

# Vaginal Symptoms after Reconstructive Surgery for Prolapsed Pelvic Organ

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## Abstract

**Objective:** Pelvic organ prolapse is a common disorder in women over the world and its general treatment is surgery. Therefore it is important to consider if vaginal symptoms, quality of life and sexual function after surgery improve. The purpose of this study was to assess vaginal symptoms in women 3 months after surgery for pelvic organ prolapse.

**Materials and methods:** In this study 50 eligible women were evaluated between March 2007 and May 2008. These women underwent physical examination for prolapse staging and medical status and completed the ICIQ-VS questionnaire pre- and post operation 3 months later).

**Results:** Mean age was 44.86 (31–74) years and 72% were premenopausal. Vaginal symptoms, sexual function and quality of life scores improved in order (8.88 Vs 18.04, 17.16 Vs 34.48, 2.76 Vs 4.8, all  $P < 0.05$ ).

**Conclusion:** Vaginal symptoms, sexual function and quality of life after surgery improved. It appears that in Iranian patients, the performance of reconstruction surgery alone results in satisfaction.

**Keywords:** ICIQ-VS questionnaire, Quality of life, Sexual function, Pelvic organ prolapse, Vaginal symptom

## Introduction

Pelvic organ prolapse is a very common disorder in women over the world. The Iranian population study during 2000–2002 demonstrated: these complaints had involved 53% of women older than 30 years visited at primary health care (1). Considering pelvic floor to be a unique urinary, faecal and sexual organ, it would be logical to expect that disintegrating of this organ causes urinary, faecal and sexual dysfunction.

The latest report shows 31–44% of women with pelvic organ prolapse have urinary incontinence (2). In recent years, the common treatment of pelvic organ prolapses is reconstruction surgery (3). The impact of reconstruction surgery on sexual function is evaluated in numerous studies with different designs. The results of them have been conflicting. Several findings implied improvement or lack of change (4–6). Other emphasized on deterioration (7, 8). The earlier studies have based on non validated questionnaire and some of them were retrospective (9, 10). In recent studies, several valid questionnaires (FSFI, PISQ) have used (11, 12). But validation of them is incomplete, because: their responsiveness and sensitivity to change following reconstructive surgery have not been tested. In June 2004 third international consultation on

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incontinence emphasized that studies need a fully validated questionnaire. For respond to this need, ICIQ-VS questionnaire was designed in May 2006 (13). In our study, we evaluated the impact of reconstruction surgery on sexual function in women with pelvic organs prolapses based on ICIQ-VS questionnaire. This study is a prior ship in using a full validated questionnaire in this concept.

## Materials and methods

Our study's design was a prospective one. 50 eligible women participated in our study from March 2007 to May 2008 in Vali-asr Reproductive Health Research Center. Inclusion criteria were: women older than 30 years with the different grades of POP (Pelvic Organ Prolapse-Quantification System), married, sexually active, mobile, and mentally competent. Exclusion criteria were: uncontrolled metabolic conditions, cardiopulmonary and cerebrovascular disorders, alzheimer, depression, tension, stress urinary incontinence, functional disability, genitourinary cancer and fistula were excluded. All of these medical statuses had been confirmed by the related specialists. Our patients were free from urinary symptoms and/or had the least. Stress urinary incontinence was ruled out by means of multicanal cystometry with the correction of prolapse. There was no randomization for entrance of women in the study and eligible ones entered in serial order. Only women who had agreed with informed consent participated in study. The study was approved by the ethic committees of Research Deputy of Tehran University of Medical Sciences. All of women had been informed that the result of study will print online. The women asked to complete the ICIQ-VS questionnaire and underwent physical examination for prolapse staging and medical status before surgery and 3 months later. The surgeons were different person to person and there was no selection. Physical examination was documented based on POPQ staging system (developed by International Continence Society in 1995). In this system, examiner measure 9 points in vagina and record them in a 3×3 table in Cm unit. The reference level is hymen and points above the hymen record in positive numbers and ones below the hymen do in negative numbers. Finally, these numbers translate in ordinal staging from 0 to 4. The 0 is a competent vagina with no prolapse and the 4 is procidentia (14).

We utilized the ICIQ-VS questionnaire for evaluating changes of vaginal symptoms, sexual function and quality of life. This questionnaire has 3 domains: first domain that evaluates vaginal symptoms; con-

ains 9 items and each one measured from 0 to 3 or 4 point. The scoring of these items is as following: 2× (point of item: 1, 2, 4–7) + (point of item: 3, 8).

Therefore maximum and minimum score of this domain is 0 to 53. In this domain cronbach's alpha of 0.79 demonstrate excellent internal consistency for these eight items. Item 9 of this domain (tight vagina) scoring separately.

Second domain is about sexual matters and consists 4 items. First (item 10) is an inclusion criteria (being sexually active); therefore, only women with positive answer would complete 3 another items. Items 11 and 12 are scaled from 0 to 3 point. Scoring of sexual matters domain is as below: 8× (point of item 11 and 12) + point of item 13. Range of scoring in this domain is 0 to 58 with cronbach's alpha 0.84. Third domain measures quality of life and unique item of it has been scored from 0 to 10. In all three domains the decrease of score indicates improvement (13).

## Statistics

The data were analyzed with paired t test, and Pearson Correlation test, using SPSS version 15 SPSS Inc., Chicago, IL, U.S.A). *P*-value < 0.05 was considered significant.

## Ethical approval

The study was approved by the RCT-Medical Thesis Scientific & Ethical Committee, Research Deputy of Tehran University of Medical Sciences according to the Helsinki Declaration, clinical trial registration code was # 20427/13862006).

## Results

Finally, all of women fulfilled the questionnaire and underwent physical examination before surgery and 3 months later. Mean age of participants was 44.86 (31–74) and %72 were premenopausal. Other demographic data of patients has been summarized in table 1. %86 of women had only vaginal delivery, %12 vaginal and caesarean section and only one patient had caesarean section alone. Only %10 of women was employed, whereas %84 of their husbands was employed. %90 of women and %80 of their husbands had no collegiate education. No person had received HRT, and only one person had past medical history of pelvic surgery which was total abdominal hysterectomy.

Prolapse staging of women demonstrated that the most had the degrees of both posterior and anterior colporrhaphy preoperational; dominant stage of posterior and anterior colporrhaphy was 2 (%50) and 1

**Table 1:** Baseline characteristics of participants

	Mean	Median	Minimum	Maximum
Patient 's age (y)	44.86	42.50	31	74
Husband's age (y)	50.24	48.00	35	75
Number of parity (n)	4.54	4.00	2	11
Number of abortion (n)	0.48	0.00	0	4
Body mass index (kg/m <sup>2</sup> )	27.1708	26.5400	19.05	34.53
Final delivery before surgery (y)	15.78	15.00	1	40

(%44) respectively.

Post operation dominant one in both was stage 1; Posterior %58 and anterior colporrhaphy %64. The changes of stages were analyzed with 2 related non-parametric samples test that demonstrated: surgery improves both posterior and anterior colporrhaphy ( $p < 0.0005$ ). Analysis of data received from fulfilled ICIQ-VS questionnaire showed mean score of vaginal symptoms pre and post operation were 18.04 and 8.88. This decrease (%17.3) was compared with paired t test that was significant at  $p < 0.0005$ . Mean score of item 9 (about feeling vagina too tight) was 0.04 and 0.3 ( $p < 0.01$ ) pre and post operation. This increase implies surgery lead to more complaint of tight vagina. Mean scores of sexual matters were 34.48 and 17.16 before and after surgery respectively. The %29.9 decrease of score ( $p < 0.005$ ) demonstrates the improvement of sexual function after surgery. Third section's mean score (quality of life) decreased %20.4, from 4.8 to 2.7; this decrease was significant at  $p < 0.0005$ . At last, total score ICIQ-VS improve from 57.32 to 28.8 (%23.6 decrease). This decrease that indicates total improvement following of reconstruction surgery was significant at  $p < 0.0005$ . Correlations of three domain's scores with demographic characteristics of population were evaluated with Pearson test which showed patient and her husband's age, number of parity and years from final delivery had positive correlation with vaginal symptoms domain pre and post surgery that was significant at  $p < 0.01$  and  $p < 0.05$  in order. Number of abortion had no significant correlation and body mass index had negative correlation only after surgery and other two domains had no significant correlation with modalities pre and post operation. Finally, change of vaginal symptoms score (pre-post score) had positive correlation with patient and her husband's age and years from final parity. It was significant at  $p < 0.05$ . Whereas the score changes of other two domains had no significant correlation. Differences of questionnaire total score in subgroup

with different types of delivery and employment analysed with ANOVA test; these differences were not significant. But the patients who themselves or their husbands had university education had less complaints; it was significant at  $p < 0.05$  pre operation in educated patients and in patients with educated husbands. While, it was significant at  $p < 0.05$  post operation only in patients with educated husbands. Also in premenopausal subgroup, total score was lesser than post menopausal one. This was significant only post operation at  $p < 0.05$ . Evaluation of correlation between scores of three domains and prolapse staging demonstrated that there was a positive significant correlation at  $p < 0.05$  between vaginal symptoms domain's score with prolapse staging preoperation alone; whereas there was no significant one post operation also there was no similar results about other two domains.

## Discussion

This study demonstrates: pelvic organ prolapse reconstruction surgery improves vaginal symptoms, sexual function and quality of life in Iranian patients. We used the ICIQ-VS questionnaire for evaluation whereas, there was no similar study. Studies performed in Ankara and Rotterdam showed improvement as our study did (9, 8). There was no significant change in most of study in USA (4). Seldom, the study showed deterioration in results (15). As patient's age was older; compliment of vaginal symptoms before surgery was more. But there was no same act in result after surgery or about sexual function or quality of life. Perhaps in older patients because of lower threshold of pain and bearing of vaginal symptoms are more difficult. Regarding to growing age and decrease of intercourse's frequency; loss of sexual function is not as important as vaginal symptoms. Also in older population, quality of life is in relation with many other more important problems than sexual function. Less complaint in premenopausal women can be explained as above.

Other demographic characters of population such

husband's age and years without parity; could be explained as above patient's age. Also number of patient's parity is related with patient's age because in Iran, the law for having limited children set 25 years ago; therefore older women had more parity. We don't reach significant correlation of parity type and status of patient or her husband's employment with the results of reconstruction surgery. Perhaps larger population could reach significant ones. Also most of participants had NVD. In the other hand, most patients had no job whereas her husband had job. Total complaints in university educated women were less before surgery but not after surgery. It can be explain that educated ones expect more improvement by surgery but this expectation did not verified postoperational.

The patients with university educated husbands had total less complaints pre and post operation, this might be the result of better support of these women from their husbands. This study demonstrates that there was no significant relation between better anatomical correction of vagina and vaginal symptoms, sexual function and quality of life after surgery. So, the performance of reconstruction surgery results in satisfaction in patient without better anatomic appearance. Besides, the husbands of patients precise to avoid harm them after surgery. Thus, these women report more satisfaction in sexual function and quality of life. Ultimately, the performance of similar study with larger population and longer following is recommended. In addition compartment of conservative management by surgery on sexual function is not ungraceful.

## Conclusions

This study demonstrates: pelvic prolapse reconstruction surgery alone improves vaginal symptoms, sexual function and quality of life in Iranian patients and this improvement was independent of better anatomic appearance.

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