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"Spot On & Off": Evaluation of Effectiveness of Self-Formulated Menstrual Hygiene Campaign in Rural India

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Abstract- Menstruation is a phenomenon unique to girls. However, it has always been surrounded by taboos that lead to the exclusion of women from many spheres of life. In rural India, the topic is still taboo. One of the biggest challenges that women face is not being educated and not having the resources to get sanitary pads. The present research study aims to evaluate the effectiveness of a self-formulated campaign called "Spot On & Off" to raise awareness about menstrual hygiene among females belonging to three different age groups 8-15, 16-35, 36-60, with most of the girls from the age group 16-35. They live in the rural area of Mewat in Haryana, India. A survey was conducted with 300 female respondents. Post the survey, an awareness workshop was carried out, where videos of gynaecologists explaining what menstruation is, was shown. A post-survey was conducted to assess the effectiveness of the campaign. The respondents' awareness showed a significant increase from 2.19 to 5.54 out of 10 on average. The study also found out that awareness had a 19% impact on the liking of reusable pads.

Keywords: menstruation; menstrual hygiene; reusable pads; rural area and campaign.

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“Spot On & Off”: Evaluation of Effectiveness of Self-Formulated Menstrual Hygiene Campaign in Rural India

Anshi Aggarwal

Abstract- Menstruation is a phenomenon unique to girls. However, it has always been surrounded by taboos that lead to the exclusion of women from many spheres of life. In rural India, the topic is still taboo. One of the biggest challenges that women face is not being educated and not having the resources to get sanitary pads. The present research study aims to evaluate the effectiveness of a self-formulated campaign called “Spot On & Off” to raise awareness about menstrual hygiene among females belonging to three different age groups 8-15, 16-35, 36-60, with most of the girls from the age group 16-35. They live in the rural area of Mewat in Haryana, India. A survey was conducted with 300 female respondents. Post the survey, an awareness workshop was carried out, where videos of gynaecologists explaining what menstruation is, was shown. A post-survey was conducted to assess the effectiveness of the campaign. The respondents' awareness showed a significant increase from 2.19 to 5.54 out of 10 on average. The study also found out that awareness had a 19% impact on the liking of reusable pads. Evidently, campaigns can exert a large impact on awareness in rural villages. Therefore, organisations need to start working at the grassroots level and reach out to more females in rural communities.

Keywords: menstruation; menstrual hygiene; reusable pads; rural area and campaign.

I. Introduction

When “Vishaka”, a 13-year-old girl from the rural area of Kherla, Mewat in India started menstruating, she was shamed. Her menstruation was construed as a sign of impurity. She has grown up in a rural community where menstruation is a taboo subject that is considered unclean and dirty. As a consequence, Vishaka, as well as many other girls and women, in her community grow up without the necessary knowledge and access to the hygiene resources to manage their menstrual hygiene.

Menstruation is the monthly release of blood from the uterine lining in women, is widely understood in urban contexts and the developed world as a normal life phase for females once they reach about 10- 16 years of age (Ndana, 2018, p. 19). However, the menstrual hygiene situation of females in rural India is extremely poor. Old fabric, rags, sand, ash, wood shavings, newspapers, dried leaves, hay, plastic, and other similar materials are used by over 90% of young girls and women instead of sanitary pads. These materials do not absorb blood enough, girls feel shame in discarding or washing and reusing them and in fact many of them end up menstruating on their clothes (“Spot On!: Improving Menstrual Management in India", 2015, p. 4). The use of these unhygienic materials can lead to many vaginal and other infections, with serious consequences at times. An NGO Dasra published a report in 2014 titled Spot On! which states that more than 20 million girls drop out of school every year due to these challenges of shame and lack of access to proper menstrual management materials or sanitary pads. (Dutta, 2018).

Good and hygienic menstrual practices include the use of sanitary pads or tampons to absorb blood, menstrual cups to collect blood, and frequent washing of genital areas. For girls to practice hygienic menstrual practices, they require access to sanitary pads, a private space to change the pads, as many times as needed for the duration of the menstruation period. They also need access to water and soap to wash genital areas, and facilities to dispose of used pads or tampons.

There are three main drivers of the abysmal state of menstrual hygiene practice in rural India: lack of awareness, lack of access to sanitary pads, and lack of facilities (“Spot On!: Improving Menstrual Management in India”, 2015, p. 4).

The first factor is the lack of awareness of the science underlying the topic of menstruation. Instead, it is stigmatised as a taboo subject. Many women in India (70%) consider menstruation 'dirty', which creates ignorance and ultimately, shame. (“Spot On!: Improving Menstrual Management in India”, 2015, p. 2). Menstrual flow is seen as dirty, polluting, and shameful in many communities. As a result, women wash and hide menstrual cloth in dark, dirty places. The origin of this perception could be said to date back to the Vedic times. In the *Vedas*, which are the oldest Hindu sacred texts, and considered by many to be the most authoritative of all the texts, it says that it is Indra's remorse for murdering a brahmana manifests itself every month as menstrual flow in women who have taken on a share of Indra's guilt. Women are also forbidden from participating in regular life when menstruating in the Hindu faith. They must be "purified" before returning to their family and daily responsibilities (Anand & Garg, 2015).

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Menstruation waste was also thought to be related to witchcraft and danger, therefore menstrual fabric had to be buried lest witches seek after human blood and kill women by causing sterility (Kaur et al., 2018, p. 2). These perceptions thus form a foundation that has produced multiple misconceptions and prejudices. Even today girls in many areas cannot turn to their mothers for advice, as often they are ignorant of menstrual hygiene practices ("Spot On!: Improving Menstrual Management in India", 2015, p. 4). Thus, it is little wonder that research has shown that more than 70% of girls report having no knowledge of menstruation before their first period ("Spot On!: Improving Menstrual Management in India", 2015, p. 8).

As a result of this unprogressive thinking, many girls and women are subject to restrictions in their daily lives while they are menstruating. For a start, fathers or husbands in India's traditional patriarchal society forbid females from buying pads in many cases due to their enforcement of entrenched backward thinking about menstruation. As a result, they have to use unhygienic materials like cloth. In addition, menstruating women are perceived as being unhygienic and unclean, and hence, they would not be allowed to enter the kitchen, as the food they prepare, or handle could get contaminated (Anand & Garg, 2015). Other restrictions include not being able to enter the prayer room, offering prayers and touching holy books (Kapoor & Puri, 2006).

Aside from cultural factors, there are also practical barriers. Due to the relatively expensive cost of pads, almost 70% of women in India say their families cannot afford to buy them (Sinha, 2011). They also have little knowledge of the various types and methods of using them. According to the National Family Health Survey 2015-2016, only around 121 million, or roughly 36%, of India's 336 million menstruation women use sanitary napkins, either locally or commercially made (Upadhyay, 2019).

Hygienic toilet facilities are still a big challenge in India. Despite the progress on Swachh Bharat—the Indian Government's cleanliness campaign, 63 million adolescent girls in India live in households without toilets. In 40% of schools, there are no separate restrooms for girls. Girls are forced to manage their periods in ways that jeopardise their safety and health due to a lack of safe, functional bathrooms. With no toilets in school, they simply do not attend school when they have periods, thus leading to many of them dropping out ("Spot On!: Improving Menstrual Management in India", 2015, p. 4).

Nonetheless, people have started recognising these problems in India and are now working to find solutions. After several efforts by NGOs, groups, and activists, India abolished the 12% tax on all sanitary items in 2018. The announcement came a year after the government imposed the Goods and Services Tax (GST) on all goods, including a 12% duty on menstrual hygiene products ("India scraps tampon tax after the campaign", 2018). However, tax exemption is merely the first step in a much longer process of making menstruation health and cleanliness a reality for all women in the country.

Many non-profit groups in India have begun to address these issues in various ways in order to improve inadequate menstrual hygiene management among girls and women in India. These organisations are running awareness campaigns, training mothers and aunts, and the girls themselves, creating champions, mobilizing communities to end the social taboo. They are also leveraging government schemes and developing innovative solutions to create access to sanitary pads. Some such organisations are Aaina, Goonj, Jayashree, Vatsalya ("Spot On!: Improving Menstrual Management in India", 2015, p. 49).

A case in point is Aaina. Aaina was started with the belief that current challenges that menstruating girls face not only challenge their health but the social context limits their ability to achieve their potential. Since then, Aaina has been rallying communities and promoting knowledge about good menstrual hygiene management practices in 70 villages across three districts of Odisha ("Spot On!: Improving Menstrual Management in India", 2015, p. 54).

The work Goonj has been doing in this field also deserves special mention. At Goonj's Delhi centre, recycled and cleaned cotton material is used to make environmentally friendly sanitary pads known as "MY Pad." These pads are then distributed to girls in underprivileged and marginalised communities in mostly rural and remote parts of India who do not have any other safe and hygienic alternative ("Spot On!: Improving Menstrual Management in India", 2015, p. 54).

However, this is still not close to enough. There are so many areas in rural India that have not been touched by these or other non-profit organisations. Having read and researched about the existing NGOs and the challenges that significantly compromise the health and future of millions of girls in India, something needed to be done to make a difference. Through this, Spot On & Off, an organisation dedicated to working on improving menstrual health awareness was created. After some discussions with a few people working in the area, the focus was on two villages in Mewat. To make an impact, an awareness campaign, combined with a pad distribution drive (with reusable pads) was conducted. Reusable pads were chosen because they are cloth pads made from absorbent fabrics that are worn by women during menstruation (Ndana, 2018, p. 19). As these pads are washable, they may be used again and again for up to 18 months.

To understand the impact of these interventions, a survey was conducted pre-campaign and followed up by a survey 3 months post the

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campaign. The objective of the research study was to assess the impact of the interventions and gain the knowledge to scale the programme further to design future interventions.

II. Methodology

a) Research Aim and Research Approach

This research study aims to evaluate the effectiveness of a self-formulated campaign called "Spot On & Off" to raise awareness about menstrual hygiene among females of age groups 8-15, 16-35 and 36-60. in the area of Mewat in Haryana. The findings of this research study would allow for the formulation and implementation of future interventions to foster proper menstrual hygiene management among females in rural communities in India.

A mixed-method approach was adopted. First, two separate in-person surveys with girls from different age groups in this village before and three months after the campaign were conducted.

b) Data Collection Procedure

This research study was inspired by an article entitled "Less than 20% Menstruating Girls & Women in India Use Pads: Here's how to Overcome Barriers" (Gopalan, 2019). It reported that only slightly over 20% of the women in India use sanitary pads because of lack of awareness, a lack of acceptance and a lack of access. The talk about menstruation seemed to be very normal in urban areas; it was hard to believe that what seemed to be a commonplace topic would be considered taboo.

In particular, the health issues associated with using inappropriate menstrual materials were worrisome, which can have adverse long-term ramifications. The first step of the campaign was talking to young girls in a village in Mewat. They talked about how they did not have enough knowledge about menstruation, enough money to buy pads or even access to shops to get pads or medicine if they needed it.

This led to the start of the non-profit campaign, "Spot On & Off", around May 2020. The vision is to create awareness, break taboos about certain practices that people believe should be followed during menstruation and empower women to embrace menstruation as a natural process in their life cycle. Here were the steps formulated:

- *Purchase of reusable pads:* Reusable pads were given instead of regular disposable pads for a variety of reasons being - over a longer period of time it was less costly, survived much longer than disposable pads and they are also more comfortable. To procure these pads, a fundraiser was done.
- *Pre Survey:* The first survey was done to understand their concerns, and assess the areas where help was needed the most and also have a baseline understanding of their knowledge. [see appendix A]
- *Awareness campaign and pad distribution:* Someone older and more experienced was needed to talk to the girls so that they would listen. For this reason, gynaecologists made videos to talk to them. The pad would be distributed to the girls who attended the workshop, and the rest would be distributed later by The Shri Ram Foundation (SRF).
- *Post Survey:* The second survey was done to assess the extent of the impact post the awareness campaign. [see appendix A]

c) Research Hypotheses

The hypotheses are as follows:

Null Hypothesis 1a: There would be no significant difference between the understanding of menstruation before and after the awareness campaign.

Alternative Hypothesis 1b: There would be a significant difference between the understanding of menstruation before and after the awareness campaign.

Null Hypothesis 2a: There would be no significant effect of the respondents' understanding of menstruation on the liking of reusable pads.

Alternative Hypothesis 2b: There would be a significant effect of the respondents' understanding of menstruation on the liking of reusable pads.

Null Hypothesis 3a: There would be no significant effect on the liking of reusable pads if the respondents' shared their knowledge or not.

Alternative Hypothesis 3b: There would be a significant effect on the liking of reusable pads if the respondents' shared their knowledge or not.

d) Sample

The sample consisted of 305 female respondents. There were 54 respondents between the ages 8-15 years old, 187 respondents between the ages 16-35 years old and 64 respondents between the ages 36-60 years old. The mean age of the females was between 16-35 years old. All these females lived in the areas of Kherla and Rewasan in Mewat, Haryana, India.

e) Ethical Considerations

Before taking the survey, all the respondents were informed about this research report and what their responses would be used for. All of them fully consented to take part in this survey. The information obtained from them was only for the purpose of this research report and will not be shared with any third party.

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f) Data Collection Procedure

The implementation of this campaign comprised several parts using several different tools:

Step 1. Raising of funds to purchase 400 boxes of reusable sanitary pads

To achieve the aim of buying 400 boxes of reusable pads for the girls in the villages of Kherla and Rewasan, a fundraiser on a platform called "Give India" was set up and sent the link out to family and friends. The target was 1 lakh rupees and the fundraiser ended up getting an extra 50,000 rupees in less than 2 weeks.

In the process of ensuring that the maximum number of beneficiaries could be helped, a collaboration was set up with the Shri Ram Foundation (SRF). SRF is dedicated to transforming education, through institutes and programmes across private and government schools in India. It also had access to all the necessary resources, for instance, information about the number of girls, ways to coordinate the workshop and call all the girls to one place at a particular time.

For procuring the pads, another collaboration was done with Pee Safe, more specifically its menstrual hygiene awareness project, "Raho Safe". The company believed in the vision of this campaign and so it sold reusable pads at a discounted rate. In the end, 400 boxes of pads consisting of four pads each were bought. Together, they would last from one to one and a half years. The extra boxes were purchased in preparation for more beneficiaries than expected.

Step 2. Survey before distribution of pads

To get a clearer picture of the problems the girls in Mewat are facing with regards to their menstrual hygiene management, a survey was conducted with the girls in the village. Apart from the demographic factor of age bracket, this survey posed rating questions on the respondents' level of awareness of menstruation, current menstrual hygiene management method (e.g., pads versus cloth), barriers to usage of pads (e.g., awareness, price, resistance from moms/ social context, others), and willingness to try reusable pads.

To succeed in surveying all the girls in the village, SRF helped by going door to door to each girl in the village and surveying them. With its help, data was obtained from 300 girls.

Step 3. Awareness Campaign

On the first trip to Mewat, an awareness workshop was conducted with the girls in their common area. There was an outside space as well as a small room with a projector. This workshop was organised with the help of SRF. The SRF point person in the village of Mewat gathered the girls in the common area.

With regards to the video segment of the awareness workshop, a video by two senior female gynaecologists working at 'Fortis' hospital in Gurgaon was shown. The videos were each approximately three minutes long and were in Hindi consisting of information about the characteristics of menstruation, why it happens, and how to use and dispose of pads.

The girls were a little shy at first, and they felt embarrassed to share their stories. As one or two girls started talking, all of them felt more comfortable and they opened up and talked about where they first heard the term menstruation, the attitudes of their moms and so on.

Towards the end of the session, a group of young girls said that their mothers did not use pads because they did not know how to dispose of them and they were too ashamed to talk about it themselves. Even after knowing what menstruation is, there are many other taboos and topics of shame that women today are still too scared to bring up.

Step 4. Distribution of the pads

The pad distribution was done on the same day as the awareness workshop. Right before the girls left, they were handed a bag that contained a box of reusable pads and a handbook. The handbook contained all the necessary information related to reusable pads (how to wash them, how long they last etc.) as well as pictures if they did not understand the text.

Step 5. Survey of the girls three months later

Three months after the awareness campaign, the same 300 girls were surveyed again to determine whether there were any changes in the mindset of the girls.

While the questions of the pre and post-campaign surveys were largely similar, the girls were asked whether they had used the pads and the extent to which they liked using them, on a scale of 1-5, in the post-campaign survey. Other questions include whether they shared their newfound knowledge on menstrual hygiene with others.

g) Data Analysis

To evaluate the mean ratings of the understanding of menstruation for the entire sample mean and standard deviation was calculated. Furthermore, a paired t-test was run on the data to identify whether an impact was made by the campaign. The responses were graphed on a bar chart to show a clearer picture of the distribution of the ratings. Multiple Regression analysis was also carried out using the respondents' awareness of menstruation as an independent variable and their liking of reusable pads as the dependent variable. This was done to determine whether post-intervention understanding of menstruation impacted the respondents' liking of reusable pads. Another multiple regression analysis was carried out, using the sharing of their knowledge with other people and their understanding of menstruation as independent variables and their liking of reusable pads as the dependent variable. This was done to determine whether the respondents' post-intervention

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understanding of menstruation, along with their sharing of knowledge, impacted the respondents' liking of reusable pads. These findings were further evaluated, using literature and the qualitative responses of the respondents to shed more light on the quantitative data.

III. Results

The aim of the present study was to evaluate the effectiveness of a self-formulated campaign. The results from the statistical analyses are examined in detail. The implications of the research outcomes pertaining to the impact of workshop interventions on awareness of menstrual hygiene; evaluation of usage of reusable pads after awareness and distribution of pads; and impact of influencing factors on the likability of reusable pads.

a) *Evaluation of the Impact of Campaign on Awareness of Menstrual Hygiene and on the Level of Rating of Their Liking of the Reusable Pads*

Descriptive statistics and paired t-test analyses were conducted to evaluate the impact of the campaign on the awareness of menstrual hygiene among the participants. Furthermore, in order to gain a more in-depth understanding of the campaign on the specific age group of the sample, additional analyses were conducted. The specific age groups chosen were 8-15, 16-35, and 36-60 years old.

Several multiple regression analyses were conducted to evaluate the impact of awareness of menstrual hygiene on the level of usage of reusable pads, first for the entire sample and then for the age categories.

Table 1 represents the mean and standard deviation of the pre-awareness campaign survey and post awareness campaign survey. It can be observed that the awareness of menstrual hygiene increased from 2.19 (pre-campaign) to 5.54 (post-campaign) for all age groups. This constituted an increase of 153%.

Table 1: Mean and Standard Deviation of the entire sample population of Pre- and Post-Campaign Survey Ratings of Awareness of Menstrual Hygiene (N=305)

n	Pre-campaign Awareness of Menstrual Hygiene score		Post-campaign Awareness of Menstrual Hygiene score	
	M	SD	M	SD
305	2.19	1.14	5.54	1.74

A paired sample *t*-test was carried out to determine whether a significant difference exists in the mean scores of the sample population. Table 2 depicts that a significant difference exists between pre-campaign awareness of menstrual Hygiene (M= 2.19, SD= 1.14) and post-campaign awareness of menstrual Hygiene (M= 5.54, SD= 1.74), $t(304) = 27.62$ (higher than the t critical value of 1.97), $p<.01$. Hence, rejecting the null hypothesis 1a and retaining the alternate hypothesis 1b.

Table 2: Summary of paired t-test scores of Pre- and Post-Campaign Ratings of Awareness of Menstrual Hygiene (N=305)

Source	Pre campaign score		Post campaign score		t	p
	M	SD	M	SD		
Awareness of Menstrual Hygiene	2.19	1.14	5.54	1.74	-27.62	0.000

*Note.*p < .01*

Therefore, this result suggests that the campaign was extremely effective in increasing the awareness of respondents in all age groups. At the same time, as the rating is out of 10, the improved mean rating of 5.54 still indicates that there is considerable room for improvement. Hence, rejecting the null hypothesis 1a and retaining the alternate hypothesis 1b.

Furthermore, the regression analysis was performed and the predictive effect of the awareness of menstrual hygiene (on all age groups) on the liking of

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reusable pads was confirmed: $b = 0.18$, $t(303) = 8.35$ (higher than t critical value of 1.97), $R^2 = 0.19$, $F(1, 303) = 69.71$ (higher than the f critical value of 1.97), $p < .01$ (Table 3). Essentially, post-campaign, the awareness of menstrual hygiene accounted for 19 percent of the respondents' liking of reusable pads. Hence, rejecting the null hypothesis 2a and retaining the alternate hypothesis 2b denoting that understanding on menstruation has an impact on the liking of reusable pads.

Table 3: Summary of Regression Analysis of the Impact of Post-Campaign Awareness on Liking of Reusable Pads (N=305)

Source	*B*	*SE B*	*t*	*p*
Constant	2.49	0.13	19.32	.000
Post awareness campaign	0.18	0.022	8.35	.000
R2 F		0.19 *69.71		

*$p < .01$

B = coefficients

SE B= standard error

(β)=coefficients

The linear equation for calculating the liking of reusable pads is as follows: liking of reusable pads = 2.49 + 0.19 * (rating of post-campaign awareness)

For instance, if a girl were to rate the post-campaign awareness as "8", then her liking of reusable pads would be around 4. Conversely, if the girl rates the post-campaign awareness as "1", her liking of reusable pads would likely be about 1. While this equation thus helps to point out the importance of post-campaign awareness as a factor, it is also critical to highlight that this factor only accounts for 19% of the liking of reusable pads. Therefore, other factors still need to be identified. Other factors could include lower costs of the reusable pads over an extended period (1-2 years); actual experience of the comfort; strong understanding of how to use the pad to avoid garment soiling; and the ability/resources to handle the challenges of washing and drying these pads, while ensuring privacy during this process.

b) Respondents Aged 8-15

This section of the results section focuses on the results of respondents in the age group of 8-15 years old.

Table 4 represents the mean and standard deviation of the pre-awareness campaign survey and post awareness campaign survey. It can be observed that the awareness of menstrual hygiene increased from 1.91 (pre-campaign) to 4.83 (post-campaign) for all age groups. This constituted an increase of 152.9%.

Table 4: Mean and Standard Deviation of the entire sample population of Pre- and Post-Campaign Survey Ratings of Awareness of Menstrual Hygiene for Respondents Aged 8-15 (N=54)

n	Pre-campaign Awareness of Menstrual Hygiene score		Post-campaign Awareness of Menstrual Hygiene score	
	M	SD	M	SD
54	1.91	1.01	4.83	1.55

A paired sample t-test was carried out to determine whether a significant difference exists in the mean scores of the sample population. Table 5 depicts that a significant difference exists between pre-campaign awareness of menstrual Hygiene (M= 1.91, SD= 1.01) and post-campaign awareness of menstrual Hygiene (M= 4.83, SD= 1.55), $t(53) = 11.02$ (higher than the t critical value of 2.01), $p<.01$. Hence, rejecting the null hypothesis 1a and retaining the alternate hypothesis 1b.

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Table 5: Summary of paired t-test scores of Pre- and Post-Campaign Ratings of Awareness of Menstrual Hygiene for Respondents Aged 8-15 (N=54)

Source	Pre campaign score		Post campaign score		t	p
	M	SD	M	SD		
Awareness of Menstrual Hygiene	1.91	1.01	4.83	1.55	-11.02	0.000

Note.$p < .01$

Therefore, this result suggests that the campaign was extremely effective in increasing the awareness of respondents ages 8-15. At the same time, as the rating is out of 10, the improved mean rating of 4.83 still indicates that there is considerable room for improvement. The mean rating of 4.83 for respondents aged 8-15 is lower than that of the entire sample (5.54). Hence, rejecting the null hypothesis 1a and retaining the alternate hypothesis 1b.

Next, the regression analysis was performed and the predictive effect of the awareness of menstrual hygiene (on respondents aged 8-15) on the liking of reusable pads was confirmed: $b = 0.14$, $t(52) = 2.20$ (higher than t critical value of 2.00), $R^2 = 0.09$, $F(1, 52) = 4.85$ (higher than the t critical value of 2.01), $p < .01$ (Table 6). Essentially, post-campaign the awareness of menstrual hygiene accounts for 9 percent of the respondents' liking of reusable pads. Hence, rejecting the null hypothesis 2a and retaining the alternate hypothesis 2b denoting that understanding on menstruation has an impact on the liking of reusable pads.

Table 6: Summary of Regression Analysis of the Impact of Post-Campaign Awareness on Liking of Reusable Pads for Respondents Aged 8-15 (N=54)

Source	*B*	*SE B*	*t*	*p*
Constant	2.66	0.33	8.12	.000
Post awareness campaign	0.14	0.06	2.20	.000
R2 F		0.09 *4.85		

*$p < .01$

B = coefficients

SE B= standard error

(β)=coefficients

The linear equation for calculating the liking of reusable pads is as follows: liking of reusable pads = 2.66 + 0.14 * (rating of post-campaign awareness).

c) Respondents Aged 16-35

This section of the results section focuses on the results of respondents in the age group of 16-35 years old.

Table 7 represents the mean and standard deviation of the pre-awareness campaign survey and post awareness campaign survey. It can be observed that the awareness of menstrual hygiene increased from 2.30 (pre-campaign) to 5.50 (post-campaign) for all age groups. This constituted an increase of 139.1%.

Table 7: Mean and Standard Deviation of the entire sample population of Pre- and Post-Campaign Survey Ratings of Awareness of Menstrual Hygiene for Respondents Aged 16-35 (N=187)

n	Pre-campaign Awareness of Menstrual Hygiene score		Post-campaign Awareness of Menstrual Hygiene score	
	M	SD	M	SD
187	2.30	1.17	5.50	1.73

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A paired sample *t*-test was carried out to determine whether a significant difference exists in the mean scores of the sample population. Table 2 depicts that a significant difference exists between pre-campaign awareness of menstrual Hygiene (M= 2.30, SD= 1.17) and post-campaign awareness of menstrual Hygiene (M= 5.50, SD= 1.73), $t(186) = 23.26$ (higher than the critical value of 1.97), $p<.01$. Hence, rejecting the null hypothesis 1a and retaining the alternate hypothesis 1b.

Table 8: Summary of paired t-test scores of Pre- and Post-Campaign Ratings of Awareness of Menstrual Hygiene for Respondents Aged 16-35 (N=187)

Source	Pre campaign score		Post campaign score		t	p
	M	SD	M	SD		
Awareness of Menstrual Hygiene	2.30	1.17	5.50	1.73	-23.26	0.000

*Note.*p < .01*

Therefore, this result suggests that the campaign was extremely effective in increasing the awareness of respondents ages 16-35. At the same time, as the rating is out of 10, the improved mean rating of 5.50 still indicates that there is considerable room for improvement. The mean rating of 5.50 for respondents aged 16-35 is higher than that of respondents ages 8-15 (4.83). Hence, rejecting the null hypothesis 1a and retaining the alternate hypothesis 1b.

The regression analysis was performed and the predictive effect of the awareness of menstrual hygiene (on respondents aged 16-35) on the liking of reusable pads was confirmed: $b = 0.18$, $t(185) = 6.11$ (higher than t critical value of 1.97), $R^2 = 0.17$, $F(1, 185) = 37.34$, $p < .01$ (Table 9). Essentially, post-campaign awareness of menstrual hygiene for 17 percent of the respondents' liking of reusable pads. Hence, rejecting the null hypothesis 2a and retaining the alternate hypothesis 2b denoting that understanding on menstruation has an impact on the liking of reusable pads.

Table 9: Summary of Regression Analysis of the Impact of Post-Campaign Awareness on Liking of Reusable Pads for Respondents Aged 16-35 (N=187)

Source	*B*	*SE B*	*t*	*p*
Constant	2.57	0.17	15.43	.000
Post awareness campaign	0.18	0.03	6.11	.000
R2 F		0.17 *37.34		

**p < .01*

B = coefficients

SE B= standard error

(β)=coefficients

The linear equation for calculating the liking of reusable pads is as follows: liking of reusable pads = 2.57 + 0.18 * (rating of post-campaign awareness).

d) Respondents Aged 36-60

This section of the results section focuses on the results of respondents in the age group of 36-60 years old.

Table 10 represents the mean and standard deviation of the pre-awareness campaign survey and post awareness campaign survey. It can be observed that the awareness of menstrual hygiene increased from 2.08 (pre-campaign) to 6.27 (post-campaign) for all age groups. This constituted an increase of 201.4%.

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Table 10: Mean and Standard Deviation of the entire sample population of Pre- and Post-Campaign Survey Ratings of Awareness of Menstrual Hygiene for Respondents Aged 36-60 (N=64)

n	Pre-campaign Awareness of Menstrual Hygiene score		Post-campaign Awareness of Menstrual Hygiene score	
	M	SD	M	SD
305	2.08	1.10	6.27	1.67

A paired sample *t*-test was carried out to determine whether a significant difference exists in the mean scores of the sample population. Table 2 depicts that a significant difference exists between pre-campaign awareness of menstrual Hygiene (M= 2.08, SD= 1.10) and post-campaign awareness of menstrual Hygiene (M= 6.27, SD= 1.67), $t(63) = 18.81$ (higher than the critical value of 2.00), $p<.01$. Hence, rejecting the null hypothesis 1a and retaining the alternate hypothesis 1b.

Table 11: Summary of paired t-test scores of Pre- and Post-Campaign Ratings of Awareness of Menstrual Hygiene for Respondents Aged 36-60 (N=64)

Source	Pre campaign score		Post campaign score		t	p
	M	SD	M	SD		
Awareness of Menstrual Hygiene	2.08	1.11	6.27	1.67	-18.81	0.000

*Note.*p < .01*

Therefore, this result suggests that the campaign was extremely effective in increasing the awareness of respondents ages 36-60. At the same time, as the rating is out of 10, the improved mean rating of 6.27 still indicates that there is considerable room for improvement. The mean rating of 6.27 for respondents aged 36-60 is higher than that of respondents ages 16-35 (5.50). Hence, rejecting the null hypothesis 1a and retaining the alternate hypothesis 1b.

The regression analysis was performed and the predictive effect of the awareness of menstrual hygiene (on respondents aged 36-60) on the liking of reusable pads was confirmed: $b = 0.26$, $t(62) = 5.70$ (higher than t critical value of 2.00), $R^2 = 0.34$, $F(1, 62) = 32.51$, $p<.01$ (Table 12). Essentially, post-campaign awareness of menstrual hygiene accounts for 34 percent of the respondents' liking of reusable pads. Hence, rejecting the null hypothesis 2a and retaining the alternate hypothesis 2b denoting that understanding on menstruation has an impact on the liking of reusable pads.

Table 12: Summary of Regression Analysis of the Impact of Post-Campaign Awareness on Liking of Reusable Pads for Respondents Aged 36-60 (N=64)

Source	*B*	*SE B*	*t*	*p*
Constant	1.97	0.29	6.79	.000
Post awareness campaign	0.26	0.045	5.70	.000
R2 F		0.34 *32.51		

**p < .01*

B = coefficients

SE B= standard error

(ß)=coefficients

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The linear equation for calculating the liking of reusable pads is as follows: liking of reusable pads = 1.97 + 0.26 * (rating of post-campaign awareness)

A comparison across the age boundaries shows that post-campaign awareness of menstrual hygiene had the greatest impact on the respondents in the 36-60 age group and the least impact on the respondents in the 8-15 age group.

e) Evaluation of Usage of Reusable Pads

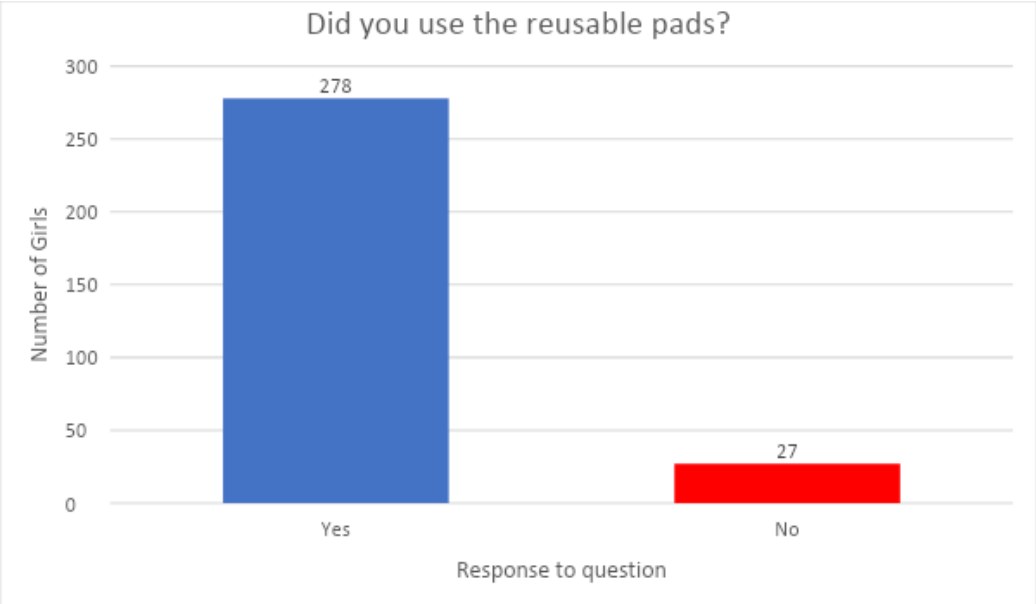


Figure 1: Response of the girls of all age groups to the question 'Did you use the reusable pads?' (N= 305)

Figure 1 indicated that 91.15% of the participants used the pads given to them on being exposed to and being made aware of reusable pads, thus showing a high level of willingness to adopt hygienic menstrual practice once awareness was generated, whereas 8.85% of people did not use the pads given to them.

f) Relationship between Willingness of Respondents to Share Knowledge and Liking of Reusable Pads

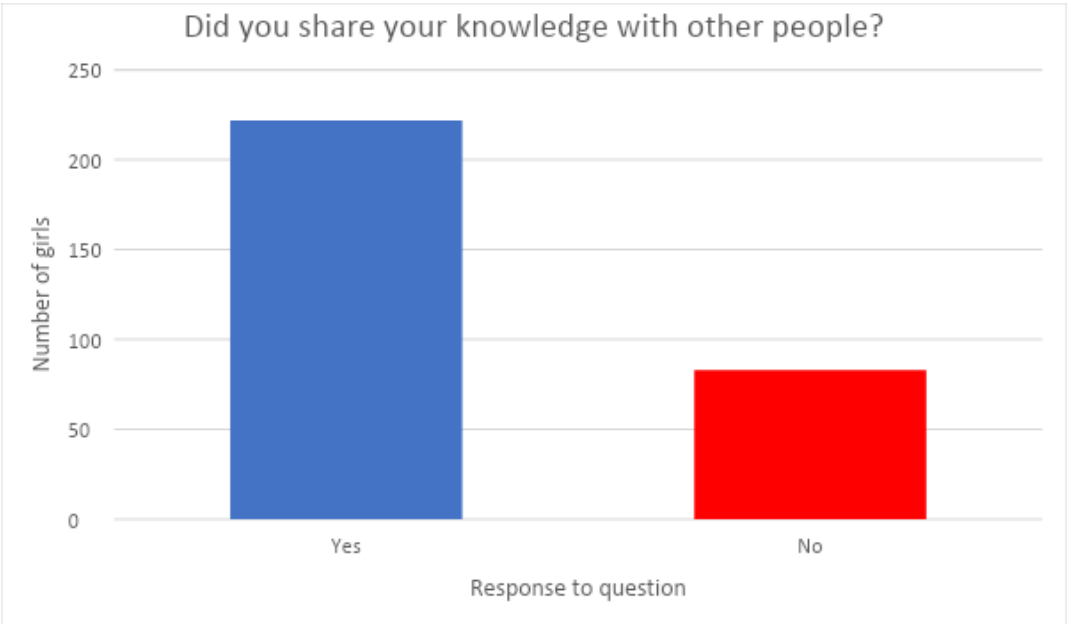


Figure 2: Response of the girls of all age groups to the question 'Did you share your knowledge with other people?' (N=305)

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On being asked if the respondents shared their knowledge with other people, 72.8% of the respondents said yes, thus showing a high willingness to share knowledge and spread awareness among people.

g) Respondents saying 'Yes' to Sharing Knowledge

The regression analysis was performed and the predictive effect of the awareness of menstrual hygiene of respondents saying 'yes' to sharing knowledge on the liking of reusable pads was confirmed: $b = 0.12$, $t(220) = 5.25$ (higher than t critical value of 1.97), $R^2 = 0.11$, $F(1, 220) = 27.52$, $p < .01$ (Table 13). Essentially, post-campaign, the awareness of menstrual hygiene for those respondents who said "Yes" to sharing knowledge accounted for 11 percent of their liking of reusable pads. Hence, rejecting the null hypothesis 3a and retaining the alternate hypothesis 3b.

Table 13: Summary of Regression Analysis of the Impact of Post-Campaign Awareness on Liking of Reusable Pads Among Those Who Shared Knowledge (N=222)

Source	*B*	*SE B*	*t*	*p*
Constant	2.93	0.14	20.25	.000
Post awareness campaign	0.12	0.02	5.25	.000
R2 F		0.11 *27.53		

*$p < .01$

B = coefficients

SE B= standard error

(β)=coefficients

The linear equation for calculating the liking of reusable pads is as follows: liking of reusable pads = 2.93 + 0.12 * (rating of post-campaign awareness)

h) Respondents saying 'No' to Sharing Knowledge

The regression analysis was performed and the predictive effect of the post-campaign the awareness of menstrual hygiene for those respondents who said "no" to sharing knowledge on the liking of reusable pads was confirmed: $b = 0.25$, $t(81) = 4.46$ (higher than t critical value of 1.99), $R^2 = 0.20$, $F(1, 81) = 19.90$, $p < .01$ (Table 14). Essentially, post-campaign, the awareness of menstrual hygiene for those respondents who said "no" to sharing knowledge accounted for 20 percent of their liking of reusable pads. Hence, rejecting the null hypothesis 3a and retaining the alternate hypothesis 3b.

Table 14: Summary of Regression Analysis of the Impact of Post-Campaign Awareness on Liking of Reusable Pads Among Those Who Shared Knowledge (N=83)

Source	*B*	*SE B*	*t*	*p*
Constant	1.96	0.28	7.13	.000
Post awareness campaign	0.25	0.06	4.46	.000
R2 F		0.20 *19.89		

*$p < .01$

B = coefficients

SE B= standard error

(β)=coefficients

The linear equation for calculating the liking of reusable pads is as follows: liking of reusable pads = 1.96 + 0.25 * (rating of post-campaign awareness)

IV. Discussion

In the present study, the result suggests that the campaign was extremely effective in increasing the awareness of respondents aged 36-60. At the same

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time, as the rating is out of 10, the improved mean rating of 6.27 still indicates that there is considerable room for improvement. The mean rating of 6.27 for respondents aged 36-60 is higher than that of respondents ages 16-35 (5.50). [table 1-8]

The initial mean score for the entire sample denotes that the respondents were not aware about menstrual hygiene. This would seem to confirm the general literature that indicates the women in India are unaware about menstruation. Two hundred million women in India lack awareness of menstrual hygiene and associated health care practices. ("Spot On!: Improving Menstrual Management in India", 2015, p. 18). There was a significant increase in the overall mean scores suggesting that the campaign did exert a positive impact on the respondent's awareness level. This depicts that awareness workshops, specifically educational videos from credible sources like gynaecologists, could go a long way in making an impact.

Furthermore, in conversations with the respondents, the respondents were curious about reusable pads as that was something the respondents did not know about before. The respondents were restricted from activities such as entering the kitchen, they wanted to know if it was possible to gain some freedom from such restrictions by wearing the pads and whether it was really needed to follow these restrictions. These restrictions are imposed on them because of old traditions and beliefs. The respondents were reassured that they would be able to continue with all their daily activities, irrespective of their menstruation. The respondents listened carefully and their expression revealed a hope for a better future.

Although the improvement in the mean ratings was substantial, it is important to point out that there is still tremendous room for improvement with a post-campaign rating. While the girls had become more aware of the basics about menstruation (such as what it is and why it happens), they are still not aware of the diseases that can arise from poor hygiene practices during menstruation or the symptoms to recognise when they should seek medical care which is offered by the public healthcare system.

With regards to the differences between the age categories, the biggest impact was on respondents aged 36-60 with a change of 201.4%, while respondents in the 8-15 age group gave the lowest rating (change of 152.9%.) This could likely be attributed to the fact that many would not have started menstruating. As such, it would have been difficult for them to relate to the message of the campaign. When the video was being shown, the women in the 36-60 age group showed the best understanding of what was being said. The respondents in this age group were more attentive and opened up more about the problems they faced like, cramps and back pain during menstruation. [table 7-8]

During conversations with 40-50 participants after the campaign, these participants said that they liked using the reusable pad, as it was far more comfortable than using cloth. These participants also had access to hygienic menstrual practices for the first time, which had changed their lives:

> "We used to face a lot of problems when we used cloth while conducting our daily activities like sleeping and sitting. These pads gave us dignity."
>
> "I used to feel ashamed in front of my young son when I used cloth, now I have told my daughter about the pad, I have told everyone."
>
> "A lot of women in our village did not know about pads, nor did they use them. When you came and spoke to them and distributed pads, they really liked it and started using them. They also spoke to others and their next generation about it. You have helped them a lot and made a difference to their lives."

Table 13 and table 14 show that people who did not share their knowledge liked reusable pads more than the ones who did, which would seem counter-intuitive: usually, if someone likes something, you would be more likely to talk about it. Such an occurrence testifies to the extent of the taboo surrounding menstruation in the rural areas of India. Therefore, one can imagine why the participants who liked the reusable pads were afraid to share their knowledge with the people around them for fear of being stigmatised, which is articulated in the following passage:

> Discrimination against menstruating women is widespread in India, where periods have long been a taboo and considered impure. They are often excluded from social and religious events, denied entry into temples and shrines and even kept out of kitchens. ("Why India Must Battle the Shame of Period Stain", 2020).

Although the girls talked about their experiences about menstruation, none of them spoke about taboos or the restrictions. Have grown up with deeply held beliefs which have been ingrained in them over years by their mothers and elders, such as a menstruating girl is impure. In order to get the girls to talk about these beliefs and be open to change these beliefs, it will require deeper interventions than just one workshop. There may also be a fear of social ostracisation if a girl challenges the beliefs that have been widely held by the community.

The findings of this research study allow organisations in the future to see the areas which need more work, such as breaking taboos. Breaking taboos would help make conversations about menstruation normal which right now is one of the biggest problems in India. As shown by the Spot On & Off campaign, the girls want to change and learn more. More campaigns need to be done to increase their awareness further. As my campaign has shown, there is much we can do to make a change in the lives of females in rural villages. If more individuals and organisations work and collaborate

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on a bigger scale, more awareness can be created and a bigger change can be made.

V. Conclusion

The aim of this research study was to evaluate the effectiveness of a self-formulated campaign called "Spot On & Off" to raise awareness about menstrual hygiene among girls in the area of Mewat in Haryana (a rural area). The findings of this research study would allow for the formulation and implementation of future interventions to foster proper menstrual hygiene management among females in rural communities in India.Based on the results, it is evident that the workshop intervention, awareness video and pad distribution drive of the campaign created a statistically significant increase in the respondents' mean ratings of the understanding of awareness of menstrual hygiene. Additionally, the respondents' understanding of menstruation had a 19% effect on their liking of reusable pads. The study revealed that 91% of the girls used the reusable pads provided to them. This has potential to change their lives for the next two years and hopefully forever. Before this, the respondents used materials like leaves and unwashed cloth which is unhygienic and can cause diseases. The reusable pads allow them to follow hygienic practices during the days of their menstruation. After a few years, the hope is that the girls realise the importance of using pads, and start buying it themselves. Therefore, the study reveals that awareness about menstrual hygiene management and availability of sanitary pads can greatly improve menstrual hygiene management among the girls in rural areas in India.

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Appendix A

Survey Questions

Pre survey

- Which age group are you in?

8 to 15
16 to 35
36 to 60

- Which village do you live in?

Short Answer

- Rate your understanding of menstruation, "1" being "extremely poor" and "10" being "extremely knowledgeable"

Scale of 1 - 10

- What do you use during menstruation?

Sanitary Pad
Cloth
Leaf
None of the above

- If not, what is the reason?

Too expensive
My mother does not use them
I do not know the advantages
I feel shame in buying
Everyone around me uses cloth
None of the above

- If yes, at what price do you get 1 pad?

Short Answer

- If yes, where do you buy from?

Short Answer

- Would you be interested in using reusable pads?

Yes/No

- Do you have to follow any of the following restrictions?

Cannot go to school
Cannot eat with family
Cannot have a bath
Cannot wash dishes
Cannot go to the temple

- Does/Did your school have a proper toilet?

Yes/No

- Do you have access to a device where you can watch videos that we send?

Yes/No

- Would you be interested in working with us to raise awareness?

Yes/No

Post survey questions:

- Which age group are you in?

8 to 15
16 to 35
36 to 60

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- Which village do you live in?

Short Answer

Rate your understanding of menstruation, "1" being "extremely poor" and "10" being "extremely knowledgeable"

Scale of 1 - 10

- Did you use the reusable pads?

Yes/No

- How did you like using reusable pads, "1" being "not at all" and "5" being "extremely liked them"?

Scale of 1 - 5

- Did you share your knowledge and experience with different people?

Yes/No

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