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ASSESSMENT OF REPRODUCTIVE HEALTH LITERACY, BEHAVIORS AND HYGIENE PRACTICES AMONG INFERTILE FEMALE PATIENTS

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Abstract

Hygiene is indispensable for the protection of reproductive health. The higher prevalence rate of infertility issues in Pakistan makes it crucial for females of reproductive age to have detailed knowledge of hygienic behaviors. The study aimed at examining the health literacy level, awareness level and hygienic behaviors that may directly or indirectly influence the female reproductive health. The study was conducted in District Headquarter Hospital (DHQ), Okara, Pakistan. The source population comprised of 200 females facing infertility issues including pelvic inflammatory disease (PID), fibroid uterus (FB), ovarian cysts (OC), ectopic pregnancy (EP) and polycystic ovarian syndrome (PCOS). A structured questionnaire was designed to assess the knowledge, attitude and practices of infertile female subjects in the reproductive age group of 18 to 42 years. 41% of the female respondents were found in the age range of 26-34 years. With respect to the BMI category, it was found that around 70.0% of the females were in the category of Obese I. The knowledge about the effective preventive measures against disease transmission revealed that most of the females were lacking the knowledge. Considering the attitude of females, it was found that according to only 22.0% personal, food and environmental hygiene may be helpful in the prevention of disease transmission. The personal as well as environmental hygiene practices were not found to be at appropriate level as reported by the infertile female patients. Most of the items in the questionnaire were having a statistically significant association ($p<0.05$) with various infertility issues. It is, therefore, requisite for the infertile females to have knowledge of good hygienic practices for the reduction of infertility issues.

Keywords: Hygiene, Infertility, Pelvic Inflammatory Disease, Fiborid Uterus, Ovarian Cysts, Ectopic Pregnancy, Polycystic Ovarian Syndromes.

INTRODUCTION

Infertility is a growing reproductive health concern that affected approximately 48.5 million couples as estimated by World Health Organization (WHO) (Mascarenhas et al., 2012). One out of six couples suffer from infertility distress globally (ESHRE, 2017). Infertility interferes with the mental realm of humans since it exhibits the potential to cause personal

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failure and disorganization in functioning. The situation is troublesome as compared to physical trauma and pain (Elhussein et al., 2019). As a social issue, infertility influences people unfavorably across the globe (Ceballo et al., 2015; Daibes et al., 2017; Batool and de Visser, 2014, 2016).

Females with infertility issues ought to face humiliation, seclusion and social sarcasm (Ibisomi and Mudege, 2014). Moreover, such issues may result in mental and emotional strain (Dyer et al., 2002; Donkor, 2008; de Kok, 2009; Dhont, 2011; Fehintola et al., 2017), verbal hostility and physical abuse between partners (de Kok, 2013; Dhont, 2011). Infertile females exhibit signs of fear, disappointments, distress and frailty (Gerrits, 1997; Dyer et al., 2002; Donkor et al., 2017).

Hygiene, a traditional concept of medicine, personal and professional care, specifies a collection of practices associated with health protection and well-being (Anthoj et al., 2018; Atlam et al., 2016). The maintenance of health, prevention of disease transmission and health management are focal points of hygiene (Simos et al., 2017, Grota and Grant, 2018), thereby, personal hygiene promotes health (Webber et al., 2018; Campbell-Lendrum and Pr¨uss-Ust¨un, 2019; Levanova et al., 2016). The discrimination of hygiene practices is connected with individual, family and social factors along with the knowledge and behavior of individuals (Andersen, 2019; Tomaszewska et al., 2018). Regular hygiene practices may be contemplated as healthy practices whereas negligence may be regarded as repulsive and intimidating (Yadav et al., 2017; Rodrigues et al., 2018).

The customary cause of illness is infection accompanying healthcare in both viz., developed and developing countries. In developing nations particularly South Asia, the scenario is worst owing to scanty resources (Allegranzi et al., 2011). The maintenance of good hygiene practices prevents the escalation of infection (Jayarajah et al., 2019). The insufficiency of knowledge, time, resources regarding hygiene practices and oversight of higher administration in the implementation of hygiene practices may be the contributory factors of poor conformance with hygienic practices (Trampuz and Widmer, 2004). Globally, a substantial public health perturbation is Reproductive Tract Infections (RTIs) (Wasserheit et al., 1989; Bhatti and Fikree, 2002).

As per UN Sustainable Development Goals (SDGs), good health and wellbeing is pivotal for the reduction of mortality (Hogan et al., 2018). The cornerstone of integrative tool i.e., Predictive, Preventive and Personalized Medicine (PPPM) is restraining the prevalence of communicable as well as non-communicable diseases within community at global level (Younesi et al., 2018). Since, predictive and preventive measure is based on thorough assessment of population behavior, therefore, attitude and practices of subjects with respect to hygiene will comprehend predictive and preventive medicine process (Odonkor et al., 2019).

A research conducted on primary school students in Ethiopia exhibited that the practices with regard to handwashing with soap were not discernible irrespective of ample knowledge of hygiene (Vivas et al., 2010). Likewise, the importance of reinforcement strategies for behavioral change (Pradhan et al., 2020) is outlined by another study in

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India indicating the lack of translation of knowledge into scrupulous practices (Sarkar, 2013).

Genital infection, a major female health issue, affects family and marital life (Sevil et al., 2013). Such infections may lead to serious health concerns (Hilber et al., 2010) including ectopic pregnancy, cervical cancer, infertility, sepsis and congenital infection of newborn (Centers for Disease Control and Prevention, 2019). Health behaviors of individuals play a predominant role in everyday performance, thereby, affect wellbeing. Such activities are contingent on experiential utilization of existing knowledge and personal choices (Kaya et al., 2016). For the prevention of genital infections, hygiene plays a predominant role. In order to preserve and boost female's health, early diagnostics, proper treatment and essential preventive measures are inevitable (Hamed, 2015). In light of this, the aim of the research was to assess the personal hygiene practices among female infertility patients.

METHODOLOGY

Study Area

The current study was conducted in District Headquarter Hospital (DHQ) of Okara that lies on the South-East region of Punjab, Pakistan. The city is located at latitude and longitude of $30.81^0$48'N and $73.45^0$27'E respectively. It is situated at a distance of 127 km from Lahore city (Younas et al., 2023).

Study Design and Ethical Review

Before carrying out the study, Ethical Review was taken from the Ethics Committee of Lahore College for Women University (LCWU), Lahore. The participants were informed about the intention of study. With the assurance on anonymity, the female patients filled the written consent. The study was a hospital based cross sectional study. The source population of the study comprised of female in reproductive age group (18-42 years). A total of 200 infertile female participants were part of the study. For the selection of patients, convenience sampling strategy was employed. Proper inclusion and exclusion criteria were set and adopted during the study. All patients of infertility who visited hospital for standard or routine checkup were included. The female patients with polycystic ovarian syndrome (PCOS), pelvic inflammatory disease (PID), ovarian cysts (OC), fibroid uterus (FU) and ectopic pregnancy (EP) were included for research purposes. Females with previous history of infertility or repeated miscarriages were also included. Females with age less than 18 years and above 45 years were excluded from the study. Moreover, healthy females with no infertility diagnosis by consultant gynecologist were also excluded.

Data Collection

In order to meet the objectives of the study, a structured questionnaire was developed for data collection. The questionnaire comprised of various sections to elicit information on socio-demographics i.e., age, social status, education level, marital status, occupation etc and personal hygiene practices (PHP) among female infertility patients. A well-

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structured personal and environmental hygiene questionnaire was formulated after slight modification in the questionnaire developed by European Environment and Health Youth Coalition (Ciobanu et al., 2016), for the evaluation of degree of knowledge, attitude and practices. The questionnaire related to personal hygiene practices (PHP) was categorized into four sections i.e., knowledge, attitude, practices and environment related practices. The section knowledge included the questions related to effective preventive measures against various diseases. Section attitude comprised of questions related to healthy life styles for the prevention of communicable diseases. The main section of the questionnaire i.e., practices that are actually employed for the prevention of disease transmission. The section environmental hygiene practices focused on the cleanliness of the surrounding environment. After collection of data through questionnaire, data was entered in IBM SPSS Statistics 23 for data analysis. Descriptive statistics including frequency, percentages, mean and standard deviation were computed.

RESULTS AND DISCUSSION

Socio-Demographics

The socio-demographical attributes of the female respondents facing infertility issues are tabulated in Table 1. Three age slots were developed for the study. Most of the respondents (41%) belong to the age group of 26-34 years. The educational status of the respondents clearly indicated that most of the respondents were literate. Most of the female respondents with infertility issues (56.5%) belong to lower class. The calculation of BMI revealed that most of the female respondents (70%) were found to be in the Obese I category of BMI. Various factors that may influence the personal hygiene practices of an individual comprises of cultural background, personal habits, health condition and socio-economic level (McKay et al., 2016; Appiah-Brempong et al., 2018)

Table 1: Socio-demographic attributes of female respondents facing infertility issues

Characteristics	Frequency (n)	Percentage (%)
Subjects	200	100
Gender	Female – 200	Female – 100
Age (in years)		
18-25	48	24
26-34	82	41
35-42	70	35
Educational Level		
Illiterate	7	3.5
Primary	74	37.0
Secondary	75	37.5
HSSC	33	16.5
Graduation	11	5.5
Socio-economic status		
Lower	113	56.5
Middle	68	34.0
Upper	19	9.5
Height (M± S.D)	4.857±0.4212	

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Weight (M±S.D)	51.32±10.297	
BMI (M± S.D)	29.98±2.450	
BMI Categories		
Under weight	1	0.5
Normal	9	4.5
Over weight	48	24.0
Obese I	140	70.0
Obese II	2	1.0
Housing Type		
Public housing	25	12.5
Housing authority/society	54	27.0
Subsidized sale flat	59	29.5
Private residence	43	21.5
Village house	19	9.5

Section 1 – Knowledge

Table 2 outlines the findings of research in relation to the knowledge of infertile female patients with regard to effective preventive measures against spread of various diseases. Upon inquiring the respondents about the knowledge of effective preventive measures, it was found that majority of the respondents (38%) considered that covering mouth and nose while sneezing or coughing is the most effective preventive measure against spread of disease. Moreover, it was worthy to note that 6.5% of the female patients lack complete knowledge about the effective preventive measures against transmission of disease. The respondents were also asked about the effective preventive measure specifically against gastrointestinal infections. 35.0% of the female respondents consider the tidiness and dryness of kitchen as an effective preventive measure against spread of gastrointestinal infections. Alarmingly, only 20.0% of the source population consider washing of hands before eating and cooking as effective measure.

Table 2: Knowledge of female respondents about PHP

Items	Categories	Frequency (n)	Percentage (%)
Section 1 - Knowledge			
1. Effective preventive measure against spread of disease	Ensure good indoor ventilation	27	13.5
	Cover mouth and nose when coughing or sneezing	76	38.0
	Keep hand and clean wash hands properly	70	35.0
	Receive vaccination	14	7.0
	Don't know	13	6.5
2. Effective preventive measure against gastrointestinal infections	Wash hands before eating or cooking	40	20.0
	Store food properly	64	32.0
	Keep kitchen tidy and dry	70	35.0
	Receive vaccination	24	12.0
	Don't know	2	1.0

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Section 2 – Attitude

Table 3 delineates the characteristics exhibiting the attitudes of female respondents facing infertility issues. The attitude of females reflected that only 22.0% of females agree with the statement that personal, food and environmental hygiene predominantly prevents the transmission of disease.

About 35.5% of the females were neutral about the prevention of communicable disease with the maintenance of healthy life style. It was worthy to note that most of the females (36.5%) facing infertility considers that Government is responsible for the provision if hygienic environment.

Table 3: Attitude of female respondents towards PHP

Items	Categories	Frequency (n)	Percentage (%)
Section 2 - Attitude			
3. Personal, food and environmental hygiene prevents communicable disease (CD)	Agree	44	22.0
	Neutral	85	42.5
	No comment	52	26.0
	Don't know	19	9.5
4. Maintenance of healthy life style prevents CD	Agree	49	24.5
	Neutral	71	35.5
	No comment	60	30.0
	Don't know	16	8.0
5. Responsible for the maintenance of hygienic environment	Citizen	49	24.5
	Community	55	27.5
	Government	73	36.5
	Don't know	23	11.5

Section 3 – Personal Hygiene Practices

The hygiene practices of infertile females are outlined in Table 4. Upon coughing and sneezing, only 14.0% of the females always cover mouth and nose. After sneezing and coughing, 37.0% of females often wash their hands. 7.5% of females do not practice washing the hands after toilet. After handling rubbish, 36.5% of the females wash their hands. 7.0% of females do not wash their hands after handling pets.

After visiting public places, 37.5% of females wash their hands sometimes. The practice of washing hands was commonly done from 10 to 20 seconds as mentioned by 37.0% of the female respondents.

A study found a significant relationship between history of genital infections and females who bathed once a week ($\chi 2 = 25.534$; $p < 0.001$) (Sevil et al., 2013). In another study conducted by Hamed (2015), women were less likely to bathe, wash hands before and after toilet ($\chi 2 = 6.7$; $p = 0.009$, $p = 0.010$).

Table 4: Personal Hygiene Practices of infertile female patients

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Items	Categories	Frequency (n)	Percentage (%)
6. Cover mouth and nose when coughing and sneezing	Always	28	14.0
	Often	77	38.5
	Sometimes	76	38.0
	Never	16	8.0
	Not applicable	3	1.5
7. Wash hands after sneezing and coughing	Always	45	22.5
	Often	74	37.0
	Sometimes	57	28.5
	Never	11	5.5
	Not applicable	7	3.5
	Don't remember	6	3.0
8. Wash hands after toilet	Always	46	23.0
	Fairly often	78	39.0
	Sometimes	60	30.0
	Never	15	7.5
	NA	1	.5
9. How many times do you change pads in menstrual cycle?	Always	36	18
	Fairly often	67	33.0
	Sometimes	71	35.0
	Never	12	6.0
	Not applicable	12	6.0
	Don't remember	2	1.0
10. Wash hands after handling diapers	Always	30	15.0
	Faily often	60	30.0
	Sometimes	67	33.5
	Never	21	10.5
	Not applicable	16	8.0
	Don't remember	6	3.0
11. Wash hands after handling rubbish	Always	32	16.0
	Fairly often	73	36.5
	Sometimes	64	32.0
	Never	16	8.0
	Not applicable	8	4.0
	Don't remember	7	3.5
12. Wash hands after touching public installation	Always	40	20.0
	Fairly often	71	35.5
	Sometimes	62	31.0
	Never	20	10.0
	Not applicable	4	2.0
	Don't remember	3	1.5
13. Wash hands before meal	Always	32	16.0
	Fairly often	90	45.0
	Some times	56	28.0
	Never	17	8.5
	NA	5	2.5
14. Wash hands after home	Always	44	22.0
	Fairly often	55	27.5
	Some times	82	41.0
	Never	17	8.5
	NA	2	1.0

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15. Wash hands after having a contact with pets	Always	32	16.0
	Fairly often	76	38.0
	Some times	70	35.0
	Never	14	7.0
	NA	8	4.0
16. Wash hands after having a contact with sick person	Always	39	19.5
	Fairly often	80	40.0
	Some time	63	31.5
	Never	16	8.0
	NA	2	1.0
17. Wash hands after visiting public spaces	Always	37	18.5
	Fairly often	66	33.0
	Some times	75	37.5
	Never	18	9.0
	NA	4	2.0
18. Use of Public Towels	Always	32	16.0
	Fairly often	71	35.5
	Some times	66	33.0
	Never	12	6.0
	Not applicable	13	6.5
	Don't remember	6	3.0
19. Use soap for hands	Always	35	17.5
	Fairly often	77	38.5
	Some times	73	36.5
	Never	13	6.5
20. Wear a mask	Always	44	22.0
	Fairly often	61	30.5
	Some times	63	31.5
	Never	26	13.0
	Not applicable	6	3.0
21. When do u wear mask?	Had symptoms of Reproductive Infections	35	17.5
	Took care of patients with Reproductive Infections	68	34.0
	Visited hospital	45	22.5
	Prepared food	16	8.0
	Cleaned home	6	3.0
	Cleaned excreta	5	2.5
	Polluted Environment	5	2.5
	Other	20	10.0
22. For how long do you wash hands?	For less than 10 secs	37	18.5
	Between 10 to 20 secs	74	37.0
	For more than 20 secs	65	32.5
	NA	24	12.0
23. How often do you shower?	When I feel dirty	52	26.0
	4 times or more in a week	78	39.0
	Less than 4 times in a week	57	28.5
	Every day	13	6.5

Section 4 – Environmental Hygiene Practices

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The female respondents were interrogated about the environmental hygiene practices (Table 5). It is worthy to note that 41.5% of the females fairly often put rubbish in bins. However, 11.0% of the females do not place rubbish in the bins at all. 40.5% of the females open the windows often for the maintenance of good indoor ventilation. According to 7.0% of females, it is not necessary to open the windows for proper ventilation.

Table 5: Environmental Hygiene Practices of female respondents

Items	Categories	Frequency (n)	Percentage (%)
24. Put rubbish in bin	Always	45	22.5
	Fairly often	83	41.5
	Some times	47	23.5
	Never	22	11.0
	Not applicable	3	1.5
25. Maintenance of good indoor ventilation	Always	29	14.5
	Often	81	40.5
	Some times	68	34.0
	Not necessary	14	7.0
	Not applicable	3	1.5
	Don't remember	1	0.5
	Don't know	4	2.0
26. Cleaning in past 3 days	Twice	24	12.0
	Once	90	45.0
	Never	63	31.5
	Not applicable	19	9.5
	Don't remember	3	1.5
	Don't know	1	.5

Relationship of Personal Hygiene Practices (PHP) with infertility issues

The relationship of Personal Hygiene Practices (PHP) with various infertility issues i.e., pelvic inflammatory disease (PID), polycystic ovarian syndrome (PCOS), fibroid uterus (FB), ovarian cyst (OC) and ectopic pregnancy (EP) was computed as shown in Table 6. Out of 26 items, non-significant relationship of self-reported questionnaire response with infertility issues was computed ($p>0.05$).

CONCLUSION

Majority of the female respondents facing infertility issues were in the age range of 26-34 years. The findings clearly indicated poor personal hygiene practices among female respondents. Most of the self-reported responses were found to be significantly associated with various infertility issues including pelvic inflammatory disease (PID), fibroid uterus (FU), ovarian cysts (OC), ectopic pregnancy (EP) and polycystic ovarian syndrome (PCOS).

Table 6: Relationship between PHP responses and various infertility issues

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Sections	Items	Options	PID (n)	FU (n)	OC (n)	EP (n)	PCOS (n)	Significance Test P value
Knowledge	Item 1	O1	6	7	6	3	5	X^2= 25.016 P=0.070 Cramer's V=0.177
		O2	20	19	12	14	11	
		O3	15	15	14	11	15	
		O4	3	0	0	3	8	
		O5	6	1	0	3	3	
	Item 2	O1	13	5	9	7	6	X^2= 39.894 P= 0.001 Cramer's V= 0.223
		O2	17	12	12	15	8	
		O3	20	16	11	9	14	
		O4	0	9	0	3	12	
		O5	0	0	0	0	2	
Attitude	Item 3	O1	8	7	11	12	6	X^2= 35.621 P= 0.000 Cramer's V= 0.244
		O2	23	24	12	14	12	
		O3	18	7	9	5	13	
		O4	1	4	0	3	11	
	Item 4	O1	8	15	12	7	7	X^2= 62.686 P= 0.000 Cramer's V= 0.280
		O2	22	15	10	18	6	
		O3	19	12	9	7	13	
		O4	1	0	1	2	16	
	Item 5	O1	10	12	7	13	7	X^2= 34.220 P= 0.005 Cramer's V= 0.207
		O2	10	14	9	9	12	
		O3	27	15	13	8	10	
		O4	3	1	3	4	13	
Personal Hygiene Practices	Item 6	O1	1	9	7	3	8	X^2= 24.676 P= 0.076 Cramer's V= 0.176
		O2	17	17	15	15	13	
		O3	27	15	8	11	15	
		O4	5	1	2	4	4	
		O5	0	0	0	1	2	
	Item 7	O1	11	10	7	10	7	X^2= 35.356 P= 0.018 Cramer's V= 0.210
		O2	18	18	12	13	13	
		O3	11	12	13	9	12	
		O4	2	0	0	1	8	
		O5	4	1	0	0	2	
		O6	4	1	0	1	0	
	Item 8	O1	7	9	9	12	9	X^2= 24.319 P= 0.83 Cramer's V= 0.174
		O2	21	21	14	11	11	
		O3	19	10	9	9	13	
		O4	3	2	0	2	8	
		O5	0	0	0	0	1	
	Item 10	O1	6	6	5	10	3	X^2= 68.570 P= 0.000 Cramer's V= 0.293
		O2	11	11	17	11	10	
		O3	21	13	9	12	12	
		O4	7	0	0	0	14	
		O5	2	9	1	1	3	
		O6	3	3	0	0	0	
	Item 11	O1	1	9	9	10	3	X^2= 45.529 P= 0.001 Cramer's V= 0.239
		O2	22	15	14	10	12	
		O3	17	13	8	13	13	
		O4	4	2	1	1	8	
		O5	1	3	0	0	4	

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		O6	5	0	0	0	2	
	Item 12	O1	8	7	8	10	7	X^2= 34.836 P= 0.021 Cramer's V= 0.209
		O2	13	22	12	13	11	
		O3	21	11	11	8	11	
		O4	8	1	1	2	8	
		O5	0	1	0	0	3	
		O6	0	0	0	1	2	
	Item 13	O1	3	7	7	5	10	X^2= 26.087 P= 0.053 Cramer's V= 0.181
		O2	23	23	16	17	11	
		O3	16	9	9	10	12	
		O4	7	3	0	0	7	
		O5	1	0	0	2	2	
	Item 14	O1	5	17	8	10	4	X^2= 43.232 P= 0.000 Cramer's V= 0.232
		O2	8	11	13	10	13	
		O3	29	13	11	12	17	
		O4	8	0	0	1	8	
		O5	0	1	0	1	0	
	Item 15	O1	7	6	7	9	3	X^2= 48.152 P= 0.000 Cramer's V= 0.245
		O2	16	20	17	9	14	
		O3	22	15	8	12	13	
		O4	5	1	0	4	4	
		O5	0	0	0	0	8	
	Item 16	O1	5	12	8	7	7	X^2= 24.151 P= 0.086 Cramer's V= 0.174
		O2	19	18	9	14	20	
		O3	22	11	14	9	7	
		O4	4	1	1	3	7	
		O5	0	0	0	1	1	
	Item 17	O1	9	7	8	7	6	X^2= 16.373 P= 0.427 Cramer's V= 0.143
		O2	14	14	10	13	15	
		O3	16	18	13	9	19	
		O4	8	3	1	4	2	
		O5	3	0	0	1	0	
	Item 18	O1	3	11	9	4	5	X^2= 62.594 P= 0.000 Cramer's V= 0.280
		O2	14	17	10	17	13	
		O3	18	14	13	8	13	
		O4	1	0	0	3	8	
		O5	10	0	0	0	3	
		O6	4	0	0	2	0	
	Item 19	O1	6	9	10	7	2	X^2= 51.764 P= 0.001 Cramer's V= 0.254
		O2	15	16	14	15	16	
		O3	25	17	8	9	14	
		O4	3	0	0	1	9	
	Item 20	O1	8	8	15	11	2	X^2= 46.924 P= 0.000 Cramer's V= 0.242
		O2	15	15	8	11	12	
		O3	16	13	9	10	15	
		O4	9	2	0	2	13	
		O5	2	4	0	0	0	
	Item 21	O1	6	7	7	9	6	X^2= 72.617 P= 0.000 Cramer's V= 0.301
		O2	18	13	10	16	11	
		O3	7	13	10	6	9	
		O4	2	0	3	1	10	

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		O5	0	0	0	1	5	
		O6	3	0	1	0	1	
		O7	4	1	0	0	0	
		O8	10	8	1	1	0	
	Item 22	O1	5	9	6	7	8	X^2= 33.893 P= 0.027 Cramer's V= 0.206
		O2	18	21	9	10	13	
		O3	19	7	14	14	11	
		O4	8	5	0	2	9	
	Item 23	O1	13	16	6	7	10	X^2= 33.031 P= 0.007 Cramer's V= 0.203
		O2	22	17	13	12	11	
		O3	15	8	12	6	16	
		O4	0	1	1	7	4	
Environmental Hygiene Practices	Item 24	O1	4	15	13	7	6	X^2= 34.420 P= 0.005 Cramer's V= 0.207
		O2	20	15	13	14	21	
		O3	14	10	6	9	8	
		O4	12	2	0	3	5	
		O5	0	0	0	1	2	
	Item 25	O1	5	4	9	6	5	X^2= 39.432 P= 0.025 Cramer's V= 0.222
		O2	21	17	11	16	16	
		O3	22	9	12	11	14	
		O4	2	9	0	0	3	
		O5	0	1	0	1	1	
		O6	0	0	0	0	1	
		O7	0	2	0	0	2	
	Item 26	O1	6	6	1	10	1	X^2= 56.732 P= 0.000 Cramer's V= 0.266
		O2	25	20	15	14	16	
		O3	13	13	16	10	11	
		O4	5	1	0	0	13	
		O5	1	2	0	0	0	
		O6	0	0	0	0	1	

PID= Pelvic Inflammatory Disease, FU= Fibroid Uterus, OC= Ovarian Cyst, EP= Ectopic Pregnancy, PCOS= Polycystic Ovarian Syndrome, O1-O8 = Various Options with numbers

STATEMENTS & DECLARATIONS

Consent to Publish

All authors agreed with the content and gave explicit consent to submit the manuscript for publication.

Author's Contribution

Aiza Sanam, Nadia Ghani contributed to the study conception and design. Babra Shoukat co-supervised the study. Material preparation, data collection and analysis were performed by Aiza Sanam. The first draft of the manuscript was written by Houda Javed. All authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

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Competing Interests

The authors have no relevant financial or non-financial interests to disclose.

Availability of Data and Materials

The authors declare that the data supporting the findings of this study are available within the article.

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