



To study the impact of socioeconomic and demographic condition on various gynecological disorders and their mental health in urban and rural women

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Abstract:

Background: Mental health and reproductive health are closely related. Physical health could be assessed with signs and symptoms but to assess mental health specific techniques are to be utilized of which questioning is one. The present study was undertaken to check the impact of different socioeconomic classes and demographic conditions of urban and rural women on their gynecological health and mental health

Methodology: This comparative cross-sectional prospective study conducted in two tertiary care hospital i.e sumandeep vidhyapeeth hospital in Vadodara. The study sample size was 300 with 150 participants from each site.

Result: Age group of 31-35 (20%) years women was majorly affected at the urban site while at the rural site the age group was 21-25 years (20%). The affected socioeconomic group in urban settings was upper middle class (30%) and lower middle class (24%) and in a rural area it was upper lower class (56.7%). The incidence of menorrhagia (22.6%) was higher in rural area while UTI (28%) was higher in urban area. The general health questionnaire 12 was utilized to evaluate participant's mental health. The average score of General Health Questionnaire-12 (GHQ-12) was 17.17 in rural part while 20.26 in urban part.

Conclusion: Thus the reported average score of GHQ-12 shows an added mental aggressor in urban women compared to rural women. Correlation between socio economic class and mental health could be found in rural area but in urban parts it could not be due to non-compliance.

Keywords: Socioeconomic status, Demographic conditions, Menorrhagia, GHQ-12; Mental health; Gynecological health.



Introduction

The term "gynecological disorders" refers to a group of conditions that impact the female reproductive system, which includes the womb (uterus), ovaries, fallopian tubes, vagina, and vulva [1]. Women's health issues related to the gynaecological system include pelvic inflammatory disease, polycystic ovarian syndrome, abnormal uterine bleeding, menorrhagia, dysmenorrhea, and uterine fibroids etc [2]. Almost every woman suffers from gynaecological disease once in her lifetime. Many gynecological diseases recur several times and leave serious complications affecting reproductive health. They can even cause women infertility. Understanding the common gynecological diseases help women be more proactive in preventing and minimizing adverse consequences [3].

Different contributing factors to the various gynecological disorders/diseases in India include sexual hygiene, socioeconomic status, cultural habits, menstrual hygiene, educational status, and awareness of women in urban and rural areas. Over a time, reproductive health has been a great concern for every woman. To be more specific, there's a sparing difference in reproductive health in urban and rural parts of India [4].

Also, women in the reproductive age group are especially vulnerable to the occurrence of mental problems as many studies have shown that adverse reproductive health outcomes are linked to poor mental health [5]. In short, reproductive health offers a unique lens through which one can analyze the overall mental health of a woman [6]. The close relationship of reproductive health and mental health and their overall impact on the health of women in this age group is significant, due to the influence this bears on the rest of the family and the children [7].

To assess the mental health-specific techniques are to be utilized of which questioning is one. The General Health Questionnaire (GHQ) is a measure of current mental health and has been widely used in different settings and cultures since its development by Goldberg in the 1970s [8-12]. The questionnaire was originally developed as a 60-item instrument, but various abbreviated versions of the questionnaire are now available, including the GHQ30, GHQ28, GHQ20 and GHQ12. The scale asks if the respondent has experienced a recent symptom or behavior. Each item is rated on a four-point scale (less than usual, no more than usual, slightly more than usual, or much more than usual) and yields, for example using the GHQ12, an overall score of 36 or 12, depending on the scoring methods chosen. The most common scoring methods are the scoring styles: bimodal (0-0-1-1) and Likert (0-1-2-3). Because the GHQ12 is short, simple, and easy to complete, and its use in research settings as a screening tool is well documented, there is evidence that the GHQ12 is a consistent and reliable tool when used in general population samples [13].

The purpose of present study was to check and assess prevailing conditions with regards to knowledge and practice for various hygiene related health issues and sanitary access to rural and urban female population differing based on socioeconomic status and its impact on their mental health.

Materials and Methods

After obtaining Institutional Ethical Committee approval and written informed consent from all women, this comparative cross-sectional prospective study was conducted in two tertiary care hospitals i.e. Sumandeep Vidyapeeth hospital in Vadodara during a period of 6 months. Target population were urban and rural women aged above 15 years with various gynecological health issues, disorders/disease specified: dysmenorrhea, menorrhagia, pelvic inflammatory disorder, uterine fibroids, amenorrhea and UTI. A total study sample size was 300 with 150 participants from each site. The sample size was calculated using the RAOSOFT online software, available at <http://www.raosoft.com/samplesize.html>. The calculation was based on the number of patients that visited the department during the study period. The women aged below 14 years, pregnant women, patients with history of any psychiatric/mental disorder or ongoing treatment, history of cancer or ongoing therapy for the same and not native to Vadodara district were excluded from the study.

A specially designed data collection form was made and validated. Then it was used to collect the details about demographics (age, marital status, ethnicity), socioeconomic status (Education, occupation and income) and mental health of the patient. Some other personal information such as complaints, social habits, co-morbidities, past medical history, obstetrics details, spousal data, family type, healthcare accessibility, sanitation and hygiene practice by interviewing them in the OPD (Out Patient Department) and IPD (In Patient Department) from both the hospitals i.e., Sumandeep Vidyapeeth Hospital.



Study tools includes data collection form, patient information sheet, modified Kuppuswamy scale for socioeconomic status, general health questionnaire- 12 for mental health evaluation

Statistical analysis

The data were collected and entered in Microsoft Excel sheet and then statistically analyzed using SPSS Version 20.0. Continuous variables were expressed as mean $\pm$ SD and categorical variables were summarized as frequencies and percentages.

Observations and Results

A total of 300 patients were enrolled in the study and their demographic conditions were analysed. Most of the participants were from the age group of 21-25 among the total population while the majority range in urban population was 31-35 years and in rural it was 21-25 years. 51.3% of overall population had normal body mass index (BMI). In urban arm, majority of population enrolled were from upper middle class (30%) while it was upper lower class (56.7%) in case of rural participants, (Table 1).

Table 1: Socio-demographic data of study population

Socio-demographic data		Urban	Rural
Age group in years	16-20	11 (7.3%)	24 (16.0%)
	21-25	24 (16.0%)	30 (20.0%)
	26-30	26 (17.3%)	24 (16.0%)
	31-35	30 (20.0%)	24 (16.0%)
	36-40	16 (10.7%)	08 (5.3%)
	41-45	12 (8.0%)	10 (6.7%)
	46-50	18 (12.0%)	21 (14.0%)
	51-55	07 (4.7%)	15 (10.0%)
	56-60	03 (2.0%)	10 (6.7%)
	61-65	03 (2.0%)	04 (2.7%)
	66-70	00 (0.0%)	01 (0.7%)
	71-75	00 (0.0%)	02 (1.3%)
	Underweight (16-18.5 kg/m ²)	15 (10.0%)	16 (10.7%)
	Normal (18.5-25 kg/m ²)	83 (55.3%)	71 (47.3%)
	Overweight (25-30 kg/m ²)	45 (30.0%)	51 (34.0%)
	Obese (30-40 kg/m ²)	07 (4.7%)	12 (8.0%)
	Upper Class	31 (20.7%)	01 (0.7%)
	Upper Middle Class	45 (30.0%)	05 (3.3%)
	Lower Middle Class	36 (24.0%)	41 (27.3%)
	Upper Lower Class	30 (20.0%)	85 (56.7%)
	Lower Class	08 (5.3%)	18 (12.0%)

The majority of the participants at the urban study site were suffering from UTI which was 42 participants (28%) while the majority of the participants at the rural study site were suffering from menorrhagia (34; 22.6%) as depicted in figure 1.

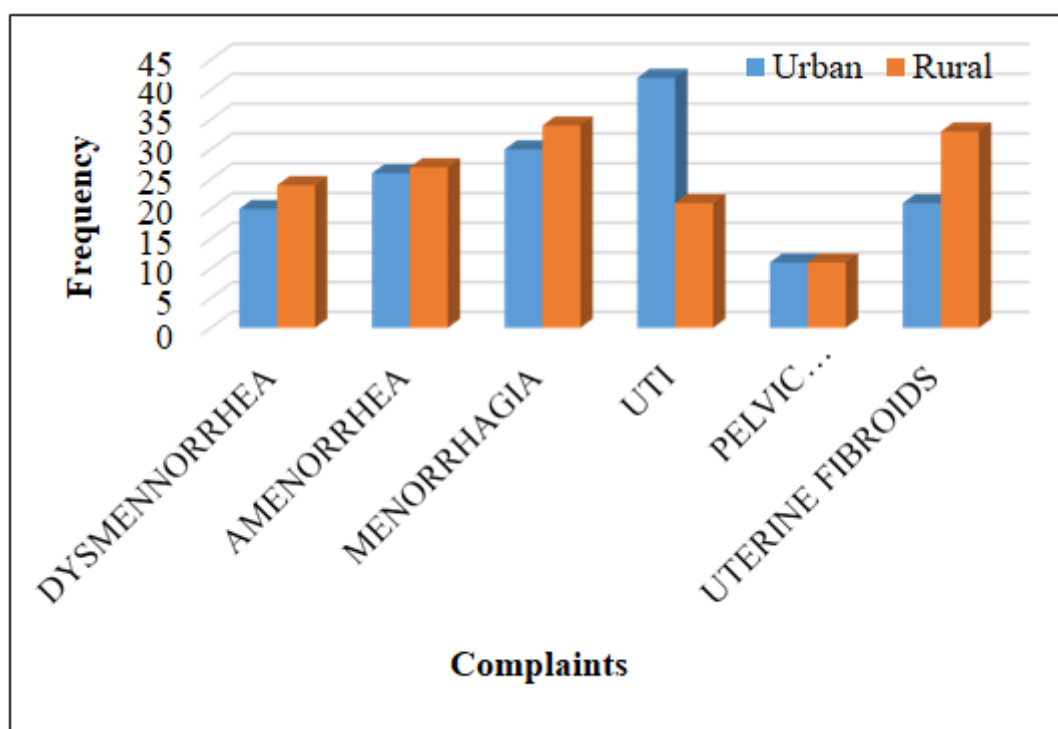


Figure1: Distribution according to complaints in Urban and Rural

At Urban study site the maximum affected age group was of 31-35 years with maximum cases of menorrhagia (40.6%) followed by UTI (26.2%) in the same group. While the most affecting condition in urban women was found to be UTI (28%). At the Rural study site, the maximum cases of amenorrhea were seen in the age group 16-20 years (55.55%) followed by uterine fibroids in age group 41-45 years (33.3%) while the most affecting condition in rural women was found to be menorrhagia (22.6%). The study participants were categorized based on their socioeconomic scale and compared with their conditions in urban and rural site as shown in figure 2 and 3

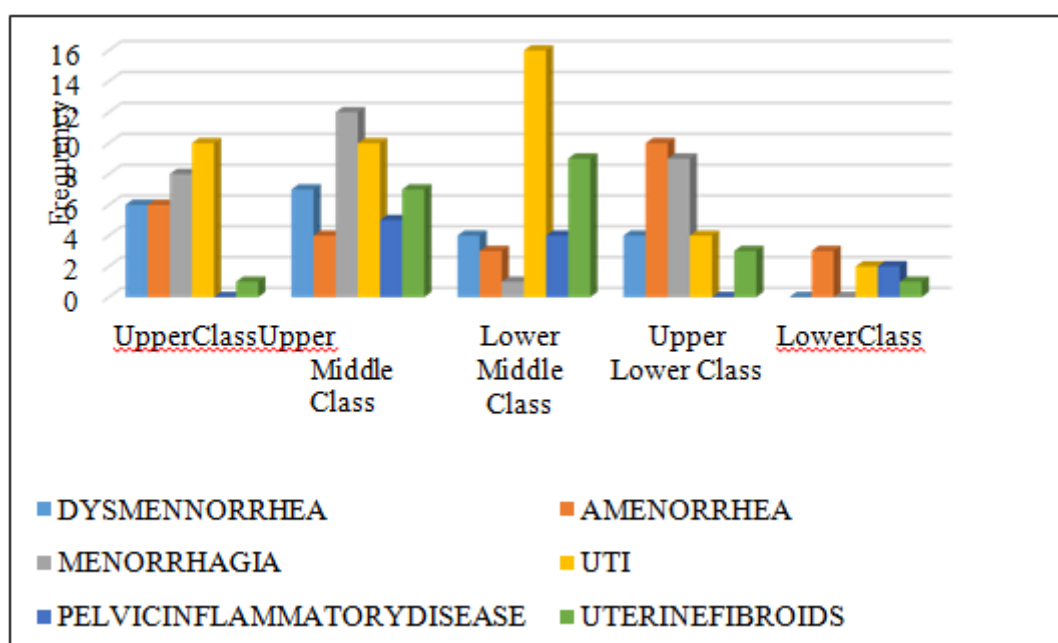


Figure2: Distribution of participants on Socioeconomic Scale vs Condition: URBAN

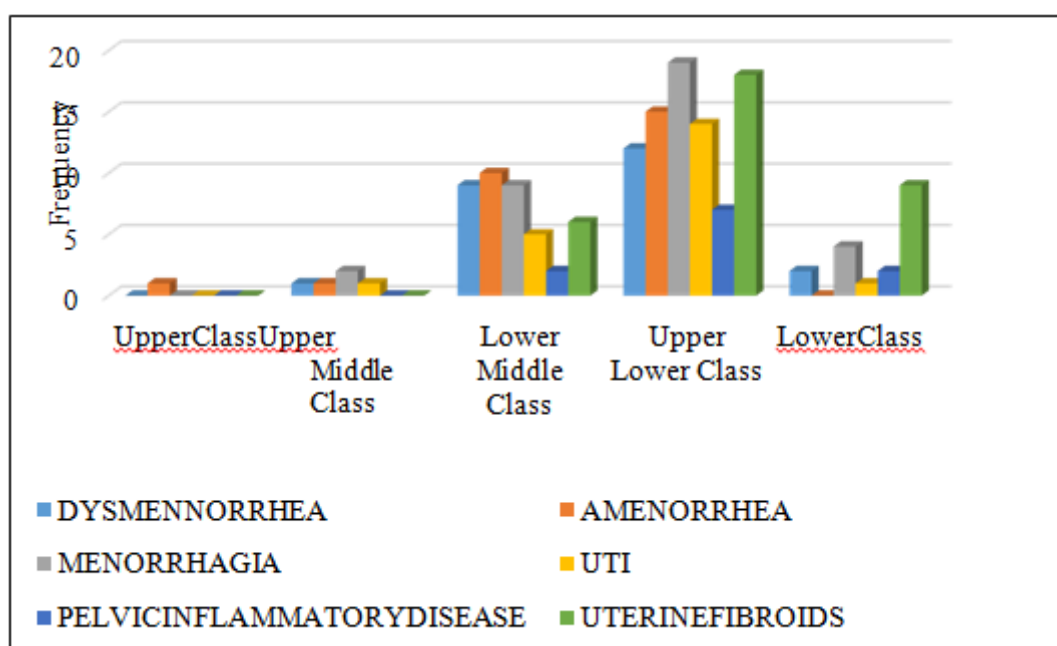


Figure3:DistributionofparticipantsonSocioeconomicScalevsCondition: Rural

The study participants were categorized based on their BMI and compared with their conditions. Dysmenorrhoea occurred in 23 participants with normal BMI, 8 participants with underweight 11 participants with overweight and 2 participants with obesity. Amenorrhoea was seen in 35 participants with normal weight, 11 participants with underweight, 11 participants with overweight and 3 participants with obesity. Menorrhagia was in 3: participants with normal, 5 participants with underweight, 2 participants with overweight, 5 participants with obesity, UTI was observed in 31 participants with normal, 8 participants with underweight, 22 participants with overweight and

2 Participants were obese. Uterine fibroids appeared in 23 participants with normal, 5 participants with underweight, 22 participants with overweight and 4 participants who were obese. The pelvic inflammatory disease was in 9 participants with normal, participant with underweight, 9 participants with overweight and 3 participants obese (Figure 4).

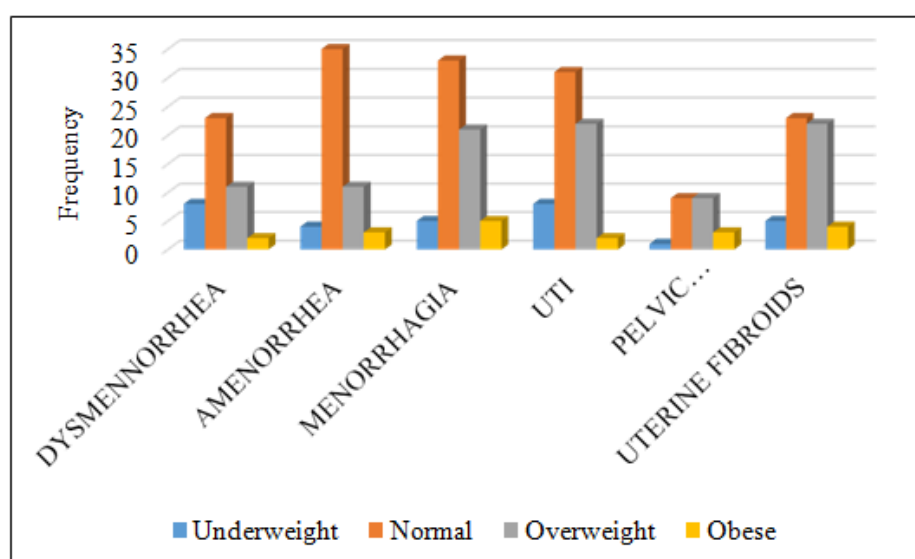


Figure4:DistributionofparticipantsinBMIsconditions



Distribution of participants on basis of maintaining persona hygiene: 14.7% of respondents at the urban site answered NO to the question regarding maintaining of personal hygiene while 85.3% responded with a YES. The response from the rural participants was mixed with 49.3% saying NO and 50.7% YES.

Distribution of participants based on their healthcare services accessibility: In the urban population, around 7 (4.7%) participants were unable to access health care in the past two years while 143 (95.3%) participants didn't have any problem accessing health services and facilities. In rural areas, a total of 71 (47.3%) participants were unable to access healthcare in the past two years while 79 (52.7%) participants said they had no problem in accessing health services and facilities.

Distribution of participants based on their GHQ-12 score: Urban population : The sample size for the GHQ-12 questionnaire was 150 out of which 60 participants didn't answer the questionnaire, so for the urban study arm, the available population sample for analysis was reduced to N=90 (Table 2). The mean GHQ-12 score for urban women was 20.26 (Table 3).

Table 2: GHQ scoring in Urban.

Question	GHQ scoring				Total
	0	1	2	3	
Able to concentrate	05	08	48	29	90
Lost much sleep	08	18	38	26	90
Playing useful part	09	28	39	14	90
Capable of making decisions	08	37	28	17	90
Under stress	13	34	28	15	90
Could not overcome difficulties	10	39	28	13	90
Enjoy day to day activities	15	30	24	21	90
Face up to problem	14	25	37	14	90
Feeling unhappy and depressed	16	20	39	15	90
Losing confidence	17	29	30	14	90
Thinking of self as worthless	19	39	13	19	90
Feeling reasonably happy	15	20	28	27	90

Table 3: Average GHQ score of each socioeconomic class in urban participants

Socio-Economic Score	Grand Total
Lower	22
Lower middle	19.72727273
Upper	23.05
Upper lower	18.29411765
Upper middle	19.62962963
Grand total	20.26666667

Rural population: The sample size for the GHQ-12 questionnaire was 150 in the rural arm of the study to which no drop in participants was observed (Table 4). The mean GHQ-12 score for rural women was 17.17 (Table 5).

Table 4: Rural GHQ score distribution

Question	GHQ scoring				Total
	0	1	2	3	
Able to concentrate	12	47	85	06	150
Lost much sleep	07	25	104	14	150
Playing useful part	16	65	65	04	150
Capable of making decisions	11	73	56	10	150
Under stress	13	69	60	08	150
Could not overcome difficulties	17	73	57	03	150



Enjoy day to day activities	20	102	23	05	150
Face up to problem	16	99	32	03	150
Feeling unhappy and depressed	10	91	42	07	150
Loosing confidence	05	20	102	23	150
Thinking of self as worthless	06	90	45	09	150
Feeling reasonably happy	08	90	42	10	150

Table 5: Average GHQ score of each socioeconomic class in rural participants

Socio-Economic Score	Grand Total
Lower	17.83333333
Lower middle	16.48780488
Upper	17
Upper lower	17.48235294
Upper middle	15.2
Grand total	17.17333333

Discussion

Socioeconomic status is a prime factor influencing healthcare accessibility in the country. It's the measure of social standing of an individual and has wide spread impact on quality of life, education accessibility, healthcare accessibility and affordability and its impact on mental health.

The majority of the women in present study were of age group of 31-35 (20%) years in Urban part and 21- 25 (20%) years of age in Rural part. The average BMI category of Urban and Rural women was normal (55.3%) and (47.3%) respectively. the socioeconomic distribution of the study participants was (10.7%) upper class, (16.7%) upper middle class, (25.7%) lower middle class, (38.3%) upper lower class and (8.7%) lower class. With average of Upper Middle class (30%) in Urban participants and Upper Lower class (27.3%) in Rural participants. The majorly occurring condition was Menorrhagia (22.6%) in Rural participants and UTI (28%) in Urban participants. The other important parameters here was to compare the individual socioeconomic class with the gynecological condition which showed that the majorly affected population at Rural site are from Upper Lower class (56.6%) while at Urban site the Upper Middle class (30%) and Lower Middle class (24%) population was affected.

While comparing the age and conditions participants at the Urban site had the maximum affected age group of 31-35 years with maximum cases of menorrhagia (40.6%) followed by UTI (26.2%) in the same group. While the most affecting condition in urban women was found to be UTI (28%). At the Rural site the maximum cases of amenorrhea were seen in the age group 16-20 years (55.55%) followed by uterine fibroids in age group 41-45 years (33.3%) while the most affecting condition in rural women was found to be menorrhagia (22.6%).

Accessibility to healthcare facilities, physical activity and personal hygiene information was also collected. Results shows that urban population had better accessibility, understanding and practice of personal hygiene than rural population. 95.3% of urban population had access to health care facility while only 52.7% people from rural areas had accessibility to health care facilities. In urban setup, 75% people consult the doctor while in rural, only 40% people go to the doctor for any consultation for pain or bleeding during periods. 47% of urban and 40% of rural population take OTC medication for pain or any other problems without consulting the physician. The results were surprisingly unbelievable when it showed 48%, 72% participants found to have no knowledge and 49%, 52% are not using sanitary products in urban and rural populations respectively. 70% urban and 56% rural participants do physical activities and exercising in their day-to-day life. Similarly to the study conducted by De Aet al [14]. Physical activity is necessary for a healthy life to which (44%) of Rural participant said that they do not do any physically moderate exercise or physically active lifestyle with contrast to (70.7%) participants at Urban site said that they do exercise minimum of 3 days a week.

For acquiring mental health status of the enrolled gynecology patients, we have taken GHQ 12 as the questions were pre standardized and the scores were given according to the answers given by the participants. With in-



depth statistical analysis the most affected group mental health wise in Rural area were of Lower class with average of (17.83) followed by Upper lower class (17.48) with lowest score of upper middle class (15.2). At the Urban site a significant correlation cannot be formed due to participants drop-out from the latter part of the study but similar results to the rural area were found based on available data from participants who agreed with upper class having mean score of (23) followed by lower class with mean score of (22), lower middle class with mean score of (19.7). The average GHQ-12 score for Rural participants was 17.17 while Urban participants had an average score of 20.26 with response from 90 participants compared to 150 participants from Rural site. To conclude, the urban participants were more open to seek help for their physical health and had knowledge regarding basic hygiene/sanitation requirement than their counterparts at Rural site. But with in-depth statistical analysis the most affected group mental health wise in Rural area were of Lower class with average of 17.83 followed by Upper lower class 17.48 with lowest score of upper middle class 15.2. At the Urban site a significant correlation cannot be formed due to participants drop-out from the latter part of the study but similar results to the rural area were found based on available data from participants who agreed with upper class having mean score of 23 followed by lower class with mean score of 22, lower middle class with mean score of 19.7. So, correlation between socio economic class and mental health could be found in rural area but in urban part it could not be due to non-compliance.

People need to talk and discuss about Women's physical and mental health and everyone must focus on improvising the conditions regarding hygiene and related health issues that women suffer from on a daily basis and still they are not able to speak out loud about their conditions. Policymakers and authoritative organizations should work on providing better health care and accessibility to hospitals. Health care professionals also need to discuss the mental health status and counsel the patients for improving the quality of life of women. Although urban women had better accessibility, most of them came at later stage of their gynecological conditions which led to hysterectomy (removal of uterus) surgery and compromising health quality of life. This also seems to affect the mental health of the patients. Overworking, stress, obesity, hygiene was found to be the reason for maximum of the population suffering from various gynecological conditions. More awareness campaigns for physical health hygiene practice and mental health would be helpful in improving the current situation.

Conclusion

Women of age 31-35 and upper middle class in urban population seem at risk for gynecological complications while women of age 21-25 and upper lower class are at risk in rural population of our study. The average GHQ score was found to be 20.26 and 17.17 in urban and rural population respectively which shows an added mental aggressor in urban women compared to rural women. Correlation between socioeconomic class and mental health could be found in rural area but in urban parts it could not be due to non-compliance.

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