in the SLR, specify the research question, source of data collection, and method of synthesizing the evidence.

Research Question

Different stakeholders are working towards assisting women with feminine hygiene practices; stakeholders like the government, NGOs, and other local authorities need to know the barriers females face in adopting such FHP. We believe that reducing the barrier can benefit females' health and further life aspects. Thus, we have defined the following as our main research question:

RQ 1 What barriers hinder the adoption of feminine hygiene practices among females?

We aim to capture barriers that female faces when adopting feminine hygiene practices by answering this question.

Search Strategy

The review was conducted using the guideline of Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) to obtain the relevant information. A study protocol was established to develop the study's search strategy and eligibility criteria in line with the guidelines. Four databases were used to extract the literature: Scopus, PubMed, Web of Science, and Google Scholar.

Initially, we formulated the keywords through similar studies and free-text keywords. Authors executed the following search string to extract the literature study related to barriers in feminine hygiene practices:

("Challenges" OR "barriers") and ("feminine hygiene practices" OR "menstrual hygiene practices"). The inceptive search resulted in a total of 1120 articles, and after applying the inclusion and exclusion criteria, 37 papers were identified.

Exclusion and Inclusion Criteria

Both the authors have extracted and screened the obtained articles from the defined database searches based on their title and abstract. Inclusion and exclusion criteria were applied for the selection process. Articles published in the English language only concerning developing countries were considered, and also articles published after 2000 were included in the present study. The whole inclusion and exclusion method of studies is reported using the PRISMA four-phased flow chart.

Data Extraction

Data extraction was performed by both of the authors independently. After screening the title and abstract of the chosen research articles, the full text of the articles was considered. The extraction process of data is visible in *Figure* 2. Data extracted from the articles is shown in Appendix A. The authors have extracted the following details from the included studies: authors, country, method, and study outcomes and entered all the information in Microsoft excel 2010 version.

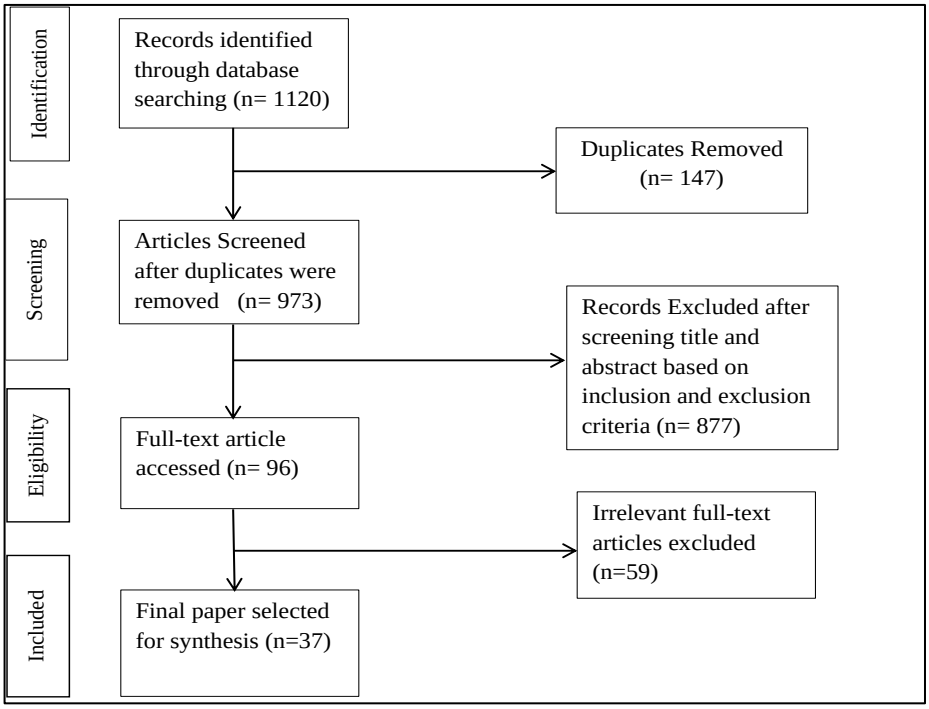
Quality Appraisal

Researchers utilized the Joanna Briggs Institute (JBI) checklist to evaluate selected articles (Joanna Briggs Institute, 2017). The authors evaluated the quality of selected articles based on eight questions of the given checklist; studies scoring five or more than five points were included in the review, and articles scoring lower than 5 points were discarded from the analysis.

RESULTS

The primary search reverted 1120 articles through PubMed, Scopus, Web of Science and Google scholar. After removing the duplicates, 973 articles were retrieved; screening the title and abstract resulted in 877 irrelevant studies as per the established criteria. After these eliminations, 96 articles were saved for the full-text study; reading and eliminating irrelevant articles resulted in 37 studies for final synthesis. All these exclusion, inclusion, and screening were done by following the steps of the PRISMA protocol. All the steps according to which articles were retrieved and finalized are presented in figure 1.

Figure 1- Prisma four-phased diagram

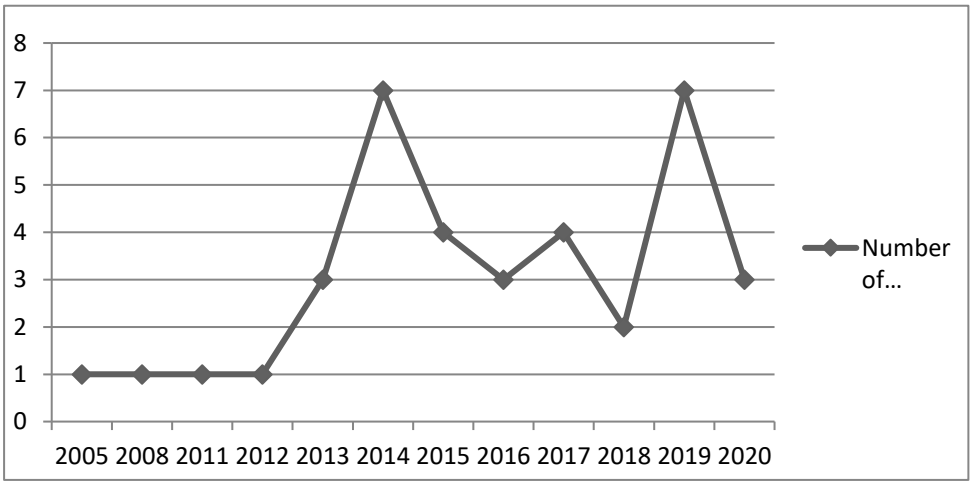


Source: Authors' Compilation

After synthesizing the full-text articles, researchers came across different menstruation management and feminine hygiene phenomena. All females have developed their own way of dealing with menstruation; however, there are still many gaps in fulfilling their menstruation needs. Many researchers have studied the issues faced by adolescent girls or women in managing menstruation from different perspectives. Hamal and Susma (2014) stated that cultural norms and beliefs come in the way of females

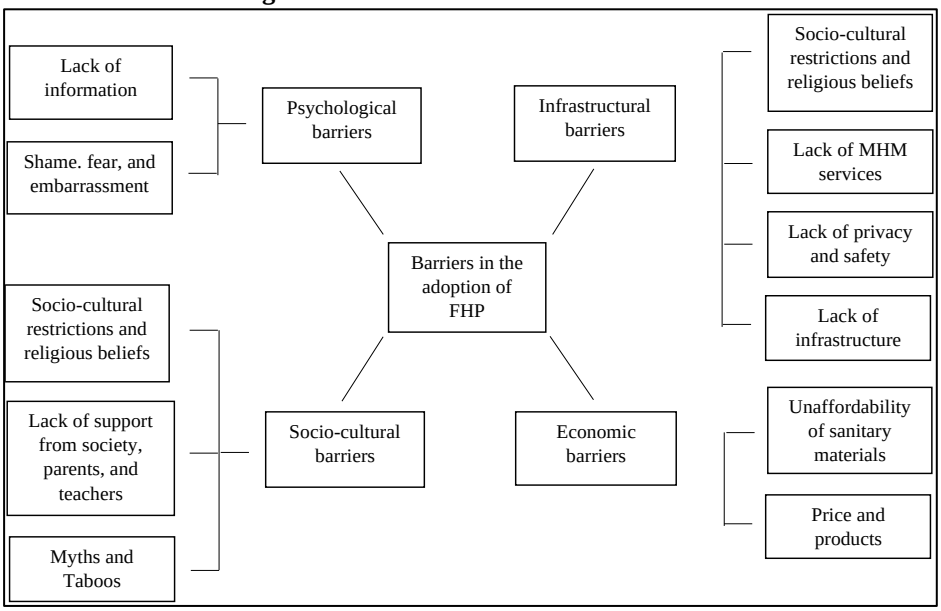
getting the right information about menstruation and hygiene practices; they feel shy and embarrassed in discussing these matters. They also stated that the lack of infrastructural facilities like private spaces, no clean water, and sanitation facilities influences their hygiene practices greatly. 'Appendix A' summarizes the list of challenges extracted from the selected articles from the literature study. Selected literature depicted the list of challenges that females face. Figure 3 presents an integrated model of the barriers evidenced by the literature. The figure summarizes the factors retrieved from different literature studies depicted in table 1 by combining them into significant barriers.

Figure 2- Yearly representation of selected literature



Source: Authors' Compilation

Figure 3- Barriers evidenced from literature



Source: Author's Proposed Framework

DISCUSSION

The major factors are developed by analyzing the types of challenges faced by females. The articles included in the study primarily focused on the knowledge, cultural stigmas, lack of private spaces, and other infrastructural issues considered problematic because they hinder the activity of females in managing their menstruation every month. All these barriers are dependent on the women's attitude and personal reasons for lacking hygiene practices, including the impact of society and established cultural norms. These factors can be understood as follows:

Personal and Psychological Barriers

Psychological barriers depend on the individual psychology that drives his actions. Personal barriers arise due to the females' personal issues like the unaffordability of buying a sanitary pad and feelings of shame and embarrassment. In past studies, researchers have discussed the different issues adolescent girls or women face in hygiene practices due to their psychological well-being. Gopalakrishnan (2014) has analyzed in his study that most girls do not know the cause and source of bleeding; many do not know how to use sanitary napkins properly. They often get stained on their clothes despite using sanitary napkins. Chakravarthy (2019) stated that mothers are shy about providing menstruation information to their girl child; when girls seek information by themselves, they are often misinterpreted or get ill information about it, leading to ignorance of unhygienic feminine hygiene practices. As a consequence of this ill information, females, especially young girls, hide the phase of menstruation as they regard it to be shameful and very few girls share and talk about it in public (Mason *et al.*, 2013); they have a fear of stain on their clothes as if it gets stained then people will know that they are menstruating and it will get embarrassing for them to handle. The girls often miss school during their menstruation even if they have facilities for the same because they feel discomfort and hesitate to change the absorbents at schools or anywhere outside their homes (Singh *et al.*, 2019).

Social Barriers

One of the most critical barriers concerning menstruation is myths, misconceptions, and taboos rolling around menstruation (Suhasini and Chandra, 2017). Social barriers involve the effects of cultural norms and tradition, societal beliefs, and the lack of support from the members of society. There are various misconceptions regarding menstruation in society that impede the females' practices to manage menstruation and think of menstruation as impure and unclean. In many places, it is considered that once girls reach the age of puberty, they are ready to marry; this leads to cutting the girls from their peers and indulging in home chaos, due to which they do not acquire the importance of feminine hygiene practices. House *et al.* (2013) and Gultie (2014) have stated in their studies that these kinds of beliefs and myths prevalent around menstruation negatively impact feminine hygiene practices. It also converses women with negative thoughts. These beliefs are primarily connected with the education of women.

In addition, there are socio-cultural restrictions on girls during their menstruation, like a break from outdoor activities, discontinuation of bathing during the period, and absence from school. All this develops a negative mindset among girls, ignoring the importance of hygiene practices (Mohammed and Reindorf, 2020; El-Lassy and Median, 2013). Rastogi *et al.* (2019) stated that in many regions, females do not take baths during their menstruation, and this is the most unhygienic thing they can do while menstruating. Studies argue that social and traditional opinions in developing countries negatively affect the females' hygiene management practices. (Howard *et al.*, 2015), Mukherjee *et al.* (2020), Dhakal *et al.* (2018) stated that in many regions of Nepal, females are not allowed to stay at home and use common bath spaces during their menstruation period; they are forced to sleep in sheds or huts outside the house which is called *"Chhaupadi Pratha*". All this restricts their hygiene practices as it becomes difficult to change and clean absorbents and their bodies in huts outside the house without proper facilities.

Even at schools, girls cannot manage menstruation hygienically; Trinies *et al.* (2015) have identified that girls reported a lack of gender-separated washrooms or clean water at schools. Most schools do not have sanitary materials in case of urgency for girls. Moreover, teachers are not supportive and do not like to discuss and assist girls at school regarding menses, and they try to ignore these topics. Mothers and family members do not discuss such a topic that negatively affects girls' hygiene practices due to insufficient information (Srinivasan *et al.*, 2019).

Infrastructural Barriers

Apart from personal and socio-cultural barriers, there are some external barriers such as policies and programs of feminine hygiene management, the infrastructural facilities at the school and public places, prices, inaccessibility of absorbent materials, and lack of private space to change and clean absorbents. In developing countries government often fails to provide proper facilities to females for their menstrual management in public places. Chakravarthy *et al.* (2019) stated that whether it is a big city or small, there is a lack of basic facilities, private spaces, and washrooms at public places; females often face challenges in managing menstruation outside their houses due to the lack of these infrastructural facilities. Additionally, females do not find gender-separated washrooms, clean water, basins, or soaps at workplaces and schools. Many organizations do not have facilities for absorbent materials in the case of urgency; neither do they have disposal facilities for used absorbents. All of this causes adverse outcomes to manage menstruation (Parker *et al.*, 2014). Inaccessibility of sanitary materials is also a major barrier among low-income groups or populations living in rural or backward regions where materials' supply is often neglected.

Economic barriers

The studies carried out by Adinma (2008) and Koner (2018) showed that even after a decade, affordability is still an issue among many females belonging to the low and middle-income group; they cannot afford sanitary products and other sanitary facilities in their homes. Eventually, they use unhygienic absorbent means such as used clothes or rags. The socio-economic status of the family is one of the challenging aspects of hygiene practices, as low economic conditions do not allow them to purchase sanitary materials from outside, and females start using products easily and cheaply available at home (Lahme and Stern, 2017).

Despite the improvements in developing countries use of sanitary napkins is still low; the main reasons are high cost, lack of awareness, inadequate supply of absorbents and absence of disposal facilities for the used materials resist the adoption of hygienic absorbents to manage menstruation (Bhattacharya and Singh, 2016; Goyal, 2016; Garg *et al.*, 2012). Rahman *et al.* (2018) indicated that females are ready to adopt sanitary napkins in rural regions. However, due to financial constraints and high prices of sanitary materials, they cannot buy those, which forces them to use cheap resources readily available at home that are not hygienic and persistently lead to infections and diseases.

LIMITATIONS AND FUTURE WORK

The current research work has some limitations that can be addressed in the future. As the study is qualitative, it may include subjective and judgment evaluations, which can add biasness to the study. In future research work, researchers may employ a quantitative approach such as Meta-analysis to improve the understanding of different barriers. Secondly, our research study has focused only giving the barriers to adopting feminine hygiene practices. In contrast, future research may include recommendations for the same to public policymakers and other stakeholders interested in this area. In future, authors can also conduct empirical research based on the survey method to strengthen the present study.

IMPLICATIONS OF THE STUDY

This present review study has two implications. First, the current findings of SLR will enable the public policymakers to understand the barriers faced by females more closely and can design their strategy

with a focus on supporting females and reducing significant barriers such as lack of knowledge, infrastructural deficiency, and social stigmas. Health professionals must also take necessary action to educate females on feminine health and hygiene. Secondly, the managerial implications of the study lead the marketers to make sanitary materials accessible and affordable to women residing in different regions. Furthermore, the findings suggest the need for improvement and intervention from different stakeholders and authorities to look into menstruation more seriously and provide the basic necessities for both the societal and infrastructural development context.

CONCLUSION

The review study clearly shows that the number of empirical studies on feminine hygiene practices has risen in the past decade, showing the growing interest in this topic worldwide. Researchers identified 37 articles that evidenced the barriers faced by females to adopting feminine hygiene practices. We aggregated the barriers found from the related literature and proposed a model composed of four categories: psychological barriers, social barriers, infrastructural barriers, and economic barriers, the model is the main contribution of the study, which is extracted from the literature (Presented in fig. 3) as it clarifies hurdles that were evidenced in the literature. The theoretical contribution of this research is in the context of women's perception of the adoption of feminine hygiene practices; this study uncovers major barriers and perceptions that emerge in women's choice of adoption of different feminine hygiene practices.

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APPENDIX A:

Summary of studies on challenges in adoption of feminine hygiene practices

No	AUTHOR/S	COUNTRY	METHOD	OUTCOME/CHALLENGES
1	Adinma and Adinma, 2008	Nigeria	Quantitative	Lack of access to information, lower socio-economic status, lack of money to buy products.
2	Akpenpuun *et al.*, 2014	Nigeria	Quantitative	Inconvenient and embarrassing, inadequate knowledge
3	Alam *et al.*, 2017	Bangladesh	Qualitative	Lack of privacy, limited education, poor access to water and sanitation at school
4	Arumugamet *et al.*, 2014	India	Quantitative	Socio-cultural practices, lack of awareness
5	Bhattacharya and Singh, 2016	India	Qualitative	Cultural belief, Irregular supply of sanitary materials under schemes, lack of dustbins
6	Chakravarthy *et al.*, 2019	India	Qualitative	Lack of information, difficulty to afford menstrual products, poor access to water, sanitation and hygiene infrastructure, lack of privacy and safety, fear and panic, inaccessibility of products, lack of support from the family
7	Chikulo, 2015	South Africa	Mixed method	Inadequate toilet facility, knowledge deficit (insufficient information), cultural beliefs taboos, dirty and impure, inadequate sanitary facilities, lack of disposal facilities, lack of knowledge of girls' needs
8	Dhakal *et al.*, 2018	Nepal	Mixed	Shame and fear, confusion, No proper information and assistance, inaccessibility of sanitary materials, taboos

9	El-Gilany *et al.*, 2005	Egypt	Quantitative	Lower socio-economic, lack of access to information in rural areas, lack of affordability to buy sanitary products, poor infrastructure at school
10	El-Lassy and Madian, 2013	Egypt	Quantitative	Socio-cultural restriction, lack of scientific knowledge about menstruation, hesitation in sharing this topic, lack of attention
11	Gopalakrishnan, 2014	India	Quantitative	Lack of awareness, high cost of sanitary pads, quality of napkins, cultural taboos
12	Gultie, 2014	Ethiopia	Quantitative	Taboo, Lack of support and guidance from parents
13	Hamal and Susma, 2014	Nepal	Quantitative	Socio-cultural taboos, customs and religious tradition, affordability, lack of a private place to change, gender unfriendly school and infrastructure, lack of alternative menstrual products, lack of clean and safe sanitation facilities.
14	Haver *et al.*, 2013	Philippines	Quantitative	lack the knowledge, Feeling of stress, shame, and embarrassment, poor access to absorbent materials lack of practical guidance and support
15	Hennegan *et al.*, 2016	Uganda	Quantitative	Shame, insecurity, and disengagement at school, privacy concerns,
16	Hennegan and Sol, 2020	Bangladesh	Quantitative	Communication with parents may fortify myths or restrictions negatively, lack of confident
17	Jackson *et al.*, 2015	Kenya	Qualitative	Taboo, Lack of sanitary materials, school sanitary facilities, sense of shame surrounding
18	Kamaljit *et al.*, 2012	India	Quantitative	Taboos and cultural restrictions, ignorance of scientific facts, false beliefs
19	Mukherjee *et al.*, 2020	Nepal	Quantitative	Religious beliefs, socio-cultural restrictions, superstitions, social discrimination, gender inequality
20	Lahme and Stern, 2017	Zambia	Qualitative	Lack of information, inadequate menstrual materials, and sanitation, traditional rites
21	MacRae *et al.*, 2019	India	Qualitative	Lack of information, social support challenges, costly resources, unavailable, socio-cultural environment, disposal of waste.
22	Mason *et al.*, 2013	Siaya (rural Kenya)	Qualitative	Lack of Preparation for Menarche, Maturation and Sexual Exposure, Menstruation as a Sickness, Secrecy, Fear, and Shame, Coping with Inadequate Alternatives, Paying for Pads, Struggles with Menstrual Hygiene
23	Mohammed and Larsen-Reindorf, 2020	Ghana	Quantitative	Myths, taboos, socio-cultural restrictions, lack of school facilities
24	Ndlovu and Bhala, 2016	Zimbabwe	Qualitative	Non-involvement of men, girl unfriendly infrastructure, poor management and disposal practices, unaffordability of sanitary materials, no access to the disposal facility, no underwear, water challenges

25	Parker *et al.,* 2014	Uganda	Qualitative	Unavailability of basin and soaps in camps, lack of privacy, inadequate knowledge
26	Howard *et al.,* 2015	Kenya	Quantitative	Unaffordability of sanitary pads
27	Rahman *et al.,* 2018	Bangladesh	Quantitative	lack of awareness, lack of accurate information, unaffordability
28	Rastogi *et al.,* 2019	India	Quantitative	Inadequate information and lack of resources, traditional barriers, lack of communication between teacher and girls students, taboos, and misconception
29	Ravishankar, 2011	India	Quantitative	Cultural and social barriers
30	Salami *et al.,* 2019	Nigeria	Quantitative	Misrepresentation of menstrual facts, menstrual taboos, lack of adequate information, restrictions, unaffordability of disposable sanitary materials.
31	Schmitt *et al.,* 2017	Myanmar and Lebanon	Qualitative	Poor access to safe and private facilities at camps, limited MHM guidance, limited coordination.
32	Shah *et al.,* 2019	Gambia	Mixed	Shame and embarrassment in a discussion on menstruation, unpreparedness before menarche, cultural and religious beliefs.
33	Singh *et al.,* 2019	Nepal	Mixed-Method	Social taboos and beliefs, uncomfortable at asking male teachers.
34	Srinivasan *et al.,* 2019	India	Quantitative	Restrictions imposed, attitude towards menstruation is negative.
35	Suhasini and Chandra, 2017	India	Quantitative	Lower socio-economic status, lack of access to information, unaffordability.
36	Thakur *et al.,* 2014	India	Mixed-Method	Inadequate knowledge, unnecessary restrictions, the role of the health segment is almost negligible, myths and misconception, socio-economic status.
37	Trinies *et al.,* 2015	Mali	Qualitative	Cultural of minimal information, inadequate school infrastructure, and environment, beliefs around cleanliness, maintain secrecy.