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RESEARCH ARTICLE

Pelvic Floor Distress Inventory – 20 As Quality of Life Score Predictor in Patient Using Pessary

Berriandi Arwan[1,2]*, Andi Rinaldi[1], R.M. Sonny Sasotya[1], M.Rizkar Arev Sukarsa[1], Eppy Darmadi Achmad[2]

[1] *Division of Reconstructive Urogynaecology, Department Obstetric and Gynaecology, Faulty of Medicine, Padjadjaran University, Hasan Sadikin General Hospital, Bandung, West Java, Indonesia*

[2] *Division of Reconstructive Urogynaecology, Department Obstetric and Gynaecology, Faulty of Medicine, Andalas University, M Djamil General Hospital, Padang, West Sumatra, Indonesia*

Corresponding Author: *Berriandi Arwan; berriandi.arwan@gmail.com ; +62 813-6382-8782*

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Abstract

Introduction: *Pelvic organ prolapse is one of women's health major concern associated with decreased quality of life that may cause a disruption in the bladder, gastrointestinal and sexual dysfunction. Women's Health Initiative (WHI) stated 41% of women aged 50-79 years pelvic organ prolapse symptoms and surgeries performed rate increased from 1.5 to 4.9 cases per 1,000 women per year.*
Objective*: To determine changes in quality of life based on Indonesian version of Pelvic Floor Distress Inventory – 20 questionnaire in patients with pelvic organ prolapse.*
Methods: *Prospective cohort study carried out in Al Ihsan Hospital, Bandung, Indonesia during the period Januari 2024 – March 2024. The quality of life was followed up three months after hospital discharge. We used the Indonesian version of Pelvic Floor Distress Inventory – 20 (PFDI-20).*
Results: *In this study, 20 subjects were involved. The result showed that significant reduction in the quality of life score in patients after the treatment of pelvic organ prolapse with conservative treatment such as pessary insertion based on scale Indonesia version of PFDI – 20 questionnaire, with the highest a preoperative PFDI-20 score of 275 and after therapy score reduction until 50.*
Conclusions*: There is a improvement in quality of life scores in patients with pelvic organ prolapse underwent pessary. Further research should be conducted in large number to assess the quality of life of patients with pelvic floor dysfunction in Indonesia using these questionnaire.*

Keywords: *Menopause, pelvic organ prolapse, pessary, quality of life, user*

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INTRODUCTION

Pelvic organ prolapse is one of women's health major concern associated with decreased quality of life that may cause a disruption in the bladder, gastrointestinal and sexual dysfunction. Women's Health Initiative (WHI) stated 41% of women aged 50-79 years pelvic organ prolapse symptoms and surgeries performed rate increased from 1.5 to 4.9 cases per 1,000 women per year. [1-3]

The frequency in Indonesia is only 1.5% and is more common in women who have given birth, older women and women with heavy labor.[4] In Indonesia there is no prevalence study to determine the overall incidence of POP. Every year there are 47-67 cases of pelvic organ prolapse and in 2005-2010 there were 260 cases that received surgery based on data from Cipto Mangunkusumo Hospital. In a study at Dr. Soetomo Surabaya Hospital over a 5-year period (2007 - 2011), 371 women with POP were reported, only 92 cases had a complete history and data on the 4 risk factors studied. Of the total 92 cases, uterine prolapse was found in 61 cases (66.3%), cystocele in 6 cases (6.52%) and 25 cases (26.1%) were a combination of POP. Most of the cases of uterine prolapse (91.81%) were found with degree III and IV, where 60.66% of uterine prolapse was degree III, 31.15% was degree IV, and 8.20% was degree II. [5,6]

POP therapy includes operative and non-operative therapy. Non-operative therapy includes the use of a pessary. A pessary can be placed in almost all women with uterine prolapse regardless of the stage and location of the prolapse. Vaginal pessary is an effective non-surgical treatment for women with POP, and up to 92% of women are successfully fitted with a pessary. [7]

In one study protocol, a ring pessary was inserted first, followed by a Gellhorn pessary if the ring was not in place. The ring pessary was more successfully used in stage II (100%) and stage III (71%) prolapse, and stage IV prolapse more often required a Gellhorn pessary (64%). If possible, women should be taught to change their pessary independently. If a woman is unable to remove and replace her pessary, regular follow-up (e.g. every 3-4 months) is required. Annual follow-up is recommended for patients who are able to keep the pessary clean themselves.[1]

Pressure on the vaginal wall from the pessary may cause local devascularization or erosion in 2-9% of patients. Treatment should consist of pessary removal for 2-4 weeks and local estrogen therapy. Resolution may occur without local estrogen therapy. If the problem persists, more frequent pessary replacement or a different pessary may be required. Caregivers of patients with dementia should be made aware of the regular pessary changes required to avoid complications. Although rare complications such as fistula may occur, the use of a pessary is a low-risk intervention that can be offered to all women who are considering POP treatment.[1]

The pelvic floor stress inventory (PFDI) and pelvic floor impact questionnaire (PFIQ) were published in 2001, as two valid and reliable instruments to assess the quality of life of women with all forms of pelvic floor dysfunction. The PFDI 20 is a short form of the PFDI which shows excellent correlation with the long form of the PFDI (reliable and responsive to replacement). The questionnaire was chosen because it contains 3 groups of questions that are clear and easy to understand, making it easy to use for clinical and research purposes.[8]

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The PFDI-20 has been translated into various languages, followed by validation testing. Several publications have presented the results of the validation test, and stated that the PFDI-20 is a valid and reliable questionnaire instrument to assess female pelvic floor dysfunction. The PFDI-20 questionnaire consists of 20 questions divided into 3 groups, the pelvic organ prolapse distress inventory (POPDI-6) group consists of 6 questions, the colorectal-anal distress inventory (CRADI-8) group consists of 8 questions, and the urinary disorders inventory (UDI-6) consists of 6 questions. Response options consisted of 'yes' and 'no'. The yes option describes how bothersome the pelvic floor dysfunction complaint is. The 'no' answer option is 0, while the degree of disturbance in the 'yes' answer is a multiple of 25 (range 25-100 from not disturbing at all to very disturbing).[8,9]

The long-form PFDI-20 questionnaire contains 46 complaints of pelvic floor dysfunction. Along the way, for considerations of practicality and ease of use, experts created a short form questionnaire. The questionnaire is known as PFDI-20 questionnaire which consists of 20 questions (6 questions on pelvic organ prolapse complaints, 8 questions on colorectal tract complaints, and 6 questions on urinary tract complaints). The PFDI-20 questionnaire has been widely used in various studies in various countries. Its validity and reliability have also been tested frequently. The results showed that the PFDI 20 questionnaire proved to have good sensitivity and specificity in helping to determine complaints of pelvic floor dysfunction.[9]

For the assessment and quantification of the intensity and severity of symptoms of pelvic floor dysfunction (PFD), patient reported outcome measures (PROMs) are often used.[80] Among the existing PROMs for assessing PFD symptoms in women, the Pelvic Floor Disorders Inventory (PFDI) is the most frequently used instrument for assessing pelvic floor dysfunction (PFD) symptoms in women and is recommended as level A by the International Consultation on Incontinence (ICI). [81,82,83] The ICI classifies PROMs as grade A if the Committee finds “published data indicate that the questionnaire is valid, reliable, and responsive to change after standardized psychometric tests,” without taking into account details of how the study was conducted and values for measurement properties.[4] In addition, the 46-item PFDI was abbreviated in a shortened version with 20 items, the PFDI-20.[78,84] The purpose of both forms is to assess the severity of PFD symptoms through items divided into three subscales-Pelvic Organ Prolapse Disorders Inventory (POPDI), Colorectal-Anal Disorders Inventory (CRADI), and Urinary Disorders Inventory (UDI)-that assess POP, anorectal, and urinary tract symptoms, respectively.[8,10]

The PFDI and PFDI-20 have been translated and validated into several languages. Both versions have also been used in a large number of studies and in clinical practice to identify PFD symptoms and the intensity of distress caused by those symptoms. However, the measurement properties of both versions need to be evaluated to determine whether they are appropriate for clinical and scientific contexts.[11,12]

This study aims to determine changes in quality of life based on Indonesian version of Pelvic Floor Distress Inventory – 20 questionnaire in patients with pelvic organ prolapse.

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METHODS

The design of this research is prospective cohort study carried out in Al Ihsan Hospital, Bandung City, Indonesia during the period Januari 2022 – March 2023.. This research was conducted on 20 patients aged 50-65 years who had pelvic organ prolapse. These patients were treated at Al-Ihsan Hospital in Bandung between Januari 2024 to March 2024. Inclusion criteria are patients with POP grade I, II, III, IV, and agree to be included in the study. Exclusion criteria are patients with neoplasm of pelvic organ, intraabdominal tumor, history of pelvic surgery.

Based on the results of the prolapse intensity examination, a pessary was installed as therapy. To determine sexual function, researchers used Indonesian version of Pelvic Floor Distress Inventory – 20 (PFDI-20). The quality of life was followed up three months after hospital discharge. The independent variable is the use of pessary. The dependent variable is sexual function as measured by the Indonesian version of Pelvic Floor Distress Inventory – 20 (PFDI-20).

Bivariate analysis was used to determine the comparison of sexual dysfunction and quality of life with the PFDI-20 questionnaire. Normality test was conducted for numerical-ratio data results with the Shapiro Wilk test because the study subjects were less than equal to 50. If the data were normally distributed, comparison of questionnaire score values was carried out by paired T test. If the data were not normally distributed, the Wilcoxon test was performed.

RESULT

In this study, 20 subjects were involved where the degree of POP varies from degree 2 to 4. The pessary used in this study was a ring pessary. The average age of the patients was 57 years. The research results showed that there were 20 respondents (100.0%) who were included in poor quality of life.

The result showed that significant improvement in the quality of life score in patients after the treatment of pelvic organ prolapse with conservative treatment such as pessary insertion based on scale Indonesia version of PFDI – 20 questionnaire, with the highest a pretreatment PFDI-20 score of 275 and after therapy score reduction until 50.

Table 1. PFDI-20 Results Before and After Pessary Treatment

PFDI-20	Before Pessary N (%)	After Pessary N (%)
Poor Quality of life	100	0
Good Quality of life	0	100

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Table 2. Quality of life Results After Pessary Treatment

Type of pessary	Quality of life		
	Poor (%)	Good (%)	Change From Poor To Good Quality of life(%)
Ring Pessary	0	20	20(100%)

DISCUSSION

The result of this study is supported by other study. The PFDI has been used as an instrument in studies on the quality of life of patients with POP. Hakim and Maharani conducted a prospective cohort study conducted at Dr. Cipto Mangunkusumo and Fatmawati Hospital during the period July 2015 to October 2016. The subjects' quality of life was followed up three months after undergoing vaginal surgery. They used the Pelvic Floor Distress Inventory (PFDI-20) and the Indonesian version of the Pelvic Floor Impact Questionnaire (PFIQ-7). There was a reduction in the quality of life scores of patients treated with vaginal surgery on all scales except CRAIQ-7 with a p value <0.05.[13,14]

Research conducted by Arruda and Virtuoso in 2021 based on level A recommendations by the International Consultation on Incontinence (ICI) to use the Pelvic Floor Disorders Inventory (PFDI) and PFDI-20 has been translated and validated into several languages with different measurement property values as an instrument to assess pelvic floor dysfunction. The aim of this study was to investigate the measurement properties of the PFDI and PFDI-20. In this study, 2,857 studies were initially found, and 7 studies on PFDI and 25 studies on PFDI-20 were analyzed. The PFDI presented high quality evidence for hypothesis testing, moderate for test-retest reliability and responsiveness, and very low quality evidence for content validity. The PFDI-20 presented high-quality evidence for criterion validity, hypothesis testing, and responsiveness, moderate quality for test-retest reliability and measurement error, and very low quality of evidence for content validity. It was not possible to assess the quality of evidence for internal consistency of the PFDI and PFDI-20. No studies assessed cross-cultural validity. Only hypothesis testing provided high-quality evidence for the PFDIs. Criterion validity, hypothesis testing, and responsiveness provided high-quality evidence for the PFDI-20.[15]

CONCLUSION

The use of a pessary can improve quality of life in women who experience pelvic organ prolapse. One of the main limitations of this study is its underestimation in using various types of pessaries; only one type used in this research. Another weak point at the moment the number of research subjects is still small. There is a improvement in quality of life scores in patients with pelvic organ prolapse underwent pessary.

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