

# Quality of life and satisfaction in patients undergoing pelvic floor surgery

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## ABSTRACT

**Introduction:** Pelvic floor disorders have many effects on women's health and quality of life by causing chronic complications. Our aim was to compare the quality of life and patient satisfaction after pelvic floor surgery.

**Study design:** This observational study was performed on women undergoing pelvic floor surgery who met the inclusion criteria. In order to evaluate the variables before and after the operation, the pelvic floor discomfort questionnaire short form (PFDI-20), surgical satisfaction questionnaire (SSQ-8) and the patient's global perception of recovery (PGI-I) were collected. The results of the questionnaire were reviewed and compared using statistical methods.

**Results:** The scores of PFDI-20 pelvic floor discomfort questionnaire after surgery were significantly improved from preoperative and the Surgical Satisfaction Questionnaire (SSQ-8) as well as the patient's global perception of postoperative recovery (PGI-I) showed excellent results.

**Conclusion:** Improvement in quality of life, special conditions and postoperative patient satisfaction measures can be seen in women with pelvic floor disorders who undergo pelvic organ prolapse and incontinence surgeries.

**Key words:** PFDI-20, PGI-I, Quality of life, pelvic floor surgery, urinary incontinence, SSQ-8, Pelvic Floor Dysfunction

## INTRODUCTION

Pelvic floor disorders such as urinary incontinence and pelvic organs prolapse can affect women's hygiene and social well-being significantly. It is, therefore, important to measure quality of life in women with pelvic floor disorders when evaluating the efficacy of a particular therapy or comparing symptom severity between patients or groups. The assessment of outcomes after the surgical repair of incontinence or pelvic organ prolapse (POP) remains difficult. Objective outcomes markers such as bladder diary variables, urodynamic parameters, and prolapse staging provide defined information regarding treatment response. Despite their utility, these instruments fail to define the impact that Pelvic floor disorders have on patients' daily lives or the patient-perceived benefit of intervention [1]. Accordingly, more focus has recently been placed on the inclusion of patient-reported outcomes (PROs) in related research [1, 2]. The importance of using both objective and subjective measures is highlighted by data

demonstrating the failure of objective symptom improvement to correlate with subjective benefit after incontinence therapies [3, 4]. In 2001, 2 condition-specific quality-of-life instruments were developed for women with all forms of pelvic floor disorders, the Pelvic Floor Distress Inventory (PFDI) and the Pelvic Floor Impact Questionnaire (PFIQ)(8). The short-form version of the Pelvic Floor Distress Inventory (PFDI-20) has a total of 20 questions and has excellent correlation to long-form of PFDI [5].

There is also another patient-reported outcomes (PROs) questioner, Patient Global Impression of Improvement (PGI-I), that has been validated for use in female patients with urinary incontinence and pelvic organ prolapse [6]. Other valid and reliable tool to measure patient satisfaction after pelvic surgery is The Surgical Satisfaction Questionnaire (SSQ-8) [7]. The objective of this study was to evaluate the quality of life and satisfaction of patients with pelvic organ prolapse and/or other pelvic floor disorders undergoing surgery in the first tertiary

referral center for pelvic floor dysfunction in Iran with PFDI-20, SSQ-8 and PGI-I questionnaires.

**METHOD**

**Study design:** This cohort study is based on pre- and postoperative questionnaires completed by female patients undergoing surgery for pelvic floor dysfunction in Female Pelvic Floor Dysfunction Ward (Vali e Asr Hospital, Tehran, Iran) between September 2018 and march 2019. This center has the first Iranian female pelvic floor dysfunction database that was established in 2015 [8] . and supplemented in 2018. This study is a review of prospectively collected medical electronic data on patients undergoing surgical repair of pelvic floor disorders including POP and Urinary Incontinence (UI) and was conducted in accordance with the Declaration of Helsinki.

**Ethical approval:** The protocol was approved by the Ethics Committee of Imam Khomeini Hospital Complex, Tehran University of Medical Sciences (IR.TUMS.IKHC.REC.1396.2470).

**Inclusion and Exclusion criteria:** Inclusion criteria comprised all patients undergoing repair of pelvic floor disorders with 6-month clinical and questionnaire follow-up. In addition, Women with a history of kidney disease, hemoglobinopathies, megaloblastic anemia, seizure, prior significant illness, personal or familial history of deep vein thrombosis were excluded.

**Data collection:** Baseline evaluation comprised full history, general physical and pelvic examination, urodynamic evaluation, 3-day bladder diary, and questionnaire evaluation. Follow-up evaluation included abbreviated history, pelvic examination and questionnaire evaluation, performed at 6-month follow-up.

Validated questionnaire evaluation included the Pelvic Floor Distress Inventory, short form (PFDI-20), The Surgical Satisfaction Questionnaire (SSQ-8) and Patient global impression of improvement (PGI-I). The PFDI-20 includes 20 questions and 3 scales. Each of the 3 scales is scored from 0 (least distress) to 100 (greatest distress). The sum of the scores of these 3 scales serves as the overall summary score of the PFDI-20 and ranges from 0 - 300. The 3 scales include questions taken from the following widely used outcome measures: Urinary Distress Inventory -6 questions (UDI-6), Pelvic Organ Prolapse Distress Inventory - 6 questions (POPDI-6), and Colorectal-Anal Distress Inventory - 8 questions (CRAD-8). Iranian version of PFDI-20 has acceptable validity and reliability [9] . In addition, they also filled in a 10-cm visual analog scale on the severity of their pelvic floor disorder symptoms, with a higher score indicating more severe symptoms.

The SSQ is an 8-item questionnaire, with responses recorded on a 5-point Likert type scale with responses from 0 "Very Unsatisfied" to 4 "Very Satisfied." Scoring is similar to the IIQ-7 and UDI-6 with the mean average of the 8 scores being multiplied by 25 (the questionnaire is considered incomplete if more than 2 items are not answered), yielding a potential range of scores from 0 to 100. The higher the score is, the greater the degree of surgical satisfaction [10] . In the SSQ, the following reference ranges and respective interpretative comments were observed: (i) 0–20 points – null to poor; (ii) 22–40

points – poor to unfavorable; (iii) 42–60 – unfavorable to regular; (iv) 62–80 – regular to good; (v) 82–100 – good to excellent [11] . The PGI-1 has 7 scales with responses from 1 "very much better" to 7 " very much worse". The higher the score is, the less satisfied with the operation [6] .

**Statistical analysis:** Statistical analysis of categorical variables was performed using a Fisher exact test and Student t test. Data are listed as mean (SD). A P value of less than 0.05 was used to designate statistical significance.

**RESULTS**

A total of 185 women completed this study. Mean age was 53.1 ± 12.4 years (range, 33-82 years). Information on the overall frequency of surgery is shown in Table 1. Total POP surgery was performed in 111 patients and Anti Incontinence surgery in 74 patients. The average number of hospital days was 2.3 days (Table 1).

Table1. Demographic data and Operation.

	Mean/Median/N	SD /%
Age (years)	53.1	± 12.4
parity	4	± 2.1
Operation		
Total POP surgery (Without Incontinence surgery)	111	61%
Incontinence surgery	74	39%

Examination of the frequency of operations performed showed that Rectocele repair was the most followed by Perineorrhaphy and TOT surgery. Women underwent POP surgery with or without Anti Incontinence surgery types are detailed in Table 2. Anti-Incontinence surgeries were performed alone or in combination with POP surgery.

Table2. Surgery types data

Surgery types	N	%
Rectocele repair	74	40%
Perineorrhaphy	68	36.8%
TOT surgery	62	33.5%
Pericervical ring repair	61	33%
Cystocele repair surgery	50	27%
Enterocoele repair surgery	33	17.8%
Sacrospinus suspension	25	13.5%
Anterior Posterior repair	17	9.2%
Colpocleisis surgery	18	9.7%
Sacral colpexy	23	12.4%
Total Vaginal Hysterectomy(TVH)	21	11.4%
burch surgery	7	3.8%
High uterosacral suspension	6	3.2%
Nazca TC	6	3.2%
Labioplasty	5	2.7%
TVT surgery	5	2.7%

Subjective assessment showed a good SSQ-8 (81.8± 19.9) and PGI-1(1.98 ± 1.17) scores at the 6-month visit (Table 3).

Table3. improvement at PGI-I and SSQ-8 scores

	PGI-I (mean±SD)	SSQ-8 (mean±SD)
	Improved	Improved
All	1.98 ± 1.17 (1–7)	81.8± 19.9 (0–100)
POP surgery	2.05 ± 1.10 (1–7)	81.00± 20.3 (0–100)
Incontinence surgery	1.89 ± 0.31 (1–7)	83.2± 19.7 (0–100)

PGI-I: 1,2= Very much better 3= a little better 4= No change 5= a little worse 6= Much worse 7=Very much worse.

SSQ-8: 0--20 points=null to poor; 22---40 points=poor to unfavorable; 42---60=unfavorable to regular; 62---80=regular to good; 82---100=good to excellent.

Analysis of the PFDI-20 questionnaire also showed a significant improvement from pre-operative scores at the 6-month visit, in both total scores as well as domain scores (Table 4). There was a significant difference between the scores of PFDI-20 pelvic floor discomfort questionnaire before and after surgery ( $p < 0.001$ ), and the surgical satisfaction questionnaire (SSQ-8) as well as the patient's

global perception of recovery (PGI-I) after surgery showed excellent results ( $p < 0.001$ ).

Based on Table 5, in general the results of all surgery showed that mean score of scales PFDI-20 questionnaire including UDI-6, POPD-6 and CRAD-8 had a significant improvement in scores after surgery ( $p < 0.001$ ).

Table 4. Pre- and post-surgery improvement at PFDI-20 scores

	PFDI-20 (mean±SD)			
	Pre	Post	Improvement	P-value
All	120.3 ±21.7	96.6 ±22.1	23.7	0.00
POP surgery	118.6 ±22.2	94.2 ±23.5	24.4	0.00
Incontinence surgery	122.8±21.3	100.4 ± 20.8	22.4	0.00

PFDI-20; 0 (least distress) to 100 (greatest distress)

Table 5 Scores for PFDI-20 scales

Scale	Pre-surgery	Post-surgery	Improvement	P-value
POPD-6	39.5±9.9	30.9±8.3	8.6	0.000
CRAD-8	32.9±7.5	29.5±7.3	3.4	0.000
UDI-6	47.8±13.0	36.2±12.7	11.6	0.000

PFDI-20; 0 (least distress) to 100 (greatest distress)

## DISCUSSION

In our study, the PGI-I score after pelvic floor surgery was calculated in the range between Very much better to much better, which indicates a high level of patient satisfaction. Also, the SSQ-8 score in the range between good to excellent, which indicates high patient satisfaction. Furthermore, the scores of PFDI-20 pelvic floor discomfort questionnaire before surgery and after surgery showed a significant difference (Table 4). The score of this questionnaire was acceptable after surgery so that the average score after surgery has significantly decreased. This indicates a significant improvement in the annoying symptoms of postoperative patients.

In a cohort study, Soo-chen et al. Examined women undergoing legendary surgery with an average follow-up of 84 months and found that about 83% of surgeries were successful [12]. In another study by Fitzgerald et al., In 152 operations performed, 95% of women were satisfied after the operation and the patients' pelvic symptoms improved by 75% up to 12 months after the operation and gained positive scores [13]. Other findings generally suggest that quality improvement in patients undergoing surgery is acceptable [14, 15].

In our study, another important point that was shown was the improvement of the score of the PFDI-20 questionnaire subset of the operation. Which has shown considerable levels of improvement. Similar studies have shown that women after UI and POP surgery show more than 20% improvement and their quality of life increases greatly [16-18].

Numerous studies show that prolapse surgeries is effective in improving patients. In these studies, like our study, it was shown that before the surgery, the quality of life of the patients was low and the patients were struggling with many problems, but after the operation, their quality of life and satisfaction with life increased and this issue has affected their health [19-21].

In the present study, the score of PGI questionnaire and SSQ-8 score were improved by 1.89 and 81, respectively (Table 3). The studies of Larsen et al. In 2016 were based on self-test questionnaires before and after

surgery. Studies of 3,310 women undergoing surgery showed that ICIQ scores improved for UI or POP by 3.8% and 14%, and IQIC scores by 83% and 66%, respectively [22].

Most research has focused on the prevalence, etiology, diagnosis, and management of pelvic floor disorder, with little research on chronic effects or their treatment on patients' quality of life. Over the past few decades, interest in research on patient conditions or quality of life measures in health management evaluation has increased [23, 24].

Opinions of physicians and patients differ significantly on quality of life and therapeutic effects. Traditionally, surgeons have considered objective measures to be stronger, and as a result, they have been used in many studies [25].

However, the present study and other studies have considered the method of using the questionnaire of quality of life and patient satisfaction to identify improvements in quality improvement and therapeutic effectiveness [26] tract dysfunction experience daily disturbances [27]. But quality of life is very subjective. Its importance in the management of women with pelvic floor dysfunction has been confirmed as much as the state of physical illness, so that Blavis et al. and Altman et al. have mentioned on the important role of quality of life in patients with pelvic disorders in their research [28, 29].

One of the limitations of the research was the filling in of the questionnaire by women. Due to the long questions, in some cases the questionnaires were incompletely filled out, which was completed by telephone follow-up and more time.

## CONCLUSION

This study showed that the improvement in quality of life and patient satisfaction measures after POP surgery and incontinence in women with uterine prolapse showed a significant increase and was effective. One of the important tools in managing and recognizing the health status of women with pelvic floor dysfunction is assessing their quality of life. The use of a questionnaire increases the

knowledge of the treatment staff towards patients and patient care is adjusted based on clinical needs. Attention to quality of life and patient satisfaction enables physicians to identify specific and often very personal symptoms that most patients suffer from and this recognition brings with it patient satisfaction and the overall result is an improvement in their condition.

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