Central Asian Journal of Medicine

UNDERSTANDING SOCIAL ASPECTS IN SPINAL OSTEOCHONDROSIS PATIENTS

Bakhromjon M. Mamatqulov [1], Dilorom A. Umurzakova [2]

1 DSc., professor, Director of School of public health,
Tashkent Medical Academy, Tashkent, Uzbekistan
E-mail: tma.sph@gmail.com

2 PhD student of school of public health,
Tashkent Medical Academy, Tashkent, Uzbekistan
E-mail: umurzakova0817@gmail.com

ABSTRACT

The article explores the impact of social factors on the development of osteochondrosis. The research was carried out using an analytical approach, including case -control method. The sample consisted of 230 participants in each group, ensuring the reliability of the collected data. Information on the respondents' average age, gender distribution, education level, and occupations is provided. The study also examined participants' marital status, number of children, and average income. The findings reveal a correlation between social factors and the risk of osteochondrosis, highlighting the importance of considering social aspects in the prevention and treatment of spinal disorders.

Key words: osteochondrosis of the spine, degenerative spinal diseases. social factors, risk factors.

INTRODUCTION

Degenerative spinal diseases (DSD) are one of the leading causes of temporary disability in working age in both men and women [2,7]. Osteochondrosis of the spine is multifactorial in nature, the development of which is influenced by biological, psychological and social factors [10]. Spinal degeneration is a natural aging process and is becoming more common and severe with age [4,6]. With the increasing number of elderly people, this problem is becoming more urgent [1]. As life expectancy and the average age of the population increase, it is important to identify associations and potential therapy goals related to DSD [5].

As people age, the prevalence of individuals suffering from osteoporotic conditions rises. This observed correlation can be attributed to changes associated with the aging process, including issues with posture, reduced flexibility, increased degeneration of the musculoskeletal system, and consequently, heightened pain levels [10]. Understanding the characteristics of the prevalence, progression, and factors related to this condition in different sexes can lead to the development of new hypotheses aimed at gaining a deeper insight into the disease.

There is also a socio-economic aspect where factors like access to healthcare, education, and employment status intersect with back pain, influencing prevalence rates and treatment results. Additionally, lifestyle choices concerning nutrition, physical activity, and sleep patterns have been linked to the development of osteochondrosis of the spine. These factors emphasize the complex and interconnected relationship between the development and prevalence of osteochondrosis of spine, suggesting that effective treatment and prevention strategies should adopt a holistic approach, considering these diverse yet interconnected determinants. However, these relationships are also influenced by many other factors, such as age, gender, and emotional disorders [10]. Age is an important factor; as individuals age, the likelihood of developing lower back pain increases, and the stability of the musculoskeletal system decreases. Gender also plays a role; women, especially postmenopausal women, may be at higher risk of developing obesity due to hormonal changes that affect body composition and bone density, leading to lower back pain. [11-15].

The aim of the study is to study the social aspects of the life of hospitalized patients as risk factors for the development of osteochondrosis of the spine.

Materials and methods. Materials. The study was conducted in Tashkent during 2023. The department of Vertebrology of the Republican Specialized Scientific and Practical Medical Center of Traumatology and Orthopedics was chosen as the object of the study. We interviewed 230 patients with osteochondrosis of the spine who received inpatient medical care (the main group), and the second group consisted of 230 healthy people (the control group). All respondents had their consent before being included in the study.

Methods. The study was conducted using the "case-control" method. The questionnaire method was used to collect the data. To calculate the results obtained and assess the differences between the indicators of the groups, the indicators of the odds ratio were calculated. To assess the reliability of the results, the compliance criterion ($\chi 2$) and the Student's t-test were used, and $p<0.05$ was considered reliable.

The results and their discussion. As a result of the conducted sociological research, it was revealed that the structure of the studied groups was significantly

dominated by women (68.7% in the main group and 66.2% in the control group, respectively). The average age of the respondents in the main group was 51.4±0.8 years, and in the control group - 50.6±0.9 years. The groups did not differ statistically by age distribution (p<0.05) (Fig.1).

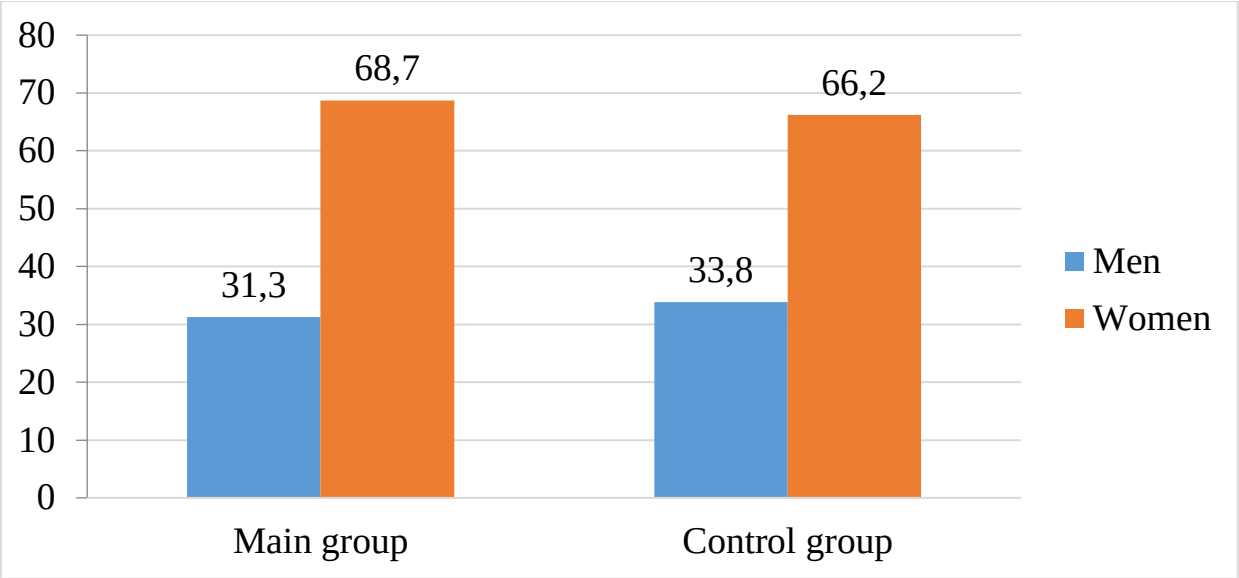

Figure 1 Distribution of respondents in the main and control groups depending on gender (%).

The majority of respondents in the studied groups were representatives of Uzbek nationality (95.6±1.0% and 92.8±1.2%, respectively). The rest were made up of people of Karakalpak, Russian, Kyrgyz, Tajik and other nationalities.

When analyzing the data, it was noted that in the main group there were more respondents with higher education than in the control group (59.7±2.2% and 53.2±2.2%, p<0.01, respectively), while with secondary education it was on the contrary lower (25.9±1.9% and 34.6±2.1%, p<0.05). The high proportion of respondents with higher education in the main group can be explained by the fact that their activities are associated with sedentary work and insufficient physical activity.

When analyzing the marital status, it was found that in the main and control groups, family accounted for 92.2±1.3% and 92.6±1.3%, respectively. In the main and control groups, unmarried persons accounted for 6.2±1.1% and 5.3±1.0%, divorced or widowed - 1.6±0.8% and 2.1±0.7%, respectively. At the same time, there was no statistically significant difference between the main and control groups in these indicators in the compared groups.

An important factor that significantly affects the strength of the family and determines its usefulness is the presence of children in the family and their number. It was found that in the main group of respondents with 2, 3 and more than 4 children,

there were statistically significantly more than in the control group. Among the respondents in the control group, the proportion of people without children was significantly higher than in the main group ($p<0.05$). (Fig. 2)

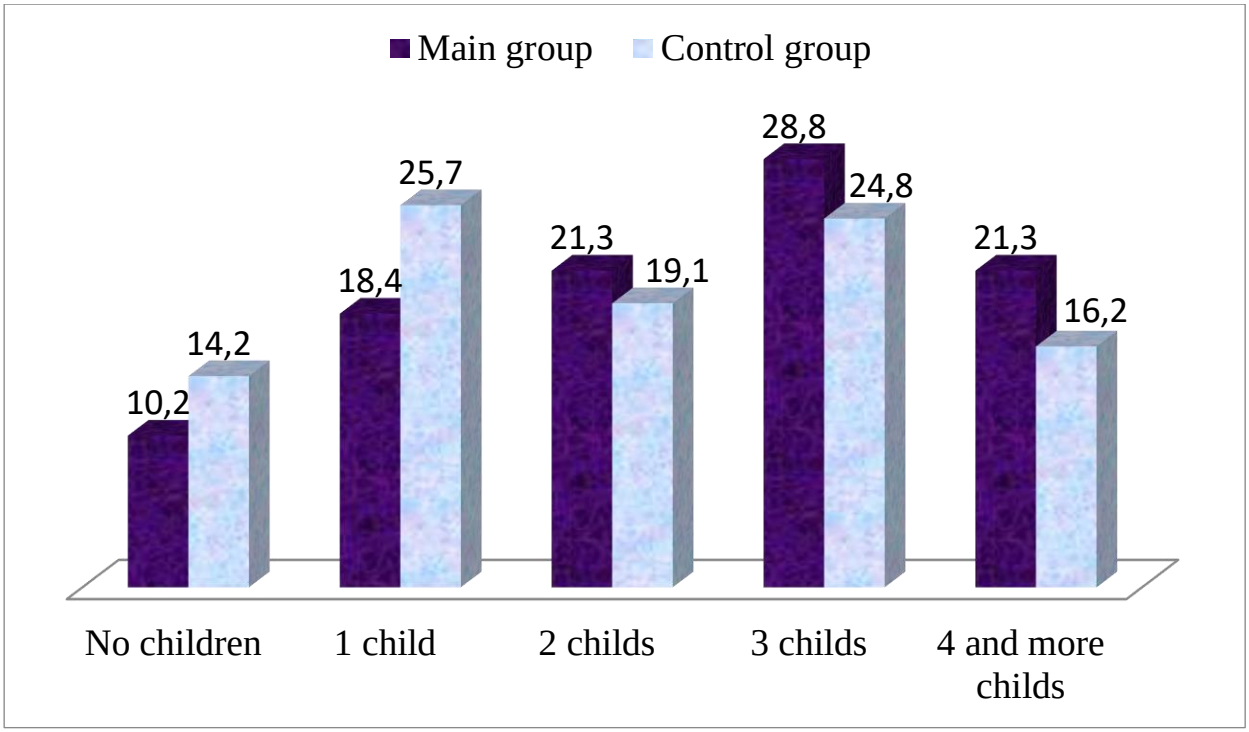

Figure 2. The number of children of the respondents

The questionnaire included a question about how respondents assess their financial situation. To this question, 36.8±2.1% of respondents from the main group and 63.8±2.0% from the control group answered that they were well provided. The proportion of those who reported that they were well off was 1.7 times higher in the control group than in the main group ($p<0.001$). This can be explained by the fact that patients with Osteochondrosis of the Spine or its complications experience a decrease in income due to limited opportunities for work, and more affluent people can lead an active lifestyle, including sports or physical activity, which has a positive effect on the health of the spine. There was no one among the respondents in both groups who identified themselves as needy.

A study of the respondents' treatment options at the time of their illness showed that 52±2.2% of respondents from the main group and 78.2±1.8% of respondents from the control group reported that they did not experience financial difficulties ($p<0.001$) (Fig. 3).

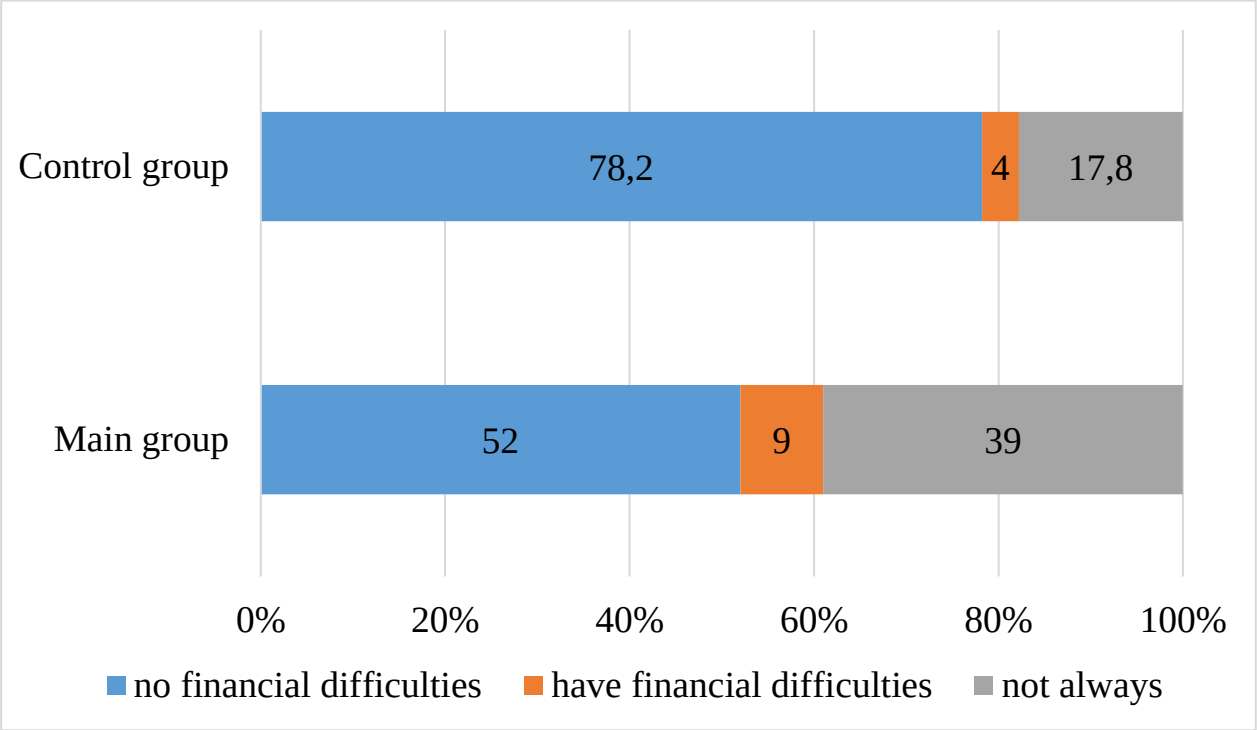

Figure 3. Percentage of people who have problems with treatment among respondents (%).

Coclusion.

1. The average age of the respondents with OS and healthy participants was 51.4±0.8 years and 50.6±0.9 years, respectively, indicating that there were no significant age differences between the groups.

2. There is a significant predominance of women in the structure of both groups ($p<0.005$), which indicates a high prevalence of the disease among the female audience.

3. In the main group of respondents with OS, the level of higher education was higher than in the control group, which may indicate the influence of the educational level, as well as their professional activities on the development of the disease.

4. Marital status did not turn out to be a statistically significant risk factor for osteochondrosis of the spine, in contrast to the number of children in the family, which is an important factor. There were significantly more respondents with 2, 3, and more than 4 children in the main group than in the control group ($p<0.05$).

5. In the control group, respondents who considered themselves well-off were 1.7 times more likely ($p<0.001$). 52±2.2% of respondents from the main group and 78.2±1.8% of participants from the control group reported that they did not experience financial difficulties, indicating a higher incidence of financial problems among patients with OS.

REFERENCES

1. Boxberger, J. I., Orlansky, A. S., Sen, S., & Elliott, D. M. (2009). Reduced nucleus pulposus glycosaminoglycan content alters intervertebral disc dynamic viscoelastic mechanics. Journal of Biomechanics, 42(12), 1941–1946. https://doi.org/10.1016/j.jbiomech.2009.05.008

2. Cheung, K. M. C., Karppinen, J., Chan, D., Ho, D. W. H., Song, Y., Sham, P., Cheah, K. S. E., Leong, J. C. Y., & Luk, K. D. K. (2009). Prevalence and pattern of lumbar magnetic resonance imaging changes in a population study of one Thousand Forty-Three individuals. Spine, 34(9), 934–940. https://doi.org/10.1097/brs.0b013e3181a01b3f

3. Chou, L., Brady, S. R., Urquhart, D. M., Teichtahl, A. J., Cicuttini, F. M., Pasco, J. A., Brennan-Olsen, S. L., & Wluka, A. E. (2016). The association between obesity and low back pain and disability is affected by mood disorders. Medicine, 95(15),e3367. https://doi.org/10.1097/md.0000000000003367

4. Colombini A, Lombardi G, Corsi MM, Banfi G. Pathophysiology of the human intervertebral disc. Int J Biochem Cell Biol. 2008; 40(5): 837-842 https://clinicalpub.com/degenerative-disorders-of-the-spine

5. Knezevic, N. N., Candido, K. D., Vlaeyen, J. W. S., Van Zundert, J., & Cohen, S. P. (2021). Low back pain. The Lancet, 398(10294), 78–92. https://doi.org/10.1016/s0140-6736(21)00733-9

6. Kos, N., Gradisnik, L., & Velnar, T. (2019b). A brief review of the degenerative intervertebral disc disease. Medical Archives, 73(6), 421. https://doi.org/10.5455/medarh.2019.73.421-424

7. Mamatkulov B.M., Umurzakova D.A. Current conditions of spinal osteochondrosis prevalence//A new Day in medicine-2023-No. 4(54)- pp.78-83.

8. Mamatkulov B.M., Umurzakova D.A. Some Aspects of the Development of Osteochondrosis of the Spine// International Journal of Health Systems and Medical Sciences/ Volume 2 | No. 4 | April -2023 p-15-20

9. Mamatkulov, B. M., Umurzakova, D. A., Tolipova, G. K., & Muhammadzhonova, B. N. (2025). THE ROLE OF SOCIAL AND HYGIENIC FACTORS IN HOSPITALIZED PATIENTS IN THE DEVELOPMENT OF OSTEOCHONDROSIS OF THE SPINE. SHOKH LIBRARY.

10. Modic, M. T. (1999). DEGENERATIVE DISC DISEASE AND BACK PAIN. Magnetic Resonance Imaging Clinics of North America, 7(3), 481–491. https://doi.org/10.1016/s1064-9689(21)00570-5

11. Shelby, T., Mills, E. S., Ton, A., Wang, J. C., Hah, R. J., Qureshi, S. A., & Alluri, R. K. (2023). The role of sex hormones in degenerative disc disease. Global Spine Journal, 13(7), 2096–2099. https://doi.org/10.1177/21925682231152826

12. Tolipova G.K., Umurzakova D.A., Urazalieva I.R. / The prevalence of iodine deficiency disorders in children of the Republic of Uzbekistan// International scientific review// pages 98-99

13. Umurzakova D.A., G.K. Tolipova, I.R. Urazalieva// Ecological and parasitological assessment of drinking water quality of centralized water supply facilities// EUROPEAN RESEARCH: INNOVATION IN SCIENCE, EDUCATION AND TECHNOLOGY, No. 1 p- 109.

14. Vespa J, Medina L, Armstrong DM, Demographic Turning Points for the United States: Population Projections for 2020 to 2060, Suitland-Silver Hill, MD: U.S. Census Bureau; 2018.

15. Waddell, G. (1992). Biopsychosocial analysis of low back pain. Baillière S Clinical Rheumatology, 6(3), 523–557. https://doi.org/10.1016/s0950-3579(05)80126-8