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Relational Analysis of Awareness Regarding Health and Hygiene Apropos Menstruation among Women in Bihar

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ABSTRACT: Health is a condition of well-being in which the body's and mind's parts are in harmony and proper balance with one another and in order to preserve and enhance one's physical and mental health, one must practice hygiene. In the present research, done in the purposively chosen Muzaffarpur district of Bihar, explores the relationship between socio-economic background and awareness regarding health and hygiene (including menstrual hygiene). Two blocks from the district, one village from each block, and 40 respondents from each village (total of 80 respondents) were selected. With the use of a semi-structured interview schedule, data were gathered by individually interviewing the respondents. Pearson's product-moment correlation coefficient (r) was used to explore the relational analysis of awareness regarding health and hygiene. Most of the respondents found a medium awareness level regarding health and hygiene which was 56.25%. Correlation analysis found significant for variables as like age were negatively correlated and significant at 1% level with Correlation coefficient (r) -0.430. Similarly, religion and Aware PMBJP were positively correlated and significant at 5% level with Correlation coefficient (r) 0.231 and 0.241 respectively. Most of the respondents found a medium awareness level regarding health and hygiene which was 56.25% and to increase it, people should be more aware and sensitized.

Keywords: Awareness, Correlation analysis, Health, Hygiene, Menstruation.

INTRODUCTION

In psychology, the concept of awareness refers to the knowledge, perception, and cognition of events and also, it refers to a situation in which a subject is aware of information when it can be used to influence a variety of behavioural acts (Chalmers, 1997). As we know, Human health is one thing that is universally valued. Thus, universally defining health is a challenging undertaking. The World Health Organization (WHO, 2014) Trusted Source defined health in 1948 with a concept that is still used today, "Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." As part of the healthcare system, people are able to maintain their optimal health. The two types of health most commonly referred to are mental and physical health. It is an important fundamental right of every human being to maintain the best possible health, regardless of race, religion, gender, politics, economics, or social conditions. Lal *et al.* (2021) investigated health index and women employment in a household in National Calamity Affected area of India. However, it is unfortunate that women's health is a persistent source of concern around the world. Women's health is influenced by a variety of factors, including poverty, job, and family duties, in addition to their biology. Women have traditionally been disadvantaged in various ways, including social and economic power, limiting their access to basic necessities such as health care, and the greater the degree of disadvantage, such as in underdeveloped nations, the more detrimental the effect on health is. The health of women is based on many aspects such as geographical area, socioeconomic status, nutritional status, education level, and availability of healthcare centres. It is also concerned with women's emotional, social, and physical well-being (Jaishree, 2012). There are countless health issues faced by women in different stages of their life such as reproductive health, maternal health, malnourishment, communicable diseases, mental health, being young, getting older, etc (WHO, 2022). One major health problem faced by every adolescent girl and women is menstruation and menstrual hygiene. In society, there is an unseen limit for women during their menstruation. As a result, a girl must bear everything because she has no one to talk to about her problems. Poor menstruation hygiene puts women at risk for a variety of health problems such as Urinary Tract Infection, Reproductive tract infection, Cervical cancer, and Toxic Shock Syndrome, and these problems also lead to death. Women in rural regions often lack access to sanitary goods, are unaware of several methods and sources of use, or unable to afford such products as pads due to

their high cost (Srivastava *et al.*, 2022). As a result, they largely rely on washable cotton pads that they reuse (Kaur *et al.,* 2018). Washable cotton pads also cause various bacterial infections if these pads were not properly cleaned up and dry.

MATERIALS AND METHODS

The Muzaffarpur district of Bihar has been chosen for the current study based on a purposive non-probability sampling technique. The study was conducted in the Muzaffarpur district's two blocks, Muraul and Sakra. Pilkhi Village in Muraul Block and Mohammadpur Village in Sakra Block has also been chosen using the simple random selection of sample method. From each village, 40 respondents were selected and the sampling technique used was the snowball sampling technique., Therefore the number of total respondents was 80. Personal interviews were used to gather the data, which was then further evaluated using various statistical tools like frequency, percentage, and correlation. All finally selected respondents were interviewed regarding their awareness of health and hygiene, including menstrual health and hygiene. Various key questions were asked with a structured closed-ended questionnaire with two options: Yes and No. The total number of respondents who opted for yes and no options were recorded for further interpretation and the categorization of data was done by a suitable method of statistics such as frequency and percentage which were the most basic tools for tabulation and this method for categorization of data was also followed by Kumar *et al.* (2022) for "An Exploratory Study on Pattern and Factors Influencing Out Migration among COVID-19 Returned Migrants in North Bihar". The idea was to delineate various health-related issues and find out the respondents' overall awareness regarding health and hygiene.

Sr. No.	Category	Score
1.	Yes	1
2.	No	0

There was a total of 18 questions regarding health and hygiene. So, the maximum possible score could be 18. As per the availability of data, the awareness level of respondents regarding health and hygiene was categorized as the usual norms with the help of mean and standard deviation. Further, data was analyzed through Pearson's product moment correlation coefficient (r) and it has been earlier applied by Srivastava and Lal (2021) for "Relational Analysis of Foodgrains and its Seed Production in India: Current Scenario and Future Prospects" and Chithra *et al.* (2023) for "Correlation Coefficient Analysis for Yield and Yield Attributing Traits in Sponge Gourd (*Luffa cylindrica* (L.) Roem.)". As we know, correlation and regression are the basic parametric tool used in study of behavioural as well as social science (Bandhavya *et al*., 2022; Kumari *et al*., 2022; Lal *et al*., 2021; Lal *et al*., 2022; Nardi, 2006; Shukla *et al*., 2022; Shukla *et al*., 2022).

$$r = \frac{\sum(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum(x_i - \bar{x})^2 \sum(y_i - \bar{y})^2}}$$

where,

r = correlation coefficient

x_i = values of the x-variable in a sample

$\bar{x}$ = mean of the values of the x-variable

y_i = values of the y-variable in a sample

$\bar{y}$ = mean of the values of the y-variable

RESULTS AND DISCUSSION

A. Awareness of respondents regarding health and hygiene (Including menstrual hygiene)

Research of Table 1 shows that (86.25 %) of respondents had knowledge about health and they understood the meaning of health and more than this (87.5%) of respondents had knowledge about why hygiene is important in our daily life but only (56.25 %) of respondents knows about the disease which is caused due to unhealthy hygiene practices this is because of less exposure to mass media of respondents. Only (42.5%) of respondents were aware of menstrual hygiene this is because most of the people in the rural area feel shy and uncomfortable discussing menstruation and menstrual hygiene practices. Respondents had basic knowledge regarding the cleaning pattern of teeth (60%), washing hands before and after having meals (82.35%), bath daily (80%), washing their clothes daily (80%), washing their hands after using the toilet (83.75%), percentage of these statements shows that respondents were aware of daily hygiene. Only (52.25%) of respondents were using dustbins to throw any kind of waste material but the rest of the respondents uses another method to throw waste materials. (61.25%) of respondents felt that regular exercise gives a positive impact on health and are aware of different Pranayam and its importance on our body. (70%) and (72.5%) of respondents were heard about menstruation before menarche and had a piece of information about sanitary napkins. (80%) of respondents agrees that it is essential to change absorbent material daily during menstruation otherwise it will cause various reproductive tract infections. There are various commercial sanitary napkins available in the market including Jan Aushadhi Suvidha Sanitary Napkins, (68.75%) of respondents had awareness of these commercially available sanitary napkins, and (81.25%) of respondents had knowledge about how to use sanitary napkins and source of knowledge was television, peer group, and workers of CHC & PHC. (61.25 %) and (70%) had an awareness of the harmful effects of unhygienic menstruation practices. Respondents were asked about their level of awareness associated with health and hygiene including menstrual health and hygiene also. A total of eighteen questions were asked related to health and hygiene and their responses were recorded in the form of binary yes or no. Average awareness level was found to be 13 which fallen under medium awareness level of the respondents. 45 (56.25%) respondents said that they were somehow aware about the health and hygiene

maintaining procedures, thus come under medium awareness level while 23 (29%) respondents having awareness level score equal to or less than 10 were treated as low awareness level. 12 (15%) respondents scored equal to or greater than 16 and thus possessed high level of awareness. It can be concluded from this table that most of the respondents have a medium awareness level regarding health and hygiene. Table 2 shown below depicted the level of awareness of respondents regarding health and hygiene.

Table 1: Awareness of respondents regarding health and hygiene (Including menstrual hygiene).

Sr. No.	Statements	f (%)
1.	Do you know about what is the meaning of health?	69 (86.25)
2.	Do you know why hygiene is important in our daily life?	70(87.5)
3.	Do you know about disease which are caused due to unhealthy hygiene practices?	45(56.25)
4.	Do you know about menstrual hygiene?	34(42.5)
5.	Do you know how many times you have to clean your teeth?	48(60)
6.	Do you always wash your hand before and after having food?	66(82.35)
7.	Do you always wash your hand after using the toilet?	67(83.75)
8.	Do you take bath daily?	64(80)
9.	Do you always wear washed cloths?	64(80)
10.	Do you always use dustbin to throw any waste materials?	42(52.5)
11.	Do you know the impact of regular exercise on your health?	49(61.25)
12.	Heard about menstruation before menarche?	56(70)
13.	Have information/awareness about sanitary product?	58(72.5)
14.	During menstruation whether it is essential to change absorbent material in a day?	64(80)
15.	Do you know about different kinds of absorbents available in market?	55(68.75)
16.	Do you know how to use sanitary napkins?	65(81.25)
17.	Do you know about disease which are caused due to unhealthy hygiene practices?	49(61.25)
18.	Have awareness regarding harmful effect of unhygienic menstruation practices?	56(70)

Table 2: Distribution of the respondents based on the level of awareness regarding health and hygiene (including menstrual health and hygiene) (N=80).

Awareness level	f	%	
Low awareness level (≤10)	23	28.75	Mean=13
Medium awareness level (11-16)	45	56.25	SD= 3.0
High awareness level (>16)	12	15	

B. Correlation analysis between dependent (Awareness regarding health and hygiene) and independent variables

Table 3 shown the extent of relation between different independent variables and dependent variable which was awareness regarding health and hygiene and relation which can be established through correlation coefficient (r). The correlation coefficient of each independent variable with regard to each dependent variable (Awareness regarding health and hygiene) shown in above Table 3. A positive or negative association is indicated by the symbols before the correlation coefficient. Table 3 makes those factors very evident like age were negatively correlated and significant at 1 percent level of significance (α = 0.01) Correlation coefficient (r) evaluated for this variable i.e., age is -.430. Similarly, religion and Aware PMBJP were positively correlated and significant at 5 percent level of significance (α=0.05) Correlation coefficient evaluated for these variables were 0.231 and 0.241 respectively. Likewise, education, profession, mass media exposure, nutrition & annual income were positively correlated and significant at 1 percent level of significance (α = 0.01). Correlation coefficient (r) evaluated for these variables were 0.555, 0.632, 0.636, 0.439 & 0.727 found respectively. It can be concluded that except age which is negatively significant shows that lesser the age, more the awareness. Variables such as education, religion, Aware PMBJP, profession, mass media exposure, nutrition and annual income found to be positively correlated. This means that respondent's education level needs to increase in order to make them more aware. This will also automatically open new ways of being professionally active also. Additionally, it was discovered that marital status, family type, family size, and the no. of females were negatively correlated, which suggests that an increase in these factors may lower the respondent's knowledge levels regarding health and hygiene and vice-versa. The rest of the independent variables, however, were not substantially associated with the dependent variable in this way.

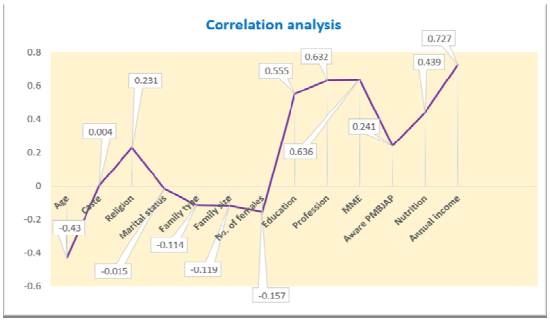

Fig. 1. Correlation analysis between dependent (Awareness regarding health and hygiene) and independent variables.

Table 3: Correlation analysis between dependent (Awareness regarding health and hygiene) and independent variables.

Sr. No.	Variables	Correlation coefficient (r)	p - value
1.	Age	-.430**	.000
2.	Caste	.004	.969
3.	Religion	.231*	.039
4.	Marital status	-.015	.892
5.	Family type	-.114	.314
6.	Family size	-.119	.293
7.	No. of females	-.157	.163
8.	Education	.555**	.000
9.	Profession	.632**	.000
10.	MME	.636**	.000
11.	Aware PMBJP	241*	.031
12.	Nutrition	439**	.000
13.	Annual income	.727**	.000

**Correlation is significant at the 0.01 level (2-tailed).; * Correlation is significant at the 0.05 level (2-tailed).

CONCLUSIONS

In this study, most of the respondents have a medium awareness level regarding health and hygiene, (56.25%) respondents said that they were somehow aware of the health and hygiene maintaining procedures, thus come under medium awareness level while (29%) of respondents having awareness level and (15%) respondents possessed a high level of awareness. The findings of correlation analysis between dependent (Awareness regarding health and hygiene) and independent variables have been summarized as- out of a total 13 variables, 7 variables were found positively correlated and 1 variable found negatively correlated with awareness regarding health and hygiene. Variables as like age were negatively correlated and significant at 1% level with a Correlation coefficient (r) -0.430. Similarly, religion and Aware PMBJP were positively correlated and significant at 5% level with Correlation coefficient (r) 0.231 and 0.241 respectively. Likewise, education, profession, mass media exposure, nutrition, & annual income were positively correlated and significant at 1 percent level with Correlation coefficient (r) 0.555, 0.632, 0.636, 0.439 and 0.727 found respectively. Left 5 variables like marital status, family type, family size, and number of females were found negatively associated with the awareness regarding health and hygiene; although their associations were also non-significant. This indicates that in order to boost respondents' awareness, their level of knowledge must be raised.

FUTURE SCOPE

Further study can be conducted by amalgamating a greater number of villages and respondents and future studies can also focus on slums and tribal areas where people are more susceptible to social limitations. This will provide a holistic picture of women's healthcare services in rural India.

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Conflict of Interest. None.

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