

# Frequency, structure and significance of risk factors for genital prolapse in women

## Summary

Pelvic organ prolapse is an urgent problem of modern gynecology, due to its wide distribution. The aim of the study was to study the frequency, structure and significance of POP risk factors among women of different ages. A prospective examination of 157 women was carried out, including 127 patients (main group) with gynecological pathology by a continuous method and 30 women with normal reproductive function without PTO (control group). The results showed that genital prolapse was detected in 56.7% of women with gynecological pathology, and a parallel increase in the frequency and age of women. The structure of PTO was dominated by prolapse of the walls and vaults of the vagina, cystocele, rectocele, prolapse of the uterine body and its combined forms. Such risk factors as: high parity (65.3%), short intergenetic interval (87.5%), rapid and rapid labor (16.1%) and labor with a large fetus (28.1%), operative vaginal delivery (11.3%), soft tissue injuries of the birth canal (26.4%), and overweight (45.8%), obesity (37.5%), heavy physical labor (51.4%) and constipation (47.2%). Thus, the development of genital prolapse occurs under the influence of various adverse factors that determine the need for measures aimed at the timely detection and correction of risk factors, which is possible with an increase in the role of preventive medicine.

**Keywords:** pelvic organ prolapse, reproductive function, modifying and non-modifying risk factors, parity, intergenetic interval

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Rustamova MS, Rakhimova BS, Kurbanova MKh, Istamova GD, Rasulova LA, Gulakova DM, Narzullaeva ZR, Muminova ShT

State Institution "Tajik Research Institute of Obstetrics, Gynecology and Perinatology", Tajikistan

**Correspondence:** Rustamova Mehriniso Sanginovna, Doctor of Medical Sciences, Professor, Leading Researcher of the State Institution "Tajik Research Institute of Obstetrics, Gynecology and Perinatology", Tel: +992 93 575 64 64, Email mehriniso@mail.ru

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## Relevance

Protection of women's reproductive health is a priority area of scientific research in the Republic of Tajikistan. Achieving priority is possible in the provision of medical services and improving the quality of life of women with pelvic organ prolapse. This pathology is one of the important problems of modern gynecology, due to its wide distribution. Pelvic organ prolapse (PTO) is a latent pandemic that affects millions of women around the world, its frequency does not tend to decrease and varies from 20 to 78% in the structure of gynecological diseases.<sup>1-3</sup>

A high (80%) frequency of pelvic organ prolapse among women of older age groups was noted, as well as a tendency for rejuvenation of this pathology and an increase in its proportion (from 10% to 50%) among women of reproductive age.<sup>4-8</sup>

It should be noted about the impact of PTO on the development of dysfunctions of the pelvic organs, psychological disorders and changes in the sexual function of women, which reduces their quality of life.<sup>9-12</sup> Timely diagnosis with determination of the significance of risk factors for the development of POP and their correction will allow avoiding surgical treatment and reducing disorders of the pelvic organs, thereby improving the quality of life of women in this category. The above facts indicate the relevance and relevance of the present research.

Aim research was to study the frequency, structure and significance of risk factors for POP among women of different ages.

## Object and methods of research

A prospective examination of 157 women was carried out, including 127 patients (main group) with gynecological pathology by a continuous method and 30 women with normal reproductive function without PTO (control group), who applied to the consultative and diagnostic polyclinic and the gynecological department of the

State Institution «Tajik Scientific and Research Institute of Obstetrics, Gynecology and Perinatology» for the period 2018-2019. Selection criteria for the control group were: normal reproductive function, no PTO. All examined women of the main and control groups gave their informed consent to participate in the study.

The age of the examined women ranged from 21 to 61 years, with its average value among patients of the main and control groups equal to  $41.2 \pm 2.1$  and  $39.9 \pm 1.4$  years, respectively ( $p > 0.05$ ). The study of the social status of the surveyed women showed that the vast majority of women of both groups lived in the city, were engaged in housework, had a secondary education and were Tajik by nationality, significant differences between these indicators were not identified, and therefore the data obtained were used to conduct a comparative analysis.

In the study of women, a special developed primary card was used, which contained questions regarding medical and social aspects, evaluating the level of functional activity of the reproductive system, the presence of concomitant and gynecological pathologies, parity and intergenetic interval indicators, anthropometric data, as well as the results of laboratory and functional examination of the organs of the small pelvis.

Anthropometry was carried out by measuring height, weight with the calculation of the body mass index (BMI) of women according to WHO criteria. Conducted a general and gynecological examination with an assessment of the condition of the pelvic floor muscles, cough test, Valsalva test, vaginal and rectal examinations. Functional studies included ultrasonographic and colposcopic studies. The cytological analysis was interpreted according to the Papanicolaou classification (Pap-smear-test).

Statistical processing of the obtained results was performed using MS Excel and Statistica 10.0 (USA) programs according to Student's t-test,  $\chi^2$ , Mann-Whitney U-test, Fisher and Yates. The correlation between the studied features was assessed by Pearson with the calculation of the correlation coefficient (r).

## Research results

The results showed that genital prolapse was detected in 72 out of 127 women with gynecological pathology, which accounted for 56.7%, that is, every second patient had one or another degree of POP. The proportion of patients of active (25-34 years) of childbearing age was 11.8%, of late (35-48 years) of reproductive age - 23.5%, and the majority (44/64.7%) of women were in perimenopausal age (45 -61 years).

Received data by frequency VETfit into the amplitude of oscillation this pathology, indicated in the studies of other authors, while also one third (35.3%) of women were of reproductive age, therefore, genital prolapse is a widespread gynecological disease, and its rejuvenation is also observed.<sup>1,13,14</sup>

Assessment of the degree of genital prolapse by classification M.S. Malinovsky<sup>15</sup> and POP-Q,<sup>16</sup> showed that the most frequently (51.4% and 52.8%) were diagnosed with grade II-III pelvic floor insufficiency, respectively.

The examined patients with PTO were diagnosed with prolapse of the walls and fornix of the vagina (48/66.7%), cystocele (36/50.0%), rectocele (28/38.9%), cervical elongation, prolapse of the uterine body (14/19.4%) and its combined forms (25/34.7%).

Thus, a high frequency of pelvic organ prolapse in the structure of gynecological diseases was revealed, while a parallel increase in the frequency of genital prolapse and the age of women, from 35.3% among women of reproductive age to 64.7% in the perimenopausal period. The most frequently identified grade II-III pelvic floor insufficiency, the structure of PTO was dominated by prolapse of the walls and vaults of the vagina, cystocele, rectocele and its combined forms.

An analysis of past somatic diseases showed that the examined women of the main group often indicated past acute respiratory viral infections, anemia, diseases of the respiratory and urinary tract and gastrointestinal tract, arterial hypertension and varicose veins. However, despite the different frequency of past pathologies, no statistical differences ( $p > 0.05$ ) were found between the examined women of the main and control groups.

The study showed that in 29/40.3% of the examined women with POP, menstrual function was normal, and the rest had a menstrual cycle disorder by type: late establishment of the cycle (27/37.5%), algodysmenorrhea, polymenorrhea and acyclic bleeding (16/22.2%), 23/31.9% of women without menopausal disorders were in menopause. There were also unreliable ( $p > 0.05$ ) differences in such nosological parameters as endometritis, uterine fibroids, ovarian tumors and cervical erosion. 1/1.6% of the women of the main group were operated on for ectopic pregnancy.

Significant data have been obtained from the study of modifiable, that is, changeable and manageable factors, such as predisposing, provoking and contributing factors for the development of PTO. One of the predisposing factors of PTO was a burdened history with the presence of PTO in the mother, sisters and aunts, which were found in 41.7% of women in the main group, opposite 3.3% in the control group ( $p < 0.001$ ).

An analysis of the parity of the studied women showed that among them patients who had from 4 to 11 births (47/65.3%) and multiparous (22/30.5%) with parity II and III births, at the same time primiparous were only 3/4.2% women. In contrast to the women of the main group, the control group was dominated by primiparous (10/33.3%)

and multiparous (19/63.4%) women, and only 1/3.3% of the woman was a multiparous woman. Noteworthy is the short (up to 3 years) intergenetic interval in the majority (63/87.5%) of women in the main group. Interbirth interval only 8.3% of respondents complied for more than 3 years. Unlike the women of the main group, all women in the control group who gave birth observed the interbirth interval with an amplitude of fluctuations from 4 to 5 years. Consequently, the reproductive history of women with POP was characterized by a high frequency of multiple births and a short intergenetic interval.

Among the provoking factors, it is necessary to note a high parity (IV or more births), which among women of the main group was 19.8 times higher ( $p < 0.001$ ), compared with the same indicator for women in the control group. Such risk factors as rapid and rapid labor (16.1%) and labor with a large fetus (28.1%) were identified 4.9 and 4.2 times, respectively, more often in women of the main group. Operative delivery, through the natural birth canal, using a vacuum extractor and obstetric forceps (11.3%) and trauma to the soft tissues of the birth canal (26.4%), that is, ruptures of the vagina, perineum and cervix, were indicated in 1, 7 and 2 times more patients with POP, compared with those of women in the control group, respectively. The combination of the studied provoking risk factors for the development of POP was found in 49/68.1% of women in the main group.

Therefore, the frequency of provoking risk factors among women with POP was significantly more often determined compared to women in the control group, and the most significant of them was high parity and short interbirth interval, which may represent regional risk factors for pelvic floor insufficiency.

An analysis of contributing risk factors for PTO showed that overweight and obesity (I-III degree) were established in 33/45.8% and 27/37.5% of the examined women of the main group, respectively, at the same time only 12/16.7% of body mass index (BMI) was within the normal range (18.5-24.9 kg/m<sup>2</sup>). It should be noted that among the examined women of the main group there was not a single woman with a lack of body weight. When analyzing the body mass index among women in the control group, it was found that the majority (21/70.0%) had a normal body weight, that is, there were 4.2 times more of them compared to women in the main group. At the same time, the percentage of women with overweight and obesity among those observed in the control group was 3.4 and 3.8 times lower than those of women in the main group. In addition, 2/6.7% of women had a body mass index below 18.5 kg/m<sup>2</sup>, which corresponded to the lack of body weight. Thus, a high frequency of overweight and obesity among women with POP has been established.

Of the other studied contributing risk factors for the development of pelvic organ prolapse, more than half (51.4%) of women in the main group and only 10% of women in the control group were engaged in heavy physical labor, and the difference in indicators was highly significant ( $p < 0.001$ ). A significant risk factor for the development of POP was constipation, which was complained of by 3.6 times more examined patients (47.2%) compared with women in the control group (13.3%;  $p = 0.01$ ).

A non-modifiable, that is, an unremovable and uncontrollable factor that could not be changed, was a decompensating risk factor for the development of PTO - age. The correlation analysis between the age of the examined women and the severity of PTO showed a direct average correlation ( $r = 0.4$ ;  $n = 72$ ).

The identified risk factors for PTO were consistent with studies by other authors,<sup>1,9,15</sup> however, there are scientific works where factors such as diabetes mellitus and early menopause<sup>17</sup> or according to M.S.

Selikhova et al.<sup>18</sup> a significant risk factor for genital prolapse is birth injury, which indicates the search for further studies of this cohort of patients.<sup>18,19</sup>

## Conclusion

Thus, the development of genital prolapse occurs under the influence of various adverse controlled and non-modifiable factors that determine the need for taking measures aimed at the timely identification and correction of risk factors. An effective reduction or elimination of identified risk factors is possible with an increase in the role of preventive medicine.

Prevention of pelvic organ prolapse should be aimed at the impact of risk factors for development, so with multiple births and a short intergenetic interval, it is necessary to strengthen the activities of the family planning service with the use of timely contraception; when indicating a tendency to give birth to a large fetus, overweight and obesity - adherence to a balanced diet and increased physical activity; with constipation - treatment of diseases of the gastrointestinal tract and compliance with the drinking regimen; in hard physical labor - informing women about the possible consequences of hard work.

In addition, all women with risk factors for pelvic organ prolapse should undergo clinical, laboratory and functional studies to assess the insufficiency of the musculoskeletal apparatus of the genitals.

Timely diagnosis and correction of factors in the development of genital prolapse will reduce the dysfunction of the pelvic organs, avoid surgical treatment and improve the quality of life of women.

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## Conflicts of interest

Author declares there is no conflict of interest exists.

## References

- Lologaeva MS, Aryutin DG, Orazov MR. Pelvic organ prolapse in the 21st century. *Obstetrics and gynecology: opinion news, training*. 2019;7(3):76–82.
- Radzinsky VE. *Perineology*. RUDN University; 2010. 372 p.
- Abhyankar RM, Abhyankar P, Uny I, et al. Women's experiences of receiving care for pelvic organ prolapse: a qualitative study. *BMC Women's Health*. 2019;19(1):45.
- Gvozdev MB, Tupikina NV, Kasyan GR, et al. Pelvic organ prolapse in the clinical practice of a urologist. Moscow: ABV-press; 2016. 52 p.
- Gvozdev M Yu, Tupikina NV, Kasyan GR, et al. The first experience of using non-trocar mesh technologies in Russia in the treatment of patients with pelvic prolapse. *Russian Bulletin of an obstetrician-gynecologist*. 2012;5:57–63.
- Krasnopolsky VI, Buyanova SN, Schukina NA, et al. *Operative gynecology*. MED-press-inform; 2017.
- Laurent OB, Seregin AV, Dovlatov ZA. Evaluation of the effectiveness of surgical treatment of pelvic organ prolapse using special questionnaires. 2015;5:20–25.
- Maher C, Feiner B, Baessler K, et al. Surgical management of pelvic organ prolapse in women. *Cochrane Database Syst Rev*. 2013;4.
- Dubinskaya ED, Kolesnikova SN, Dofman MF. Clinical features and risk factors for early forms of pelvic organ prolapse. *Gynecology, obstetrics and perinatology*. 2015;14(6):5–11.
- Kamoeva SV. Pathogenetic aspects of prognosis, diagnosis and treatment of pelvic organ prolapse: dis. ... Dr. med. Sciences. Kamoeva Svetlana Viktorovna M. 2014. 244 p.
- Korshunov MYu. Pelvic organ prolapse in women: what do patients expect from the upcoming surgical treatment. *Journal of Obstetrics and Women's Diseases*. 2017;36:40–45.
- Twiss C, Triaca V, Bergman J, et al. The epidemiology, social burden, and genetics of pelvic organ prolapse. *Current bladder dysfunction reports*. 2008;3:90–94.
- Buyanova SN. Prolapse of the genitals. *Russian Bulletin of the Obstetrician-Gynecologist*. 2017;17(1):37–45.
- Weintraub AY, Gliner HN, Marcus-Braun N. Narrative review of the epidemiology, diagnosis and pathophysiology of pelvic organ prolapse. *Epidemiology and pathophysiology of POP*. 2020;46(3):5–14.
- Radzinsky VE, Fuchs AM. *Gynecology*. GEOTAR-Media; 2017. 400 p.
- Madhu C, Swift S, Moloney-Geany S. How to use pelvic organ prolapse Quantification (POP-Q) system. *Neurourol Urodyn*. 2018;37(6):S39–S43.
- Tymoshenko Yu L, Schmidt AA, Kurmanbaev TE, et al. Anamnestic risk factors for genital prolapse in women. *Vyatka Medical Bulletin*. 2021;69(1):59–63.
- Selikhova MS, Ershov GV, Ershov AG. Prolapse of the pelvic organs in women of reproductive age. *International research journal*. 2020;7:97.
- Radzinsky VE. Use of modern mesh-systems («Lintex», Russia). *Medical Council*. 2012;7:75–77.