



AN OVERVIEW OF PERIOD POVERTY AND THE PUBLIC HEALTH IMPACT OF PROVIDING FREE FEMININE HYGIENE PRODUCTS

Udit DAVE¹  * Ashwin PALANIAPPAN²  Emma G. Lewis³  Brandon D. GOSINE⁴ 

^{*1}Georgetown University, Washington, D.C., U.S.A.

²Brown University, Providence, Rhode Island, U.S.A.

³Tulane University, New Orleans, L.A., U.S.A.

⁴Cornell University, Ithaca, New York, U.S.A.

Corresponding Author: urd3@georgetown.edu

Abstract: *Feminine hygiene products such as tampons, pads, and sanitary tissues are crucial to a menstruating person's health. This review outlines obstacles to accessing female hygiene products and the consequent downstream impacts on societal health, by compiling relevant articles. To perform this review, we performed a search for 'menstruation', 'challenges', 'costs', and 'obstacles' in PubMed, Google Scholar, EMBASE, and Cochrane. Feminine hygiene products are a multi-billion-dollar industry, and over the course of a menstruator's life, they spend between roughly \$3000-\$5000 on over 16,000 feminine hygiene products. Many financial barriers exist that prevent menstruators, most of whom self-identify as women, from accessing safe and healthy menstrual hygiene products. A disproportionately high number of women, especially women of color, live in poverty. As a result, purchasing feminine hygiene products often poses a substantial financial burden, sometimes preventing women from being able to buy feminine hygiene products at all or forcing them to choose between purchasing food or feminine hygiene products. This phenomenon is referred to as "period poverty." In conclusion, due to a lack of access to appropriate menstrual products, many women report substituting debris items, which leads to severe health complications such as toxic shock syndrome and cervical cancer. In addition to potential health risks, there are often negative social consequences associated with menstruation as many women report having to leave their workplace or school due to experiencing an emergency menstruation event and not finding feminine hygiene products publicly available. A plethora of slang words and negative cultural connotations are frequently associated with menstruation, and many women report feelings of stress and anxiety due to the many facets of menstruation symptom management and resource allocation. New York City made feminine hygiene products free in public schools, prisons, and homeless shelters, providing 323,000 menstruators with free products at a cost of roughly \$5.88 per person per year, which is cost-effective. Nations such as Kenya, Australia, New Zealand, and Scotland have also led initiatives highlighting the cost-effective public health benefit of improving access to menstrual hygiene products.*

Keywords: *Period poverty, Feminine Hygiene Products, Public Health, New York City, Cost-Effectiveness*

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1. Introduction

Feminine hygiene products, such as tampons and pads, are a staple personal item for individuals who menstruate. Feminine hygiene products account for a multi-billion-dollar industry [1]. Since the average menstruator experiences one week of menstruation per month on average over the course of roughly forty years, the average menstruator experiences 480 periods in their lifetime [1]. Therefore, the

average menstruator is estimated to purchase upwards of 16,000 feminine hygiene products in their lifetime [2]. This amounts to burdensome lifetime costs that could range from roughly \$3000 to over \$5000, depending on an individual's preferences for tampons, pads, or other feminine hygiene products [1]. In addition, individuals who menstruate, a majority of whom identify as women, face further financial strains through state sales taxes on feminine hygiene products. Many of these taxes are imposed in states that do not levy taxes on products that are geared toward consumption by men, such as condoms with spermicide and medication for erectile dysfunction [3]. The purpose of this review is to highlight structural barriers experienced by women in accessing feminine hygiene products and to identify efficacious methods to improve healthcare outcomes for women through the subsidization of feminine hygiene products. Increasing access to feminine hygiene products will decrease healthcare expenditures from preventable conditions and manage them in less acute settings, both increasing the health of communities. This problem is faced by women across the globe, with disproportionately large impacts on minority populations, so providing free feminine hygiene products would be a step toward rectifying these inequities.

2. Materials and Methods

This paper was completed after searches were queried for 'menstruation' and variants of the words 'obstacles,' 'challenges,' and 'costs.' A preliminary search, performed on May 1st, 2021, yielded 32 articles, of which 9 were ultimately considered relevant for this review. Inclusion criteria consisted of English language articles, topic relevance, and verification of MEDLINE indexed journals. These searches were performed in PubMed, Google Scholar, EMBASE, and Cochrane. Summary findings of these searches are compiled in this review.

3. Results

3.1. Barriers to Feminine Hygiene Product Access

A total of nine articles were reached for inclusion in this study. A lack of access to feminine hygiene products exacerbates period poverty, which is a major public health issue that disproportionately affects women, particularly those with low socioeconomic status. Women with low socioeconomic statuses have the greatest structural and societal barriers to accessing adequate healthcare, which prompted our focus on this cohort as a first step in shedding light on this issue. Recent U.S. Census Bureau data suggests that compared to men, women are 35% more likely to be living in poverty [4]. Furthermore, 1 in 16 American women lives in extreme poverty, earning less than half of the income constituting the federal poverty line [4]. Poverty disproportionately affects women of color, as 23.1% of African American women, 22.7% of Native American women, 20.9% of Hispanic women, and 11.7% of Asian women live in poverty compared to 7.1% of white women [4]. In addition, approximately 29% of transgender and non-gender-conforming individuals are estimated to be living in poverty [5]. The stark poverty rate, especially among minority communities in the United States, translates to period inequality as 64% of low-income women were unable to afford feminine hygiene products at some point in 2018 [6]. Furthermore, 21% of low-income women have trouble affording feminine hygiene products on a monthly basis [6]. Nearly 50% of low-income women report having to choose between purchasing food and purchasing feminine hygiene products in 2018 [6]. Period inequality is especially experienced by poor mothers, who tend to focus their attention on their children rather than opting to fulfill their own basic needs first [6]. These barriers compositely increase obstacles to care disproportionately for women of lower socioeconomic classes, and addressing them would lessen health disparities experienced by communities.

3.2. Social Costs of Menstruating

Significant social costs exist in addition to the economic costs associated with access to feminine hygiene products. In situations in which a person menstruates unexpectedly without having feminine hygiene products, 79% of menstruators report using items such as napkins, paper towels, toilet paper, and even socks to address their necessity [1]. The use of such makeshift feminine hygiene products can be unsafe and possibly lead to complications such as infections, fertility issues, toxic shock syndrome, and cervical cancer [1]. However, using alternative products or items in times of extreme need is deemed acceptable by a majority of women given that most public bathrooms do not readily offer free feminine hygiene products [7-11]. Easy access to feminine hygiene products is crucial in order to prevent menstruations from having further detrimental impacts on an individual's productivity as well as their mental and emotional health, especially in emergency situations. During 72% of emergent menstruation situations, women have reported having to leave school or their workplace due to the unavailability of feminine hygiene products, citing feelings of panic, stress, and humiliation [1]. The social stigmatization of menstruation further highlights the need to ensure adequate access to proper feminine hygiene products. A study conducted by the International Women's Health Coalition revealed that worldwide, over 5,000 slang terms are used to refer to menstruation, many of which are profane or disparaging [12-13]. In addition, 5% of women report that they avoid bringing their purses to public restrooms to dodge potential stigma from others thinking they may be menstruating [1]. The social costs of menstruating are also disproportionately undertaken by minority populations.

3.3. Analyzing Access to Female Hygiene Products in New York

3.3.1 Improving Access to Feminine Hygiene Products

Access to feminine hygiene products is of paramount importance to women's mental, emotional, and physical health. The public benefit of providing free feminine hygiene products to a large group was recognized by New York City legislators, who in 2016 unanimously voted to provide free access to feminine hygiene products in homeless shelters, prisons, and New York City public schools [14]. This legislation was groundbreaking as it made New York City, the most populated city in the United States, the first American city to proactively provide assurance of access to feminine hygiene products. Mayor Bill de Blasio supported the legislation, stating that the goal for young women in school is to be focused on learning, the goal for women in a homeless shelter is to be focused on restoring their lives, and the goal for women in prison is to focus on their rehabilitation [15]. Providing free feminine hygiene products in these public settings allows women to pursue what is important to them without having to worry about the potential embarrassment or adverse health effects of menstruating and not having the proper products to use. In addition to the direct benefits of providing feminine hygiene products free of charge in public restrooms, news about legislation aiming to rectify period poverty brings menstruation into the limelight as something society acknowledges and is compassionate about rather than something that is stigmatized and hidden as it has historically been.

3.3.2 Costs Associated with Providing Free Feminine Hygiene Products

The aforementioned legislation in New York City had a first-year implementation cost of \$4.2 million and an annual maintenance cost of \$1.9 million in each subsequent year [14]. This program covers feminine hygiene products for approximately 323,000 menstruators each year, which averages out to about \$5.88 per person per year [1]. These costs are minimal when compared to other public bathroom supplies. For example, the Pentagon spent \$2 million annually on providing toilet paper in its bathrooms each year from 2010 to 2012 [1]. Since the Pentagon employed roughly 23,000 individuals in each of these years, the cost for providing toilet paper averaged to \$86.96 per person, which is nearly 15 times greater than the estimated cost of providing feminine hygiene products in public facilities [1].

Furthermore, substituting debris for feminine hygiene products or keeping feminine hygiene products in place for an extended period of time can lead to significant illnesses that require medical care and occasionally hospitalization [7-8, 16-18]. Given the high costs associated with hospitalization, especially for individuals without comprehensive health insurance, providing free feminine hygiene products can be considered a preventative public health measure. Implementing free feminine hygiene products in highly visited venues and areas of interest will destigmatize and reduce the adverse events experienced by women who lack access to hygiene products.

4. Discussion

A handful of American states in addition to New York have made strides towards eliminating period poverty, but as 1.9 billion individuals menstruate around the world, access to feminine hygiene products is of obvious global concern [19]. Several countries have made headlines in recent years for their menstrual equity efforts. The first country in the world to abolish taxes on period products entirely was Kenya in 2004 [20]. Furthermore, since 2011, the Kenyan government has budgeted approximately \$3 million annually to distribute free feminine hygiene products to schools and low-income communities [20]. Also of note, in 2018, Australia axed its controversial tampon tax that was in place for 20 years [21]. With this decision, pads and tampons were no longer classified as non-essential, a label that previously tagged feminine hygiene products with a whopping 10% goods and services tax [21]. In 2020, Scotland became the first country to make all period products free. The Scottish bill passed unanimously, making tampons and sanitary pads available free of charge at designated pharmacies, community centers, and youth clubs at an estimated cost to taxpayers of \$32 million annually [22]. Additionally, in 2020, the New Zealand government announced that it would be backing a program investing \$2.6 million to provide period products to high school students [23]. It is evident that eliminating period poverty and promoting menstruation equity is feasible and on the minds of global citizens and leaders abound, and other countries should take similar stances to improve their citizens' access to feminine hygiene products. More countries should strive to provide free feminine hygiene products to especially at-risk populations as the interventions of the aforementioned regions of the world have yielded benefits to women's health at a cost-effective, scalable rate.

5. Conclusion

When women do not have access to proper feminine hygiene products, it detrimentally affects their self-esteem, reducing their participation in the spheres of employment and education [24-25]. Our review highlights the structural inequities and barriers that women using feminine hygiene products face, and the granular analysis of New York suggests that a multi-pronged approach of disseminating feminine hygiene products may be the most effective and viable option. By ensuring women have free access to safe feminine hygiene products, governments can strive to reduce gender inequalities while also improving the health of women and other menstruators. An increased government focus on providing free menstrual hygiene products would proactively empower millions of women to take more control over their health.

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Ethical Statement

This paper is exempt from the Institutional Ethics Committee review since it does not involve human subjects.

Conflicts of Interest

All authors have no conflicts of interest to report.

Authors' Contribution

U.D., A.P., E.G.L., and B.D.G. all designed the article. U.D., A.P., E.G.L. wrote drafts. U.D., A.P., E.G.L., and B.D.G. critically reviewed the articles. U.D., A.P., E.G.L., and B.D.G. approved the article for submission.

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