

Original Article

Determining the Effect of Prolapse Stages on Quality of Life

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Abstract

Aim: The research was in order to determine the effect of prolapse stages on quality of life.

Methods: A cross-sectional study was carried out in Medical Center Urogynecology Outpatient Clinic. The sample of the study consisted of 120 women diagnosed with urogenital prolapse. Data were collected using questionnaire form, Pelvic Organ Prolapse Symptom Score and Prolapse Life Quality Scale. Data were evaluated using number, percentage, mean, standard deviation, t test, one way Anova and Tamhane's post hoc test.

Results: It was found that the average age of women participating in the research is 53.69 ± 1.22 . The area most affected by prolapse quality of life was found to be the domain of general health. The feeling of something coming down from the vagina was found to be the most disturbing symptom. The difference between the age, education level, employment status of the women and the mean scores of Pelvic Organ Prolapse Symptom Score and Prolapse Life Quality Scale were statistically significant ($p < 0.05$). In the study, as the prolapse stage increased, the score of the Pelvic Organ Prolapse Symptom Score and Prolapse Quality of Life Scale mean scores increased statistically ($p < 0.05$).

Conclusion: In the study, it was found that the increase of the prolapse stage increases the prolapse symptoms and negatively affects the quality of life.

Keywords: Prolapse, women, stages, quality life

Introduction

Pelvic organ prolapse (POP) is the prolapse of the pelvic organs such as uterus, bladder, urethra, and rectum out of pelvis due to the insufficiency of nerves, muscles and fascia combination in the pelvic support system (Iglesia & Smithling, 2017). POP affects many women's life negatively and is an increasingly common problem for women particularly in advanced age (Huang et al., 2020).

It is difficult to identify the real incidence of POP because it is generally asymptomatic in the early stages, and women do not want to seek treatment as they accept it as a natural consequence of aging (Celik & Beji, 2012). The recent prevalence of POP is reported to be around 9% worldwide (Lim et al., 2012). A study conducted with 1047 women in an

African country in 2015 reported that 64.6% of women had stage 2-4 prolapse (Masenga et al., 2018), and a study conducted with 1320 women in Turkey reported prolapse in 56.6% of women (Yildiz et al., 2018). A study conducted in America predicted the prevalence of POP between the years 2010 and 2050 and reported that the POP prevalence would increase 46% by the year 2050 (Wu et al., 2009).

The risk factors for prolapse include parity, advanced age, high BMI, genetics, menopause, previous hysterectomy, connective tissue diseases, heavy workload, poor birth practices, constipation, smoking, and chronic cough (Celik & Beji, 2012; Weintraub et al., 2020). The general symptoms in prolapse include a feeling of bulge in the vagina, urinary incontinence, pain

in back and pelvic region, feeling of discomfort during sexual intercourse, and constipation. While POP is generally asymptomatic in the early stages, symptoms start to appear with the increase in the stages of prolapse (Weintraub et al., 2020).

Women with prolapse experience a serious decrease in their quality of life due to factors as follows: feeling of discomfort caused by the symptoms, embarrassment due to incontinence, deterioration in the body image due to increase in prolapse, beliefs about losing womanhood and attractiveness, decrease or lack of self-respect and self-confidence, sexual abstinence due to deterioration in sexual functions and discomfort in sexual relationships, deterioration in social relationships, desire for self-isolation, and increase in depression (Doaee et al., 2014). The World Health Organization defines quality of life as “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” (WHOQOL 1995). Women with prolapse are reported to have a low quality of life (Celik & Beji, 2012; Doaee et al., 2014). Nursing is interconnected with the concepts of quality of life and enhancing health. Therefore, in line with their professional role, nurses should aim to provide women who have prolapse with the necessary care to increase their quality of life (Celik & Beji, 2012).

Identification of the stages of prolapse on quality of life could contribute to the planning of nursing care by presenting the importance of the problem.

This study aims to identify the effect of the stages of prolapse on quality of life.

Material and Method

Study Design: This study, which aims to identify the effects of the stages of prolapse on quality of life, utilized a cross-sectional study design.

Target Population and the Sample: The target population of the study included women diagnosed with urogenital prolapse and sought treatment in the Urogynecology Polyclinic of Medical Center. Patients in this

polyclinic were examined between 08:00 and 12:00 on Tuesdays.

When $\alpha = 0.05$, $1 - \beta$ (power) = 0.80 according to the power analysis performed to determine the sample size; It was calculated that in order for the average difference of the quality of life in the prolapse scale to be 35 points according to the stages, at least 20 women from each stage of prolapse, of 80 women in total should be included in the sample. Using random sampling method, the study accessed 30 women from each stage, 120 women in total.

The study involved women who

- could communicate,
- could read and write, and
- did not have a history of prolapse surgery.

Possible subjects were informed about the research and as many as agreed to participate in the study were treated in all the research stages in accordance with the rules of the Declaration of Helsinki.

Data Collection Forms: Data were collected through the Socio-demographic Form developed by the researchers, the Pelvic Organ Prolapse Symptom Score (POP-SS), and the Prolapse Quality of Life Questionnaire (P-QOL).

The Socio-demographic Form: The form developed by the researcher had six questions, which included 5 questions regarding women's socio-demographic features (age, education level, health insurance, working or not, income level) and 1 question identifying the stage of prolapse as determined by the doctor as a result of the measurements performed in the polyclinic.

Prolapse Quality of Life Questionnaire (P-QOL): Turkish validity and reliability of the questionnaire, developed by Digesu et al. in 2003, were performed by Cam et al. in 2007 and Seven et al. in 2008. The questionnaire is composed of 20 questions and 9 domains that included general health perceptions (1st question), prolapse impact (2nd question), role limitations (3rd and 4th questions), physical limitations (5th and 6th questions), social limitations (7th and 8th questions), personal relationships (9th, 10th, and 11th questions), emotions (12th, 13th, and 14th

questions), sleep/energy (15th and 16th questions), and severity measures (16th, 17th, 18th, 19th, and 20th questions). The scores obtained from all fields in the scale were adapted to the 100 scale. The questions are responded on a 4-point Likert scale indicating the degree of impact, which included the options of “none/not at all” (1), “slightly/a little” (2) “moderately” (3), and “a lot” (4). Increased scores obtained from the questionnaire indicate low quality of life in that domain. The test-retest reliability coefficient of the questionnaire was found over 0.91 in all the domains (Cam et al., 2007). This study found Cronbach’s Alpha reliability coefficient as 0.92.

Pelvic Organ Prolapse Symptom Score (POP-SS): Turkish reliability and validity of the scale, which was developed by Hagen et al. in 2009, was performed by Ozengin et al. in 2017. POP-SS has seven questions responded on a 5-point Likert scale, which includes never (0), a little (1), sometimes (2), mostly (3), and always (4). Higher scores on the scale also indicate increases in the symptoms. Cronbach's Alpha reliability coefficient was found 0.71 in the Turkish reliability and validity study (Ozengin et al., 2017). This study found Cronbach’s Alpha reliability coefficient as 0.86.

Data Collection: Data were collected by the researcher between May 10 - December 20, 2019 from women who applied to the urogynecology polyclinic at Medical Center through interviews conducted face-to-face. All women included in the study were informed about the purpose of the study. They were informed that the information given would be confidential and they could leave the study whenever they wanted, and their questions were answered. Informed consent forms were collected from those who agreed to participate; They were then given a questionnaire to fill out. The sociodemographic form and questionnaires were filled in approximately 10 minutes. The Declaration of Helsinki was complied with at all stages of the study.

Data Analysis: Data obtained from the study were analyzed using SPSS 23 package program. The analysis of the numeric data was performed using numbers, percentages,

means, standard deviations, t-test, One-way Anova, and Tamhane's Post Hoc test.

Ethical Considerations: Before the study was conducted, Ethics approval was obtained from a University Scientific Research and Publication Ethics Committee (Decision No: 2019/9-2 dated 07.05.2019) data availability statement and written permission was obtained from Medical Center.

Limitations of the Study: The limitation of this study is that it was conducted only at Medical Center, so the results can be generalized only to this group.

Data Availability Statement: The data that support the findings of this study are available on request from the corresponding author, [initials]. The data are not publicly available due to [restrictions e.g. their containing information that could compromise the privacy of research participants].

Findings

An analysis of the socio-demographic features of the participating women showed that 56 women (46.7%) were aged between 47 and 67, 35 women (29.2%) graduated from primary school, 100 women (83.3%) did not work, and 66 women (55%) had income equal to expenses (Table 2).

The participants’ POP-SD scale mean was found 13.88 ± 5.18 , and the mean score of the P-QOL, which aimed to assess the effect of prolapse on women’s quality of life, was found 54.60 ± 13.27 (Table 1).

The difference between women’s age, education level, and working or not and their POP-SD and P-QOL mean scores was found to be statistically significant ($p < 0.05$). The difference between women’s income level and POP-SS and P-QOL mean scores was not statistically significant ($p > 0.05$) (Table 2).

The difference between the stage of prolapse and POP-SD and P-QOL mean scores was found to be statistically significant ($p < 0.001$). POP-SS and P-QOL mean scores were found to increase significantly with the increase in the stage of prolapse (Table 3).

Simple linear regression analysis was performed to understand the predictive power of the stage of prolapse in predicting P-QOL scores. The P-QOL variables indicated a significant relationship with the stage of prolapse ($R = 0.889$, $R^2 = 0.790$, $p = 0.000$). This

finding indicates that the stage of prolapse affects 79.0% of women's quality of life. When the t-test results regarding the significance of regression coefficients were analyzed, it was found that women's stage of prolapse had a highly significant predictive power on the general health perception variable of the P-QOL (Table 4).

Simple linear regression analysis was performed to understand the predictive power of the stage of prolapse in predicting the POP-

SS score. When Table 5 was analyzed, the POP-SD variable indicated a significant relationship with women's stage of prolapse ($R=.847$, $R^2=.717$, $p=0.000$). This finding indicates that the stage of prolapse in women with prolapse affects 71.7% of the pelvic organ prolapse symptoms. When the t-test results regarding the significance of the regression coefficients were analyzed, women's stage of prolapse was found to have a highly significant predictive power on the POP-SS variable (Table 5).

Table 1. Distribution of Participating Women's Pelvic Organ Prolapse Symptoms Score and Prolapse Quality of Life Questionnaire Mean Scores (n=120)

Scales	Mean±SD	Min-Max
POP-SS Total	13.88±5.18	1-24
P-QOLQ and Domains		
General Health Perceptions	74.71±18.61	30-100
Prolapse Impact	53.04±10.63	22-88
Role Limitations	47.50±19.59	20-80
Physical Limitations	47.00±18.10	20-80
Social Limitations	47.16±19.01	20-80
Personal Relationships	48.50±23.71	20-80
Emotional Relationships	58.77±15.49	20-80
Sleep/Energy	37.91±16.40	20-80
Severity Measures	37.25±15.22	20-80
P-QOL Total Score	54.60±13.27	30.9-81.8

Table 2. Comparison of POP-SS and P-QOL total Scores according to women’s descriptive features

Features	POP-SS Total Score			P-QOLQ Total Score	
	N (%)	Mean±SD	Test and Significance	Mean±SD	Test and Significance
Age*					
Between 26 and 46	42(%35)	11.78±4.66	KW=24.849 p=0.000	51.14±11.27	KW=16.620 p=0.000
Between 47 and 67	56(%46.7)	11.90±5.28		51.01±14.20	
≥68	22(%18.3)	18.18±3.20		63.96±9.60	
Education Level					
Literate	32(%26.7)	17.87±3.11	KW=31.732 p=0.000	64.14±10.62	KW=23.574 p=0.000
Primary School	35(%29.2)	13.65±5.30		52.10±12.92	
Secondary School	24(%20)	11.95±5.14		51.02±12.46	
High School	26(%21.7)	11.61±4.42		50.80±12.69	
University	3(%2.5)	9.00±5.00		43.63±0.90	
Working or not					
Working	20(%16.7)	11.75±3.99	MU=688.000	49.05±10.04	MU=704.500
Not working	100(%83.3)	14.31±5.31	p=0.028	55.71±13.59	p=0.037
Income Level					
Income less than expenses	53(%44.2)	14.62±5.87	KW=2.577 p=0.276	56.72±14.26	KW=2.724 p=0.256
Income equal to expenses	66(%55)	13.34±4.56		53.08±12.30	
Income more than expenses	1(%0.8)	10.00±5.19		42.72±13.27	

*Average age:53.69±1.223 (Min:26, Max:80) KW: Kruskal Wallis test, MU: Mann Whitney U test

Table 3. Comparison of women’s POP-SS and P-QOL total scores according to the stage of prolapse

Features	POP-SS Total Score		P-QOL Total Score	
	Mean±SD	Test and Significance	Mean±SD	Test and Significance
Stage of Prolapse				
1 st Stage	7.40±2.581		40.03±6.149	
2 nd Stage	12.66±2.495		50.36±7.349	

3 rd Stage	16.20±3.377	F=103.990	59.12±9.367	F=72.557
4 th Stage	19.26±2.377	p=0.000	68.90±8.455	p=0.000

F: One Way Anova test

Table 4. Simple random regression analysis for the identification of the effect of stage of prolapse on women’s quality of life

Independent Variable	B	Standard Error	Beta	t	p
Constant	-1.724	0.312		-5.7520	0.000
Prolapse Quality of Life Scale	0.008	0.218	0.089	0.035	0.972
General Health Perceptions	0.024	0.005	0.326	40.505	0.000
Prolapse Impact	0.013	0.070	0.120	0.181	0.857
Role Limitations	-0.007	0.019	-0.115	-0.338	0.736
Physical Limitations	0.000	0.041	0.004	0.006	0.995
Social Limitations	0.107	0.274	0.140	0.391	0.696
Personal Relationships	-0.001	0.030	-0.030	-0.047	0.962
Emotional Relationships	0.007	0.031	0.099	0.233	0.817
Sleep/Energy	0.006	0.021	0.087	0.289	0.773
Severity Measures	0.030	0.041	0.403	0.728	0.468
R=.889 R ² =.790 F _(9,110) =46.020 p=.000					

Table 5. Simple Linear Regression Analysis for the identification of the stage of prolapse on POP-SD

Independent Variable	B	Standard Error	Beta	t	p
Constant	-0,043	0.157		-276	0.783
Pelvic Organ Prolapse Symptom Score	0.183	0.011	0.847	17.285	0.000
R=.847 R ² =.717 F _(1,118) =298.775 p=.000					

Discussion

Although POP is not a life-threatening disease, it causes a decrease in women’s quality of life by affecting them in many aspects. Physical, social, and psychological

changes experienced by women throughout their lives increase the prevalence of prolapse (Sun et al., 2019). POP-SD was utilized to identify how much the women were affected by the prolapse-related symptoms. The

participating women were found to receive 1 to 24 points in the POP-SS scale, and the average mean score was found 13.88 ± 5.18 (Table 1).

Similar to the findings of the present study, Hagen et al. reported the POP-SS mean score of women with stage 2 or higher prolapse as 13.0 (Hagen et al., 2009), and Baleynah et al. reported the POP-SS mean score of women with prolapse as 13.5 (2-26) (Baleynah et al., 2020). In their study that involved women with prolapse, Ozengin et al. reported women's POP-SS mean score as 7.27 (Ozengin et al., 2017). The score difference between this study and the study conducted by Ozengin et al. is considered to result from the fact that the number of women with stage 3 and 4 prolapse was higher compared to other studies.

The total mean score of the P-QOL, which was performed to identify the effects of prolapse on the women's quality of life, was found 54.60 ± 13.27 (Table 1). Cam et al. investigated patients who sought treatment in the urogynecology polyclinic and found the total median score of the P-QOL in women with prolapse as 55.0 (33-74) (Cam et al., 2007). In their study that involved women with stage 2 and higher prolapse, Vurgec and Beji reported the P-QOL total mean score as 74.34 ± 23.05 (Vurgec & Beji, 2018). The difference is considered to be caused by stage 1 patients included in our study.

This study found the average age of women who were diagnosed with prolapse as 53.69 ± 1.22 , and advanced age was reported to increase prolapse symptoms and decrease quality of life (Table 2). Studies conducted in our country also reported that the symptoms increased with advanced age, and the quality of life was affected negatively (Vurgec & Beji, 2018; Çetinkaya et al., 2013). Studies conducted in different cultures also reported advanced age as one of the main risk factors for POP, and quality of life was found to be affected negatively (Shrestha et al., 2014; Horst et al., 2017). The findings of this study are in line with the literature.

This study found that women's education level affected the prolapse symptoms. Prolapse symptoms were more common among literate women in comparison to other groups, and with the increase in the education

level, prolapse symptoms decreased and quality of life increased (Table 2). Less-educated women with prolapse were found to have been affected by prolapse more, and their quality of life was reported to be lower (Huang et al., 2020; Elbiss et al., 2015). The literature has parallel findings with this result.

It was found that 83.3% of the women did not work, and those who did not work were affected by prolapse more than those who worked, and their quality of life was found to be lower (Table 2). Similar to the results of this study, the majority of women with prolapse did not work; they were affected by the symptoms more; and their quality of life was lower compared to those who worked (Vurgec & Beji, 2018; Elbiss et al., 2015). The literature reports parallel findings to the present study.

Of all the participating women in this study, 55% had income equal to expenses, and the income level did not demonstrate significant relationships with prolapse symptoms and quality of life (Table 2). The literature also indicates no relationships between income level and prolapse (Huang et al., 2020; Elbiss et al., 2015). The literature demonstrates parallel findings.

As the stage of prolapse progressed, women were found to be affected by prolapse symptoms more, and their quality of life decreased (Table 3). Similar to the findings of the present study, Belayneh et al. reported that the stage of prolapse demonstrated a strong correlation with the symptoms, and the women who had the highest stage of prolapse experienced the highest levels of symptoms (Belayneh et al., 2020). POP decreases women's quality of life by increasing the dysfunction in the pelvic floor (Pomian et al., 2016) and affecting the perceived body image and sexual life negatively (Lowenstein et al., 2009). Similar to the findings of the present study, studies conducted in Brazil and Nepal also reported that the increase in the stage of prolapse affected the quality of life negatively (Shrestha et al., 2014; Scarlato et al., 2011). Studies in our country that investigated the effect of prolapse on quality of life reported that the increase in the stage of prolapse increased the symptoms experienced and affected the quality of life negatively (Huang et al., 2020; Yildiz et al., 2018; Vurgec &

Beji, 2018). The findings of this study are in line with the literature.

When the effect of prolapse on women's quality of life was analyzed, the general health perceptions domain was found to be affected by the quality of life the most (Table 4). Similarly, Cam et al. detected the general health perceptions domain as the most affected domain (Cam et al., 2007). The literature also includes studies demonstrating that POP affected women's quality of life in different domains. The literature reports the most affected quality of life domains as the prolapse impact domain (Flores-Espinoza et al., 2015; Zalewski et al., 2020) and physical limitations domain (Dogan et al., 2018). The difference is considered to result from the meaning attributed to prolapse by women and the differences in the regions where the studies were conducted. The results of the regression analysis, which was conducted to identify the effect of the stage of prolapse on quality of life indicated that the stage had a 79.0% predictive power on quality of life. In other words, women's stage of prolapse had a highly significant effect on their quality of life. In a similar vein, the literature reports a strong correlation between the stage of prolapse and quality of life, and patients with an advanced stage of prolapse were found to have a lower quality of life (Rzepka et al., 2016; Manchana & Bunyavejchevin, 2010). The findings of this study are in line with the literature.

Prolapse symptoms were found to have a 77.7% of predictive power on women's quality of life (Table 5). In other words, women's prolapse symptoms had significantly high levels of effects on women's quality of life. Vurgec and Beji reported that the increase in prolapse symptoms decreased women's quality of life (Vurgec & Beji, 2018). Previous studies also reported that prolapse symptoms affected the quality of life negatively (Çetinkaya et al., 2013; Doğan et al., 2018). The findings of this study are in line with the literature.

Conclusion: This study found that prolapse affected mostly the general health perceptions domain of quality of life, and women's quality of life decreased significantly with the increase in the stage of prolapse. Nurses and health professionals are recommended to

provide disadvantageous groups in terms of pelvic organ prolapse with awareness-raising and training activities. In this way, negative effects on women's quality of life could be prevented through protection from POP, diagnosis at an early stage, and prevention of progression.

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