

Research Article

Quality of Life of Lithuanian Women in The Postpartum Period After the Intervention of Urinary Incontinence Correction Methods

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Abstract

Introduction: Urinary incontinence negatively affects the quality of life. Childbirth is one of the major risk factors for urinary incontinence. There is evidence that strengthening the pelvic floor and core muscles can be an effective means in correcting urinary incontinence, but it is not clear how the correction affects women's quality of life in the postpartum period. The aim of the study is to determine the effect of urinary incontinence correction on women's quality of life in the postpartum period.

Methods: Permission to conduct the study was obtained from the Kauno kolegija Higher Education Institution Department of Rehabilitation. A quantitative study was carried out. Quality of life assessment - Quality of life due to urinary incontinence questionnaire. SPSS was used for statistical analysis of research data. 52 women participated in the study, 18-45 years old, who gave birth vaginally 6-8 weeks ago. Participants were randomly divided into intervention (n=25) and control (n=27) groups. At the beginning and end of the study, quality of life was assessed with the I-QoL questionnaire.

Results: Results improved in both groups. The quality of life of the intervention group increased by 9.08±8.56 points (p<0.05). The quality of life of the control group increased by 0.96±2.26 points (p<0.05). The results of the intervention group are better than the control group, a statistically significant difference was found between the groups (p<0.05).

Conclusions: After the application of urinary incontinence correction methods, the quality of life remains reduced in postpartum women.

Keywords: urinary incontinence, postpartum period, quality of life, pelvic floor muscle training.

Introduction

Urinary incontinence is a common problem in women, and it is more than a physiological condition, it has a social impact, an impact on hygiene and a negative impact on the quality of life. Shame, anxiety, fear of bad breath or uncontrollable loss of urine cause women to withdraw from social life. Women with this problem have greater emotional disturbances than those with normal urination [1]. Pregnancy and childbirth are among the greatest risk factors for urinary incontinence [2], and vaginal delivery in particular is very closely associated with pelvic floor damage and prolonged dysfunction (urination and voiding disorders, pelvic organ prolapse or abdominal pain) [3]. The pathophysiology of urinary incontinence during pregnancy and postpartum is multifactorial and includes pregnancy itself, hormonal changes, changes in the urethra, anatomical damage after delivery, and dynamic force responses involving muscles and connective tissue. The causes are

mainly related to dysfunction of the bladder, pelvic floor muscles, ligaments, connective tissue including endopelvic fascia and/or neural structures [1]. The prevalence of any type of urinary incontinence during pregnancy and the first year after delivery is estimated to be between 32% and 64%, respectively and 15-30 % [2]. Namely, stress incontinence (involuntary leakage of urine due to physical exertion, laughing, coughing or sneezing) is usually associated with pregnancy and the postpartum period. There is evidence that strengthening the pelvic floor and lumbar corset muscles can be an effective means of correcting urinary incontinence [4], but it is not clear how a corrective exercise program affects women's quality of life in the postpartum period.

Every year, a number of studies are conducted in Lithuania about urinary incontinence and its possible treatment [5, 6]. However, there is a persistent lack of research on quality-of-

life changes in postpartum urinary incontinence, as quality of life and psychological status are as important as physical health.

To understand the problematic of the theme, there were presented the aim of the study, which is about determining the effect of urinary incontinence correction on women's quality of life in the postpartum period.

Methods

Study design

A quantitative strategy was chosen in the study. Before starting the research, the approval of the Bioethics Commission of the Rehabilitation Department of Kauno kolegija Higher Education Institution for the research was obtained. Subjects were searched on social networks, the researchers contacted them and communicated with them via private messages, they participated voluntarily, and consent was obtained. The research subjects were given information about the purpose of the research, its course, the function of the researchers, the methodology and the tasks set. The women who participated in the study were informed that anonymity and confidentiality are guaranteed, only the summarized results of the study will be disclosed. Subjects were informed that they could withdraw from the study at any time during its execution.

The research was conducted in two stages. The first stage of the study was the performance of the study, the subjects performed the exercise program at home. Data collection took place from 2023 January 13 until 2023 April 2 After the research, the second phase began, during which the collected data were analyzed and summarized. This part took place from 2023. March 27 until 2023 April 16 Subjects were searched on social networks, 52 women were included in the study, all of them completed the study. The subjects themselves were assessed twice, before and after physiotherapy. A home exercise program was chosen for the intervention.

Data collection methods

1. Questionnaire - an original questionnaire designed to determine the demographic and anthropometric data of the subjects and possible health risk factors. Questions were asked about subjects' age, education, height and weight, as well as pregnancy and delivery characteristics. Questions were also asked to ascertain whether subjects had episodes of urinary incontinence before or during pregnancy and whether they exercised before or during pregnancy. The questionnaire was sent online and was completed by 52 subjects.

2. Incontinence Quality of Life Measure questionnaire (I-QoL). The questionnaire was translated into Lithuanian and validated for research purposes [7]. The questionnaire is used to assess the quality of life of the incontinent. This questionnaire is A-level and is also a recommended tool for use as a urinary incontinence and quality of life module. The questionnaire is composed of 22 questions that assess 3 different aspects of quality of life: behavioral restrictions (8 questions), psychosocial obstacles (9 questions), and being ashamed of disease (5 questions).

When answering the questionnaire, the subjects have to select an answer on a Likert-type scale, thereby indicating how much they agree with the statement. Scale values:

- 1 point - Extremely strong;
- 2 points - Quite severe;
- 3 points - Average;
- 4 points - Mild;
- 5 points - Not at all.

Responses were summed, with higher scores indicating better quality of life and lower scores indicating poorer quality of life. The minimum score that can be obtained is 22 points, and the maximum score is 110 points (quality of life is high and unchanged due to a health-related condition). The I-QoL is a valid and reliable measure of health-related quality of life [8].

Subjects were assessed twice, pre-study and post-study, the original questionnaire was administered once pre-study, and the standardized questionnaire was administered pre-study and post-study.

Participants

Subjects were recruited by publicly uploading an ad on the Internet and were also asked to share the ad in closed Facebook groups and by communicating via private messages on social networks and forums. The target group of the study is women who have given birth and have urinary incontinence. 52 women participated in the study. Subjects were included in the study if they met the following criteria:

- Women in the postpartum period (from 6 to 8 weeks after childbirth);
- She gave birth vaginally;
- Has a urinary incontinence problem;
- Women aged 18 to 45 years.

After conducting the study, data on the characteristics of the subjects were obtained. 52 women who gave birth participated in the study.

Data analysis

SPSS (Statistical Package for Social Science) version 26 was chosen for the statistical analysis of research data.

All data in the tables are presented as means (M) ± standard deviation (SD). The Kolmogorov-Smirnov test was used to check the normality of the data. The data are distributed according to the normal distribution, so parametric tests were chosen for comparison of samples. In order to compare whether the average value of the studied phenomenon differs from the hypothetical value, the Student's T-test (One Sample Test) was used. To compare the averages of two independent samples, the Independent-Sample T Test was chosen. Paired-Samples T Test was chosen to compare the averages of two dependent samples. Data are considered statistically significant when $p < 0.05$.

Results

23 women experienced episodes of urinary incontinence during pregnancy and the postpartum period, while 29 subjects did not experience episodes of urinary incontinence. Only 3 respondents had the problem of urinary incontinence before pregnancy, and 49 women had

not encountered this problem before pregnancy. Before pregnancy, 17 women exercised at least 2-3 times a week, and 35 did not. During pregnancy, only 18 women exercised, while 34 did not exercise. It can be added that 4 subjects exercised before pregnancy but stopped this activity during pregnancy. The other 5 subjects, who had not exercised before, started exercising after becoming pregnant. We also learned from the results that the majority of women gave birth in the 38th - 40th week of pregnancy ($n = 25$), while there were fewer women who gave birth in the 41st - 42nd week, they were 44.2 percent. ($n = 23$).

The mean of the I-QoL questionnaire of the exposure group after the exercise program was 79.48 ± 14.16 points, the maximum value in this group was 107 points, the minimum was 48 points. The average of the secondary examination sum of the I-QoL questionnaire of the control group was 72.11 ± 10.39 points, the maximum value in this group was 99 points, the minimum was 54 points. A statistically significant difference was found when comparing the groups as $p < 0.05$. The lowest ratings in the exposure group were for questions about worrying about leaking urine when coughing or sneezing and about worrying about increasing urinary incontinence problems with age, while the highest ratings were for questions about change in sleep quality due to incontinence and anxiety about intercourse. In the control group, the lowest rated questions correspond to the exposure group, while the best rated in this group were the statements about enjoyment of life and about the change in sleep quality due to incontinence.

Behavioral restrictions: when evaluating the aspect of behavioral restrictions in the questionnaire, it was found that the average of the sum of the scores of the answers to the questionnaire for the exposure group after the exercise program was 28.76 ± 4.77 points, the maximum value collected in this group was 37 points, the minimum was 18 points. The average score of the control group's behavioral restriction questions was 26.04 ± 3.71 points, the maximum score in this group was 36 points, the minimum score was 18 points. Statistically significant difference when comparing groups was determined because $p < 0.05$.

Psychological barriers: the average score of the research group for the aspect of psychological barriers after the application of correction methods was 33.56 ± 6.62 points, the maximum score in this group was 45 points, the minimum was 20 points. The average score of the control group was 30.85 ± 4.68 points, the maximum score in this group was 41 points, the minimum was 22 points. When comparing the results of both groups, there is a statistically significant difference because $p < 0.05$.

Illness shame: the average of the exposure group from the second assessment for the aspect of illness shame was 17.16 ± 3.84 points, the maximum score in this group was 25 points, the minimum was 9 points. The average score of the control group was 15.22 ± 2.64 points, the maximum score in this group was 22 points, the minimum score was 11 points. When comparing the results of the groups, there is a statistically significant difference because $p < 0.05$.

Discussion

The results of the study revealed that an 8-week home exercise program that includes pelvic floor strengthening exercises, diaphragmatic breathing, and other exercises that strengthen the surrounding pelvic muscles has a significant positive effect on the quality of life of postpartum women. After the subjects completed the questionnaire, the results showed that their quality of life due to urinary incontinence was reduced at the beginning of the study and improved but still reduced at the end of the study. When comparing the groups, the improvement in questionnaire scores was greater in the exposure group and was statistically significant ($p < 0.05$). In the exposure group, all analyzed aspects improved statistically significantly, and the results of behavioral restrictions increased the most. The aim of the study conducted by Ptak was to evaluate the effect of individual pelvic floor muscles strengthening exercises and combined pelvic floor muscles and torso corset muscle training on the quality of life of patients with stress urinary incontinence. The study used a different instrument to assess quality of life than our study, but also examined various aspects of life, such as social limitations, physical limitations, lethargy. The results showed that both combined pelvic floor muscles and lumbar corset muscle training and pelvic floor muscles strengthening exercises improved the quality of women with stress urinary incontinence, and all aspects of the questionnaire were statistically significantly improved. Nevertheless, combined training showed better results [9].

According to research, the prevalence of urinary incontinence in the first 3 months after childbirth is about 30%, and most women experience stress incontinence. In uncomplicated and uncomplicated pregnancies and deliveries, urinary incontinence usually decreases rapidly within the first 3 months postpartum, suggesting that most symptoms are part of a normal delivery [10]. This may explain why the quality-of-life results improved in the control group of our study even without the corrective methodology.

The study by Liebergall-Wischnitzer used the Incontinence Quality of Life Questionnaire, as in our study. In the study, women aged 20-65 years with stress urinary incontinence, the conventional pelvic floor strengthening exercise group ($n=123$) performed the exercises for 12 weeks, and their I-QoL scores averaged 68.30 before the intervention and 78.10 after the intervention. This group showed a mean increase in I-QOL of 9.8 points. In our study, the questionnaire scores increased by 9.08 ± 8.56 points in the intervention group, but our exercise program included waist corset strengthening exercises and diaphragmatic breathing. The fact that the increase was not greater in our study could also be explained by the fact that our exercise program was carried out at home for 8 weeks without constant supervision by specialists, while the Liebergall-Wischnitzer study was carried out for 12 weeks, and subjects received weekly 45-minute sessions with a live specialist [11]. Despite the differences, the corrective methodology used in our study still produced positive changes.

Strengths and limitations

This is the first study of its kind in Lithuania to evaluate quality of life of women with urinary incontinence regarding midwives and rehabilitation specialist professional skills for the research. However, the limitations of the study are due to different perceptions of what are the best physical training for women to discover urinary incontinence problem. It is also due to the low involvement of women in the study because findings were similar with low variability in answers.

Conclusions

1. Urinary incontinence is a complex disorder in women in the postpartum period. Corrective measures to improve incontinence in postpartum women are important in improving women's quality of life. Therefore, physical exercises and their complexes can be useful in solving the problem of urinary incontinence in the postpartum period.
2. The quality of life of women in the postpartum period is reduced due to urinary incontinence.
3. After the application of urinary incontinence correction methods, the quality of life remains reduced in postpartum women.
4. Both with and without incontinence correction methods in the postpartum period, women's quality of life improved, but the change was greater in the intervention group.

Conflict of interests. There were no interests conflict during the research.

Funding. There was no resource of funding for this research.

Ethical approval and informed consent. Permission to conduct the study was obtained from the Bioethics Commission of the Rehabilitation Department of Kauno kolegija Higher Education Institution. The study-maintained privacy, confidentiality, anonymity, and the participants participated voluntarily and were free to discontinue participation at any time.

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