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# Perceived Gynecological Morbidity among Young ever-married Women living in squatter settlements of Karachi, Pakistan

Pages with reference to book, From 92 To 97

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## Abstract

**Background:** Community-based information on obstetric and gynecological morbidity in developing countries is meager and nearly non-existent in Pakistan.

**Objectives:** To estimate the prevalence of specific gynecological morbidities and investigate the predictors of pelvic inflammatory disease

**Methods:** Users and non-users of modern contraceptives were identified from eight squatter settlements of Karachi, Pakistan and detailed information on basic demographics, contraceptive use, female mobility, decision-making and gynecological morbidities were elicited.

**Results:** The perceived prevalence of menstrual disorders were 45.3%, uterine prolapse 19.1%, pelvic inflammatory disease 12.8% and urinary tract infection 5.4%. The magnitude of gynecological morbidity was high with about 55% of women reporting at least one gynecological morbidity though fewer reported at least two gynecological morbidities. Significant predictors of pelvic inflammatory disease were intrauterine contraceptive device users (OR = 3.1; 95% CI 1.7- 5.6), age <20 years (OR = 2.3; 95% CI 1.1 - 4.8) and urban life style (OR = 2.1; 95% CI 1.0-4.6).

**Conclusion:** There is an immense burden of reproductive ill-health and a significant association between ever users of intrauterine contraceptive device and pelvic inflammatory disease. We therefore suggest improvement in the quality of reproductive health services generally, but specifically for family planning services (JPMA 49:92, 1999).

## Introduction

Gynecological morbidity has been defined as structural and functional disorders of the genital tract which are not directly related to pregnancy, delivery and puerperium. It includes menstrual disorders, reproductive tract infections, cervical cell changes, genital prolapse and other related morbidities such as syphilis, urinary tract infections (UTI) and anemia<sup>1</sup>.

A study on the prevalence of gynecological morbidity in Pakistani women reported that nearly 17% had cervical infections, erosions or ulceration and 10.9% had utero-vaginal prolapse<sup>2</sup>. Another study from Lahore, reported a high prevalence of gynecological morbidities: 77.1% vaginal discharge, 3.0% pelvic inflammatory disease (PID) and 38.6% UTI, while in another study 82% of the 434 non-pregnant clinic attendees reported menstrual problems<sup>3</sup>.

An analysis of self-reported symptoms of gynecological problems in Karnataka, India among 3,600 women, reported that one-third of all women mentioned at least one current symptom: the most common being a feeling of weakness and tiredness, menstrual disorders, white or colored vaginal discharge, lower abdominal pain and discharge with fever<sup>4</sup>. Other community-based studies in India report menstrual disorders such as heavy, light, irregular; painful menstruation or spotting as the major gynecological complaint<sup>5</sup>, ranging from a low of 33% in rural West Bengal to 60% or more in rural Maharashtra and Karnataka.

Prevalence of other gynecological morbidities such as UTI - 4% and uterine prolapse - 8%<sup>1</sup> have been reported from community-based studies conducted in India and Egypt<sup>4,6</sup>. Much higher prevalences,

around 20%, have been reported for PID among rural women in Kenya, Uganda, and India<sup>7</sup>. Several studies among rural Indian women report the prevalence of white or colored vaginal discharge and malodorous vaginal discharge or itching/irritation and fever ranging from 16% to In several African countries, 22% to 44% of hospital admissions in gynecological wards were due to PID<sup>10</sup>, while, in a New Delhi hospital, India, over a five-year period, only 2.8% of cases were admitted with pelvic infections<sup>11</sup>.

The major risk factors for PID in developing countries were behavioral or socioeconomic. For example, reports from South India, show that women were more likely to report menstrual disorders, dyspareunia, prolapse, ND and UTI had poor behavioral factors like poor personal hygiene, or unsanitary household conditions, or low exposure to health information<sup>4</sup>. However, low socio-economic status and poor education are also well-recognized major risk factors for PID

Intrauterine contraceptive device frequent urination and burning urine in the preceding three months. For the in-depth analysis of predictors of PID, we classified our cases as those women who reported currently suffering from foul-smelling vaginal discharge accompanied by fever and/or lower abdominal pain (n = 92). Our controls were women who did not report any of these symptoms (n 625).

### **Potential Risk Factors**

The risk factors under investigation were broadly classified as socioeconomic and demographic variables including women's education, occupation, urban residence, household assets, age of the women, age at marriage and duration of marriage. In addition, parity and current user status by type of method used were also investigated.

A composite index was computed for socioeconomic status based on ownership of twelve household assets ownership of such items as iron, sewing machine, refrigerator, washing machine, motor cycle, car etc. In this paper, "household assets" will be considered as a proxy indicator for socioeconomic status. The classification of low, average and high socioeconomic status was based on cut-off values representing approximately two standard deviations below the mean. Thus, women who reported owning up to four items were considered as belonging to the low socioeconomic strata; those reporting owning five to nine items were considered as belonging to the average socioeconomic strata while those owning 10 or more items were considered as belonging to the upper socioeconomic strata.

Current use of family planning method included women who were currently using or have used any modern method of contraception in the past twelve months. Modern contraceptive methods included hormonal, IUCD, condom and tubal ligation. Prior IUCD users may be currently suffering from PID (a chronic infection) though currently using other modern methods of contraception. We therefore included the 37 women who previously reported using IUCDs as "IUCD users", irrespective of their reported PID status.

### **Statistical analysis**

First, prevalence of various gynecological morbidities such as menstrual disorders, uterine prolapse, PID and UTI were computed. Then, univariate and multivariable logistic regression analyses was conducted for identifying the risk factors for PID. The bivariate associations between socioeconomic and demographic variables and other variables with cases and controls were investigated, and odds ratios and p-values were calculated.

Due to multi-collinearity and possible confounding among some of the risk factors identified in the bivariate analyses, multiple logistic regression were run to assess the effect of each risk factor in the presence of other variables in the model.

The criteria for including variables in the multiple logistic regression analyses was a p-value of <0.1 upon bivariate associations. The potential risk factors which met our selection criteria were entered in the logistic regression model and significance of the regression coefficients were noted. Those risk factors which had a p-value of <0.1 were identified for inclusion in the subsequent model, priority of addition was based on the magnitude of their p-values. The final overall regression models only

include risk factors with a p-value of <0.05. Data analyses were performed on EpiInfo version 6.04b and SPSS version 7.5 for windows<sup>18,19</sup>.

## Results

Menstrual disorders were the major gynecological morbidity with nearly 45% of women reporting either heavy bleeding, prolonged bleeding or painful menses. Even though the sample population were young women years], the reported prevalence of uterine prolapse was nearly 19%. However, lower prevalences were reported for PID and UTI (Table 1).

**Table 1. Descriptive frequency of perceived gynecological morbidities among 717 ever-married women living in Squatter settlements, Karachi, Pakistan, 1996.**

Morbidities	n	%
Menstrual disorders	325	45.3
Uterine prolapse	137	19.1
Pelvic inflammatory disease	92	12.8
Urinary tract infection	39	5.4

The magnitude of gynecological morbidity was high with about 55% of the women reporting at least one gynecological morbidity, the most common being menstrual disorders. However, the proportion of women reporting at least two gynecological morbidities was much lower with menstrual disorders and uterine prolapse being the most frequent.

The unadjusted odds ratios and 95% confidence intervals for the risk factors for PID are shown in Table 2.

**Table 2. Univariate Analysis for Risk Factors of Pelvic Inflammatory Disease. Squatter settlements, Karachi, Pakistan, 1996.**

Characteristics	Cases		Controls		OR	95% CI
	n	%	n	%		
<b>Education</b>						
Literate	49	53.3	326	52.2	1.0	
Illiterate [Ref]	43	46.7	299	47.8	1.0	0.6 - 1.5
<b>Occupation</b>						
Employed	7	7.6	50	8.0	0.9	0.4 - 2.7
Housewife [Ref]	85	92.4	575	92.0	1.0	
<b>Life Style</b>						
Urban*	84	91.3	508	81.3	2.4	1.1 - 5.6
Rural [Ref]	8	8.7	117	18.7	1.0	
<b>SES [# of HH items]</b>						
≤4 [Low] [Ref]	8	8.7	91	14.6	1.0	
5 - 9 [Average]	69	75.0	444	71.0	1.8	0.8 - 4.1
≥10 [High]	15	16.3	90	14.4	1.9	0.7 - 5.2
<b>Age [years]</b>						
≤20	12	13.0	39	6.2	2.2	1.0 - 4.7
21 - 25	28	30.4	215	34.4	0.9	0.6 - 1.6
26 - 30 [Ref]	52	56.5	371	59.4	1.0	
<b>Age at marriage [years]+</b>						
≤16	50	54.9	300	48.4	1.6	0.8 - 3.2
17 - 19	28	30.8	196	31.6	1.4	0.7 - 2.9
20+ [Ref]	13	14.3	124	20.0	1.0	
<b>Duration of marriage [years]++</b>						
<10 [Ref]	45	48.9	309	49.4	1.0	
<b>Parity</b>						
2 - 4 [Ref]	64	69.6	426	68.2	1.0	
5+	28	30.4	199	31.8	0.9	0.6 - 1.6
<b>FP method - currently used<sup>S</sup></b>						
Hormonal methods	11	12.1	90	14.7	1.2	0.6 - 2.7
IUCD	24	26.4	77	12.5	3.2	1.7 - 6.0
Condoms	23	25.3	125	20.4	1.9	1.0 - 3.5
Female sterilization	5	5.5	37	6.0	1.4	0.4 - 4.1
Non-users [Ref]	28	30.8	285	46.4	1.0	

\*Urban denotes city life exposure for ≥ 12 years

\* N = 711 as there are missing values [cases n = 91 and controls n = 620]

\*\* N = 713 as there are missing values

<sup>S</sup> Current users of modern contraceptive methods such as foam (n = 8), vasectomy (n = 1) and induced abortion (n=3) are excluded (N=705) [For other methods n = 12]

Although life style (categorized as urban if a woman had lived in a city for >12 years else it was considered as rural exposure) was significantly associated with reported PID, other socioeconomic and demographic characteristics such as educational status, occupation and household assets were not significantly associated with reported PID. Women who reported PID were almost two and a half times more likely to have an urban exposure as compared to women who did not report suffering from PID. Age and current use of family planning method were significantly associated with reported PID. Women who reported suffering from PID were twice as likely to be <20 years of age as compared to those women not suffering from PID. PID sufferers were three times more likely to report using IUCDs as compared to non-sufferers of PID. Age at marriage, duration of marriage and parity were not significantly associated with reported PID.

**Table 3. Adjusted Odds ratios for Risk Factors of Pelvic Inflammatory Disease in Squatter settlements, Karachi, Pakistan, 1996.**

Characteristics	Model 1	Model 2
FP method - currently used		
Hormonal methods	1.2 n.s.	1.2 n.s.
IUCD	3.3 ****	3.1 ****
Condoms	1.9**	1.8 *
Female sterilization	1.5 n.s.	1.5 n.s.
Age [years]		
≤ 20	2.4 **	2.3 **
21 - 25	1.0 n.s.	1.0 n.s.
Life Style		
Urban	-	2.1 **
Degrees of Freedom	6	7
- 2 Log Likelihood Ratio	522.14	517.66

n.s.= Non-significant

\* = p value ≤0.1

\*\* = p value ≤0.05

\*\*\* = p value ≤0.01

\*\*\*\* = p value ≤0.001

Table 3 shows the adjusted odds ratios for the multivariate logistic regression models. Life style, current age and use of modern methods of contraceptives which were significant in the unadjusted analysis retained their significance in the final model with minimal change in the magnitude of their odds ratios.

## Discussion

The magnitude of gynecological morbidity, as reported by the young women in our sample, underscores the burden of ill-health among young women living in urban squatter settlements of Karachi, Pakistan. Approximately 55% of the women in this study reported having at least one gynecological morbidity, similar to studies reported from India<sup>5</sup> where the magnitude of gynecological morbidities ranged from 33% to as high as 92%<sup>4,5,20</sup>.

There was a marked difference in the prevalence of women reporting at least one and at least two gynecological morbidities : menstrual disorders and uterine prolapse being the most frequently reported morbidities. This decline in the magnitude of ill-health, though significant, is still unacceptably high as uterine prolapse largely contributes to the 20% of women who complain of at least two gynecological morbidities. The chronic sequelae of uterine prolapse is urinary incontinence and requires surgical intervention. Thus, if nearly 20% of these women are now complaining of symptoms of uterine prolapse, the medical costs of surgical repair needs to be considered in any health planning for these communities.

Our prevalence of nearly 45% for reported menstrual disorders lie in-between the prevalence reported from rural West Bengal , rural Maharashtra and Karnataka {60%}<sup>2</sup>. We feel, however, that our results may overestimate the “true” prevalence of menstrual disorders as neither did we conduct a detailed medical history nor did our interviewers have a medical background which would have enabled them to more effectively probe into the perceived signs and symptoms of these gynecological morbidities. On the other hand, prevalences reported from the Lahore clinicbased study<sup>3</sup> are much higher than our study results, reflecting, we feel, a sampling bias - clinic population for the Lahore study<sup>3</sup> and community-based for our study.

PID was reported by nearly 13% of the women interviewed. On the other hand higher prevalences [around 20%] have been reported among rural women in Kenya, Uganda, and India<sup>7</sup>. A possible explanation for high prevalences of PID could be the high rate of sexually transmitted diseases [STDs] in these countries as compared to our population. For example, results of a survey conducted among women in an urban, low income community in Karachi, report 0.2% prevalence of *Treponema pallidum*, 0.9% of *Neisseria gonorrhoea*, 0.2% of *Chlamydia trachomatis* and 4.7% of *Trichomonas vaginalis*. The overall prevalence of STDs was less than 5% for any of the four pathogens mentioned. Ever use of IUCD has been shown in our study and in other studies<sup>5,6,12,14,20</sup> to be a major predictor of PID. The most likely route for transmission of infections culminating in PID is either through a mismatch in the size of IUCD or infection spreading through the IUCD thread<sup>6,21</sup>. We therefore suggest that insertion of IUCD be conducted under aseptic conditions.

Age 20 years is a significant predictor of PID as reported from our study as well from other studies conducted in developed countries like Netherlands, Sweden and USA which report PID to be more common among younger, unmarried women<sup>15</sup>. Moreover, early, pre or extra-marital sex has been shown to significantly influence the development of STDs and PID<sup>22-25</sup>. Though young age is associated with high-risk behavior as well as low prevalence of protective immunoglobulins against STDs and organisms causing bacterial vaginosis<sup>26</sup>, to establish whether young age is to be regarded as a risk marker or a risk modifier or both with regard to STD acquisition and subsequent PID appears difficult to determine with our current knowledge.

In conservative societies like Pakistan, marriage is an indication of active sexual life and young age at marriage can possibly result in injury of the thin and fragile vaginal epithelium due to initiation of sexual intercourse at ages younger than fifteen. We therefore suggest that women should get married at older ages as our results show that PID sufferers were 2.3 times more likely to be younger married women as compared to non-sufferers of PID (Table 3). It is extremely encouraging to note that the trend of increasing age at marriage in Pakistan has risen by nearly two years -from 20.2 years in 1981 to 22 years in 1994/95 and we hope that this will rise even further in the future.

An interesting characteristic among our study population is that PID sufferers were more likely to be women who had been exposed to urban life. The possible explanations could be either better reporting as these women are also more likely to have received some education or that overcrowding in urban settings leads to unsanitary conditions and consequently higher probability of infections. However, our study did not probe into this factor but we suggest that future studies need to examine this

phenomenon.

In summary, we report an immense burden of reproductive ill-health among young Muslim women living in squatter settlements of Karachi, Pakistan. Furthermore, the strong and consistent association between ever users of IUCDs and PID strengthens the call for improving quality of reproductive health services generally, but specifically for family planning services.

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