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# Quality of life among women with symptoms of gynecological morbidities: Results of a cross-sectional study in Karachi, Pakistan

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## Abstract

**Aims:** A population-based cross-sectional study design was used to study the effects of symptoms of various gynecological morbidities (GM) on health-related quality of life (HRQoL) of women, residents of squatter settlements of Karachi, Pakistan.

**Material and Methods:** This cross-sectional study was conducted in squatter settlements of Karachi from September 2012 to August 2013, with 1002 married, non-pregnant women. After obtaining written informed consent from every participant, a structured questionnaire was used to collect information about symptoms of GM and their effect on four domains of HRQoL (physical, social, functional and financial domains).

**Results:** Of 1002 women who participated in the study, 578 reported suffering from one or more symptoms of GM. The most commonly reported symptoms were foul-smelling vaginal discharge, dysmenorrhea and uterovaginal prolapse while the least reported symptom was post-coital bleeding. Symptoms of GM were found to have a negative impact on HRQoL. Approximately one-third of women with the symptoms of GM reported having negative influences on the physical, financial and functional domains of HRQoL with social domain being comparatively less affected. Compared to other symptoms, dysmenorrhea and uterovaginal prolapse were reported to be mostly associated with poor HRQoL of women.

**Conclusion:** The concept of HRQoL has been kept marginal and inconspicuous by clinicians. In order to achieve the psychosocial satisfaction of the patient, the focus needs to be diverted to all domains of HRQoL.

**Key words:** domains, dysmenorrhea, gynecological morbidity, health-related quality of life, uterovaginal prolapse.

## Introduction

The World Health Organization has defined 'reproductive health' as a state of complete physical, mental and social well-being and not merely an absence of disease in all matters relating to the reproductive system and its functions and processes.<sup>1</sup> Maternal mortality has long been considered as the main indicator of a woman's reproductive health with increasing interna-

tional concern about provision of health care during pregnancy, child bearing and the postnatal period.<sup>2</sup> In comparison, scant attention has been paid to the issues related to reproductive morbidity, which are much more common and gravely affect women's lives.<sup>3</sup>

Reproductive morbidity encompasses health problems related to reproductive organs and functions, including child bearing, and refers to the diseases that affect the reproductive system, not necessarily as a

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consequence of reproduction.<sup>4</sup> This could be broadly categorized into obstetric, contraceptive and gynecological morbidity (GM). GM is defined as 'structural and functional disorders of genital tract not related to pregnancy, delivery and the puerperium but may be related to sexual behavior'.<sup>4</sup> Unlike obstetric and contraceptive morbidity, GM is not related to any event in a woman's life. These are more common, affect the daily routine life of a woman and could have serious consequences. Moreover, these morbidities might have a negative impact on her health-related quality of life (HRQoL), which is an individual's overall satisfaction with life and the general sense of well-being.<sup>5</sup> HRQoL of a person with any morbidity is multidimensional with four broad domains: physical, functional, social and psychological. Other important health-related factors, like vitality, pain, anxiety and depression, are often included within these four categories.<sup>5</sup> GM are notorious for negatively affecting the HRQoL of women are often ignored not only by women<sup>6</sup> but by health providers, planners and researchers too.<sup>7</sup>

Poor HRQoL for women with GM could be due to infertility, menstrual and coital disorders, fistula, uterovaginal prolapse or sexually transmitted infections with consequences for all four domains. The situation becomes particularly gloomy for women from developing countries as the QoL is further exasperated by their poor socioeconomic conditions. Their illiteracy, hesitation in discussing the sensitive subject of the genital tract and its functions, ignorance, lack of empowerment, lack of awareness and inability to afford seeking health care result in delay in or failure for opting for scientific management ending up in various complications.<sup>8-10</sup>

Additionally, such morbidities have been reported to affect a woman's marital life and she may become a victim of verbal and physical abuse and abandonment or face the social consequences, such as threat of divorce by her husband.<sup>11</sup> These problems could be attributed to multiple factors, including morbidity *per se*,<sup>12</sup> poor sexual relationships due to the symptoms of morbidities<sup>13</sup> or a woman's inability to fulfill her routine activities due to the symptoms/morbidities, a mandatory perceived role of a woman in developing countries.<sup>14</sup>

Though there is a dearth of data in Pakistan, GM are not uncommon. A few community and facility-based studies have revealed the prevalence of various morbidities as follows: uterovaginal prolapse (11–12%), vaginal discharge (77%), and menstrual problems (82%).<sup>7,15,16</sup> Some women report multiple morbidities

and studies conducted in squatter settlements of Karachi reported that nearly half of the women (55%) reported at least one type of morbidity while one-fifth of the women (20%) reported two or more types.<sup>6,16</sup> The aforementioned studies divulge the high burden of the problem. Interestingly, none of these studies have evaluated the affects of these morbidities on women's HRQoL. The present study describes the impact of symptoms of various types of GM on HRQoL. It was the part of the study conducted to assess the prevalence of various GM among women in squatter settlements of Karachi, Pakistan.

## Methods

### Study site and population

The study was conducted in squatter settlements of the metropolitan city of Karachi, Pakistan, which has a population of 23.5 million as of April 2013.<sup>17</sup> For administrative purposes, the city has been divided into 18 towns which are sub-divided into 178 union councils (UC) with 6–15 UC in each town.

The study was conducted in collaboration with the National Program for Family Planning (FP) and Primary Health Care (PHC). The program serves the poor communities, residing in rural and peri-urban areas, and provides FP and PHC services at their doorsteps through Lady Health Workers (LHW). Each LHW is responsible for serving the residents of 150 households through monthly home visits and static health houses established within their residence.

### Sampling strategy and enrollment

The study was conducted from September 2012 until August 2013. The multi-stage cluster sampling design identified the respondents. Out of the 18 towns, three towns and one UC from each town were randomly selected. The calculated sample size (1050) with 5% bond on error and 95% confidence interval was divided equally into three segments so that a total of 350 respondents were selected from each UC. The household information was obtained from the National program for FP and PHC. A computerized list of all the households in three selected UC was generated. A random sample of households was drawn for enrolling married non-pregnant women aged 15–49 years. Only one woman from each household was enrolled. One woman was randomly selected from households with more than one eligible respondent. The study was approved by the ethical review committee in Aga Khan

University. Written, informed consent was obtained from all participating women.

### Data collection

Women who consented to participate in the study were administered a questionnaire by trained interviewers. Information was collected on the following aspects: menstrual, sexual and obstetric history, gynecologic symptoms (including vaginal discharge, itching, sores or ulcers in the genital area, backache, lower abdominal pain, prolapse, frequency of and burning/pain during micturition) and women's health-seeking behavior (treatment sought, health-care providers consulted, reasons for not seeking treatment). Women with a particular symptom of GM were questioned further about the four domains of QoL (physical, social, financial and functional).

### Operational definitions

#### *Gynecological symptoms*

The following symptoms were considered assuming they indicate one or more types of GM: genital ulcers, genital vesicles, irritation on genital area, vaginal discharge, lower abdominal pain, backache, genital prolapse, difficulty in conceiving, menstrual irregularities, dysmenorrhea, post-coital bleeding, dyspareunia and symptoms related to micturition (burning, frequency, pain).

The following questions were asked for assessing four domains of HRQoL:

- **Physical domain:** Women were asked about the intensity of individual symptoms. Those who described their symptoms as 'moderate, severe or unbearable' were regarded as 'intensity of symptoms negatively affected the physical domain of HRQoL'. All others were declared 'physical domain of HRQoL not affected by the severity of the symptom'.
- **Social domain:** For this paper, the effect of any symptom and the related morbidity on marital relationship was considered under social domain. Women were asked if their marital life was affected due to the symptom. Those who responded 'Yes' were regarded as 'social domain of HRQoL was negatively affected by the symptoms'. All others were declared 'social domain of HRQoL was not affected by the symptoms'.
- **Functional domain:** For this paper, the effect of any symptom and the related morbidity on women's daily routine work was considered under functional

domain. Women were asked if their daily routine work was affected due to the symptom. Those who responded 'Yes' were regarded as 'functional domain of HRQoL was negatively affected due to the symptoms'. All others were regarded as 'functional domain of HRQoL not affected by symptoms'.

- **Financial domain:** All women who did not seek treatment for the symptoms or did not complete the treatment advised due to financial reasons, that is, non-affordability, were regarded as 'financial domain of HRQoL was negatively affected by symptoms'. All others were regarded as 'financial domain of HRQoL not affected'.

### Statistical methods

Data were double-entered using Epi-Info and error rate was less than 1%. The statistical analyses were done using spss 17.0 for Windows.

## Results

### Participation

The calculated sample size was 1050 but a total of 1002 women were actually interviewed with a response rate of 95.4%. The main reasons for declining to participate in the study included lack of permission from the family, fear of getting some disease diagnosed and non-availability of husbands to grant permission for the women to participate in the study.

### Sociodemographic characteristics

On average, women and their husbands were 31.0 and 33.2 years old, respectively (Table 1). Nearly one-third of the women were illiterate. The mean ages of the women at the time of marriage and menarche were  $18.3 \pm 4.0$  and  $13.2 \pm 1.1$  years, respectively. Of the 1002 women, 123 reported (12.2%) being infertile and did not have any live children. The remaining 879 women reported a total of 3892 pregnancies. A little over 40% reported four or more pregnancies.

### Prevalence of symptoms of GM

A total of 424 (42.3%) women reported being asymptomatic for any GM. The prevalence of symptoms of GM was found to be 57.7% as 578 women reported suffering from symptoms of GM. The most commonly reported symptoms were foul-smelling vaginal discharge, backache, dysmenorrhea and uterovaginal prolapse while the least reported symptom was post-coital bleeding (Table 2).

**Table 1** Distribution of married women aged 15–49 years according to selected social, demographic and reproductive characteristics, Karachi, 2012–2013

Variables	Women ( <i>n</i> = 1002)
Age in years	
Mean age (31.0 ± 6.8)	
<20	6.1%
21–30	47.2%
31–40	38.9%
41–46	7.8%
Literacy status	
Illiterate	36.9%
Madrasa/Religious education	14.2%
Class 1–5	17.4%
Class 6–10	24.9%
Class 11 & above	6.6%
Number of pregnancies (mean number of pregnancies 3.5 ± 2.2)	
0	3.0%
1–3	55.5%
4–6	30.2%
≥7	11.3%

**Table 2** Prevalence of symptoms of gynecological morbidities among women from Karachi, Pakistan (*n* = 1002)

Symptoms	<i>n</i>	%†
Backache	212	21.5
Lower abdominal pain	185	18.4
Irritation on genital area	109	10.8
Abnormal vaginal discharge	298	29.7
Uterovaginal prolapse	174	17.5
Dysmenorrhea	178	17.6
Irregular menstrual cycle	117	11.7
Abnormal menstrual bleeding	76	7.5
Painful micturition	148	14.6
Dyspareunia	98	9.7
Post-coital bleeding	12	1.2

†Multiple responses, do not add up to 100%.

Of the symptomatic women, one-third (33.6%) reported suffering from at least one symptom of GM. The remaining had two or more symptoms. Certain combinations of symptoms were found to be common for specific morbidity: women with uterovaginal prolapsed frequently reported vaginal discharge, backache and/or dysuria; women with dysmenorrhea commonly reported backache. Similarly, vulvar itching was common among women who reported to have vaginal discharge.

### Symptoms of GM and their relation with HRQoL

For each symptom reported, women were questioned about their HRQoL and questions were asked under four domains: physical, functional, social and financial.

For the physical domain, almost one-third of women with complaints of dysmenorrhea, vaginal discharge, uterovaginal prolapse, lower abdominal pain and backache reported their symptoms to be markedly moderate to severe/unbearable.

For the functional domain, the most commonly reported symptom that affected a woman's daily routine life was uterovaginal prolapse. Almost 90% of women with uterovaginal prolapse reported an inability to complete their daily routine work. The other symptoms that affected the daily routine life of women were related to menstruation, with 42% and 52% of women suffering from dysmenorrhea and abnormal bleeding pattern, respectively, reported as a negative influence on functional domain. Post-coital bleeding affected the daily routine life of only 8% of the women.

For social domain, the most commonly reported symptoms were abnormal menstrual bleeding and dyspareunia, as mentioned by 62% and 55% of women, respectively. Only 5% of the women with dysmenorrhea reported their marital relationships to be negatively affected by the symptom.

For the financial domain, for every symptom except uterovaginal prolapse and dysuria, almost one-third of the women reported facing a financial dilemma that affected their health-seeking behavior. For uterovaginal prolapse, 42% of women reported facing financial problems. Only a small proportion of women with dysuria reported facing monetary issues (Table 3).

### Discussion

This study indicates a high prevalence of symptoms of GM among married women aged 15–49 years residing in squatter settlements of Karachi. Vaginal discharge and dysmenorrhea were found to be the most commonly reported symptoms, and post-coital bleeding was the least commonly reported. The prevalence of symptoms of GM in our study shows similar findings reported by other community-based studies conducted in Pakistan,<sup>7,16</sup> in rural areas of Karnataka and Gujarat<sup>18</sup> and in Indian urban slums.<sup>19</sup> Nearly one-third (33.6%) of our study population reported having at least one symptom related to any GM. The studies conducted in India showed the prevalence of at least one symptom

**Table 3** Women with symptoms of gynecological morbidity and their reported health-related quality of life

Symptoms	Physical <i>n</i> (%)	Financial <i>n</i> (%)	Functional <i>n</i> (%)	Social <i>n</i> (%)
Backache ( <i>n</i> = 212)	69 (32.5)	72 (33.9)	59 (27.8)	28 (13.2)
Lower abdominal pain ( <i>n</i> = 185)	61 (32.9)	54 (29.1)	66 (35.6)	16 (8.6)
Irritation on genital area ( <i>n</i> = 109)	26 (23.8)	33 (30.3)	31 (28.4)	21 (19.2)
Abnormal vaginal discharge ( <i>n</i> = 298)	102 (34.2)	78 (26.1)	67 (22.4)	52 (17.4)
Uterovaginal prolapse ( <i>n</i> = 174)	53 (30.4)	75 (43.1)	156 (89.6)	29 (16.6)
Dysmenorrhea ( <i>n</i> = 178)	58 (32.5)	55 (30.8)	75 (42.1)	10 (5.6)
Irregular menstrual cycle ( <i>n</i> = 117)	24 (20.5)	35 (30.0)	32 (27.3)	57 (48.7)
Abnormal bleeding ( <i>n</i> = 76)	17 (22.3)	24 (31.5)	40 (52.6)	47 (61.8)
Painful micturition ( <i>n</i> = 148)	35 (23.6)	11 (7.4)	45 (30.4)	18 (12.1)
Dyspareunia ( <i>n</i> = 98)	26 (26.5)	30 (30.6)	12 (12.2)	54 (55.1)
Post-coital bleeding ( <i>n</i> = 12)	2 (16.6)	4 (33.3)	1 (8.3)	4 (33.3)

of GM from 33%<sup>18</sup> to 55%.<sup>20,21</sup> Multiple morbidities faced by a woman are also prevalent. Our study has revealed 1.6 symptoms per woman and a similar trend has been shown by a study conducted in Karnataka, India where the prevalence of gynecological problems per woman was 1.51.<sup>22</sup>

Symptoms of GM impose severe negative impact on the HRQoL of the women. However, the matter of HRQoL has always been viewed as 'soft' or subjective by clinicians and regarded as less meaningful than pathological aspects as revealed by Van der Vaart for women with pelvic floor dysfunction.<sup>23</sup>

Our study reports a significant negative impact of these symptoms on the physical, financial and functional domains of HRQoL. In this regard, the social domain was least affected compared to the other three domains.

Physical domain was mostly reported to be affected by dysmenorrhea, vaginal discharge, uterovaginal prolapse, lower abdominal pain and backache. Our study reported a high prevalence of these symptoms among the women investigated (Table 2). Therefore, a higher proportion of women in our study were likely to have a negative impact upon physical domain of HRQoL. Parallel trends have been found in a study conducted in the Netherlands that showed the correlation of symptoms of urogenital dysfunction and their negative impact upon the physical domain of HRQoL.<sup>24</sup>

For the financial domain, all of the symptoms of GM, except dysuria, were found to negatively affect the HRQoL for almost one-third of the women. The possible explanation could be the poor socioeconomic status of the women as the study was conducted in squatter settlements of Karachi where the majority of women belong to a low socioeconomic class.

Concerning functional domain, uterovaginal prolapse, abnormal menstrual bleeding and dysmenorrhea were the main symptoms leading to a negative influence on the daily routine life for 90%, 52% and 42% of the women, respectively. These symptoms were most prevalent too and their negative impact on functional domain is quite alarming as these symptoms can lead to massive hindrances in the normal daily routine work by the women with its consequences.<sup>12,25</sup> A study on a Dutch population showed negative influence of symptoms of urogenital dysfunctions on the functional aspect of HRQoL.<sup>24</sup> Another cross-sectional study conducted in Turkey identified that dysmenorrhea is a common symptom among high school girls and negatively affects the functional domain of HRQoL.<sup>26</sup> An important finding of our study is that almost 90% of the women with uterovaginal prolapse reported disturbances in the functional domain. This could be due to the types of prolapse as second- and third-degree prolapse hinder the performance of daily activities.

The social domain was reported to be least affected by most of the symptoms of GM. However, women with abnormal menstrual bleeding, dyspareunia and post-coital bleeding reported their social domain as being negatively affected. We cannot generalize this statement as the limitation of the study is that for social domain, we only considered marital relationships and other social factors were not explored.

The study shows that two important symptoms negatively affecting the HRQoL of the women are menstrual symptoms and genital prolapse.

Women are particularly affected by menstrual symptoms as they have to face these each month with all domains of QoL compromised. Of the menstrual symptoms, irregular cycles and abnormal bleeding

negatively affect the social domain too, resulting in poor marital relationships with its consequences. Similar findings were reported in a dissertation that focused on a study with girls in Taiwan. The results revealed that dysmenorrhea has a negative impact on an individual's ability to perform daily activities, upsetting productivity and performance and is associated with stress, so their daily life, including physical and social life, is disturbed.<sup>27</sup> Our study has additionally identified that women's functional life could also be affected by dysmenorrhea. Another study conducted in urban Karachi, Pakistan showed that girls with dysmenorrhea face social and physical immobility.<sup>28</sup> A study conducted by Onur *et al.* seconds the findings of our study.<sup>29</sup>

The other symptom affecting the overall quality of life significantly is genital prolapse, which leads to a notable influence upon all domains of HRQoL. Parallel trends were found in a study from Karachi, Pakistan reporting that vaginal prolapse can hinder a woman's daily activities of life and can further lead to painful coitus, which further demeans her in the eyes of her husband. Thus, the woman is unable to sexually satisfy her husband and this puts an additional stress on their relationship.<sup>30</sup> Digesu *et al.* used a validated tool and identified that if a woman has asymptomatic vaginal prolapse, she often does not report any effect on QoL. However, women with symptomatic prolapse reported a negative effect on QoL.<sup>31</sup> On this basis, one can infer that our study participants, who reported to have a negative impact upon HRQoL, could be the patients of second- or third-degree prolapse. Higher degrees badly affect the daily routine of women, such as walking, sitting, standing, urination, and defecation, with dominant impact on physical and functional domains of HRQoL.

There are certain limitations of the study. For all reported symptoms, we relied on information provided by the women. Most of the women in our samples were illiterate with the possibility of information biases. An important limitation of our study was that we were not able to assess the impact of symptoms of GM on psychological domain of HRQoL. Studies have revealed the association of gynecological symptoms and psychological health.<sup>32</sup> However, the project team needed special training for that, which was beyond the scope of our project. We strongly recommend that future studies need to assess this domain efficiently, especially for evaluating the HRQoL.

The concept of HRQoL has been kept marginal and inconspicuous. The health-care providers usually

follow the traditional end-points, which are mainly focused on the biological and physiological outcomes, inadvertently ignoring the issue of HRQoL of a patient. HRQoL measures represent a patient's perception of outcome of treatment. Physiologic measures provide information to the clinician but are of limited interest to the patient. Thus the subject of HRQoL should not be ignored and focus needs to be distributed equally to both physiological outcomes as well as to all aspects of HRQoL in order to meet the psychosocial satisfaction of women suffering from GM.

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## Disclosure

The authors declare that there is no conflict of interests as defined by the guidelines of the International Committee of Medical Journal Editors (ICMJE; <http://www.icmje.org/>).

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