Impact of pandemic on women’s purchase decision for feminine hygiene products: a Covid-19 lockdown perspective

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Abstract

The uncontrolled spread of the COVID-19 pandemic has forced nations to shut their borders and impel the lockdown. Although the pandemic has affected the nations economically and socially, the nationwide lockdown has also dramatically affected the supply and demand for feminine hygiene products. It became interesting for the researcher to investigate the effect of COVID-19 lockdown in the purchase decision, availability, and perception of women for feminine hygiene products. The study was conducted employing a quantitative approach. A self-administered questionnaire was used to elicit responses from females using a convenience sampling technique and interpret the data ordinal logistic regression method. The findings of this study indicated that within the lockdown period, females with consistent income started buying a slight high quantity of feminine hygiene products so that they can store them for an emergency; it has also been seen that they find it difficult to shop for these products from the stores as in the initial period of lockdown as these products were not put into essential item list. So shortage was noted. However, females observed these products as important products for storage; This study will assist the policymakers and private ownerships in better insight into females’ attitudes toward feminine hygiene products and provide timely resources and services to the affected population during a pandemic situation.

Keywords

Pandemic, COVID-19, Lockdown, Feminine hygiene products, Purchase decision.

Introduction

Background

A Pandemic is referred to as a new infectious disease that spread worldwide [1]. COVID-19 infection is caused by ‘novel coronavirus,’ where corona disease first emerged in late 2019 in Wuhan city of China. The World Health Organization (WHO) has given the official name to this disease as COVID-19 on 11th February and declared it as pandemic on 11th March 2020. The disease is commonly spread by coming in contact with a person having this disease. So, to stop the spread of the virus, the lockdown was implemented to have less contact with each other, and the virus can spread.

Menstruation is the crucial stage in girls’ lives, as it is considered their transition from girlhood to womanhood. From menarche to menopause, feminine hygiene and reproductive health are indicated as an important aspect of women’s lives [2]. Menstruation is a physical phenomenon of girls. In her overall life span, a woman bleeds approximately 500 times, and about 36% of women use disposable sanitary napkins. Females handle their menstruation differently depending on personal choices, resource availability, knowledge of menses among them, and monetary dependence [3]. Females need to maintain good hygiene practices to maintain their health and dignity [4]. Generally feminine hygiene products category includes Sanitary Napkins, Menstrual cups, and Tampons [5]. In the last few years, feminine hygiene management has gained due attention. The government and local authorities have started to talk about the barriers females face in this aspect [6]. The researchers also stated that it is a fundamental right of women to manage their menstruation properly. However, it becomes difficult for them to manage menstrual needs with the dignity due to cultural norms and lack of necessary resources and services. Improved feminine hygiene and health are important for girls and women and the entire societies across generations. Despite such changes, very low use of sanitary napkins has been measured in the Indian
female population. Only 10-11% of the total market recorded among females is 73-92% in Europe and the United States [7]. In the regular days, females often face trouble in managing their menstruation because of many reasons such as cultural taboos, discriminatory social norms, lack of basic services and poverty, and in the prevalence of such emergency COVID-19; it has become more troublesome for women to access the proper products for feminine hygiene.

Availability of products is an important phenomenon to make the purchase decision [8]. A woman decides on the number of products to be purchased based on their availability in stores convenient for them to reach. Women’s attitudes towards products also impact their purchase, and education is important for shaping attitude and acceptance of these products [9]. During the pandemic situation, the purchase of feminine hygiene products is purely dependent on the attitude of women towards feminine hygiene, as many are getting low income during COVID-19 lockdown. Income is the biggest barrier in the purchase of feminine hygiene products; Women who do not have sufficient income cannot purchase these products [10].

Impact of COVID-19

COVID-19 does not have a direct impact on feminine hygiene management. However, it has a secondary or indirect impact on the ability of females to manage their menstrual hygiene; even in the best of times, females fail to manage their menstrual hygiene properly. In this emergency, this condition has worsened as lockdown has badly impacted the manufacture, supply, and availability of products [11]. Reports revealed that around 67% of normal manufacturing operations and distribution have paused, and 22% of organizations reported no access to menstrual hygiene products, which is most affected in rural regions. Many small units cannot get raw material to produce affordable sanitary napkins, which hinders the supply of pads, and females in many areas are forced to adopt unhygienic means of menstrual hygiene. It has been seen that during the lockdown, people have faced many problems, especially in getting the essential items of their daily usage. COVID-19 has extended the existing challenges in menstrual hygiene as girls dependent on the free access to feminine hygiene products from their schools cannot get them as schools are closed. It has greatened the inequities for females around the world [12]. A study of ‘Plan International, 2020’ showed that quarantine and lockdown measures negatively impacted girls and women, which cut them off from essential sexual and reproductive health services. In Kenya, it was found that lockdown families have started to store food and other essential items with information about lockdown families. However, they do not consider sanitary napkins as an essential item. It was observed that the initial stage government did not list the menstrual hygiene products in the essential commodity list. However, production stopped; however, later on, included in the list, and production started with low supply [13]. Roughly 70% of front line health care workers are females; besides the personal protective equipment (PPE), they were also in need of menstrual products, but at the initial stage, it was not drawn in the list of necessity, so they faced problem in handling their menstrual needs. In a Chinese province reportedly women were taking contraceptive pills to suppress their cycle and some were had no choice but to bleed in their protective suits [14]. So far, no study has been published. Hence, this encouraged us to take up this study in India to identify the purchase decision of women towards feminine hygiene products, and they have spotted these products in their essential items list.

The objectives of the study are as follow:

1. To identify the purchase decision of females for feminine hygiene products during the lockdown.
2. To analyze the availability of feminine hygiene products in the stores.
3. To analyze the perception of females for feminine hygiene products during the pandemic.

Based on the above objectives following hypotheses were proposed:

H1 There is a significant influence of COVID-19 lockdown on the purchase decision of females for feminine hygiene products.

H2 There is a significant influence of COVID-19 lockdown on the availability of feminine hygiene products in stores.

H3 There is a significant influence of COVID-19 lockdown on the female perception of the importance of feminine hygiene products.

Research methods and materials

A quantitative research design was chosen to fulfill the objective. More specifically, the study used an online survey research design. This study was cross-sec-
tional, conducted in July 2020. Primary and secondary sources were used for data collection [15]. A structured questionnaire was used for primary data collection, and the secondary sources are comprising the reports of government and marketing research websites.

Sample and data collection

This study targeted Indian female consumers aged 18-45. The data from females was collected through a structured questionnaire carrying 17 items. The Likert scale was used as the form of measurement within the questionnaire with a 1 to 5, where 1 represents the given question strongly disagrees, and 5 represents strongly agreed. All participants were asked to complete the questionnaire, consisting of demographic data and baseline characteristics, purchase pattern, attitudes of using feminine hygiene products, and availability during and before lockdown. After completion of the questionnaire, all data were recorded and analyzed in SPSS package 20.0.

Statistical analysis and results

Descriptive statistics

In this research, the sample was analyzed based on age, education, occupation, and income per month. The majority of respondents (119) were in the 18-24 year age range (46%) followed by 20%, equal to 53 respondents for 25-31 year-olds, 19% equal to 50 respondents were in the 32-38 age group, for 15% or equal to 38 respondents were under 39-45 years old. About occupation, 91 respondents (35%) were students, while 30% were unemployed (79 respondents). Then, followed the education level 10 (3.8%) respondents belonged to higher secondary, 24 respondents, equal to 9.2%, belonged to Intermediate, 107 were graduates and 46%, (119 respondents) post-graduation and above. In the employed category with 21 (54 respondents) and the remaining 13.8% were entrepreneurs. As far as economic background is concerned, some 14.2% (37 respondents) had less than INR 10000 per month, 32% (83 respondents) earned between INR 10001 and INR 30000 per month. The salary of 23% (60 respondents) amounted to INR 30001 to INR 50000 per month, while the final 31% (80 respondents) had an income of more than INR 50000 per month. A final point to mention is that 76% of the females generally use Sanitary napkins, 3 and 5 respondents use tampons and menstrual cups respectively, 16 (6.2% respondents) use both the sanitary napkins and menstrual cups, 17 respondents equal to 6.5% use both the sanitary napkins and tampons and 23 (8.8%) respondents use both the sanitary napkins and cloth/cotton. Table 1 shows the Profile of the study population.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age or maturation</td>
<td>18-24 Years</td>
<td>119</td>
<td>45.8</td>
</tr>
<tr>
<td></td>
<td>25-31 Years</td>
<td>53</td>
<td>20.4</td>
</tr>
<tr>
<td></td>
<td>32-38 Years</td>
<td>50</td>
<td>19.2</td>
</tr>
<tr>
<td></td>
<td>39-45 Years</td>
<td>38</td>
<td>14.6</td>
</tr>
<tr>
<td>Education Level</td>
<td>Higher Secondary</td>
<td>10</td>
<td>3.8</td>
</tr>
<tr>
<td></td>
<td>Intermediate</td>
<td>24</td>
<td>9.2</td>
</tr>
<tr>
<td></td>
<td>Graduation</td>
<td>107</td>
<td>41.2</td>
</tr>
<tr>
<td></td>
<td>Post-Graduation and above</td>
<td>119</td>
<td>45.8</td>
</tr>
<tr>
<td>Occupation</td>
<td>Student</td>
<td>91</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Unemployed</td>
<td>79</td>
<td>30.4</td>
</tr>
<tr>
<td></td>
<td>Employed</td>
<td>54</td>
<td>20.8</td>
</tr>
<tr>
<td></td>
<td>Business/Self Employed</td>
<td>36</td>
<td>13.8</td>
</tr>
<tr>
<td>Household Income</td>
<td>Less than INR 10000</td>
<td>37</td>
<td>14.2</td>
</tr>
<tr>
<td></td>
<td>INR 10001-30000</td>
<td>83</td>
<td>31.9</td>
</tr>
<tr>
<td></td>
<td>INR 30001-50000</td>
<td>60</td>
<td>23.1</td>
</tr>
<tr>
<td></td>
<td>Above INR 50000</td>
<td>80</td>
<td>30.8</td>
</tr>
<tr>
<td>Generally Used feminine hygiene products</td>
<td>Sanitary Napkins</td>
<td>197</td>
<td>75.8</td>
</tr>
<tr>
<td></td>
<td>Tampons</td>
<td>3</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>Menstrual Cups</td>
<td>4</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>Sanitary Napkins and Menstrual cups</td>
<td>16</td>
<td>6.2</td>
</tr>
<tr>
<td></td>
<td>Sanitary Napkins and Tampons</td>
<td>17</td>
<td>6.5</td>
</tr>
<tr>
<td></td>
<td>Sanitary Napkins and Cotton/Cloth</td>
<td>23</td>
<td>8.8</td>
</tr>
</tbody>
</table>

Ordinal regression analysis

To examine hypothesis based on ordinal regression analysis was conducted to see the significance of items for our independent variable COVID-19.

Model fitting model

Before looking at individual predictors, we are required to find out if the overall model gives an adequate prediction. Thus, we can evaluate the model fitting information. Table 2, comprising of significant chi-square statistic, indicates that all models are giving a significant improvement over the baseline intercepts the only model, which means the resultant predictions are better than the guesses based on the marginal likelihoods for different outcome categories.
Goodness of fit

The current study uses categorical independent variables; hence goodness of fit is the best-suited statistics. Table 3 represents the result of the same. The test helps to understand the observed and expected value deviation. The model proves its efficiency as a good fit since the significance value is larger.

An as large value for significance shows that it is a good model; thus, in case of availability and perception, it is larger than .05, which means it gives a good model; however, in the case of purchase decision, it is not significant that is P value < .05.

Pseudo R-square

Analysis was used for measuring the complete goodness of fit for the research model. These measures function similarly to the linear regression, i.e., reviewing the variance proportion associated with independent and dependent variables. The ordinal regression is based on the measures of likelihood ratios. Nagelkerke proposed an amendment that permits the index value to take up the range of 0-1. The pseudo-R-squares Table 4 revealed that the items of purchase decision (Nagelkerke = .663) showed better results as proposed by the tested models than Availability (.431) and Perception (.154) of feminine hygiene products.
Although the values of pseudo-R-squares are suitable, the low values specify that the constructs of availability and perception itself not only give adequate forecasts of lockdown. It will be valuable to review and revise the model by including more predicting constructs to improve COVID-19 lockdown forecasting.

Test of parallel lines

The categorical data are checked with the help of the test of the parallel line. The test is based on the hypothesis that the slope of all the lines representing the categories is the same. Based on the reasonability of the categories can be confirmed. The rejection of the null hypothesis indicates the assumed model to be correct as shows in Table 5.

The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.
1. There is no further increment in the log-likelihood value after a maximum number of step - halving.
2. The Chi-Square statistic is computed based on the log-likelihood value of the last iteration of the general model. The validity of the test is uncertain. Practically, zero value for the log-likelihood. There may be an entire data separation. Therefore, the maximum likelihood estimates do not exist.

Discussions

Our study has covered most young females and mostly have post-graduation education and above having a consistent income. Ordinal regression analysis remained used to see the effect of outcome variable: change in the purchase decision, the availability of feminine hygiene products. COVID-19 lockdown has impacted the marketing of feminine hygiene products differently; we have decided to take three items that can be impacted majorly by this lockdown. Firstly, as the lockdown was implemented, the purchase decision of females created panic in the mind of consumers. As menstruation is a crucial part of the life of women, it is needed to be met properly, so the females with consistent income bought the sanitary napkins, menstrual cups, or tampons in high quantities so that in case of a long period of lockdown they can meet the needs however who had low or inconsistent income were unable to meet the menstruation needs. Secondly, the availability of feminine hygiene products was also affected by this lockdown. At the starting stage, the government had not taken these products as the essential ones, so shortage was noted. Many females found it difficult to get the products from the stores. Lastly, the perception of females for feminine hygiene products was seen that increased awareness has made females see these feminine hygiene products as an essential item and made them store for an emergency.

Originality and value

So far, no such study has been found on the influence of a pandemic lockdown on the purchase decision and availability of feminine hygiene products. Hence, it will be useful for marketers and the government to have a greater insight into the influence of lockdown on the demand and supply of feminine hygiene products. It will keep them attentive for further such situations regarding feminine hygiene.

Conclusions

As compared to men, women are facing the major impact of COVID-19 lockdown women are facing a lot in terms of maintaining proper menstruation hygiene, many have lost their jobs, and many have inconsistent income in lockdown that affected their purchasing pattern, our study has also revealed that many women have started looking for alternative products or brands. Hence this study is done for the COVID-19

Table 5
Test of parallel lines

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Model</th>
<th>Model</th>
<th>-2 Log Likelihood Model</th>
<th>Chi-square</th>
<th>d. f.</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase Decision*</td>
<td>PD = f (COVID-19 lockdown)</td>
<td>Null Hypothesis General</td>
<td>222.929</td>
<td>77.004b</td>
<td>36</td>
<td>.000</td>
</tr>
<tr>
<td>Availability**</td>
<td>AV = f (COVID-19 lockdown)</td>
<td>Null Hypothesis General</td>
<td>214.026</td>
<td>36</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Perception*</td>
<td>P = f (COVID-19 lockdown)</td>
<td>Null Hypothesis General</td>
<td>276.986</td>
<td>158.620c</td>
<td>36</td>
<td>.000</td>
</tr>
</tbody>
</table>

Link function: Cauchit*, Negative log-log**
lockdown affecting feminine hygiene products and females’ purchase decisions.

The participants recruited for this study are not representative of all the women. It has covered a very small part of the rural females and has taken few factors to see the influence of lockdown on these factors. Lastly, it also has the limitation of sampling technique; the study used convenience sampling method that has on its own some limitations.

In the future, a longitudinal study can be done to see the long-term impact of lockdown on feminine hygiene products in a pandemic situation. A qualitative study can also be used to gain in-depth information for this situation.

References