



Quality of Life in Pelvic Organ Prolapse Patients with Operative Therapy at RSUP Dr. Mohammad Hoesin

Mutia Adilah Almenata¹, Hadrians Kesuma Putra^{2*}, Septi Purnamasari³, Ratih Krisna², Abarham Martadiansyah²

¹Medical Education Study Program, Faculty of Medicine, Universitas Sriwijaya, Palembang, Indonesia

²Department of Obstetrics and Gynecology, Faculty of Medicine, Universitas Sriwijaya, Palembang, Indonesia

³Department of Biology, Faculty of Medicine, Universitas Sriwijaya, Palembang, Indonesia

ARTICLE INFO

Keywords:

Pelvic organ prolapse
Quality of life
Operative therapy

Corresponding author:

Hadrians Kesuma Putra

E-mail address:

hadrianskesuma@fk.unsri.ac.id

All authors have reviewed and approved the final version of the manuscript.

<https://doi.org/10.32539/BJI.v10i1.183>

ABSTRACT

Introduction. Pelvic organ prolapse is a condition where the pelvic organs descend from their original position and protrude into the vagina. This condition causes several complaints in the patients that can interfere with their daily activities and have an impact on their quality of life. One of the treatments that can be given to patients with POP is operative therapy, which one of the goals is to improve the patient's quality of life. This study aims to determine the quality of life of pelvic organ prolapse patients with operative therapy at Dr. Mohammad Hoesin Hospital Palembang. **Methods.** This study used an observational analytical method with a cross-sectional study design. This study consisted of 17 respondents. This study used the P-QOL questionnaire guidelines and secondary data from medical records. **Results.** This study showed an improvement in the quality of life of pelvic organ prolapse patients in all P-QOL quality of life domains ($p < 0.05$) after receiving operative therapy compared to before receiving operative therapy. Analysis of the effect of confounding factors on the total quality of life score showed that age ($p = 0.138$), BMI ($p = 0.999$), parity ($p = 0.468$), degree of POP ($p = 0.439$), and type of surgery ($p = 0.814$) did not have a significant influence on the quality of life of postoperative POP patients. **Conclusion.** There was a significant improvement in the quality of life in pelvic organ prolapse patients after receiving operative therapy, and no significant relationship between age, BMI, parity, degree of POP, type of surgery on the quality of life in postoperative POP patients.

1. Introduction

Pelvic organ prolapse (POP) is a condition where the pelvic organs descend from their original position and cause a protrusion into the vagina.¹ POP can be categorized based on the compartments involved, which are the anterior compartment (cystocele, urethrocele, and cystourethrocele), posterior compartment (rectocele and enterocele), and apical compartment (uterovaginal and vaginal vault prolapse). These types of prolapse can occur alone or together.^{2,3} Risk factors for POP such as genetics, age, occupation, obesity, smoking, and childbirth will contribute to the weakening of the connective tissue or collagen of the pelvic floor which eventually causes the pelvic organs to drop from their original position.²

The prevalence of POP varies depending on how it is diagnosed whether it is through presenting symptoms (1-31%), physical examination of the pelvis (10-50%), or both (20-65%).⁴ According to research conducted by Bo Wang, there were 13 million cases of POP globally in 2019 with the highest

incidence occurring in women aged 50-54 years and 65-69 years.⁵ With the increase in life expectancy, POP is predicted to become a major health problem in the near future.²

According to the World Health Organization (WHO), quality of life is an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns.⁶ In patients with pelvic organ prolapse, symptoms such as vaginal bulge sensation, pain, and dysfunction in the urinary tract, bowel, or even sexual activity can interfere with various patient activities as well as cause physical and emotional distress. Ultimately, this will lead to a decreased quality of life in POP patients.^{3,5,7} Therefore, one of the main goals in the management of pelvic organ prolapse is to improve the quality of life of the patients.⁸

Currently, the management of pelvic organ prolapse consists of non-operative and operative measures.⁷ The lifetime risk of POP patients to

require operative therapy is about 20%. With the increase in life expectancy and the growing global focus on improving quality of life, older women are increasingly opting for operative therapy as the preferred and more reassuring treatment for POP.⁹

Considering the description above, it is important to know the quality of life of pelvic organ prolapse patients after surgery to determine the success of therapy and monitor the patient's postoperative condition so that it can be taken into consideration in choosing future medical decisions.

2. Methods

This study is an observational analytic study with a cross-sectional design. The research was conducted in November-December 2023 at the Medical Record Installation of Dr. Mohammad Hoesin Hospital Palembang and the respondent's home.

The sample of this study was pelvic organ prolapse patients who received operative therapy at the inpatient installation of the Obstetrics and Gynecology Department of Dr. Mohammad Hoesin Hospital Palembang in the period January 2021-June 2023, which was collected using the total sampling technique. The data used in this study were secondary data taken from the medical records of the obstetrics and gynecology department of Dr. Mohammad Hoesin Hospital Palembang and primary data obtained from interviews with respondents.

Data collected from medical records will be recorded and then observed according to the research variables. Patients who fulfill the inclusion and exclusion criteria from the medical record data will be contacted by telephone to be given informed consent and asked about their willingness to interview their quality of life. Patients who agreed will be interviewed, either face-to-face at their homes or by telephone, using the Prolapse Quality of Life (P-QOL) questionnaire which will assess nine domains of quality of life in POP patients. The collected data were processed using IBM SPSS Statistic 29. The processed data were presented in tabular form then analysed and explained in narrative form.

3. Results

During the sampling period in November-December 2023, it was found that there were 56 patients with pelvic organ prolapse with operative therapy at Dr. Mohammad Hoesin Palembang General Hospital for the period January 2021-June 2023 who met the inclusion and exclusion criteria. Of these 56 patients, 35 could not be interviewed because they were unable to be contacted or were not willing to be interviewed, resulting in a total of 17 patients who were willing to be respondents in the interviews regarding their quality of life. Therefore, the study sample used to determine the characteristics of patients consisted of 56 people, while the sample used in the analysis of patient quality of life consisted of 17 people.

The characteristics of pelvic organ prolapse patients who received operative therapy are presented in Table 1. Based on age, the majority of POP patients with operative therapy (37.5%) were in the late old age category (56-65 years). Based on BMI, the majority of patients (39.3%) had BMI in the obesity I category (25-29.9). A total of 53 patients (94.6%) were multiparous women and the remaining 3 (5.4%) were primiparous women. The majority of patients (50%) had grade 4 POP, and based on the type of surgery, most patients (76.8%) received a reconstructive type of surgery.

Table 2. shows the difference in the quality of life of POP patients preoperative and postoperative. From the analysis of the scores obtained through interviews using the P-QOL questionnaire, there was a significant decrease ($p < 0.05$) for all domain scores and total P-QOL scores in postoperative patients. This shows that the quality of life of postoperative pelvic organ prolapse patients is better than the quality of life of preoperative patients.

Differences in the quality of life of postoperative pelvic organ prolapse patients based on patient characteristics can be seen in Table 3. The table shows that there is no significant difference in the quality of life of postoperative POP patients based on age grouping ($p = 0.138$), BMI ($p = 0.999$), parity ($p = 0.468$), degree of POP (0.439), and type of surgery (0.814). This indicates that the five factors did not affect the quality of life of patients in this study and the improvement in quality of life they experienced was the result of the surgical therapy obtained.

4. Discussion

Based on the results of the study, it was found that the majority of pelvic organ prolapse patients who received operative therapy were in the age range of 56-65 years (late old age) with as many as 21 patients (37.5%). This result is in line with research conducted by Akbaba and Sezgin where POP patients who underwent operative therapy had an average age of 56 years.¹⁰ Research by Petcharopas et al. showed that POP patients with operative therapy had an average age of 63 years.¹¹ Alt et al. also revealed that the average age of POP patients who underwent operative therapy was 64 years.¹²

Age is one of the factors causing pelvic organ prolapse. This occurs due to physiological changes in old age that cause some neuromuscular dysfunction of the muscles that support the pelvic organs and pelvic floor.¹³ In old age, the fascial tissue of the pelvic floor will become more rigid and prone to rupturing and thus cannot provide strong support to the surrounding structures.¹⁴ In addition, a decrease in postmenopausal estrogen levels also has an impact on decreasing the collagen strength of the pelvic floor connective tissue and atrophy in the vaginal tissue which ultimately facilitates pelvic organ prolapse.^{2,15}

Table 1. Characteristics of pelvic organ prolapse patients with operative therapy

| Characteristics | Pelvic Organ Prolapse | |
|--|-----------------------|----------------|
| | Number (n) | Percentage (%) |
| Age | | |
| Early Adulthood (26-35 years) | 0 | 0 |
| Late Adulthood (36-45 years) | 1 | 1.8 |
| Early Old Age (46-55 years) | 15 | 26.8 |
| Late Old Age (56-65 years) | 21 | 37.5 |
| Elders (>65 years) | 19 | 33.9 |
| Body Mass Index | | |
| Underweight (<18.5) | 6 | 10.7 |
| Normal (18.5-22.9) | 17 | 30.4 |
| Overweight (23-24.9) | 9 | 16.1 |
| Obesity I (25-29.9) | 22 | 39.3 |
| Obesity II (≥30) | 2 | 3.6 |
| Parity | | |
| Nulliparity (0) | 0 | 0 |
| Primiparity (1) | 3 | 5.4 |
| Multiparity (≥2) | 53 | 94.6 |
| The Degree of Pelvic Organ Prolapse | | |
| Grade 1 | 0 | 0 |
| Grade 2 | 5 | 8.9 |
| Grade 3 | 23 | 41.1 |
| Grade 4 | 28 | 50 |
| Type of Surgery | | |
| Reconstructive | 43 | 76.8 |
| Obliterative | 2 | 3.6 |
| Reconstructive and Obliterative | 11 | 19.6 |

Table 2. Differences between quality of life in pelvic organ prolapse patients before and after receiving operative therapy based on the P-QOL questionnaire

| Quality of Life Domains | P-QOL Score | | p-value |
|----------------------------|-----------------------------|------------------------------|------------------|
| | Preoperative (Mean ± SD) | Postoperative (Mean ± SD) | |
| General Health Perceptions | 39.71 ± 26.60 | 10.29 ± 12.68 | 0.001 |
| Prolapse Impact | 58.86 ± 38.66 | 0 ± 0 | <0.001 |
| Role Limitations | 49.01 ± 45.82 | 5.88 ± 16.60 | 0.003 |
| Physical Limitations | 44.11 ± 41.22 | 1.96 ± 8.08 | 0.003 |
| Social Limitations | 18.63 ± 24.91 | 0 ± 0 | 0.016 |
| Personal Relationships | 11.11 ± 13.02 | 1.30 ± 3.68 | 0.012 |
| Emotions | 28.10 ± 28.08 | 2.61 ± 8.35 | 0.001 |
| Sleep/Energy | 23.53 ± 29.49 | 2.94 ± 6.54 | 0.005 |
| Severity Measures | 32.84 ± 27.86 | 0.98 ± 2.76 | 0.002 |
| Total | 33.76 ± 19.51 | 3.06 ± 4.11 | <0.001 |

In this study, it was found that the majority of POP patients who underwent operative therapy had a BMI of 25-29 (Obesity I), as many as 22 patients (39.3%). This is in line with research conducted by Akbaba and Sezgin where the average BMI in pelvic organ prolapse patients with operative therapy was 28.99 which is included in the category of obesity I.¹⁰ Research conducted by Karaca showed that the average BMI in pelvic organ prolapse patients

undergoing operative therapy was 25.6.¹⁶ In addition, supporting results were also obtained from research conducted by Alt et al where the average BMI of POP patients with operative therapy was 28.06.¹²

A high body mass index is one of the risk factors for POP. Obesity directly affects the symptoms of POP due to the continuous increase in intra-abdominal pressure. Nerve disorders and health problems that accompany overweight individuals collectively

contribute to pelvic floor dysfunction.²

Based on the results of the study, it was found that the majority of POP patients who underwent operative therapy had parity ≥ 2 (multipara). This finding is supported by a study conducted by Dietz et al. where 78.3% of POP patients were women who had given birth at least twice.¹⁷ A study by Ertas et al. also showed the same thing, where 79.2% of POP patients who underwent the Le Fort Colpocleisis procedure had a history of giving birth ≥ 2 .¹⁸

Parity is reported to be one of the main factors that cause pelvic floor muscle weakness and result in pelvic organ prolapse. This is related to the damage of muscles, fascia, ligaments, and peripheral nerves in the pelvic floor due to repeated childbirth, especially in vaginal delivery.¹⁹ Most of the damage to the pelvic floor occurs in the first and second time of childbirth.²

In this study, it was found that patients with pelvic organ prolapse who received operative therapy mostly had a grade 4 POP. The results of this study are in line with research conducted by Ertas et al. where 86.8% of pelvic organ prolapse patients who underwent surgery were at grade 4.¹⁸ Akbaba and Sezgin also reported the same thing in their study, where 56.76% of pelvic organ prolapse patients who received operative therapy had a grade 4 POP.¹⁰

Management of pelvic organ prolapse depends on the patient's symptoms, the severity of the prolapse, and the decision made between the patient and the doctor.²⁰ Operative therapy is usually given to patients who refuse conservative therapy, fail at conservative therapy, or in patients with severe

prolapse severity as a definitive therapy. Most patients with severe POP, where the protrusion is already below the hymen, will complain of impaired micturition, defecation, and sexual function. Therefore, the higher the severity of the prolapse, the more likely it is that operative therapy will be chosen as the patient's management.^{21,22}

In this study, it was found that the most common type of surgery performed as operative therapy for pelvic organ prolapse patients was the reconstructive type. Research by Wong et al. also showed similar results, where 84.3% of patients who underwent surgery for POP received a reconstructive type of surgery.⁹ The results of this study are also in line with research conducted by Petcharopas et al., where 52.8% of pelvic organ prolapse patients who underwent operative therapy received reconstructive therapy.¹¹

The type of operative therapy is chosen based on the patient's health status, therapeutic goals, and desired outcomes. Apart from adjusting to the patient's medical status, the patient's wishes regarding current and future sexual activity also determine the decision. Many women who are sexually active or want to be sexually active choose to undergo reconstructive procedures as this preserves the quality of the vagina. Whereas obliterative therapy is usually preferred by patients who no longer wish to preserve their coital function. Therefore, most patients with symptomatic POP prefer to undergo reconstructive type surgery.¹¹

Table 3. Differences between quality of life in pelvic organ prolapse patients with operative therapy based on characteristics

| Characteristics | n | Total P-QoL Postoperative (Rerata \pm SD) | p-value |
|--|----|---|--------------|
| Age | | | |
| Early Old Age (46-55 years) | 6 | 1.23 \pm 1.39 | 0.138 |
| Late Old Age (56-65 years) | 5 | 5.86 \pm 2.96 | |
| Elders (>65 years) | 6 | 2.05 \pm 1.59 | |
| Body Mass Index | | | |
| Underweight (<18.5) | 1 | 2.77 \pm 0 | 0.999 |
| Normal (18.5-22.9) | 5 | 2.65 \pm 3.28 | |
| Obesity I (25-29.9) | 10 | 3.02 \pm 4.93 | |
| Obesity II (≥ 30) | 1 | 2.77 \pm 0 | |
| Parity | | | |
| Primiparity (1) | 2 | 1.84 \pm 1.30 | 0.468 |
| Multiparity (≥ 2) | 15 | 3.02 \pm 4.30 | |
| The Degree of Pelvic Organ Prolapse | | | |
| Grade 2 | 3 | 1.84 \pm 1.59 | 0.439 |
| Grade 3 | 7 | 4.45 \pm 5.95 | |
| Grade 4 | 7 | 1.76 \pm 1.64 | |
| Type of Surgery | | | |
| Reconstructive | 14 | 2.57 \pm 4.12 | 0.814 |
| Obliterative | 1 | 4.62 \pm 0 | |
| Reconstructive and Obliterative | 2 | 4.16 \pm 5.89 | |

From the results of the study, there was a decrease in P-QOL scores in all nine quality-of-life domains in postoperative patients when compared to preoperative scores. The nine quality of life domains, as listed in the P-QOL questionnaire, are general health perception, prolapse impact, role limitations, physical limitations, social limitations, personal relationships, emotions, sleep/energy, and severity measures. The postoperative total score of all these domains also decreased compared to preoperatively. This decrease in score ($p < 0.05$) indicates a significant improvement in the quality of life of pelvic organ prolapse patients after undergoing operative therapy, both in each quality of life domain and overall quality of life.

The results of this study are in line with research conducted by Blome et al., where before operative therapy there was a negative impact of prolapse on the quality of life of their patients in all P-QOL domains, especially in the domains of prolapse impact, role limitations, physical limitations, and personal relationships. However, within 12 months after prolapse management surgery, there was a significant improvement in quality of life in all P-QOL domains.²³ Another study conducted by Zalewski et al. also reported a similar result, where the quality of life of POP patients in all nine domains showed an improvement postoperatively with a p-value < 0.05 .²⁴ Tahaoglu et al. also conducted a study that showed a significant improvement in all postoperative P-QOL domains with a p-value in all domains of 0.0001.²⁵

Pelvic organ prolapse is a condition that causes various anatomical symptoms such as protrusion and palpable bruising in the genital area. This leads to functional impairment such as incontinence or difficulty in defecation and urination, as well as sexual dysfunction. Due to their intrusive nature, these dysfunctions and symptoms have a serious negative effect on the patient's psychological well-being and social life. The sensation of pain or blockage that patients feel leads to difficulty walking which in turn interferes with their normal daily activities. As a result, the patient's quality of life in various domains of life will decrease. Restoring the compartmental damage in pelvic organ prolapse to near normal anatomy through operative therapy helps to reduce these dysfunctions and symptoms which in turn will again improve the patient's quality of life.^{10,26}

From the results of the study, no significant difference was found in the quality of life of postoperative pelvic organ prolapse patients in each age category. These results are in line with research conducted by Dirgahayu et al. where there is no significant relationship between age and the quality of life in women aged 45 years and above.²⁷ Research conducted by Trisetiyaningsih also reported that age has no significant relationship with the quality of life

in postmenopausal women.²⁸

In this study, there was no significant difference in the quality of life of postoperative pelvic organ prolapse patients based on body mass index. These results are in line with research conducted by Hermawan et al. which states that there is no relationship between nutritional status and quality of life.²⁹ Similar results were also reported by Sihombing et al. in their study which stated that there was no significant relationship between BMI and the quality of life of *PROLANIS* (Chronic Disease Management Program Activities) participants.³⁰

In this study, there was also no significant difference in the quality of life of postoperative pelvic organ prolapse patients based on parity. These results are in line with research conducted by Tarigan et al. where no significant relationship was found between parity and the quality of life of menopausal women.³¹ The same thing was also reported by Dirgahayu et al. in their research which reported that there was no relationship between parity and the quality of life in women aged 45 years and over or menopausal age.²⁷ Quality of life is influenced by several other factors, such as education, routine physical activity, chronic disease conditions, the ability to adapt or accept every change and decline faced, as well as appreciation and fair treatment from their environment.^{30,32}

From the results of the study, there was no significant difference in the quality of life of postoperative pelvic organ prolapse patients based on the degree of pelvic organ prolapse. This result is not in line with a study conducted by Tefera et al. which showed that the quality of life would be worse in advanced prolapse.³³ This difference may be due to various other factors that support the quality of life in patients in this study. Research conducted by Shrestha et al. which analysed the relationship between the degree of pelvic organ prolapse with each domain of quality of life showed that there was a significant relationship in the domains of physical limitations, social limitations, and severity, but there was no significant relationship in other domains.³⁴

From the results of the study, no significant differences were found in the quality of life of postoperative pelvic organ prolapse patients based on the type of surgery. Research conducted by Petcharopas et al. also showed no significant relationship between the type of surgery and all P-QOL domains except for the prolapse impact domain.¹¹ The results of a study conducted by Karaca and Ertas also reported a significant relationship between reconstructive and obliterative types of surgery and the quality of life of postoperative pelvic organ prolapse patients in several P-QOL domains, which are prolapse impact, physical limitations, social limitations, and severity

measures, but there was no significant relationship in other domains.³⁵ This may be caused by differences in data processing methods where the author compares the total quality of life score, while the above studies separate it based on each domain.

5. Conclusion

Pelvic organ prolapse patients who received operative therapy at Dr Mohammad Hoesin Hospital Palembang in the period January 2021-June 2023 were mostly aged 56-65 years (late old age), had BMI in the category of obesity I (25-29.9), were multiparous, had a grade 4 POP, and received reconstructive type surgery. There was a significant improvement in the quality of life in pelvic organ prolapse patients after receiving operative therapy. There is no significant relationship between age, BMI, parity, degree of POP, and type of surgery on the quality of life in postoperative POP patients.

6. References

1. Hamahata Y, Akagi K, Maeda T, Nemoto K, Koike J. Management of pelvic organ prolapse (POP) and rectal prolapse. *J Anus, Rectum Colon*. 2022;6(2):83–91.
2. Weintraub AY, Gliner H, Marcus-Braun N. Narrative review of the epidemiology, diagnosis and pathophysiology of pelvic organ prolapse. *Int Braz J Urol*. 2020;46(1):5–14.
3. Aboseif C, Liu P. *Pelvic Organ Prolapse*. Tampa: StatPearls; 2022.
4. Bø K, Anglès-Acedo S, Batra A, Brækken IH, Chan YL, Jorge CH, et al. Strenuous physical activity, exercise, and pelvic organ prolapse: A narrative scoping review. *Int Urogynecol J [Internet]*. 2023;34(6):1153–64. Available from: <https://doi.org/10.1007/s00192-023-05450-3>
5. Wang B, Chen Y, Zhu X, Wang T, Li M, Huang Y, et al. Global burden and trends of pelvic organ prolapse associated with aging women: An observational trend study from 1990 to 2019. *Front Public Heal*. 2022;10.
6. Kiling IY, Kiling-Bunga BN. Pengukuran dan faktor kualitas hidup pada orang usia lanjut. *J Heal Behav Sci*. 2019;1(3):149–65.
7. Felder L, Heinzelmann-Schwarz V, Kavvadias T. How does colpocleisis for pelvic organ prolapse in older women affect quality of life, body image, and sexuality? A critical review of the literature. *Women's Heal*. 2022;18.
8. Ghanbari Z, Ghaemi M, Shafiee A, Jelodarian P, Hosseini RS, Pouyamoghaddam S, et al. Quality of life following pelvic organ prolapse treatments in women: A systematic review and meta-analysis. *J Clin Med*. 2022;11(23):1–31.
9. Wong D, Lee YT, Tang GPY, Chan SSC. Surgical treatment of pelvic organ prolapse in women aged ≥ 75 years in Hong Kong: A multicentre retrospective study. *Hong Kong Med J*. 2022;28(2):107–15.
10. Akbaba E, Sezgin B. Modified laparoscopic lateral suspension with a five-arm mesh in pelvic organ prolapse surgery. *BMC Womens Health [Internet]*. 2021;21(1):1–7. Available from: <https://doi.org/10.1186/s12905-021-01388-0>
11. Petcharopas A, Wongtra-ngan S, Chinthakanan O. Quality of life following vaginal reconstructive versus obliterative surgery for treating advanced pelvic organ prolapse. *Int Urogynecol J*. 2018;29(8):1141–6.
12. Alt CD, Benner L, Mokry T, Lenz F, Hallscheidt P, Sohn C, et al. Five-year outcome after pelvic floor reconstructive surgery: Evaluation using dynamic magnetic resonance imaging compared to clinical examination and quality-of-life questionnaire. *Acta radiol*. 2018;59(10):1264–73.
13. Sudiarta IKE, Rizka MN, Rizal R M, Pratama R. Hubungan usia dengan kejadian prolaps uteri di departemen obstetri dan ginekologi RSPAL Dr. Ramelan Surabaya. *Hang Tuah Med J*. 2020;18(1):100–13.
14. Edmonds DK, editor. *Dewhurst's Textbook of Obstetrics & Gynaecology*. Seventh. Oxford: Blackwell Publishing; 2007.
15. Pitkin J, Peattie AB, Magowan BA. *Obstetrics and Gynaecology an Illustrated Colour Text*. London: Churchill Livingstone; 2003.
16. Karaca SY. The effect of reconstructive vaginal surgery on quality of life and sexual functions in postmenopausal women with advanced pelvic organ prolapse in intermediate-term follow-up. *Post Reprod Heal [Internet]*. 2021;27(3):145–50. Available from: <https://doi.org/10.1177/205336912111009713>
17. Dietz HP, Rozsa D, Subramaniam N, Friedman T. Does vaginal parity alter the association between symptoms and signs of pelvic organ prolapse? *J Ultrasound Med*. 2021;40(4):675–9.
18. Ertas IE, Balıkoğlu M, Biler A. Le Fort colpocleisis: An evaluation of results and quality of life at intermediate-term follow-up. *J Gynecol Obstet Hum Reprod*. 2021;50(4).
19. Vurğec BA, Beji NK. Quality of life and sexual life in women with advanced stage pelvic organ prolapse. *Cukurova Med J*. 2018;43(Ek 1):230–9.
20. Raju R, Linder BJ. Evaluation and management of pelvic organ prolapse. *Mayo Clin Proc*. 2021;96(12):3122–9.
21. Belayneh T, Gebeyehu A, Adefris M, Rortveit G, Gjerde JL, Ayele TA. Pelvic organ prolapse surgery and health-related quality of life: A follow-up study. *BMC Womens Health [Internet]*. 2021;21(1):1–11. Available from: <https://doi.org/10.1186/s12905-020-01146-8>

22. Chung SH, Kim W Bin. Various approaches and treatments for pelvic organ prolapse in women. *J Menopausal Med.* 2018;24(3):155.
23. Cadenbach-Blome T, Grebe M, Mengel M, Pauli F, Greser A, Fünfgeld C. Significant improvement in quality of life, positive effect on sexuality, lasting reconstructive result and low rate of complications following cystocele correction using a lightweight, large-pore, titanised polypropylene mesh: Final results of a national. *Geburtshilfe Frauenheilkd.* 2019;79(9):959–68.
24. Zalewski M, Kołodyńska G, Mucha A, Bełza Ł, Nowak K, Andrzejewski W. The assessment of quality of life and satisfaction with life of patients before and after surgery of an isolated apical defect using synthetic materials. *BMC Urol.* 2020;20(1):1–8.
25. Tahaoglu AE, Bakir MS, Peker N, Bagli İ, Tayyar AT. Modified laparoscopic pectopexy: Short-term follow-up and its effects on sexual function and quality of life. *Int Urogynecol J.* 2018;29(8):1155–60.
26. Karsli A, Karsli O, Kale A. Laparoscopic pectopexy: An effective procedure for pelvic organ prolapse with an evident improvement on quality of life. *Prague Med Rep.* 2021;122(1):25–33.
27. Dirgahayu I, Rustikayanti RN, Jayanti TN. Faktor yang memengaruhi kualitas hidup perempuan menjelang menopause. *J Keperawatan* [Internet]. 2023;15:87–94. Available from: <http://journal2.stikeskendal.ac.id/index.php/keperawatan/article/view/709/514>
28. Trisetiyaningsih Y. Faktor-faktor yang berhubungan dengan kualitas hidup perempuan klimakterik. *Media Ilmu Kesehat.* 2016;5(1):30–9.
29. Hermawan F, Widyastuti N, Tsani AFA, Fitranti DY. Hubungan status gizi dan kualitas tidur dengan kualitas hidup pada lanjut usia. *J Nutr Coll.* 2019;8(4):274–9.
30. Sihombing F, Niati Y, Friskila A. Hubungan indeks massa tubuh dan kualitas hidup peserta program pengelolaan penyakit kronis (Prolanis) di 2 puskesmas di kabupaten bandung barat. *STIKes St Borromeus.* 2019;48–52.
31. Tarigan I, Sinuhaji LNB, Sembiring M. Hubungan pendidikan, paritas, pekerjaan dan lama menopause dengan kualitas hidup perempuan menopause di puskesmas kabanjahe kabupaten karo. *J Mutiara Ners.* 2019;2(1).
32. Putri DI, Wati DM, Ariyanto Y. Kualitas hidup wanita menopause (Quality of life among menopausal women). *e-Jurnal Pustaka Kesehata.* 2014;2(1).
33. Tefera Z, Temesgen B, Arega M, Getaneh T, Belay A. Quality of life and its associated factors among women diagnosed with pelvic organ prolapse in gynecology outpatient department southern nations, nationalities, and peoples region public referral hospitals, Ethiopia. *BMC Womens Health* [Internet]. 2023;23(1):1–8. Available from: <https://doi.org/10.1186/s12905-023-02507-9>
34. Shrestha B, Onta S, Choulagai B, Paudel R, Petzold M, Krettek A. Uterine prolapse and its impact on quality of life in the jhaukhel-duwakot health demographic surveillance site, Bhaktapur, Nepal. *Glob Health Action.* 2015;8(1):1–9.
35. Karaca SY, Ertaş İE. Comparison of life quality between geriatric patients who underwent reconstructive surgery and obliterative surgery for pelvic organ prolapse. *Ginekol Pol.* 2021;92(10):695–700.