Empowering Women in Haiti: Perceptions of the Days for Girls International Program for Feminine Hygiene and Reproductive Health

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Abstract

Recent studies report that Haitian women are concerned about unmet women’s health issues. The Days for Girls (DfG) International program features women’s health education and personal hygiene kits to ensure women understand the process of menstruation and use sanitary hygiene practices. The aims of this study were to identify the perceived benefits and challenges to using the DfG International program kits for high school and college women in Haiti and to identify ways to adapt the current DfG program for Haitian culture. A post-use survey design was used to study the perceptions of young women in Leogane, Haiti. Forty-four women (89.9\%) from the Episcopal University of Haiti and forty-eight women (86\%) from Saint Croix High School used the DfG kits for two-months and completed the post-use survey. Although neither group ranked lack of feminine hygiene products as the most critical reason for school absences, both groups agreed that there is a need for feminine hygiene programs in Haiti and the DfG kits were easy to use and clean. Both groups recommended changes in the design of the DfG hygiene products to make the shields and liners more comfortable and suggested the kits would be more widely accepted if white in color. The DfG program could provide a cost-effective feminine hygiene program for Haiti and future studies should focus on distribution of the kits in the more rural areas.

Keywords: Women’s health, Feminine hygiene, Menstruation

Impact Statement

This research contributes to our understanding of women’s health issues in low-resource countries. The Days for Girls International program could address important reproductive health issues in Haiti and provide cost-effective, reusable personal hygiene supplies, which may decrease waste accumulated from traditional feminine hygiene products (i.e. tampons, Kotex, panty liners, pads).

Introduction

Healthcare practitioners, including occupational therapists and physical therapists, are well-suited to address menstrual education and women’s health issues due to a strong foundation in the biological, physical, social, and behavioral sciences which support an understanding of occupations across the lifespan and knowledge of the daily roles and habits of individuals in different contexts. Occupational and physical therapy practitioners are trained to provide care related to women’s health, whether it involves pelvic floor disorders, post-partum incontinence or feminine hygiene education and management. The raped are among the many healthcare providers who are responsible for ensuring that young women in low resource countries receive proper and preventative education on reproductive health. Young women in low-resource countries are less likely to receive formal education about the female anatomy, menstruation, and prevention of potential medical issues which can impact reproductive health. It common for women to learn misinformation about feminine hygiene and reproductive health through local cultural beliefs and taboos which can greatly impact health behaviors.\textsuperscript{1,3} In addition, when young women in low resource countries begin to menstruate, they may have limited access to sanitary napkins and instead use unsanitary products such as old cloths, tissue paper, cotton or wool pieces, leaves, or even sit on cardboard pieces during their monthly cycle [1-5].

When women do not have access to sanitary napkins, they are at greater risk for infection and are less likely to attend school during their monthly menstrual cycle. Recent studies have determined the influence of menstruation and access to sanitary
In addition to addressing unmet women’s health issues, a DfG program in Haiti could provide cost-effective, reusable personal hygiene supplies, lessening the waste products accumulated from traditional feminine hygiene materials (i.e. tampons, Kotex, panty liners, pads). A DfG program in Haiti has the potential to not only benefit women’s health and feminine hygiene practices, but contribute to current efforts to improve waste management and sanitation.

To date, the DfG has not been implemented in Haiti, therefore our research question is: What are the perceptions of women in Haiti who use the DfG feminine hygiene kits? This study examined the use of the DfG International program with two groups of women located in Leogane, Haiti. The study had two aims: 1) To identify the perceived benefits and challenges to using the DfG International program kits for high school and college women in Haiti and 2) to identify ways to adapt the current DfG program for Haitian culture. We predicted that the program would be well-accepted by the majority of women, but would require adaptations to meet the specific needs of Haitian women. In addition, we predicted that there would be a difference in the perceptions of the DfG program between high school and college women after using the feminine hygiene kits based on level of education about female anatomy and menstruation.

**Materials and Methods**

**Design**

A post-survey only design was used to study the perceptions of two cohorts of young Haitian women who used the DfG feminine hygiene kits for two-months. DfG provided specific patterns for each item in the reusable hygiene kit (pads and shields) and specific instructions on how to assemble and sew each item (Figure 1, http://www.daysforgirls.org/). The reusable hygiene kits consist of one drawstring bag to hold all the contents, eight absorbent tri-fold pads, two moisture barrier shields, visual instructions, one-gallon size Ziploc bag (Figure 1). Haitian seamstresses and seamstresses from the non-profit Helping Haiti Work, who are approved providers of the DfG hygiene kits, provided all the kits for this study.

**Participants**

This study involved two cohorts of Haitian women of differing ages and education levels. Cohort 1 included 49 women from the Episcopal University of Haiti between the ages of 18 and 24 years. Cohort 2 included 56 women from the Saint Croix High School
between the ages of 12 and 17 years. This study was approved by the Institutional Review Board at the Medical University of South Carolina and participants enrolled and consented to participate in this study. The participants were informed of the study’s risks and benefits, their participation was voluntary, and their identity is not disclosed and any data described in this paper.

Instrument

All participants were surveyed two-months after using the DfG reusable feminine hygiene kits. The survey included Likert-scale questions (1-strongly disagree, 2-disagree, 3-agree, 4-strongly agree) to assess the young women’s perceptions of the reusable personal hygiene kits including need for feminine hygiene in products in Haiti, ease for use, and ease for cleaning the reusable pads and shields [14]. In addition, the survey had specific open-ended questions related to the perceived benefits of the DfG kits, any challenges or barriers, and suggestions for further distribution of the kits in Haiti. For school attendance, we used a participatory ranking exercise and participants ranked, in descending order, reasons for absenteeism (ie. inability to pay school fees, household chores, lack of feminine hygiene supplies).

Procedures

The DfG reusable hygiene kits were individually distributed to 49 young women enrolled at the Episcopal University of Haiti and 56 young women from Saint Croix High School by a co-investigator of this study (nursing faculty). The women were provided on DfG feminine hygiene kit each provided verbal instructions on how to use and clean the DfG shields and pads in the hygiene kits. In addition, each kit came with a visual instruction sheet. Each participant was asked to use the hygiene kits for two-months. At the end of the two-months, the co-investigator distributed a survey to each participant to determine their perception of using the DfG hygiene kits. Additionally, seven to ten months following the participants use of the DfG feminine hygiene kits, members of the research team traveled to Leogane to conduct focus group interviews with participants from each cohort. The focus interviews further explored the similarities and differences between the perceptions women in Cohort 1 and Cohort 2 who used the DfG feminine hygiene kits. Specific questions were developed following data analysis of Likert scale and open-ended questions.

Data Analysis

We tabulated the frequency and percentage of responses to each Likert-scale survey questions. To determine any differences in the responses to the Likert-scale questions between the young women enrolled at the Episcopal University of Haiti and young women from Saint Croix High School we used an independent sample t-test. We completed a thematic analysis of the open-ended survey responses and focus group interviews. We recorded the frequency of each response for the rank-order question on school absenteeism. All analyses were performed using SPSS Version 22 (IBM Corp).

Results

Perception of Using the DfG Hygiene Kits

Forty-four women (89.9%) from the Episcopal University of Haiti (Cohort 1), average age 20.2 years. All participants in this cohort were women enrolled in a baccalaureate degree nursing program. Forty-eight women (86%) from Saint Croix High School (Cohort 2) completed this study, average age 16.9 years. All participants were enrolled in high school level courses. In addition, six of the women from each cohort participated in the focus group interviews conducted in Leogane. The women who participated in the focus groups were a convenience sample of participants who volunteered to be part of a group interview following use of the DfG hygiene kits. Women enrolled in the study who did not use the DfG kits for two months did not complete the post-use survey. Women in both Cohort 1 and Cohort 2 who used the DfG hygiene kits for two-months overwhelmingly agreed that there is a need for feminine hygiene programs in Haiti and that the DfG program was easy to understand and use. The participants agreed that the DfG reusable products could be cleaned to prevent infections (Table 1). There was strong agreement between the responses to the Likert scale questions from women in Cohort 1 and Cohort 2 and no statistically significant differences were noted (p-values >0.05).

Responses from Open-Ended Survey Questions

Several themes emerged from an analysis of the open-ended questions which centered around 1) the benefits of the kits, 2) the challenges of using the kits, and 3) recommendations for the next steps of the DfG program in Haiti. Table 2 shows the areas of similarities and differences in the two cohorts’ perceptions of the DfG kits in each of these theme areas. Many of the participants in Cohort 1 noted the benefits of the kits and felt the DfG products were easy to use and absorbent. One participant noted, “I liked the kit. It was easy to use and can prevent infections, I have had problems with other pads”. The participants from Cohort 1 liked the design of the DfG kit and items (shield and pads) and felt the DfG program was economical and good for the environment. “I loved the way the kit was presented (bag, colorful liners). I like everything in kit the liners and the shields,” reported one participant. Some potential challenges noted by Cohort 1 related

### Table 1: Results of Likert-Scale Questions for Participants Using the Days for Girls Kits

<table>
<thead>
<tr>
<th>Survey Questions</th>
<th>Cohort 1 (n=44) (university students)</th>
<th>Cohort 2 (n=48) (high school students)</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is a need for feminine hygiene programs in Haiti</td>
<td>4.86</td>
<td>4.85</td>
<td>0.41</td>
<td>0.36</td>
<td>0.91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The DfG feminine hygiene program was easy to understand</td>
<td>4.43</td>
<td>4.52</td>
<td>0.66</td>
<td>0.58</td>
<td>0.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The DfG feminine hygiene kits were easy to use during my monthly menstrual cycle</td>
<td>4.43</td>
<td>4.35</td>
<td>1.00</td>
<td>0.84</td>
<td>0.69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The DfG feminine hygiene kits were easy to clean</td>
<td>4.11</td>
<td>4.19</td>
<td>1.10</td>
<td>0.96</td>
<td>0.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I was able to use the DfG kit and pads during my monthly menstrual cycle</td>
<td>4.30</td>
<td>4.33</td>
<td>1.02</td>
<td>0.72</td>
<td>0.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I was able to participate in all routine and daily activities while using the DfG</td>
<td>4.36</td>
<td>4.46</td>
<td>1.01</td>
<td>0.77</td>
<td>0.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I was able to clean the reusable pads/liners in order to prevent infection</td>
<td>4.52</td>
<td>4.27</td>
<td>0.76</td>
<td>0.92</td>
<td>0.16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
to use of the kits were also reported, including the need for more products (shields and liners) in each kit to reduce the need to clean the products each day of use. One participant stated, “Need more pads, if there is no sun to dry the liners, I cannot reuse the liners. I suggest adding more liners”. In addition, a few participants commented on the size of the pads and that the size made some daily activities, such as walking, uncomfortable. “The liner did not always stay secure in underwear. I had difficulty doing some activities like walking” reported one participant. Several participants had suggestions for the next steps of the program in Haiti. It was strongly suggested that this program continue in Haiti with an emphasis on distribution of the kits in the more rural areas of Haiti (ie. mountains). One participant noted, “This was a good idea. You must give the kit to all parts of Haiti, especially in the mountains and cities” (Table 2).

Many of the young women in Cohort 2 placed a stronger emphasis on the educational component of the DfG program and the fact that it helps with prevention of infectious diseases. “I like the way the kits were given to us and the information about the menstrual cycle”, “I like everything in the kits, the colors, the way the kits were distributed, and the information provided to us like the way you explained the menstrual cycle” and another participant reported, “I like this kit because it helps me protect from diseases.” In terms of perceived challenges, the young women from Cohort 2 felt that the products were uncomfortable, although this contradicts perceptions of the women from Cohort 1. One participant from Cohort 2 noted, “The attachments hurt me. They are so hard” and another reported, “The kit rubs and irritates my thighs”. Additionally, the women from Cohort 2 did not prefer the colors of the kits and stated they had problems with the liners and attachments, as the products did not feel well-secured in underwear. One participant stated, “When I wear one pad, it is not enough to absorb, and when I wear two, it is not comfortable”. In terms of future directions, Cohort 2 participants agreed with Cohort 1 and emphasized that the program should continue to be utilized in Haiti to meet Haitian women’s menstrual needs and should be expanded upon to offer additional materials and sizes. Participants noted, “Sometimes girls do not have enough

money to possess (other) feminine hygiene supplies and this kit is a good way to combat against infections” and “Give more kits, with various size shield for smaller women. Continue with this program in the mountains of Haiti” (Table 2).

Results of Focus Group Interviews

We further explored the themes derived from the open-ended questions (benefits of the kits, the challenges of using the kits, and recommendations for the next steps of the DfG program in Haiti) during focus group interviews. We confirmed and noted additional similarities and differences between the perceptions of the DfG program and kit between Cohort 1 and Cohort 2 (Table 3). Young women from both cohorts felt the products were very economical since they could be washed and re-used for three years. Cohort 2 (high school students) continued to feel strongly that the educational component was very beneficial in promoting health. Cohort 1 (university students) believed that the program was highly beneficial in helping to protect the environment, but they also noted that the design of the DfG feminine hygiene products needed to be changed. The women in the focus group suggested the liners and shields could be modified to make them more comfortable and attachments should be added to assure they remain secure in the underwear. In addition, many women interviewed in both cohorts felt that the products should be white instead of colorful. White fabric is commonly used for pants and underwear in Haiti and signifies purity or cleanliness. It was also noted that many Haitians use bleach to clean undergarments, such as underwear. While both groups widely felt that the program was beneficial and could be accepted in Haiti, the differences in perceptions between Cohort 1 and Cohort 2 will be helpful in adapting the program for future use by Haitian women of differing ages and education levels.

School Absenteeism

Information on absenteeism collected after the use of the DfG kits revealed several reasons for days missed from school. The women in Cohort 1 reported missing zero up to 10 days of school during a one-year academic period and the average days missed for participants was 4.73 days. The women in Cohort 2 reported
Discussion

The DfG Ambassador of Women’s Health program was successfully implemented with high school and college-aged women in Leogane, Haiti. The DfG program and feminine hygiene kits can be used with women of various educational backgrounds and knowledge about female anatomy and menstruation. The DfG program could address important reproductive health issues in Haiti and provide cost-effective, reusable personal hygiene supplies, which may decrease waste accumulated from traditional feminine hygiene products. Effective isolation and removal of human waste is critical to protecting public health, particularly in dense urban environments in Haiti. In fact, current health policies for sanitation and water treatment in Haiti are focused on effective trash removal of human waste and construction of private latrines to facilitate sustainable and long-term solution to waste management [11, 12].

In addition to the potential public health impact, the young women in our study overwhelmingly perceived the DfG reusable hygiene kits as beneficial, easy to use, and economical. In fact, many participants of our study strongly encouraged the distribution of the DfG kits in more rural areas of Haiti where it is difficult to find many feminine hygiene products. Lastly, it was noted from some participants that the DfG program would be an economical and cost-effective way to manage menstruation, which could lead to a substantial cost-savings for young women who are struggling to find funds to attend school. Both groups noted that the DfG program would be an economical and cost-effective way to manage menstruation, which could lead to a substantial cost-savings for young women who are struggling to find funds to attend school.

Table 4: Results of Rank Order Questions About Potential Reasons Absent from School

<table>
<thead>
<tr>
<th>Reason for Absence</th>
<th>Percentage of participants ranking as most important reason (top reason)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cohort 1 (university students)</td>
</tr>
<tr>
<td>Inability to pay school fees</td>
<td>12.1%</td>
</tr>
<tr>
<td>Need to stay home to complete household chores</td>
<td>2.2%</td>
</tr>
<tr>
<td>Lack of feminine hygiene products</td>
<td>21.4%</td>
</tr>
<tr>
<td>Illness</td>
<td>42.4%</td>
</tr>
<tr>
<td>Family Emergency</td>
<td>21.9%</td>
</tr>
</tbody>
</table>

In countries where DfG International has chapters, they found that young women frequently miss four to five days of school each month due to lack of feminine hygiene supplies and these frequent and persistent absences lead to a high rate of females leaving secondary school within two years of starting menstruation [2, 13]. In countries that the DfG program has been successfully implemented, the program has been shown to improve girls’ attendance in secondary school and reduce the social stigma from unsanitary and unhealthy feminine hygiene habits [1, 2, 13]. It remains unclear from the results of our survey if a lack of access to feminine hygiene products had an impact on school attendance and absenteeism in Haiti. Although this reason was not ranked number one by our participants, other published studies that investigated women’s menstruation and school attendance in low income countries note that the term “sickness” or “illness” covers a wide range of ailments including malaria and gut infections, but is also used as a euphemism for menstrual cramps and menstruation issues more generally [2, 3, 17]. This could also be true for our participants in Cohort 1 who ranked “illness” as the number one reason for missing school. In high school, these studies have also noted that women who live in poverty lack access to adequate feminine hygiene and fear the embarrassment of visible menstrual leaks when away from home. The DfG program and use of absorbent and dependable products has the potential to re-shape the daily experiences of women in low resource countries by reducing any restrictions to stay at home during menstruation. In addition, the participants in Cohort 2 ranked inability to pay school fees as the most frequent reason for missing school. Both groups noted that the DfG program would be an economical and cost-effective way to manage menstruation, which could lead to a substantial cost-savings for young women who are struggling to find funds to attend school.

In addition to the potential public health impact, the young women in our study overwhelmingly perceived the DfG reusable hygiene kits as beneficial, easy to use, and economical. In fact, many participants of our study strongly encouraged the distribution of the DfG kits in more rural areas of Haiti where it is difficult to find many feminine hygiene products. Lastly, it was noted from some participants that the DfG program would be an economical and cost-effective way to manage menstruation, which could lead to a substantial cost-savings for young women who are struggling to find funds to attend school.

There may be some cultural barriers to use of the established DfG program women’s health and menstrual education program in Haiti. Although most young women in our study liked the colorful design of the pads and shields, several noted that using solid white materials would be more traditional for Haiti as many items are washed using bleach. In addition, some expressed concern about the appearance of going “back to their mother’s time” to use of reusable feminine pad versus the more modern disposable pads. Lastly, it was noted from some participants that women in Haiti may have a “phobia” for touching blood

missing zero up to 28 days of school during a one-year academic period and the average days missed for participants was 6.7 days. The women in Cohort 1 ranked illness as their top reason for missing school, whereas the women in Cohort 2 ranked inability to pay school fees as their top reason. Neither group ranked lack of feminine hygiene products as the most critical reason for school absence(s) (Table 4).

Potential reasons for any differences in the responses between Cohort 1 and Cohort 2 could be due differences in women’s health education. The young high school women had minimal, if any, reproductive or sexual education prior to receiving the DfG educational sessions. This was apparent in the focus group interviews from comments made by the young high school students who asked several questions about the process of menstruation, “how many days does a woman ovulate?” and “when I have my period I cannot take a bath because it may cause pain or when I drink the cold water the blood coagulates”. The university students in Cohort 1 were enrolled in a nursing program and have additional knowledge on women’s health and menstruation by nature of their school curriculum and number of years of formal education. Additionally, university students may have more experience with menstruation and wearing feminine hygiene products, unlike the high school women who may just have started menstruation, thus creating a difference in expected comfort level with the DfG feminine hygiene shields and liners.
products which may be a barrier to cleaning of the reusable pads. Few studies have been published on the feminine hygiene practices of Haitian women related to menstruation. Cross-culturally, social norms and beliefs about gynecological health, cleanliness, and female sexual desirability influence women’s feminine hygiene behaviors in low resource countries (18-20). Broadly, feminine hygiene practices may stem from cultural notions of purity related to blood and corresponding practices of segregating of women during menstruation and the post-partum period to prevent contamination/pollution. Future studies should explore how cultural practices in Haiti may impact the sustainability of using disposable feminine hygiene products.

This study was intended to determine the perceived benefits of the Days for Girls program for women in Haiti and differences in perception of the product from women and different educational levels. Limitations to this study include the use of only a post-survey design which does not allow for an analysis of a change in the participant’s responses before and after using the Days for Girls hygiene kits. Therefore, it is difficult to determine the impact of the Days for Girls program on the feminine hygiene practices of the participants. Future long-term studies should consider a pre- and post-survey design to determine the overall impact of the Days for Girls hygiene program in Haiti, especially in more rural, mountainous areas. In addition, there is a possibility that some of the ideas from our participants and focus group interviews are representative of women in the specific region of Leogane, Haiti. It would be important to consider a wider distribution of the Days for Girls program in more rural areas of Haiti to assure it is culturally relevant and sensitive to the Haitian society.

Conclusion

This paper contributes to our understanding of women’s health issues for women in low-income countries. Women’s health issues and lack of access to feminine hygiene products could present as barriers to participation in life activities. Future studies on the Days for Girls program in Haiti should focus on expanding the distribution of the Days for Girls kits to include more rural regions (i.e. the mountainous regions), consider design adaptations to increase comfort, and determine mechanisms for marketing the feminine hygiene kits in Haiti.

Conflict of Interest

The Authors declare that there is no conflict of interest.

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