

## Research Article

## Changes in Quality of Life Score of Patients with Pelvic Organ Prolapse after Vaginal Surgery Measured by Pelvic Floor Distress Inventory (PFDI-20) and Pelvic Floor Impact Questionnaire (PFIQ-7) Questionnaires

### *Perubahan Skor Kualitas Hidup Pasien Prolaps Organ Panggul setelah Operasi Vagina yang Diukur dengan Kuesioner Pelvic Floor Distress Inventory (PFDI-20) dan Pelvic Floor Impact Questionnaire (PFIQ-7)*

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#### Abstract

**Objective:** To determine changes in the quality of life in patients with pelvic organ prolapse who had undergone vaginal surgery.

**Methods:** Prospective cohort study, carried out in Dr. Cipto Mangunkusumo and Fatmawati during the period of July 2015 to October 2016. The quality of life of the subjects was followed up three months after undergoing vaginal surgery. We used the Indonesian version of Pelvic Floor Distress Inventory (PFDI-20) and Pelvic Floor Impact Questionnaire (PFIQ-7).

**Results:** In this study, 25 subjects were involved. The results showed significant score reduction in the quality of life in patients treated with vaginal surgery with  $p < 0.05$  in almost all scales except CRAIQ-7.

**Conclusion:** There is a reduction in quality of life scores in patients treated with vaginal surgery at all scales except CRAIQ-7 with a value of  $p < 0.05$ .

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**Keywords:** PFDI-20, PFIQ-7, POP, vaginal surgery

#### Abstrak

**Tujuan:** Mengetahui perubahan skor kualitas hidup pasien POP pasca-tata laksana pembedahan vagina.

**Metode:** Desain studi kohort prospektif, dilakukan di Rumah Sakit Umum Pusat Rujukan Cipto (RSCM) dan Rumah Sakit Fatmawati (RSF) periode Juli 2015 hingga Oktober 2016. Subjek dilakukan follow-up penilaian kualitas hidup sebelum dan sesudah terapi bulan ketiga dengan menggunakan kuesioner PFDI-20 dan PFIQ-7 versi Indonesia.

**Hasil:** Pada penelitian ini didapatkan 25 sampel penelitian dan tidak ada yang di drop out. Hasil penelitian menunjukkan pasien yang diterapi dengan pembedahan vagina juga terdapat pengurangan skoring kualitas hidup yang bermakna dengan nilai  $p < 0,05$  pada hampir semua skala penilaian kecuali CRAIQ-7.

**Kesimpulan:** Terdapat pengurangan skor kualitas hidup pasien yang diterapi pembedahan vagina pada semua skala kecuali CRAIQ-7 dengan nilai  $p < 0,05$ .

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**Kata kunci:** pembedahan vagina, PFDI-20, PFIQ-7, POP

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## INTRODUCTION

Pelvic organ prolapse is a major concern in terms of women's health in all ages.<sup>1,2</sup> Pelvic organ prolapse is often associated with decreased quality of life. It may cause a disruption in the bladder, gastrointestinal and sexual dysfunction.<sup>2-5</sup> Nowadays, life expectancy is increasing and the number of the elderly population has led to increased incidence of pelvic organ prolapse.<sup>2</sup> Loss of vaginal or uterine support in women presenting for a routine gynecologic examination can be found in up to 43-76% of patients, with 3-6% having descent beyond the hymen.<sup>3</sup> The 2002 data from the Women's Health

Initiative (WHI) revealed that 41% of women aged 50-79 years had some symptoms of pelvic organ prolapse. Surgeries performed for pelvic organ prolapse increased from 1.5 to 4.9 cases per 1,000 women per year.<sup>6</sup>

Therapeutic approaches of pelvic organ prolapse consist of conservative treatment and surgery.<sup>2,5,7-9</sup> Not only to reconstruct pelvis, the goal of therapy in patients with pelvic organ prolapse is also to eliminate complaints to restore the quality of life of the patient, thus the patient may perform activities without any interference from the symptoms

of prolapse.<sup>7</sup> Selection of surgical or conservative therapy was based on patient's choice (whether to undergo surgery or not), health condition, age, severity of symptoms, risk for disease recurrence, and the desire to have children and the return of sexual function.<sup>5</sup>

Several studies have reported success in reducing the symptoms of vaginal surgery in pelvic organ prolapse in both voiding symptoms and symptoms of prolapse and colorectal. Pelvic Floor Distress Inventory Short Forms 20 (PFDI-20) and Pelvic Floor Impact Questionnaire Short Forms-7 (PFIQ-7) questionnaires have been used to assess the quality of life of patients with pelvic organ prolapse as has been clearly reliable and its validity and has been proven to show good response in patient with pelvic organ prolapse.<sup>10-12</sup> The use of Pelvic Floor Distress Inventory-Short Forms 20 (PFDI-20) and Pelvic Floor Impact Questionnaire Short Forms-7 (PFIQ-7) has never been tested in Indonesia and has not been assessed for validity and reliability in Indonesia.

Several studies have shown that vaginal surgery is effective for improving the quality of life of patients with pelvic organ prolapse. We would like to evaluate the change in quality of life scores patients with pelvic organ prolapse treated with vaginal surgery at Dr. Cipto Mangunkusumo and Fatmawati Hospital using Pelvic Floor Distress Inventory (PFDI-20) and Pelvic Floor Impact Questionnaire (PFIQ-7).

## METHODS

We used prospective study design. This study was conducted in Urogynecology, Obstetrics and Gynecology outpatient clinics of Dr. Cipto Mangunkusumo and Fatmawati Hospital during the period of July 2015 to October 2016. Subjects were patients diagnosed with pelvic organ prolapse who underwent vaginal surgery. Quality of life before and after treatment (third month) were followed up by giving a questionnaire PFDI-20 and PFIQ-7 at the Urogynecology, Obstetrics and Gynecology outpatient clinics at RSCM and RSF.

The inclusion criteria were all patients diagnosed with pelvic organ prolapse and vaginal surgery and are willing to do assessment of the quality of life before and after treatment (third month) using a questionnaire PFDI-20 and

PFIQ-7, and the exclusion criteria were patients whose questionnaire data were incomplete and subjects who did not understand Indonesian well.

Data were analyzed using SPSS 20 for Windows. Paired T-test and Wilcoxon test were used to analyze numerical variables.

## RESULTS

This research was conducted from July 2015 until October 2016. None of the subjects were dropped out. The subjects were obtained at the General Hospital of the National Center Dr. Cipto Mangunkusumo (RSCM) and Fatmawati Hospital Center (RSF) as many as 25 patients. The pattern of demographic and clinical characteristics of patients were seen based on age, parity, body mass index, education, employment, menopausal status and the degree of pelvic organ prolapse. Data patterns of demographic and clinical characteristics of patients with pelvic organ prolapse can be seen in Table 1.

**Table 1.** Demographics and Clinical Characteristics of POP Patients

Characteristics	Vaginal surgery (n=25)
Age	58.23 ± 9.97
Parity	1.68 ± 0.78
Body Mass Index	25.03 ± 4.85
<b>Education</b>	
Elementary school	4 (16%)
Middle school	3 (12%)
High school	11 (44%)
D3	7 (28%)
<b>Occupation</b>	
Housewife	22 (88%)
Employee	1 (4%)
Civil servant	2 (8%)
<b>Menopausal status</b>	
Post-menopause	19 (76%)
Pre-menopause	6 (24%)
<b>POP Degree</b>	
Stage 2	7 (28 %)
Stage 3	11 (44%)
Stage 4	7 (28 %)

A total of 25 subjects were included in this study. Data were obtained for changes in quality of life scores POP patients after the treatment of

vaginal surgery using questionnaires PFDI-20 and PFIQ-7 are shown in Table 2. Before processing the data, we performed normality test on each data subset using the Shapiro-Wilk test. The normal data is data in which the value of  $p > 0.05$ . From the data, after having tested for the value of the normality, normal data distribution is found in UDI-6, POPIQ-7 and PFIQ-7 scores prior to therapy while others are not normal. Data with normal distribution would be tested using paired T-test, while data with non-normal distribution would to be tested with Wilcoxon test. Data with normal distribution are presented in the form of mean  $\pm$  SD, while data with non-normal distribution are presented (minimum-maximum).

## DISCUSSION

Pelvic organ prolapse is a major concern in women's health issues at all ages. Pelvic organ prolapse is often associated with decreased quality of life, and it may cause a disruption in the bladder, gastrointestinal and sexual dysfunction. The research we performed aimed to see the changes and comparison of the quality of life of patients before and after therapy with the use of questionnaires Pelvic Floor Distress Inventory Short Forms 20 (PFDI-20) and Pelvic Floor Impact Questionnaire Short Forms-7 (PFIQ-7) in patients with organ prolapse pelvic in Indonesia (Dr. Cipto Mangunkusumo Hospital and General Hospital Fatmawati). This study analyzed 25 patients with pelvic organ prolapse who underwent vaginal surgery.

In this study, we discovered significant changes in scores after treatment. After further analysis, we found significant changes except for the colorectal symptoms (CRAIQ-7) with a p-value of 0.317.

Other symptoms showed a value of  $p < 0.05$ . In our study, after 3 months we found significant changes of quality of life scores in patients studied, there were 3 patients who complained of POPDI-6 symptoms (a complaint on the heaviness or a dull pain in the area of the pelvic and complaints of not finished/complete duration), 1 patient who still complained of CRADI-8 symptoms (a complaint of straining to defecate, uncontrollable flatus from the rectum), 1 patient complained of POPIQ-7 symptoms (a complaint of mass against the ability of vehicle travel for more than 30 minutes), 4 patients still complained of UIQ-7 symptoms (a complaint of voiding symptoms compared to the ability to do housework, the ability to perform physical activity and the ability of vehicle travel more than 30 minutes), and 7 patients complained of UDI-6 symptoms (a complaint of frequent urination, leaking urine when there was a strong urge for urination, urine leakage when coughing, sneezing or laughing, dripping urine leakage, difficulty urinating), however, the overall scores were much reduced compared to the preoperative scores.

This study was in line with several studies conducted before. Barber et al in 2006 assessed the quality of life of 64 patients who underwent vaginal surgery by using full version PDFI. The study found improved quality of life to after treatment regarding POP complaints (POPDI), complaints of micturition (UDI), colorectal complaints (CRADI) on the PFDI questionnaire and complaints of prolapse in POPIQ, urinary complaints in UIQ all showing the value of  $p < 0.0001$ ; whereas colorectal complaints in CRAIQ were not found to have significant changes despite clinical improvement.<sup>9</sup>

**Table 2.** Changes of Quality of Life Scores in POP Patients after Vaginal Surgery Procedure

Questionnaire	Prior to therapy	After therapy	Quality of Life Changes	p
<b>PFDI-20</b>	56.25 (20.83-133.68)	0.33 (0-8.7)	55.56 (20.83-132.68)	0.000
UDI-6	37.16 $\pm$ 22.72	0 (0-33.33)	7.44 $\pm$ 4.79	0.000
POPDI-6	41.67 (12.5-100)	0 (0-29.17)	9.6 $\pm$ 4.89	0.000
CRADI-8	0 (0-25)	0 (0-9.38)	0 (3-8)	0.006
<b>PFIQ-7</b>	50.81 $\pm$ 19.31	0 (0-42.81)	47.82 $\pm$ 21.95	0.000
UIQ-7	28.84 (0-66.6)	0 (0-42.81)	5 (2 - 14)	0.001
CRAIQ-7	0 (0 - 23.8)	0 (0)	0 (0 - 23.8)	0.317
POPIQ-7	40.72 $\pm$ 18.32	0 (0-42.81)	38.43 $\pm$ 20.82	0.000

Research conducted by Doaee et al which reviewed and carried out a meta-analysis on 11 studies found that patients who underwent vaginal surgery had good quality of life improvement after treatment. In this study, change in scores obtained on the PFDI-20 questionnaire was 74.03 (66.36 to 81.69) while the change in PFIQ-7 questionnaire was 44.57 (22.53 to 88.65).<sup>13</sup>

Research conducted by Tamang et al in Nepal on 322 women found changes in the quality of life to be improved after vaginal surgery on every scale of PFDI-20 and PFIQ-7 with a p-value <0.001 for urinary, gastrointestinal and prolapse symptoms in everyday activities, social relationships and emotions. In their study, they carried out a re-examination in 9 to 11 months postoperatively. The majority of their patients were housewives, and the median of age was 48.9 years old when they underwent vaginal surgery.<sup>14</sup>

Kaplan et al found that in 103 women with prolapse, there were good post-repair procedure improvements in six months on all the scale on PFDI-20 and PFIQ-7 with p<0.001, except for CRAIQ-7 symptoms (p = 0.016).

In all four studies, further symptoms that were still affecting the patients post-procedure were not explained. There are significant changes in the quality of life scores after vaginal surgery therapy in our study, which are in line with previous studies.

From this research we can conclude that there is a significant reduction in the quality of life scored of patients after the treatment of POP with vaginal surgery on any scale of PFDI-20 and PFIQ-7 questionnaires with a preoperative PFDI-20 score of 56.25 (20.83 to 133.68 ) and after therapy score of 0.33 (0 to 8.7) and with preoperative PFIQ-7 score of 50.81 ± 19.31 and after therapy of 0 (0 to 42.81) a side for colorectal complaints based on the scale of CRAIQ-7 (p = 0.317). Further research should be conducted to assess the quality of life of patients with pelvic floor dysfunction in Indonesia using these questionnaires.

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