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Review article

## Development of Nursing Services for Musculoskeletal Disorders in Primary Health Care

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### Abstract

Musculoskeletal disorders are a common health problem worldwide, and their prevalence is increasing in many countries, including the Republic of Kazakhstan. These disorders can significantly affect a person's quality of life and ability to perform daily activities, leading to a high demand for healthcare services.

This review article is devoted to the study of issues of development of nursing care within the framework of primary health care programs for diseases of the musculoskeletal system in Kazakhstan, Japan, the United States, and Poland. A systematic search was conducted for the review, limiting it to studies published between 2010 and 2021.

In the context of musculoskeletal disorders, nursing assistance can involve various tasks, such as assessing patients' symptoms, providing pain relief, assisting with physical exercises, and educating patients on self-care. The development of nursing assistance within the primary healthcare program for the care of patients with musculoskeletal disorders is an essential component of improving healthcare services.

**Keywords:** primary health care, musculoskeletal disorders, soft tissue injuries, nursing care, rehabilitation.

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## Introduction

In the realm of primary health care (PHC), the evolving role of nursing care presents a vital component in managing and treating musculoskeletal disorders (MDs), which are among the leading causes of disability worldwide. MDs not only impair physical function but also significantly affect mental health, employment capabilities, and overall quality of life [1]. As the frontline of the healthcare system, PHC offers a unique opportunity for nurses to apply comprehensive care models, integrating clinical management with preventive and rehabilitative services. This research examines nursing care programs for patients with MDs, opportunities, and effectiveness of nursing care within PHC for patients with MDs [4]. Although the prevalence of MDs varies with age and diagnosis, it affects people of all ages worldwide. High-income countries are the most affected by population size at 441 million, followed by the World Health Organization (WHO) Western Pacific Region with 427 million and Southeast Asia with 369 million. MDs also make the largest contribution to life expectancy with disability (YLD) globally, with approximately 149 million YLD, representing 17% of all YLD worldwide [5-6].

Low back pain is the leading cause of the overall burden of MDs (570 million prevalent cases worldwide, representing 7.4% of global YLDs). Other contributors to the total burden of MDs include fractures, which affect 440 million people worldwide (26 million YLD), osteoarthritis (528 million people; 19 million YLD), neck pain (222 million people; 22 million YLD), amputations (180 million.; 5.5 million YLD), rheumatoid arthritis (18 million people; 2.4 million YLD), gout (54 million people; 1.7 million YLD) other MDs (453 million people; 38 million YLD) [data from Institute for Health Metrics and Evolution Viz Hub and WHO Rehabilitation Needs Estimator]. The global prevalence of Parkinson's disease varies across regions, with higher rates observed in North America, Europe, and Australia, and lower rates in Africa and Asia [3]. This variation might be attributed to differences in genetic factors, environmental exposures, lifestyle factors, and access to healthcare services [2-4].

In terms of disability-adjusted life years (DALYs), which measure the overall disease burden, Parkinson's

disease accounted for 3.2 million DALYs globally in 2016 [1]. The burden of Parkinson's disease is expected to increase as the global population ages, with the number of individuals affected by the disease projected to reach over 12 million by 2040 [5].

Although the prevalence of MDs increases with age, they also affect young people, often during peak income years. For example, pediatric autoimmune inflammatory diseases such as juvenile arthritis affect the development of children, and low back pain is a major cause of premature retirement from work. The social implications of early retirement in terms of direct health care costs and indirect costs (e.g., absenteeism from work or lost productivity) are enormous. Projections show that the number of people with low back pain will increase in the future, even more rapidly in low- and middle-income countries [7].

MDs are the most common cause of severe chronic pain and disability worldwide [7-8]. In the United States (US), about 33% of adults experience chronic symptoms related to joints and arthritis [9]. In Canada, arthritis affects 4.4 million people, and it is expected that this number will increase to 7 million in 20 years [2]. Effective treatment methods are available, for example, compelling evidence suggests that lifestyle interventions such as physical exercise [6-8], weight control [8-9], and education [12] can reduce pain, improve quality of life, and have the potential to slow down the progression of joint damage in patients with osteoarthritis [10]. Furthermore, there is a wealth of evidence supporting the early and consistent use of disease-modifying drugs for the treatment of inflammatory arthritis [10-11]. However, despite the available evidence, most people in Canada do not receive timely basic care to maintain MDs health [9-10] or cannot access treatment at all [13].

The goal of this study is to investigate the evolving role of nursing care in PHC for the management and treatment of MDs, which are a leading cause of disability worldwide. The article aims to examine nursing care programs for patients with MDs, opportunities, and effectiveness of nursing care within PHC for these patients.

## Search Strategy

To find literature related to the development of nursing services for MDs in PHC a systematic search was conducted in the databases PubMed, CINAHL, Cochrane Library, and Web of Science. The following keywords were used for the search: "nursing service", "musculoskeletal disorders", "primary health care", "advanced nursing roles", "nurse practitioners", "role development", "Europe", "Japan", "United States" and "Poland". To select literature,

the articles had to be related to the development of nursing services for MDs in PHC. The articles had to be published between 2010 and 2021. After the initial search, 120 articles were identified. After removing duplicates and selecting articles based on the selection criteria, 30 articles were selected for further analysis. All articles were read and analyzed by the authors of this article.

## International experience in nursing care for musculoskeletal disorders in PHCP

Nursing care is a crucial component of PHC, as nurses are often the first point of contact for patients seeking health care services. MDs are the second leading cause of disability worldwide, according to the WHO. Also, many countries around the world have implemented PHC programs that include nursing care for patients with MDs. In the United States, MDs affect an estimated 54 million adults and are the most common cause of severe long-term pain and physical disability, according to the Centers for Disease Control and Prevention (CDC) [14]. Also, in this country, for example, the American Academy of Orthopedic Manual Physical Therapists (AAOMPT) has developed a PHC program that includes nursing care for patients with MDs.

The program focuses on early intervention and prevention, with nurses providing education and support to patients to help them manage their conditions and prevent further injury. Nurses also work closely with physical therapists and other health care providers to develop individualized treatment plans for each patient [15].

In Canada, MDs are the leading cause of disability, accounting for nearly one-third of all disability claims, according to the Canadian Institute for Health Information (CIHI). Also, The Canadian Orthopedic Nurses Association (CONA) has developed a PHC program that includes nursing care for patients with MDs. The program emphasizes patient education and self-management, with nurses

providing patients with the tools and resources they need to manage their conditions effectively. Nurses also work closely with other health care providers, such as physiotherapists and occupational therapists, to ensure that patients receive comprehensive care. In the United Kingdom, MDs are the most common cause of chronic pain and the second most common reason for absence from work, according to the National Institute for Health and Care Excellence (NICE) [16]. Also, in this country, the National Health Service (NHS) has developed a PHC program that includes nursing care for patients with MDs. The program focuses on early intervention and prevention, with nurses providing education and support to patients to help them manage their conditions and prevent further injury. Nurses also work closely with other health care providers, such as general practitioners and physiotherapists, to develop individualized treatment plans for each patient [17].

In Australia, MDs are the third leading cause of disease burden, accounting for 12% of the total burden,

### **Nursing care in PHCP for musculoskeletal disorders in Japan**

In Japan, nursing care for patients with MDs is developing within the framework of the primary health care system (PHCS), taking into account the peculiarities of the national health care system and cultural traditions, with a special emphasis on prevention and preventive measures, as well as vaccination to prevent the development of chronic MDs. One of the features of nursing care in Japan is that it is carried out in close cooperation with doctors and other health care specialists. Nurses actively participate in planning and implementing patient treatment, as well as in conducting preventive measures. Within the PHCS in Japan, there is a nursing care system that provides assistance to patients with MDs at all stages of treatment - from diagnosis to rehabilitation [19-20]. A distinctive feature of nursing care in Japan is its focus on the individual needs of patients. Nurses strive to maximally take into account the health and lifestyle features of patients when planning and implementing treatment. In addition, home nursing care is widely practiced in Japan, which allows ensuring the continuity and quality of care for patients with MDs. According to data from the Ministry of Health, Labour, and Welfare of Japan, in 2019, there were over 33 million people aged 65 and older in the country, accounting for approximately 28% of the population. In 2020, there were over 35 million people aged 65 and older, accounting for approximately 29% of the population. According to a study conducted in Japan in 2018, more than 50% of patients, and in 2020, over 80% of patients with MDs received nursing care under the Primary Care Support Program (PCSP) [21-22]. According to the Japanese Orthopaedic Association, in 2019, more than 30,000 certified nurse's specializing in the diagnosis and treatment of MDs were working in the country. According to the WHO, Japan is one of the leading countries in the world in terms of life expectancy and quality of life of the population [23]. MDs are a common health problem in Japan, affecting a significant portion of the population. According to the Japanese Orthopaedic Association, the most common MSDs in Japan include: Osteoarthritis - a degenerative joint disease that affects the cartilage that cushions the ends of bones. It is the most common form of arthritis in Japan, affecting about 25 million people, with the knee being the most commonly affected joint; Low back pain - a common condition that affects the lower back, causing pain and discomfort. It is estimated that about 80% of the Japanese population will experience low back pain at some point in their lives; Osteoporosis - a condition characterized by a decrease in bone density and

according to the Australian Institute of Health and Welfare (AIHW). In addition, the Australian Primary Health Care Nurses Association (APNA) has developed a Primary Health Care Program (PHCP) that includes nursing care for patients with MDs. The program emphasizes patient education and self-management, with nurses providing patients with the tools and resources they need to manage their conditions effectively. Nurses also work closely with other health care providers, such as physiotherapists and occupational therapists, to ensure that patients receive comprehensive care. Overall, international experience shows that nursing care within PHC can play a crucial role in the care of patients with MDs. By focusing on early intervention, prevention, and patient education, nurses can help patients manage their conditions effectively and prevent further injury. Collaboration with other healthcare providers is also important to ensure that patients receive comprehensive care [18].

an increased risk of fractures. It is estimated that about 13 million people in Japan have osteoporosis, with women being more commonly affected than men; Rheumatoid arthritis - a chronic autoimmune disease that causes inflammation of the joints. It is estimated that about 1 million people in Japan have rheumatoid arthritis; Shoulder pain - a common condition that affects the shoulder joint, causing pain and discomfort. It is estimated that about 30% of the Japanese population will experience shoulder pain at some point in their lives [24].

One of the most basic causes of MSDs in Japan is excessive strain on joints and muscles due to an unhealthy lifestyle, including insufficient fundamental energy, improper nutrition, excess weight, and staying in uncomfortable positions. One of the most common types of MSDs in Japan is osteoarthritis, which affects about 15 million people. In addition, Japan also has a high prevalence of other MSDs such as inflammatory arthritis (such as rheumatoid arthritis and psoriatic arthritis), fibromyalgia, ankylosing spondylitis, and others. Due to the high prevalence of MSDs in Japan, the development of nursing care in this area is one of the key indicators of the country's healthcare system. One of the main directions of nursing care development for MSDs in Japan is prevention and preventive measures [20-24]. Nursing services actively participate in educating the population about a healthy lifestyle, proper nutrition, and physical exercise, as well as conducting vaccinations to prevent the development of chronic MSDs. A study conducted in 2016 on the effectiveness of nursing care within the PCSP for patients with knee osteoarthritis showed that nursing care within the PCSP contributes to the improvement of patients' functional status and reduction of pain.

Additionally, a study conducted in 2018 on the role of nursing care within the PCSP for patients with Parkinson's disease showed that nursing care within the PCSP contributes to the improvement of patients' quality of life and reduction of the risk of complications. Another study conducted in 2020 on the effectiveness of nursing care within the PCSP for patients with hip fractures showed that nursing care within the PCSP contributes to the improvement of patients' functional status and reduction of the risk of complications [22-25]. In Japan, the "Community-based Integrated Care System" program has shown its effectiveness in improving the quality of life of patients with chronic diseases, including MDs [22]. One example of the effectiveness of nursing care within the

PCSP for patients with musculoskeletal disorders in Japan is the "Nursing Care for Osteoporosis Patients" program. This program was developed by the Japanese Society of Geriatrics and Gerontology and is implemented within the PCSP. The program includes comprehensive assessments of osteoporosis patients, including evaluating the risk of falls and fractures, and developing an individualized treatment and prevention plan. Nurses play a key role in implementing this program, as they conduct patient assessments, provide advice on nutrition and physical exercise, and monitor the effectiveness of treatment and prevention. Another example

### **Nursing care in PHCP for musculoskeletal disorders in the United States**

In the United States, the Primary Care Services Program (PMSC) has evolved to provide comprehensive care to patients with MDs. Nursing care within PMSC includes an interdisciplinary team of healthcare professionals, including nurses, physical therapists, occupational therapists, and care managers. These teams work together to provide patient-centered care that includes medical care, assistance with activities of daily living (ADLs), rehabilitation, pain management, mental health support, and social services [26-28].

Approximately 54 million adults in the US suffer from arthritis or other joint, muscle, and bone conditions. According to a study conducted in the US, nurses comprise around 60% of all healthcare workers who provide primary care. MDs such as osteoarthritis, rheumatoid arthritis, and osteoporosis are among the leading causes of disability and reduced quality of life among the elderly population in the US. These conditions often require long-term care, including rehabilitation, pain management, and assistance with basic ADLs. According to the Centers for Disease Control and Prevention (CDC), MDs are among the most common diseases in the US: Arthritis is the most common cause of disability in the US, affecting approximately 58.5 million adults (23% of the adult population) [27]. The most common types of arthritis are osteoarthritis, rheumatoid arthritis, and gout; Back pain is one of the most common musculoskeletal disorders, affecting around 80% of adults. According to the National Institute of Neurological Disorders and Stroke (NINDS), low back pain is the leading cause of disability worldwide; Osteoporosis is a condition characterized by weak and brittle bones. According to the National Osteoporosis Foundation (NOF), about 10 million Americans have osteoporosis, and another 44 million have low bone density, which puts them at increased risk for fractures; Fractures are a common injury: according to the American Academy of Orthopedic Surgeons (AAOS), there are an estimated 6.8 million fractures in the US each year. The most common types of fractures are wrist, hip, and ankle fractures; Soft tissue injuries, such as sprains and strains, are also common: according to AAOS, there are about 2 million sports-related soft tissue injuries in the US each year [28-29]. The PHC system in the US is a fragmented and complex system involving multiple payers and service providers. The system is primarily funded through Medicare, a joint federal-state program that provides healthcare to low-income individuals, including the elderly and disabled. Despite the complexities, the PMSC system in the US has made significant progress in providing comprehensive care to patients with MDs. The system focuses on patient-centered care, with an emphasis on improving quality of life and maintaining independence. Preventive measures are an important aspect of managing MDs in the US. These measures include vaccination, regular physical exercise, fall prevention strategies, and weight management [29]. Vaccination against influenza and pneumococcal infection

is the "Nursing Care for Arthritis Patients" program. This program was developed by the Japanese Society of Rheumatology and is implemented within the PCSP. The program includes comprehensive assessments of arthritis patients, including evaluating the degree of pain and disability, and developing an individualized treatment and prevention plan. Nurses play a key role in implementing this program, as they conduct patient assessments, provide advice on nutrition and physical exercise, and monitor the effectiveness of treatment and prevention [21-23].

is recommended for the elderly to prevent complications that can exacerbate MDs. Regular physical exercise and fall prevention strategies help reduce the risk of joint injury and disability, while weight management helps alleviate pressure on joints. According to data from a 2018 study, nurses play an important role in the treatment and recovery of patients after musculoskeletal surgeries, with more than 70% of patients requiring nursing assistance in the first 6 weeks after hospital discharge. Additionally, a 2019 study found that nurses working in primary care settings often encounter patients suffering from back pain and other MDs, and that nurses with specialized training in musculoskeletal care can effectively diagnose and treat these patients [27]. The study also showed that more than 90% of patients who received treatment from such nurses were satisfied with the quality of care provided. It is also noted that nurses can effectively help such patients using a comprehensive approach that includes medication, physical exercise, and other treatment methods. According to a 2020 study, nurses working in industries related to physical labor often encounter patients suffering from musculoskeletal injuries, and that nurses can effectively help such patients using injury prevention and rehabilitation programs [25-29].

A 2021 study found that nurses can effectively help elderly patients with MDs using a comprehensive approach that includes medication, physical exercise, and other treatment methods, and that nurses can help such patients maintain independence and improve their quality of life. Nursing care programs for patients with MDs in the US include: The Arthritis Foundation's Self-Help Program: This program provides education and support to patients with arthritis, including information on physical exercise, pain management, and medication; The American Physical Therapy Association's Movement is Medicine Program: This program promotes physical activity as a way to prevent and treat MDs, including back pain, osteoporosis, and arthritis; The American Association of Nurse Practitioners' Orthopedic Care Program: This program provides education and resources to practicing nurses who care for patients with MDs, including information on diagnosis, treatment, and rehabilitation.

Overall, nursing care plays an important role in the treatment of MDs in the US, and it has been shown that PMSCs are effective in improving treatment outcomes for patients with these disorders. Nursing care programs, such as those listed above, provide education, support, and resources to patients and healthcare workers, helping to improve care and treatment outcomes for people with MDs [30].



## Nursing care within the PHCP for the care of patients with MDs in Poland

Nursing care for patients with MDs in Poland is developing in accordance with European standards and recommendations from the WHO. Special attention is paid to improving the qualifications of nurses, implementing evidence-based practices, and interdisciplinary collaboration [30]. One notable aspect of the development of nursing care in Poland is the creation of specialized departments and clinics for the treatment and rehabilitation of patients with MDs. These facilities provide comprehensive care, including physiotherapy, occupational therapy, medication therapy, and surgical treatment. In addition, Poland has a PHC that provides access to preventive measures and early diagnosis of MDs. A particular focus of nursing care development in Poland is prevention and vaccination. Nurses play an important role in conducting vaccinations against influenza and other infectious diseases that can exacerbate the course of MDs. They also participate in educational work among the population aimed at promoting a healthy lifestyle and preventing injuries to the musculoskeletal system [21-25].

According to the National Health Fund in Poland, MDs are one of the most common reasons for seeking medical help in the country. In 2018, MDs were the main cause of disability in Poland, accounting for 39.2% of all cases of disability. MDs in Poland are more common among women than among men. According to a study conducted in 2018, women in Poland are more likely to report musculoskeletal pain and disability than men. The most common MDs in Poland are lower back pain, osteoarthritis, and neck pain. According to a study conducted in 2019, the prevalence of lower back pain in Poland is estimated at about 60%, and the prevalence of osteoarthritis is about 20%. The prevalence of MDs in Poland increases with age. According to a study conducted in 2019, the prevalence of musculoskeletal pain among older adults in Poland is estimated at about 60% [31]. In 2019, MDs were the second most common reason for seeking medical help in Poland, accounting for 17.5% of all outpatient visits.

Nursing care is a crucial component of the treatment of MDs in Poland. Some key aspects of nursing care for patients with MDs in Poland include:

- **Assessment and diagnosis:** Nurses play an important role in assessing and diagnosing MDs in Poland. They use various tools and methods to assess patients' symptoms, physical functions, and quality of life.
- **Patient education:** Nurses conduct patient education for patients with MDs in Poland on various topics, such as exercise therapy, pain relief, and medication use. They also provide recommendations for lifestyle changes that can help improve patients' symptoms and overall health.
- **Exercise therapy:** Exercise therapy is a key component of nursing care for patients with MDs in Poland. Nurses work with patients to develop individual

exercise programs that meet their specific needs and goals. They also provide recommendations for proper technique and safety measures [29].

- **Pain management:** Nurses play an important role in managing pain for patients with MDs in Poland. They use various methods, such as medication administration, heat and cold therapy, and massage, to relieve patients' pain.
- **Rehabilitation:** Nurses are involved in the rehabilitation of patients with MDs in Poland. They work with patients to develop individual rehabilitation plans that meet their specific needs and goals. They also provide recommendations for proper technique and safety measures.
- **Collaboration with other healthcare professionals:** Nurses collaborate with other healthcare professionals, such as doctors, physiotherapists, and occupational therapists, to provide comprehensive care to patients with MDs in Poland. They communicate regularly with these specialists to ensure that patients receive coordinated and effective care [30-32].

Nursing care provided through the PHC system in Poland has been effective for patients with MDs. A study conducted in 2018 showed that a nurse-led intervention for patients with knee or hip osteoarthritis in Poland resulted in significant reductions in pain, physical function, and quality of life compared to usual care. The intervention included patient education, exercise therapy, and pain relief. Additionally, a study conducted in 2019 showed that a nurse-led intervention for patients with lower back pain in Poland resulted in significant improvements in pain, disability, and quality of life compared to usual care. The intervention included patient education, exercise therapy, and cognitive-behavioral therapy [27].

The Polish Association of Nurse Practitioners and Nurse Midwives has developed a program called "Nursing Care for Patients with MDs," aimed at improving the quality of care for patients with these disorders. The program includes training for nurses in evidence-based methods for assessing, diagnosing, and treating MDs. The Ministry of Health in Poland has implemented a program called "Rehabilitation in the Primary Health Care System," aimed at improving access to rehabilitation services for patients with chronic diseases, including MDs. The program includes training for PHC nurses in rehabilitation methods and the provision of rehabilitation services in PHC facilities [21].

Overall, nursing care for patients with MDs in Poland is focused on providing individualized, evidence-based care that meets patients' specific needs and goals.

Nurses work closely with patients and other healthcare professionals to develop comprehensive care plans that promote optimal health and well-being [29-32].

## Conclusions

Nursing care is crucial in managing MDs within PHC, with international experience emphasizing early intervention, prevention, and patient education. Collaboration with other healthcare providers is also essential. In the US, Japan, and Poland, nursing care for MDs is developing according to national healthcare systems and cultural traditions. Japan focuses on prevention, while Poland has created specialized departments for treatment and rehabilitation.

Nursing care within PHC can improve treatment outcomes and help patients manage their conditions effectively. However, continuous improvement and adaptation to changing healthcare needs and environments are necessary. Integration of new technologies, ongoing research, and evidence-based practices are crucial to ensure high-quality and safe patient-centered care. The development of nursing care for MDs within PHC in these countries reflects a global trend towards integrating

nursing care into PHC systems, improving access to care, promoting patient-centered care, and enhancing the quality of life for patients with MDs.

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### Медициналық-санитариялық алғашқы көмекте тірек-қимыл аппараты аурулары бойынша мейіргерлік қызметті дамыту

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#### Түйіндеме

Тірек-қимыл аппаратының аурулары бүкіл әлемде денсаулық бойынша кең таралған мәселе болып табылады және олардың таралуы көптеген елдерде, соның ішінде Қазақстан Республикасында да артып келеді. Бұл аурулар адамның өмір сүру сапасына және күнделікті іс-әрекеттерді орындау қабілетіне айтарлықтай әсер етуі мүмкін. Сондай-ақ, бұл денсаулық сақтау қызметіне деген қажеттіліктің артуына алып келеді.

Бұл шолу мақаласы Қазақстанда, Жапонияда, Америка Құрама Штаттарында және Польшада тірек-қимыл аппараты ауруларына медициналық-санитарлық алғашқы көмек бағдарламалары шеңберінде мейіргерлердің көмегін дамытуды зерттеуге арналған. Шолу үшін талқыланған мақалалар олардың тақырыпқа сәйкестігі негізінде таңдалды, іздеу тек 2010-2021 жылдар аралығында жарияланған зерттеулермен шектелді.

Тірек-қимыл жүйесінің бұзылыстары контекстінде мейіргер күтімі науқастардың симптомдарын бағалау, ауырсынуды жеңілдету, жаттығуларға көмектесу және науқастарды өзін-өзі күту туралы оқыту сияқты әртүрлі тапсырмаларды қамтуы мүмкін. Тірек-қимыл жүйесінің ауруларымен ауыратын науқастарды күтуге арналған алғашқы медициналық-санитарлық көмек бағдарламасы аясында мейіргерлік көмекті дамыту денсаулық сақтау қызметін жақсартудың құрамдас бөлігі болып табылады.

Түйін сөздер: медициналық-санитарлық алғашқы көмек, тірек-қимыл жүйесінің аурулары, жұмсақ тіндердің жарақаттары, мейіргерлік көмек, оңалту.

### Развитие сестринской службы при заболеваниях опорно-двигательного аппарата в первичной медико-санитарной помощи

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## **Резюме**

*Заболевания опорно-двигательной системы являются распространенной проблемой здоровья во всем мире, и их распространенность увеличивается во многих странах, включая Республику Казахстан. Эти заболевания могут значительно влиять на качество жизни человека и его способность выполнять повседневные деятельности, что приводит к высокому спросу на услуги здравоохранения.*

*Данная обзорная статья посвящена изучению вопросов развития помощи медицинских сестер в рамках программ первичной медико-санитарной помощи при заболеваниях опорно-двигательного аппарата в Казахстане, Японии, Соединенных Штатах и Польше. Для обзора был проведен систематический поиск, который ограничивался исследованиями, опубликованными в период с 2010 по 2021 годы.*

*В контексте заболеваний опорно-двигательной системы сестринская помощь может включать в себя различные задачи, такие как оценка симптомов пациентов, предоставление болеутоления, помощь в физических упражнениях и просвещение пациентов по вопросам самоухода. Развитие сестринской помощи в рамках программы первичной медико-санитарной помощи для ухода за пациентами с заболеваниями опорно-двигательной системы является неотъемлемой составляющей улучшения услуг здравоохранения.*

*Ключевые слова: первичная медико-санитарная помощь, заболевания опорно-двигательного аппарата, травмы мягких тканей, сестринский уход, реабилитация.*