



REVIEW ARTICLE

Menstrual Cup: An advanced and safer alternative for menstrual hygiene an overview.

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ABSTRACT

With the growing environmental concerns with the usage of non-biodegradable sanitary napkins along with its hygienic issues, it is the need for us to look at other, already available, environmental friendly, and safer alternatives. The menstrual cup, widely available in the market is an alternative still not taken advantage of, to avail its maximum benefits by the females in India. Various NGOs in countries like Kenya, and South Africa have campaigns to increase the awareness as well as product utility by the females. Menstrual cups are mostly made up of silicon, latex, or a thermoplastic isomer, which even though are not completely biodegradable but the waste from the single cup, which can be used for a minimum period of 9 months before it is discarded is less than the waste produced by the sanitary napkins over the entire period of 9 months. Even with so many advantages, the actual usage is low. Therefore the need of this review was to analyze all the previous studies and research about the overall knowledge and acceptability and how we can uplift the ways of awareness, especially in the rural females where advising about such alternatives is neglected. Bibliometrics R studio was used for the purpose of extraction of yearly publications and the growth and the variations in the research published were reviewed.

Keywords: Menstruation, Menstrual Cups, Menstrual Hygiene, Social Stigma

INTRODUCTION

Menstruation is a normal physiological phenomenon that needs to be managed appropriately. Contrary to the most common physical process, menstruation has a religious and cultural significance that may influence young girls' expectations and the manner in which they react to their needs in their societies (1). It is a natural phenomenon in women's reproductive life, is a physiological and psychological milestone. The menstrual cycles are a set of natural changes that enable reproduction in the uterus and ovaries of the females. The monthly cycle controls the development and preservation of uterine lining for the fertilization of the egg (2). These intervals are co-ordinate and run for 25 to 30 days with an average period of 28 days (3). Menstruation is a unique phenomenon to girls. It has, however, always been surrounded by tabuism and myths which exclude women from socio-cultural aspects. In India the subject has until now been a taboo (4). In many societies, such menstrual taboos have an impact on the emotional state, mental and lifestyle of girls and women, and above all on the health (5). The challenge, to overcome the socio-cultural tabuistic and menstrual values, is further exacerbated by the low level of girls' awareness about puberty, menstruation, and reproductive health (6). Despite its long history the menstrual cup is not typically recognized. Like tampons, the vagina includes menstrual cups, but in a receptor blood is stored that is capable of storing 10-38 mL of blood (7). Depending on blood flow and the menstrual cup should be drained every 4–12 hours. Two different cups are available: a vaginal cup usually formed into the bell and placed in the vagina, and a cervical cup placed high around the cervix in the vagina, like a contraceptive diaphragm (8). Silicone, rubber, latex, or elastomer are the most common material of which menstrual cups are made of and can last for up to 10 years. A significant proportion of college and working professionals is the trend to use a menstrual cup. They prefer to use it on the advice of peer groups, Internet or colleague not only are menstrual cups sustainable in nature, they are also environmental friendly. They are less damaging to the ecosystem than sanitary pads or tampons (9). Both smaller and larger size. Menstrual cups are sold colorless and transparent, but some brands still sell colored cups, such as pink or purple. When a menstrual cup is used, the menstrual fluid is collected and retained in liquid form after it flows from the cervix. Tampons absorb liquid and hold against the cervix in a semi-coagulated shape. When a user has to count the amount of menses (for medical purposes, for example) she should do so carefully with a menstrual cup.

Users use around 1-2 liters of menstrual cup water for clearing. Menstrual cups help minimize solid waste since they are reusable. Some disposable toilets and plastic tampon applicators will take 25 years to break up in the ocean and have a huge effect on the environment. Also available are biodegradable sanitary facilities, which in a short time decompose, but must be composted and not disposed of in a landfill . When used as guided, menstrual cups are safe, without any health risks associated with their use.

Menstrual cups typically are bell-shaped, except for a few. While latex and thermoplastic elastomers are options, most brands use medical silicone as the material for the menstrual cup. Silicon menstrual cups are normally 1-5 years in length. Most cups are reusable instead of disposable on the market. The menstrual cup has the purpose to collect menstrual fluid. It is inserted into the vagina during menstruation. They are mostly made up of silicone, latex or a thermoplastic isomer. The cup is removed every 4-5 hours. The sterilization process of the cup is really easy and less time-consuming. The cup is economically feasible and environment friendly. The cup can be reused for more than 5 years. The types of menstrual cups differ in size, shape and flexibility. Menstrual cups are cheaper compared to sanitary napkins and tampons (10).

METHODS

This review was done by searching Scopus, Web of Science, and PubMed, indexed data. Yearly publications that were extracted through Biblometrix R studio and relative percentages were computed and linear or exponential regressions examined the yearly growth in the proportion of research publications over these 2 decades.

USES, LEAKAGE, ACCEPTABILITY, SAFETY AND AVAILABILITY OF MENSTRUAL CUP

Girls and women need appropriate menstrual products that are safe and affordable. Single-use goods for poor resources are frequently chosen by agencies, a less well-known alternative being the menstrual cup. Menstrual cup's acceptability, safety and leakage are main topic on concerns in the females. Anna maria van eijirk and team from Liverpool, UK, made a systematic review, in this study explored PubMed, web of science database. Their main outcome of interest was the blood leakage while using a menstrual cup while the main

concern about using the cup was if it cause any vaginal infection or rashes or side effects on reproductive or urinary tract, their findings were out of 436 records identified, only 43 studies got the eligibility for being analysed, In two studies of the developing countries, the acceptance of menstrual cup needed a familiarity phase over several cycles and family/relative support. In 4 studies menstrual cup showed no adverse effect on vaginal area. 5 females complained of extreme pain or wounds, 5 faced toxic shock syndrome, they identified through the study that there are 199 brands of menstrual cup and 99 countries give the availability. They concluded that menstrual cup are safe option of management of regular cycles.

HOW FAMILIAR ARE THE MEDICAL STUDENTS WITH USAGE AND THE TERM MENSTRUAL CUP?

Menstrual cups were available for decades, but in India their use is limited due to lack of sanitary pad's knowledge and popularity. They are reusable and minimise waste and are environmentally friendly. Eti et al. used a questionnaire which was issued to a total of 400 Medical Students (females). The goal of the Studies were designed to evaluate students' awareness of menstrual cup. They concluded that Due to its prominence and promotion, all students in the study used sanitary pads. The cup was lacking in awareness. They therefore conclude that the promotion of menstrual cups in India is important. Youth who are more receptive to the concept of environmentally friendly goods should be targeted to increase the acceptance rate of menstrual cups. The Government must implement rural awareness programmes and continually disseminate the message So that we can soon make the dream of a "pad free society" a reality for all the socio-economic sectors. The study provided a result that 28 (7 percent) of the 400 medical students do not know what a menstrual cup is! The menstrual cup in virgins had 262 (70.4 percent) students. Students could not clearly see material for cup fabrication, emptying time and sterilisation technology. There was no clear image. None of them used a menstrual cup among 372 students.

DEGREE OF ACKNOWLEDGEMENT TOWARDS ACCEPTANCE OF MENSTRUAL CUP IN SOUTH AFRICA AMONGST TEENAGERS.

The menstrual health care items (safety pads, panty liners and tampons) are often prohibitively costly in South Africa and other low to medium-income countries and are, as a consequence, many women and teenage girls use the inferior goods for example ,

Newspaper, rags and toilet paper. A study was conducted by Mags Beksinska and team the main aim of this study was to assess, in the South African community, the acceptable long-term usage of vaginal cups. After giving proper knowledge and explaining how to use it, menstrual cups were given to a cohort of women between the ages of 18 and 24 years who attended 10 further institutes, including 22 camp sites, in South Africa. Females were tracked for about a year to assess the acceptance and experience of the cup. The study resulted that there were a total of 509 students. The main product of menstrual hygiene used in a baseline interview was a disposable pad (95.5%, n 1/4 486), and 8.1% (n 1 1/4 41) of students reported using toilet papers or journals. Of the 463 (91%), 86% said they had attempted to use the menstrual cup at 1 month of follow up. Mixed information was available on easy insertion and first use removal. Of the ones who do Half (49.5 percent, 1/4 197) announced that the menstrual cup had been inserted for first usage Very simple or fairly straightforward. Of those who didn't find it convenient, 80% said that 2-3 inserts had to make comfortable. 5 insertion in maximum needed to achieve comfort. The maximum people eho had used the cup said that they will use it again at next follow-up visit, after the study the concluded that the menstrual cup was well acknowledged among the students. Steps taken by the South African government are cost – effective and environment friendly alternate options for menstrual management.

UNDERSTANDING OF MENSTRUAL HEALTH HYGIENE (MHH) AND UPTAKE AMONG YOUNG WOMEN IN ZIMBABWE

Human rights are a matter of menstrual hygiene and sanitation; but for many, it is still a problem, in less developed countries in, menstrual health and hygiene covers social, psychosocial, and social issues Factors that affect female menstrual interactions in the environment. In less developed countries, many of the females have poor hygiene and management because of the less awareness about the monthly cycles. A pilot study was conducted in Zimbabwe by Mandikudza Tembo and team their main aim was to inform the plan and execution of an MHH .The scale of an MHH procedure is included in a cluster randomised population integrated trial Youth programmes (SRH) in Zimbabwe, sexual and reproductive health.

The objective was to examine the use of a new MHH intervention, the preference for menstrual products and the factors which inform young women's consumption and product choice. The study gave a result that the first visit included 1414 of the 1732 qualifying

participants (81.6 percent). The over-grading differs in age, 79% of older women (20-24yrs) older than 84.6% of younger girls are taking the procedure. Reusable pads were taken more than menstrual cups (88.0%) (12.0 percent). Qualitative data showed that the use was affected by internal variables such as the delivery of action. The participants pointed out the value of the availability in a youth friendly atmosphere of acceptance of menstrual products and MHH training. The choice of product depends on few believes and social and cultural factors. Barriers to the use of cups include concerns that the cup will harm the virginity of young women. They concluded that Pilot results have been used to enhance the design and application of the MHH intervention: 1. cup ambassadors to encourage, sensitise and take cups; (2) use smaller soft cups; and (3) group training for caregivers and partners.

PRACTICALITY ACCESSIBILITY AND ACCEPTABILITY OF USING MENSTRUAL CUPS AMONGST YOUNG ADOLESCENTS IN RURAL NEPAL.

In low-income situations and school-age menstrual hygiene management may be challenging girls because of their conservative values, lack of education and awareness about best sanitary practises and restricted access to Adequate and compelling goods of feminine hygiene. The vaginal menstrual cup is an alternative tool for managing the treatment of menstrual hygiene rather than toilet pads or tampons. Proofs of the use of cups are relatively small.

The goal of this study was to analyse acceptability and feasibility in Thokarpa, Sindupalchowk, Nepal for the use of vaginal menstrual cups by school-aged girls. This pilot study was conducted by Diksha Pokhare and team. It is a probing study that was focused on four round table discussions. With a targeted sampling of 28 school girls aged 13 to 19 with menstrual vaginal cups. The data were collected from February to March 2019, i.e. about 3 months after the menstrual cup allotting. Whether they have begun their menstruation and never had given birth, were included in the study. The research has been applied to traditional material. The study resulted that the menstrual cup was viewed favourably by most participants. There is no lack of one particular class at school because of tests related to the management of menstrual hygiene. The participants easily and conveniently found the use of the menstrual cup and explained the economic and environmental benefits. According to the participants, cleaning the menstrual cup had no issues.

The participants' discomfort was: pain during the insertion of the menstrual cup, sensation of the cup coming out of the vagina and a persistent urination for urination and leakage. There were concerns about the menstrual cup's size, shape and texture and the possibility of it being trapped in the vagina while families were worried that using menstrual cup would lead to decreased fertility or virginity. They concluded that the use of menstrual cups by school girls in Thokarpa to manage menstrual hygiene. As it is economically and practically advanced and seems feasible and acceptable. The escalation of menstrual cups will entail the resolution of the issues and uncomfortable feeling mentioned and will encourage social and family support.

CONCLUSION

Low Knowledge of the environmentally safe, economical menstrual cups is found not only in rural and urban Indian females of all age but also in the other developing countries like Nepal, Zimbabwe etc. The safety of the usage of cups in physically active females is well established by various articles on the issues of whether females have experienced leakage while using the cup. Even in the females who are well aware about the benefits of the cup, the usage has found to be very low. Social stigma about how it is inserted has been a major issue of low usage among females of all age, community and literacy level. Along with this a low amount of encouragement towards its use has also been a major drawback.

To overcome this social binding and to create a positive attitude regarding menstrual cup, the government should carry out copious programmes and camps with attractive advertisements. The public health workers especially in the rural area should be made to compulsorily council the females about the myths, pros, cons of menstrual cup along with the already present programmes regarding menstruation and menstrual health hygiene.

AUTHOR'S CONTRIBUTION

All author made best contribution for the concept, assessment and evaluation, data acquisition and analysis and interpretation of the data.

CONFLICT OF INTEREST

None.

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