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UDC: 616-058-053.9

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Medical and social needs of the older people based on the EASYCare Standard 2010 questionnaire in the Republic of Kazakhstan

8D10101 - Public health

Dissertation for the degree of doctor of Philosophy (PhD)

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Republic of Kazakhstan Aktobe, 2025

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NORMATIVE REFERENCES

This dissertation uses references to the following standards:

Code of the Republic of Kazakhstan dated July 7, 2020 "On the health of the people and the healthcare system"

Standard for organizing the provision of geriatric and geriatric care in the Republic of Kazakhstan. Order of the Minister of Health of the Republic of Kazakhstan dated June 23, 2021 № KR DSM - 55. Registered with the Ministry of Justice of the Republic of Kazakhstan on July 7, 2021 No. 23329.

DEFINITIONS

In this dissertation, the following terms are used with the corresponding definitions:

Barthel Index- is an ordinal scale used to measure performance in basic activities of daily living (ADLs). It evaluates ten areas: feeding, bathing, grooming, dressing, bowel control, bladder control, toileting, chair transfer, ambulation, and stair climbing. Scores range to indicate the degree of independence, with higher scores reflecting greater ability to function independently [1].

Disability – the degree of limitation in a person's life activities resulting from health concerns related to health, functional independence, and well-being from the perspective of older individuals. It evaluates various domains including physical function, mental health, and social well-being, aiming to facilitate person-centered care planning[1].

EASYCare Standard 2010 is a multidimensional assessment tool designed to identify being provided with information on all aspects of the medical care and/or research that are important for making an informed decision [2].

Family doctor is a physician who has undergone specialized multidisciplinary training to provide primary health care to family members and holds a specialist certification in the field of healthcare [3].

Geriatrician is a specialist whose professional role involves providing medical care to elderly and older adults, which includes the diagnosis, treatment, and prevention of diseases, taking into account the specific characteristics of advanced age [1,p. 10].

Geriatric care - a set of medical, social, psychological measures aimed at ensuring healthy aging [1,p. 10].

Gerontological care is a set of medical, social, and psychological interventions aimed at ensuring healthy aging [1,p. 10].

Guaranteed volume of free medical care refers to the scope of healthcare services financed by public (budgetary) funds and provided to the population free of charge[4]

Geriatric care for the population – a system of measures to provide long-term medical and social services with the aim of maintaining or restoring the ability to self-care, partially or completely lost due to chronic diseases, facilitating the reintegration of elderly patients into society, and ensuring independent existence [1,p. 10].

Health is a state of complete physical, mental, and social well-being, and not merely the absence of disease or physical defects [3,p. 16].

Informed consent is the procedure of a person's voluntary written confirmation of their agreement to receive medical care and/or to participate in a specific study after impairment with a persistent disturbance of bodily functions [1,p. 10].

Independence score- the index measures an individual's ability to perform both basic and instrumental daily activities. Scores range from 0 to 100, where higher values indicate greater dependence [4,5].

Lawton IADL Scale assesses an individual's ability to perform complex daily tasks necessary for independent living in the community. These tasks include using the telephone, shopping, food preparation, housekeeping, laundry, mode of transportation, medication management, and handling finances. It's particularly useful for identifying how individuals are functioning at present and for detecting changes over time [6].

Median (from Latin mediāna - middle) 50th percentile or quantile 0.5 - statistics that divides the ranged population (variation series of the sample) into two equal parts: 50% of the "lower" members of the data series will have a feature value of no more than than the median, and the "top" 50% - the value of the feature is not less than the median.

Medical care is a set of medical services aimed at preserving and restoring the health of the population, including the provision of medications [3,p. 16].

Mental health is a state of well-being in which every individual can realize their own potential, cope with the normal stresses of life, work productively and fruitfully, and contribute to their community [3,p. 11].

Multidisciplinary team is a group of various specialists formed based on the nature of the patient's functional and structural impairments, as well as the severity of their clinical condition [3,p. 11].

Older age groups - a general term for three age categories of the population: 60–74 years (elderly), 75–90 years (senile age), and over 90 years (long-livers), as defined by the World Health Organization [1,p. 10].

P-value is the probability that the result obtained is completely random. The value of p can vary from 1 (the result is definitely random) to 0 (the result is definitely not random). A p-value less than or equal to a given alpha error level (eg 0.05) indicates that the difference is statistically significant [7].

Prevention - is a set of medical and non-medical measures aimed at preventing the onset of diseases, slowing their progression in the early stages, and managing already developed complications, as well as damage to organs and tissues [1,p. 10].

Primary health care is the essential form of medical and sanitary assistance that is accessible to a country and its population and that they can afford, taking into account its cost and using practical, scientifically sound, and socially acceptable methods [4]

Risk of breakdown in care -determines the risk of hospitalization; the final score ranges from 0-12 points—a higher score indicates an increased risk of hospitalization [5]

Risk of falls—the final score ranges from 0-8 points; scores of 3 or more are classified as an increased risk of falls [8].

Statistical significance - statistical methods that allow us to estimate the likelihood of an observed or higher degree of association between independent and dependent variables when the null hypothesis is true. The achieved level of statistical significance (calculated) should be distinguished from the a priori specified critical level of statistical significance, which is usually 0.05 or 0.01. Typically, the level of statistical significance is expressed as a p-value [7,p. 2].

Social Support- is an assistance provided to individuals and groups by communities and society, which can help overcome adverse or negative life events and living conditions, serving as a positive source or resource for improving quality of life[4]

The healthcare system comprises the set of governmental institutions and healthcare providers whose activities are directed toward safeguarding the right of citizens of the Republic of Kazakhstan to health protection [3,p. 13].

DESIGNATIONS AND ABBREVIATIONS

	CGA	 comprehensive geriatric assessment 		
	CSHIS	 compulsory social health insurance system 		
	ECQ	 EASYCare Standard 2010 questionnaire 		
	GDP	 gross domestic product 		
	GBP	 global burden of diseases 		
	GVFMC	 Guaranteed volume of free medical care 		
	IS	 independence score 		
	IQR	 interquartile range 		
	MES RK	- Ministry of Education and Science of the Republic of		
Kazakhstan				
	NCDs	 noncommunicable diseases 		
	PHC	 primary health care 		
	QoL	– quality of life		
	RF	– risk of falls		
	RBC	 risk of breakdown in care 		
	RK	 Republic of Kazakhstan 		
	SDG	 Sustainable Development Goals 		
	TFR	 total fertility rates 		
	UK	– United Kingdom		
	UN	– United Nations		
	UNESCAP	- United Nations Economic and Social Commission for Asia and		
the Pacific				
	WHO	 World Health Organization 		

INTRODUCTION

Population ageing is a globally recognized phenomenon, and according to the World Health Organization (WHO), individuals aged 60 years and older are commonly classified as older adults, particularly in low- and middle-income countries, where this threshold serves as a benchmark for demographic and health policy planning. To better capture the diversity within this population, gerontological research further distinguishes three subgroups: the "young-old" (60–74 years), who are generally active and maintain a high level of independence; the "middle-old" (75–84 years), who may begin to experience functional decline and increased health needs; and the "oldest-old" (85 years and older), who are often characterized by greater frailty, multiple chronic conditions, and higher levels of dependency [9].

According to projections by the World Health Organization (WHO), the number of people aged 65 and over will more than double—from 761 million in 2021 to 1.6 billion by 2050—while the number of individuals aged 80 and over is expected to grow even faster. In 1950, one in twenty people globally was aged 65 or older; by 2021, it was one in ten; and by 2050, this age group is projected to account for one in six people [10]. This demographic transition raises concerns about the ability of national healthcare systems to cope with increasing demands and associated costs. The rapid growth of the elderly population highlights the urgent need to implement lifelong health promotion and disease prevention strategies, as early-life health significantly influences quality of life in older age. The WHO's concept of "healthy ageing" emphasizes the importance of maintaining functional ability in older adults, enabling their active participation in society [11].

A similar demographic trend of population ageing is observed in the Republic of Kazakhstan, marked by an increasing number of elderly individuals, which necessitates a revision of existing medical and social support models. Forecast-based population pyramids for Kazakhstan from 1950, 2020, and 2050 demonstrate a clear trend toward population ageing [12]. A substantial increase in the proportion of older adults—especially those aged 65 and above—is expected, indicating a pressing need for strategic adaptation of healthcare and social support systems, with a focus on the needs of the ageing population [13].

An effective and appropriate response to this demographic shift requires accurate, personalized assessment of older people's needs, which can help prevent the decline of their independence [5,p. 3]. This has underscored the importance of a multidisciplinary approach and led to the development of tools for comprehensive assessment of medical and social needs. One such tool is the EASYCare Standard 2010 (ECQ) questionnaire [5,p. 3]. Over the past two decades, it has become available in languages across all WHO regions and has been used to assess and identify unmet needs among older people [2,p. 9]. The ECQ system functions as a comprehensive tool for the elderly, addressing specific issues and priorities related to their needs, health, and overall well-being [14]. This tool offers a simple and practical approach

to assessing various aspects such as activities of daily living (ADL), instrumental activities of daily living (IADL), mental health, social interaction, and well-being [15].

In Kazakhstan, data on the needs of the elderly population remain partial and limited to specific aspects of care and palliative services [16,17]. Therefore, further research is needed to gain a comprehensive understanding of current conditions and demands, as well as to identify areas where greater support is required. Accordingly, we employed an interdisciplinary approach using the EASYCare Standard 2010 tool to analyze the needs of older adults, which represent a critical factor in the foundation for planning sustainable elderly care in the future of Kazakhstani society.

Aim of the study

To identify and analyze the medical and social needs of elderly people in the Republic of Kazakhstan using the standardized questionnaire EASYCare Standard 2010, taking into account their physical, psychosocial and functional state.

Research objectives

1. To adapt and validate the EASYCare Standard 2010 questionnaire in Kazakh and Russian to ensure its applicability within the context of the Republic of Kazakhstan.

2. To identify the medical and social needs of the elderly through a standardized assessment of their physical, psychosocial, and functional status.

3. To identify and analyze the determinants influencing the medical and social needs of older adults.

4. To develop evidence-based recommendations for enhancing the system of medical and social monitoring and support for the elderly, based on the findings of the study.

Scientific novelty of the study

- The first assessment of medical and social needs of elderly people in Kazakhstan using the EASYCare Standard 2010 questionnaire. Until now, this tool has been used mainly in Europe, the USA, the Middle East (Iran, Turkey) and India, but has not been used in the Republic of Kazakhstan.

- For the first time, the linguistic and cultural adaptation of the questionnaire into Kazakh and Russian was carried out, which allows it to be used in local conditions to identify the needs of elderly people.

- A comprehensive analysis of the factors influencing the medical and social needs of elderly people in Kazakhstan. The use of statistical and multivariate analysis allowed us to identify key determinants that determine the level of medical and social needs, including education, financial status and other socio-demographic characteristics.

- For the first time in Kazakhstan, the correlation of EASYCare indices with the Barthel index and Lawton scale was used, which made it possible to assess the independence of elderly people and their predisposition to hospitalization and falls.

Theoretical significance

- This study is the first to introduce and validate the EASYCare Standard 2010 tool in Kazakhstan, thereby expanding the theoretical foundations of comprehensive geriatric assessment (CGA) in local healthcare and academic settings.

- The identification of key influencing factors—such as education, financial status, and region of residence—provides a theoretical basis for understanding inequality in aging and health vulnerability among older adults in Kazakhstan.

- The study supports WHO's concept of functional ability and independence in later life, offering empirical evidence that such indicators are measurable and relevant for local aging policy and clinical practice.

- The findings support the theoretical integration of public health, geriatrics, and social policy, enabling a more evidence-based and interdisciplinary approach to aging research and system design in Kazakhstan.

Practical significance

- The adaptation and validation of the EASYCare Standard 2010 questionnaire into Kazakh and Russian languages has produced a reliable instrument for use in clinical settings, enabling healthcare providers to assess the needs of older adults.

- The study provides a basis for incorporating standardized geriatric assessments into routine primary care and nursing practice, especially in outpatient clinics and home-based services.

- By generating three specific indices—Independence score, Risk of falls, and Risk of breakdown in care—the tool allows practitioners to identify older adults at risk and develop personalized care plans and preventive strategies.

- The research results offer scientifically grounded data to support policy recommendations aimed at strengthening geriatric care, long-term support systems, and the allocation of resources for aging populations in Kazakhstan.

- The findings of the study were used to develop methodological recommendations aimed at maintaining the independence of older adults, improving their quality of life, and enhancing their physical, psycho-emotional, and social wellbeing. These recommendations have been implemented in the work of three urban polyclinics in the city of Aktobe. Additionally, a master class for nurses was conducted under the title: "Patients at high risk of falls — A challenge in geriatric care."

- The methodological recommendations derived from this study were integrated into the academic curriculum for students enrolled in the "Nursing" educational program. Specifically, they were incorporated into the course "Nursing Care in Gerontology" and the professional practice module "Nursing in Gerontology", thereby contributing to the professional development of future healthcare providers.

Key provisions submitted for defense

- Adaptation and validation of the EASYCare Standard 2010 questionnaire into Kazakh and Russian languages made it possible to introduce an international tool for assessing the medical and social needs of older people for the first time in Kazakhstan, which ensures its reliability and applicability in local conditions.

- Key medical and social needs of older people in Kazakhstan were identified based on a standardized survey, including the risks of functional dependence, falls, breakdown in care, as well as insufficient social support and financial constraints.

- The main factors influencing the medical and social needs of the elderly have been identified, among which the level of education, age, marital status and financial situation play a key role.

- The research results can be used to adjust existing geriatric care programs and make additions to the national health policy, which will improve the availability and quality of medical and social support for the elderly in Kazakhstan.

Aprobation of the dissertation

The main provisions of the dissertation were presented and discussed at the following conferences:

-International scientific conference of students and young scientists "Farabi Alemi." Presentation: "Development of an algorithm for providing assistance to elderly people based on the determination of medical and social needs in Aktobe. Research protocol", April 6–8, 2021, Almaty. Awarded 2nd place.

-X annual international scientific and practical conference "Topical issues of medicine". Presentation: "Validation of the EASYCare Standard 2010 instrument to identify the functioning and well-being of elderly people in Aktobe, Kazakhstan", April 27–28, 2023, Baku, Azerbaijan. Awarded 1st place in the category "Best research work among young scientists".

Publications related to the dissertation:

As part of this dissertation research, five publications were produced, including one article in the international peer-reviewed scientific journal *Frontiers in Public Health*, indexed in the Web of Science (Impact Factor 3.0; Q2) and Scopus (CiteScore 4.8; 70th percentile); two publications in journals included in the second list recommended by the Committee for Control in the Sphere of Education and Science of the Ministry of Science and Higher Education of the Republic of Kazakhstan; and two abstracts published in the proceedings of international scientific conferences.

Compliance with scientific development priorities or state programs

The dissertation research was conducted within the framework of the scientific and technical project "Improving geriatric and gerontological care in the Republic of Kazakhstan" and was funded by the Ministry of Education and Science of the Republic of Kazakhstan (AP09562783).

The dissertation corresponds to the priority direction of science development approved by the Higher Scientific and Technical Commission under the Government of the Republic of Kazakhstan, namely the direction of «The science of life and health».

Implementation of study findings in clinical practice

The results of the conducted research were introduced into practical healthcare settings at the following institutions:

- State Municipal Enterprise "City Polyclinic №1" under the Health Department of Aktobe Region. Appendix F, Appendix G

- State Municipal Enterprise "City Polyclinic №4" under the Health Department of Aktobe Region. Appendix F, Appendix G

- State Municipal Enterprise "Family Medicine Clinic" of NJSC West Kazakhstan Marat Ospanov Medical University. Appendix F, Appendix G

Implementation in educational and methodological work

- The methodological guideline titled "Maintaining the independence of older adults" approved by the Academic Council of West Kazakhstan M. Ospanov medical university on February 27, 2025, protocol N_{06} (823), was integrated into the educational process as supplementary materials for the course "Nursing Care in Gerontology" and the professional practice "Gerontological Nursing", within the educational program 6B10103 "Nursing" based on technical and vocational education. Appendix E.

The author's personal contribution includes the organization and implementation of pilot studies for the validation of the Russian and Kazakh versions of the EASYCare Standard 2010 questionnaire, the development and execution of the main research program, coordination and partial administration of the survey in four regions of Kazakhstan, statistical processing and analysis of the obtained data, interpretation of the results and discussion of the key findings, independent preparation of all sections of the dissertation, implementation of the research results in practical healthcare, development and approval of methodological guidelines, as well as participation in the writing and preparation of scientific publications, including formulation of objectives, result analysis, and manuscript editing.

Volume and structure of the dissertation

The dissertation consists of an introduction, literature review, description of materials and methods, results of the original research, discussion and a conclusion that includes findings and practical recommendations, a list of references, and appendices.

The list of references includes 174 sources. The total volume of the dissertation is 137 pages and contains 17 figures and 19 tables.

1 LITERATURE REVIEW

1.1 Global population aging as a public health issue

In the 21st century, population aging become one of the most significant global transformations, exerting a complex influence on all spheres of public life — from healthcare and the economy to social policy and the labor market structure [18,19]. This process, which began in industrially developed countries, is now becoming a universal trend, encompassing low- and middle-income countries as well [20,21]. It is driven by two key factors: a sustained decline in fertility rates and a steady increase in life expectancy [22,23]. This happens because of greater access to education, urbanization, women's labor force participation, and family planning services [24,25].

According to projections by the World Health Organization (WHO), the number of people aged 65 and older will more than double — from 761 million in 2021 to 1.6 billion by 2050. In turn, the number of people aged 60 and over is expected to rise from 1 billion in 2019 to 1.4 billion by 2030, and to reach 2.1 billion by the middle of the century [10]. This upward trend in the global growth of the population aged 60 years and older is clearly illustrated in Figure 1, which shows a steady and projected increase across all world regions from 1980 to 2050.

These figures not only highlight the scale of upcoming demographic changes but also shape the agenda for healthcare systems, social services, and state institutions.



Figure 1 - The growing share of the population aged 60 years or over in all world's regions

Note - [26]

The growing proportion of older people leads to a shift in disease patterns: chronic non-communicable diseases, cognitive impairments, polypharmacy, and the need for long-term care are becoming increasingly prevalent [27]. Against this backdrop, pressure on both public and private healthcare systems is intensifying, especially under conditions of limited resources. Demographic aging is directly linked to rising healthcare and social security expenditures. The International Monetary Fund forecasts that age-related public spending in G-20 countries may increase by up to 6% of GDP by 2050, with the largest share attributed to medical services [28].

Visualization of demographic data, including birth and death rates and population age structure, allows for a clear representation of the scale of change and facilitates evidence-based decision-making. The demographic transition is defined by a shift from high fertility and mortality to lower birth and death rates. This process leads to a gradual increase in the proportion of older individuals within a population. For example, long-term projections show that the global fertility rate will decline from current levels to the replacement rate of 2.1 children per woman by 2050 and may reach 1.8 by the year 2100 (refer to Figure 2). Combined with increased life expectancy and changes in migration patterns, this leads to the steady aging of the population in most countries of the world [22,p. 3].

However, aging is not only a medical but also a socio-economic challenge. The shrinking share of the working-age population affects labor productivity, employment structure, pension systems, and the financial stability of states [29]. In a context of increasing numbers of older people and declining birth rates, there is a need to adapt labor policies, social protection mechanisms, and pension provision [30]. This requires political will, systemic planning, and the engagement of all sectors of society [10,p. 9].

The complexity of this issue is further exacerbated by the fact that aging processes occur at different speeds and in various socio-economic settings across countries [31]. International comparisons reveal significant disparities in access to healthcare and social services, availability of long-term care, and overall quality of life for older adults [30,p. 7]. This indicates that universal approaches to addressing aging-related issues must be adapted to the cultural context, resource capacity, and demographic profile of each country [11,p. 7].



Figure 2 - TFR, globally and by GBD super-region, 1950–2100 The dashed horizontal line indicates replacement TFR (2·1), and the dashed vertical line indicates the year 2022. GBD=Global Burden of Diseases, Injuries, and Risk Factors Study. TFR=total fertility rate

Note – [22,p. 6]

In low- and middle-income countries, the pace of aging is accelerating rapidly, often outpacing the development of healthcare infrastructure and social safety nets. Meanwhile, in high-income countries, aging populations are straining pension systems and long-term care facilities. Recognizing aging as a public health issue is crucial to designing policies that are equitable, sustainable, and responsive to the needs of older adults.

In addition to the aforementioned factors, aging also has several other significant implications:

Rising life expectancy: Advances in nutrition, sanitation, healthcare access, medical technology, and disease prevention have dramatically extended the average life expectancy across the globe. In 1950, the global average life expectancy was approximately 46 years; by 2020, it had risen to 73 years. Projections suggest that by 2050, average life expectancy will exceed 80 years in at least 91 countries [32,33]. This remarkable achievement reflects progress in combating infectious diseases, reducing maternal and child mortality, and improving living conditions. However, while extended longevity is a positive development, it also presents substantial challenges, particularly related to the health and social care needs of an increasingly aged population.

Age Structure Transformation:

Demographic shifts driven by declining fertility rates and improved survival rates are reshaping the population structure globally. Population pyramids are progressively flattening, as the proportion of older adults grows relative to younger age groups [34].

This results in rising old-age dependency ratios, indicating that fewer working-age individuals are available to support the growing elderly population. While these transformations are most advanced in high-income countries, they are rapidly occurring in developing regions as well. Sub-Saharan Africa, Northern Africa, and Western Asia, for instance, are projected to experience the fastest growth in the number of older persons by 2050 [10,p. 3]. This demographic transition poses significant implications for labor markets, social protection systems, pension schemes, and healthcare services, necessitating proactive policy adaptations to ensure societal resilience.

Epidemiological Transition Toward Noncommunicable Diseases (NCDs):

Alongside demographic changes, aging is closely associated with an epidemiological transition from a predominance of infectious diseases to noncommunicable diseases (NCDs) [35]. Older adults are more likely to experience conditions such as cardiovascular disease, diabetes, osteoarthritis, dementia, and cancer. In the United States, 84% of those aged 65 and above have at least one chronic condition [30,p. 14]. Health systems must evolve toward models that emphasize preventive care, multidisciplinary management, home- and community-based services, and patient-centered approaches.

Furthermore, mental health issues constitute a significant component of the health burden among older populations. Depression, anxiety disorders, and cognitive impairments such as Alzheimer's disease and other forms of dementia are highly prevalent [36–38]. Despite their high incidence, mental health problems in older adults often remain underdiagnosed and undertreated, leading to diminished quality of life and increased care dependency. Addressing mental health needs in aging populations necessitates comprehensive strategies that include early detection, accessible mental health services, destigmatization efforts, and caregiver support programs.

Taken together, these demographic and epidemiological shifts underscore the urgent need for adaptive public health strategies, integrated social and health care models, and sustainable financing mechanisms that can meet the complex and evolving needs of aging societies.

Functional decline and care dependency

The concept of "healthy aging" has gained prominence in public health discourse, emphasizing the importance of maintaining functional ability and well-being throughout the life course [39]. According to the World Health Organization, functional ability encompasses not only the intrinsic capacities of an individual—such as physical and cognitive functioning—but also the environmental factors that enable individuals to be and do what they value [11, p. 8]. However, despite advancements in healthcare and supportive technologies, many older adults inevitably experience a progressive decline in both physical and cognitive capabilities, leading to an increased risk of care dependency [40,41].Functional limitations, including difficulties in mobility (e.g., walking, climbing stairs), self-care activities (e.g., dressing, bathing), and instrumental activities of daily living (e.g., preparing meals, managing finances), are recognized as major predictors of institutionalization, higher healthcare utilization,

and rising healthcare costs [42–44]. The onset of functional impairments often signals the transition from independent living to requiring assistance, either informally from family members or formally through long-term care services. Such declines not only affect the individual's autonomy and quality of life but also place significant emotional, physical, and financial burdens on caregivers and health systems.

Thirty years ago, there were no "aged societies"—countries where older adults consumed more resources than the younger population. By 2010, however, there were already 23 such countries, and by 2040, the number is projected to rise to 89 [45].

Globally, more than 46% of individuals aged 60 and older live with some form of disability. Among them, over 250 million older adults experience moderate to severe disabilities, highlighting the substantial health and functional challenges associated with aging [45,p. 3].

Furthermore, the global burden of dementia is rising rapidly. As of 2010, an estimated 35.6 million people worldwide were living with dementia. This number is expected to nearly double every 20 years, reaching 65.7 million by 2030 [45,p. 3].

These trends underline the profound demographic and health transitions occurring worldwide, emphasizing the urgent need for comprehensive, age-responsive healthcare systems and social policies.

In response to these challenges, promoting environments that support mobility, safety, and social participation has emerged as a critical strategy for sustaining functional independence among older adults [46–48]. Age-friendly communities— characterized by accessible infrastructure, inclusive transportation systems, safe public spaces, and opportunities for civic engagement—play a pivotal role in enabling older adults to continue living independently and maintaining social connections. Accessible housing modifications, fall prevention programs, and the availability of assistive technologies are equally essential components of such supportive environments.

Moreover, informal caregivers—primarily family members—serve as the cornerstone of elder care in most societies. Providing support for informal caregivers through training, respite services, financial incentives, and psychological counseling is crucial to enhancing the sustainability of community-based aging models [49–51]. Without adequate support, caregiver burden can lead to burnout, compromised care quality, and increased rates of institutionalization for older adults.

Gender and social inequities

The process of aging is a universal human experience, yet it does not affect all individuals in the same way. The World Health Organization's concept of Healthy Aging emphasizes the need for maintaining functional ability and enabling well-being throughout the later stages of life, irrespective of individual circumstances [11,p. 6]. However, achieving healthy aging is often hindered by persistent gender and social inequities that shape the experiences of older adults across the globe.

One of the most pronounced disparities in aging relates to gender. Women generally live longer than men, with a global average gap of approximately five to seven years [52–55]. Nevertheless, this increased longevity is frequently accompanied by greater morbidity. Older women are more likely to live with multiple chronic

conditions, functional limitations, and disabilities. Additionally, due to cumulative disadvantages over the life course—including lower lifetime earnings, interrupted employment histories from caregiving responsibilities, and limited access to pension schemes—women face heightened economic insecurity in old age [55,p. 6]. These factors contribute not only to poorer health outcomes but also to social vulnerabilities, including isolation and reduced access to care.

Social inequities extend beyond gender to encompass geographical and socioeconomic divides. Rural populations, for instance, often encounter significant barriers in accessing healthcare services, social protection programs, and age-appropriate infrastructure [56–59].Limited healthcare resources, geographic isolation, transportation challenges, and lower levels of health literacy exacerbate the disadvantages faced by older adults living in rural areas. Populations may encounter discrimination, cultural and linguistic barriers, and exclusion from formal support systems, leading to unmet healthcare needs and lower quality of life in later years.

Addressing these disparities is essential to achieving the goals of Healthy Aging. Policies must prioritize equity by ensuring universal health coverage that is both accessible and responsive to the diverse needs of older adults. Pension systems should be designed to provide adequate financial security, particularly for women and individuals with non-traditional or interrupted employment trajectories. Moreover, the provision of culturally competent, inclusive, and person-centered care is critical to overcoming barriers faced by marginalized older populations.

Ultimately, promoting healthy aging for all requires a life-course approach that actively reduces disparities and creates supportive environments where every individual—regardless of gender, place of residence, or social identity—can maintain their health, functional ability, and well-being throughout their later years.

Workforce shortages and skill gaps

As populations age, health systems must contend with both increased demand for services and a shrinking workforce [60–62]. Health systems are confronted with several critical challenges, including an aging workforce of healthcare providers, a lack of adequate training in geriatric care, and significant shortages in services such as long-term care, home-based health support, and rehabilitation [63–65]. Moreover, there exists a pronounced deficiency in geriatric-specific training among healthcare providers. The World Health Organization highlights that current health workforce training predominantly focuses on acute and communicable diseases, often neglecting the complex needs of the aging population [66]. The shortage extends beyond physicians to encompass nurses, nursing assistants, and home care workers. In the U.S., for example, more than 2.5 million additional long-term care workers will be needed by 2030 to meet the demands of the aging population. This shortage is further compounded in rural and underserved areas, where attracting and retaining healthcare workers remains a persistent challenge [67,68].

Health financing and long-term care

The demographic shift towards an aging population presents significant challenges for health financing and the provision of long-term care (LTC) services. In

G20 countries, public expenditures on healthcare and pensions are projected to increase by 6–7 percentage points of GDP by 2050 if current policies remain unchanged. This surge is driven by increased demand for age-related services, including LTC, which remains underfunded and undervalued despite its growing importance [69]. The underfunding of LTC services is a global concern. For instance, in OECD countries, LTC spending accounted for an average of 1.8% of GDP in 2021, with significant variations across countries. This underinvestment leads to reliance on informal caregivers, often family members, who provide the majority of care without adequate support or compensation. The financial strain on these caregivers can result in reduced labor force participation and increased risk of poverty [70]. Incentivizing preventive care and providing financial support for informal caregivers are essential strategies. Programs like the National Family Caregiver Support Program in the U.S. offer services to assist caregivers, but broader policy measures are needed to address the growing demand. Expanding insurance coverage to include LTC services and implementing cost-sharing policies can also alleviate the financial burden on families [71] Also a shift toward person-centered, community-based models of care can improve outcomes and reduce costs. Financing mechanisms must incentivize preventive care and support for informal caregivers [72–74].

Infrastructure and service delivery

As populations age, it becomes increasingly important to adapt health services to the evolving needs of older adults. Traditional healthcare models, often oriented toward acute and episodic care, are ill-suited to managing the chronic conditions, functional limitations, and social needs that frequently accompany aging. Therefore, there is a growing consensus that health systems must become more age-friendly to ensure that older adults can access comprehensive, coordinated, and person-centered care [51,p. 6]. Key components of age-friendly health services include home-based care, telemedicine, and accessible transportation. Home-based care models allow older adults to receive medical support, rehabilitation, and assistance with activities of daily living within the comfort of their own homes, thereby promoting autonomy and reducing the risk of hospitalization and institutionalization. Telemedicineparticularly in the aftermath of the COVID-19 pandemic—has emerged as a vital tool for improving healthcare access, especially for those with mobility limitations or living in rural areas. It enables real-time consultations, remote monitoring of chronic conditions, and ongoing communication with healthcare providers, reducing the need for frequent in-person visits. Accessible transportation services are equally crucial, ensuring that older adults can attend medical appointments, participate in social activities, and maintain community engagement without facing mobility-related barriers.

Despite the proven benefits of such services, many health systems remain illequipped to deliver them at scale. Barriers include fragmented service delivery, insufficient funding, lack of trained personnel, and inadequate infrastructure tailored to the needs of older populations. As a result, older adults often experience disjointed care pathways, unmet social and medical needs, and poorer health outcomes. The WHO's Integrated Care for Older People (ICOPE) framework provides a structured approach to integrated care. ICOPE consists of five steps:

1. Screening for declines in intrinsic capacity across domains such as mobility, cognition, and nutrition.

2. Person-centered assessment in primary care to understand individual preferences and needs.

3. Development of personalized care plans with multidisciplinary teams.

4. Implementation and monitoring of care pathways, including referrals to specialized geriatric care.

5. Engagement of caregivers and communities to support the older person's care journey [75,76].

Real-world implementations of ICOPE demonstrate its feasibility and effectiveness. In France, the INSPIRE ICOPE-CARE program in the Occitania region has integrated ICOPE into clinical practice, utilizing digital tools like the ICOPE MONITOR app and BOTFRAIL conversational robot to facilitate assessments and monitoring. This program aims to screen and monitor 200,000 older adults, promoting preventive actions and maintaining autonomy [77,78].

In Singapore, a feasibility study implemented the ICOPE framework, training volunteers as assessors to conduct screenings and develop care plans. The study found that the holistic and person-centered approach of ICOPE resonated well with national strategies, empowering individuals to manage their health [79].

Developing integrated service delivery models that combine medical and social care is critical to addressing these shortcomings [80]. Integrated care models emphasize seamless coordination between healthcare providers, social workers, rehabilitation specialists, and community services. They focus on providing holistic support that addresses not only medical conditions but also functional abilities, mental health, social participation, and living environments. Examples of successful integrated models include Programs of All-Inclusive Care for the Elderly (PACE) in the United States and similar initiatives in Europe, which have demonstrated improvements in health outcomes, reduced hospitalizations, and greater patient and caregiver satisfaction [81,82].

Furthermore, the establishment of robust information systems is essential to support age-friendly, integrated care. Traditional electronic health records primarily capture clinical data, but future systems must be enhanced to track functional status, cognitive abilities, social determinants of health, and caregiver availability alongside medical diagnoses and treatments. Collecting and analyzing this broader set of data enables healthcare providers to create individualized care plans that are responsive to the complete needs of older adults. It also facilitates better care coordination across different sectors, supports early identification of at-risk individuals, and allows for more effective monitoring of health trajectories over time.

Investing in age-friendly health services and integrated care systems is not only a moral imperative but also an economic necessity. By enabling older adults to maintain their independence, health systems can reduce costly hospital admissions, prevent institutionalization, and enhance the quality of life for aging populations. The future of health and social care must therefore be rooted in models that recognize and support the complex realities of aging in the twenty-first century.

Economic impacts of aging

The economic implications of aging are multifaceted. A shrinking working-age population can slow economic growth, while rising dependency ratios strain social protection systems [83–85]. Per capita GDP growth in advanced economies is projected to decline by 0.4% annually due to aging[84]. However, older adults also contribute economically through paid work, caregiving, volunteering, and consumer spending. For instance, in 2018, Americans aged 50 and older contributed \$8.3 trillion to the U.S. economy, a figure projected to rise to \$28.2 trillion by 2050 [86].

Migration, automation, and increased female labor participation are additional levers for adapting to demographic change. For example, increasing female labor force participation has the potential to partially offset the negative economic consequences of aging populations [87]. Policies that enable extended workforce participation and lifelong learning can mitigate economic losses and enhance productivity. Migration, automation, and increased female labor participation are additional levers for adapting to demographic change. Pension and tax reforms must ensure both sustainability and equity.

1.1.1 Aging and the sustainable development goals (SDGs)

Population aging is a defining global trend of the twenty-first century, intersecting with multiple dimensions of sustainable development. As the proportion of older adults increases worldwide, aging directly influences the achievement of the Sustainable Development Goals (SDGs), requiring thoughtful integration of aging-related priorities into national and international strategies.

Several key SDGs are particularly relevant to the context of population aging:

- Goal 3 (Good health and well-being): Promotes health across all ages, emphasizing the need for healthcare systems that support healthy aging and address the complex needs of older populations.

- Goal 10 (Reduced inequalities): Aims to reduce inequalities within and among countries, recognizing that aging often exacerbates social, economic, and health disparities.

- Goal 8 (Decent work and economic growth): Advocates for inclusive economic participation and the creation of employment opportunities for all age groups, including older workers.

- Goal 11 (Sustainable cities and communities): Encourages the development of inclusive, safe, resilient, and age-friendly urban environments that enable older adults to live independently and participate fully in society [26,p. 6].

Critically, older persons must be acknowledged not only as beneficiaries of development but also as active contributors to societal progress. Their inclusion in policy design, civic engagement, labor markets, and community life is essential for the successful realization of the 2030 Agenda for Sustainable Development [26,p. 6].

Policy responses and global strategies in the framework of SDGs

The demographic transformation toward aging populations demands comprehensive, multisectoral responses. Four major areas of strategic action are recognized globally:

Investing in healthy aging:

Adopting a life-course approach to health promotion—from prenatal care through old age—can significantly reduce the risk of chronic diseases, disabilities, and dependency. Public health initiatives such as vaccination programs, lifestyle interventions, early screenings, and age-appropriate health education form the foundation of this strategy. To maximize impact, governments must embed healthy aging objectives into national development plans and allocate sufficient resources for prevention, care, and support systems.

Reforming long-term care systems:

Long-term care should be reimagined as a public good, essential for upholding the dignity and autonomy of older individuals. Comprehensive long-term care systems must encompass formal services, caregiver support, respite care programs, and quality assurance mechanisms. Community-based and home-based care models present costeffective, person-centered alternatives to traditional institutional care, enabling older adults to maintain their independence and remain integrated within their communities.

Enhancing economic resilience:

The sustainability of pension systems and financial security for older adults require urgent attention. Effective policy options include gradually raising the retirement age, diversifying pension revenue sources, incentivizing private savings, and creating flexible work opportunities for older employees. Additionally, fostering older entrepreneurship and supporting lifelong learning initiatives can boost economic participation among aging populations and contribute to overall economic resilience.

Strengthening global cooperation:

Demographic change is a transnational phenomenon requiring global solidarity and coordinated action. International organizations such as the United Nations (UN), the World Health Organization (WHO), and the G20 provide critical platforms for knowledge exchange, financial support, and the development of cohesive policy frameworks. Furthermore, well-managed migration and international labor mobility can help mitigate demographic imbalances between countries with aging populations and those with younger demographic profiles.

Aging as a catalyst for sustainable development

Aging populations are not merely a demographic challenge; they represent a triumph of human development and public health progress. However, realizing the potential of aging societies requires coordinated, innovative, and multisectoral responses. By framing aging as a public health and development priority, countries can build systems that promote autonomy, equity, and resilience across the life course.

Rather than viewing aging as a looming crisis, it must be recognized as a catalyst for inclusive growth, innovation, and societal enrichment. The time to act is now—to

ensure that aging populations become an integral part of sustainable development strategies rather than a peripheral concern.

Thus, population aging is not narrowly confined to the medical domain. It constitutes a systemic challenge that necessitates the integration of epidemiological data, sociological analysis, economic foresight, and strategic planning. It is critical not only to adapt healthcare systems to meet the evolving needs of older populations but also to revise broader social and economic models in accordance with emerging demographic realities.

Special attention must be given to comprehensive assessment tools such as the EASYCare Standard 2010, which enable the evaluation of not only physical health but also psychological, social, and functional dimensions of older adults' lives [5,p. 9]. The application of such instruments facilitates the development of personalized support strategies, with a focus on maintaining autonomy, functional independence, and active social inclusion for older persons [2,p. 3].

1.2 Aging trends in Kazakhstan and its implications

Population aging is one of the most significant demographic challenges of the 21st century. As the proportion of older adults increases, countries are faced with the need to revise existing models of healthcare, social support, and economic policy. Kazakhstan, like many countries with a transitional economy, is entering a phase of active population aging, which entails a range of systemic consequences.

According to the 2021 national census, the population of Kazakhstan included 2 457 182 individuals aged 60 and above, accounting for 12.8% of the total population. Of these, 1566517 people—or 8.2%—were aged 65 years and older [88]. In accordance with United Nations criteria, a country is classified as an "aging society" when the proportion of people aged 65 and above exceeds 7%, a benchmark that Kazakhstan has already surpassed. Furthermore, data from UNESCAP indicate a continuing upward trend: while in 2020, the proportion of older persons was 7.8%, it is projected to reach 8.7% by 2025, clearly reflecting the growing size of the elderly population (figure 3).







Figure 3 - Proportion of old people aged 65+ in 2020 (A) and 2025 (B)

Note - [12,p. 3]

These figures demonstrate that Kazakhstan is undergoing significant demographic changes, which—combined with regional disparities and evolving socio-economic conditions—necessitate a reassessment of current public health strategies and social policy frameworks. This demographic shift is visually reflected in the population pyramid, which effectively illustrates the aging trend (figure 4).

(B)



(B)

Figure 4 - Population structure pyramid in Kazakhstan in 2020 (A) and 2050 (B)

Note - [12,p. 6]

The Ministry of Health plays a pivotal role in advancing healthcare reforms in Kazakhstan, including the implementation of the social health insurance system and the strengthening of primary healthcare services. These efforts are actively supported by regional and local authorities, ensuring coordinated implementation across all levels of governance. However, as Kazakhstan, similar to many nations with a transitional economy, is experiencing a rapid demographic shift toward an aging population, bringing about a wide array of systemic implications such as:

1. Increasing burden on the healthcare system

Population aging in Kazakhstan significantly increases the demand for medical services, particularly in the treatment of chronic non-communicable diseases such as cardiovascular conditions, diabetes, cancer, and dementia. Older adults typically require more frequent consultations, long-term treatment, and continuous medical monitoring, which places pressure on both primary and specialized care services. According to the report "The Impact of the Aging Population on the Health Workforce in the United States," healthcare systems around the world face a growing gap between the needs of elderly patients and the availability of trained personnel and resource [89]. In Kazakhstan, where geriatric specialization is still developing, this burden is especially acute and requires urgent investment in workforce training and infrastructure adaptation.

2. Deficit in long-term care services

With the growing number of older adults in the country, there is an urgent need to expand long-term care (LTC) systems, both institutional and home-based. Currently, Kazakhstan lacks a comprehensive LTC system, and the main responsibility for caregiving lies with families. This leads to caregiver burnout and reduces the quality of life for both caregivers and care recipients. The UN report "The Growing Need for

Long-Term Care" highlights that countries with rapidly aging populations must prioritize the development of LTC systems [90]. The absence of such structures results in increased hospitalizations due to conditions that could otherwise be prevented.

3. Financial pressure on pension and social security systems

The demographic shift in the age structure of the population intensifies pressure on the pension and social welfare systems. The shrinking share of the working-age population increases the dependency ratio, making it more difficult to maintain current levels of pension payments without structural reforms. A study by the Asian Development Bank titled "Population Aging, Pension Systems, and Economic Growth" outlines the macroeconomic risks associated with aging, including increased government expenditures and reduced economic activity [91,92]. Without timely reforms, Kazakhstan may face a pension fund deficit and growing inequality among the elderly population. As the proportion of retirees increases, expenditures on pension provisions, health insurance, and social support escalate. Concurrently, the share of the economically active population declines, potentially leading to pension fund deficits and necessitating a reassessment of pension policies. This reassessment may include raising the retirement age and transitioning to contributory pension models [93]. Financial constraints, disparities in healthcare spending, and uneven resource distribution complicate the standardization of elderly care nationwide. In rural areas, limited access to medical facilities and lower income levels exacerbate issues related to chronic diseases, resulting in higher incidences of falls and other geriatric syndromes. These challenges underscore the need for targeted policies addressing not only the clinical aspects of aging but also the socio-economic determinants contributing to health inequalities among the elderly. A study by Turgambayeva et al. reported that 83% of all physicians in Kazakhstan practice in urban areas, with only 17% serving rural regions, despite 41% of the population residing there [94]. Consequently, the organization and quality of medical care for rural populations require further development

4. Declining economic growth and labor force participation

Population aging leads to a reduction in the labor force and can negatively affect labor productivity and economic growth. Older workers often retire early, and new labor entrants may not be sufficient to compensate for these losses. According to the U.S. National Bureau of Economic Research, the report "The Effect of Population Aging on Economic Growth, the Labor Force and Productivity" indicates that aging can significantly slow down GDP growth and innovation, especially in middle-income countries [95]. For Kazakhstan, which seeks economic diversification, this is a signal to develop policies that promote active aging and delayed retirement.

5. Erosion of traditional family support structures

Urbanization, labor migration, and changes in household composition weaken traditional models of family caregiving. More young people are moving to cities or abroad, leaving elderly relatives without the usual support. This gap in informal care cannot be effectively filled by public services [16,p. 9]. The UNFPA report "Family

Support Networks and Population Ageing" emphasizes the erosion of intergenerational care and the need to institutionalize social support [96].

To sum up all said above, Kazakhstan is undergoing a rapid demographic shift toward an aging society, bringing significant challenges to its healthcare, social, and economic systems. The rising number of older adults increases demand for medical care, long-term support, and pension resources, while the working-age population shrinks. To address these issues, Kazakhstan must urgently invest in geriatric services aimed at preserving their health, functional independence, and active longevity. Proactive, integrated policy measures are essential to ensure healthy and equitable aging across the country.

1.3 Organization of geriatric and gerontological care in the Republic of Kazakhstan

A special focus on the needs of older adults has emerged relatively recently in Kazakhstan. In 2009, the medical and pharmaceutical specialties classification of the country officially incorporated geriatrics as a recognized medical specialty. Subsequently, in 2015, a national standard for the organization of geriatric and gerontological care was approved [97].

These developments marked important steps toward the institutionalization of specialized care for the aging population in Kazakhstan. They laid the groundwork for the creation of geriatric services and the initiation of professional training programs for physicians and healthcare personnel specializing in the care of elderly patients. The Ministry of Health of the Republic of Kazakhstan adopted the "Standard for the Organization of Geriatric and Gerontological Care" by Ministerial Order № RK MH-55 on June 23, 2021 [1,p. 9]. This document establishes a comprehensive system of medical and social assistance tailored to the needs of individuals aged 60 and above, including those showing signs of premature aging.

The standard was developed in accordance with Article 7 of the national Code "On Public Health and the Healthcare System" and provides a detailed roadmap for organizing care across various healthcare settings [3,p. 5]. It introduces critical conceptual definitions, such as geriatric syndromes, senile asthenia, and premature aging, and formally outlines the responsibilities of geriatricians—specialists trained to provide individualized, age-appropriate care to older patients. Geriatric care in Kazakhstan is guided by the principle of continuity across the full spectrum of healthcare—from preventive to rehabilitative services—delivered in outpatient clinics, inpatient hospitals, and home-based care environments.

In Kazakhstan, geriatric and gerontological services are integrated within the national health system and delivered through a tiered model. Primary care forms the foundational level, where older adults can access services through polyclinics, family medicine centers, and rural medical outposts. These services are often delivered by general practitioners or family physicians who have received additional training in gerontology. Secondary care is provided by specialized medical professionals in district and regional centers, where more complex diagnostic and therapeutic

interventions are available. Tertiary care, which includes the provision of high-tech services, is offered in specialized medical institutions and targets the most clinically complex cases [1,p. 5].

Medical assistance to older adults is offered in the forms of emergency, urgent, and scheduled care. These services are financed through the Guaranteed volume of free medical care (GVFMC) and the Compulsory social health insurance system (CSHIS), ensuring financial protection and equity in access. Services may also be accessed on a fee-for-service basis when necessary. The scope of geriatric and gerontological care includes preventive check-ups, health screenings, chronic disease monitoring, nutritional support, and psychological counseling. The development of preventive initiatives, such as the "Active longevity school," serves to educate older adults on healthy lifestyle practices, aiming to delay the onset of age-related decline and promote autonomy.

A hallmark of Kazakhstan's approach is the adoption of a multidisciplinary model that involves physicians, nurses, psychologists, and social workers working collaboratively. This team-based strategy is centered around the comprehensive geriatric assessment (CGA), an internationally recognized method for evaluating the medical, functional, psychological, and social needs of older individuals [98,99]. The CGA is performed at least once a year for patients aged 60 and above and twice a year for those aged 90 and older [1,p. 5]. The assessment tools used include validated scales such as the Barthel Index, which measures the degree of independence in daily living activities and helps guide individualized care planning [1,p. 5].

The provision of care is holistic and includes both medical interventions and social support mechanisms. Specialized outpatient geriatric clinics are responsible not only for direct clinical care but also for community health monitoring, coordination of care within districts, and consultation with family members and caregivers. In addition, these clinics play an essential role in selecting patients for higher levels of care when geriatric syndromes or functional decline are detected.

A critical aspect of this system is the close integration between healthcare and social services. Older adults with limited mobility or cognitive impairment receive home-based medical and social support, often coordinated by geriatricians and visiting nurses. Education for caregivers, provision of assistive technologies, and support for psychological adaptation are all part of the broader rehabilitation strategy aimed at improving quality of life. In cases requiring advanced care, older adults may be referred to inpatient facilities or receive treatment via mobile teams, including air medical services for patients in remote areas.

Furthermore, the national standard prescribes strict requirements for recordkeeping, monitoring, and performance evaluation within all institutions providing geriatric care. Regular audits and data collection ensure that medical organizations adhere to clinical protocols, manage pharmaceuticals efficiently, and respond appropriately to the evolving health needs of the elderly population. The implementation of this system has also brought attention to important public health indicators, including the prevalence of chronic diseases, rates of disability, and causes of mortality among older people.

Despite the solid regulatory foundation and comprehensive care model, the practical implementation of geriatric services in Kazakhstan remains a work in progress. There is a limited number of formally trained geriatricians, particularly in rural areas, and many regions continue to face challenges related to resource availability, staff capacity, and public awareness. Nevertheless, the introduction of a national standard marks an essential step forward in aligning Kazakhstan's healthcare system with global best practices and advancing the goal of healthy aging.

In summary, the organization of geriatric and gerontological care in Kazakhstan reflects a proactive and structured approach to addressing the needs of an aging society. By embedding geriatric services within all levels of care and prioritizing continuity, accessibility, and person-centered care, Kazakhstan lays the groundwork for a more resilient and inclusive healthcare system that upholds the rights and well-being of its older citizens.

However, despite the comprehensive framework established by the 2021 Ministerial Order N_{2} RK MH-55, significant challenges persist in practical implementation. While the policy emphasizes continuity of care, integration across healthcare levels, and the use of comprehensive geriatric assessments, the healthcare system appears unprepared for the rapid demographic shift toward an aging population.

One major concern is the shortage of formally trained geriatricians, especially in rural areas, leading to disparities in care quality and accessibility. Studies have highlighted that only a small fraction of older adults receive necessary social services and home care, indicating limited reach and effectiveness of current programs. Additionally, the lack of adequately trained social workers and underdeveloped home assistance programs further exacerbate the situation [15,p. 5].

Furthermore, the integration of CGA into routine practice remains inconsistent, and the availability of multidisciplinary teams is limited.

According to the UNFPA survey conducted in Kazakhstan in 2020, nearly one in five older adults (18.3%, or 366 respondents aged 55 years and older) reported experiencing an unmet need for medical examination or treatment within the preceding 12 months [100]. These findings highlight critical gaps in healthcare accessibility for the aging population.

The most frequently cited reason for being unable to access needed healthcare services was the imposition of quarantine measures during the COVID-19 pandemic, accounting for 36.1% of responses. Restrictions on movement and limitations on visits to public places, including healthcare facilities, significantly impeded access to essential medical care during this period [100,p. 12].

Beyond pandemic-related challenges, systemic issues were also prominent among the barriers reported. Approximately 16.7% of respondents indicated that the required medical services were available only on a paid basis, making them financially inaccessible. Long waiting times for appointments were cited by 12.3% of respondents, while 9.6% reported the unavailability of the necessary medical specialist. An additional 7.1% of participants noted a lack of required medications or equipment at healthcare facilities [100,p. 12].

Other reported barriers included an inability to schedule a preliminary appointment with a physician (5%), lack of available time due to work obligations or caregiving responsibilities for elderly relatives and grandchildren (3.8%), and difficulties reaching healthcare facilities without external assistance (2.7%). Furthermore, 0.8% of respondents indicated that they lacked information regarding where and how to access the necessary medical services[100,p. 12].

In addition to identifying access barriers, the UNFPA survey provided insights into the causes of dissatisfaction with the quality of medical services among older adults [100,p. 12]. In 2008, the most commonly reported reasons for dissatisfaction were inattentive attitudes of medical personnel toward elderly patients (52%) and long waiting times, which were difficult for older patients to endure (46%). However, by 2020, there was a marked improvement in these areas. The share of respondents citing inattentiveness from medical staff decreased significantly, from 52% to 28%, and complaints about long queues declined from 46% to 33%. These improvements suggest that healthcare providers have become more responsive and attentive to the needs of elderly patients, and that organizational efforts to streamline patient flow within medical facilities have been partially effective.

Nevertheless, one major issue remained unresolved over the decade: the unavailability of necessary specialists in local healthcare facilities. By 2020, this had become the most commonly cited reason for dissatisfaction with medical services. Importantly, this problem was reported consistently across rural areas, small towns, and large cities, indicating that the shortage of specialized care for older adults is a systemic challenge rather than one confined to specific types of settlements [94,p. 11].

These findings illustrate the systemic weaknesses in the organization of geriatric and gerontological care in Kazakhstan. Despite some progress, the current healthcare system remains insufficiently adapted to the specific needs of the aging population. The persistence of specialist shortages, alongside lingering issues related to access and infrastructure, highlights the urgent need for comprehensive reform. Strengthening healthcare systems to better accommodate the complex needs of older adults must become a strategic priority.

1.4 Comprehensive geriatric assessment tools as a response to the demographic challenges of population aging

Given the global demographic changes, such as the increase in average life expectancy and the widespread aging of the population, the integration and comparative analysis of comprehensive geriatric assessment (CGA) tools are gaining particular importance and becoming essential for developing effective health and social care policies for the elderly [101–102].Unlike the traditional medical approach, CGA enables a holistic evaluation of an older person's condition, including their physical, mental, functional, and social health [103]. This facilitates the early detection of vulnerable conditions such as decreased functional independence, risk of falls,

cognitive impairments, depression, and social isolation [104–106]. Early diagnosis allows timely intervention, helps slow the progression of deterioration, and maintains the quality of life of older individuals [104,p. 11]. Furthermore, based on CGA results, it is possible to develop an individualized medical and social care plan, optimize pharmacological therapy, avoid polypharmacy, and refer the patient to appropriate specialists. This approach ensures a more efficient allocation of healthcare resources and contributes to the improvement of care quality [107,108].

Comprehensive geriatric assessment also strengthens intersectoral collaboration, as it involves a multidisciplinary team including doctors, social workers, psychologists, and other specialists (figure 5). This approach ensures coordination and continuity of care, helps avoid duplication of services, and increases the overall effectiveness of assistance [108,109].



Figure 5 - Graphical illustration of the role of multidisciplinary team members in comprehensive geriatric assessment

Standardized CGA tools enable the collection of systematic data that can be used to monitor the health status of the elderly population at both regional and national levels [110]. This data serves as a basis for forecasting service needs and for the development and evaluation of public policy on aging. In the context of demographic aging, the implementation of CGA tools allows countries to adapt their healthcare and social protection systems to new challenges. This contributes to the development of geriatric care, the promotion of active and healthy aging, and the reduction of the burden on healthcare and long-term care systems [108,p. 11].

One of the most prominent and widely recognized tools of comprehensive geriatric assessment is the EASYCare Standard 2010 (ECQ) questionnaire [111]. This tool was developed within the framework of the international EASYCare project (Elderly Assessment System and Coordination), which aimed to create a universal

approach to assessing the needs of older people across various countries and cultural contexts [112–115].

The EASYCare assessment tool has evolved over the past three decades into a globally recognized instrument for evaluating the health and care needs of older adults. Initially developed in the early 1990s through collaborations among researchers in the United Kingdom, United States, and Europe, the tool aimed to provide a standardized method for assessing older individuals' perceptions of their health and care requirements. The first version, introduced in 1994, comprised 31 questions focusing on various aspects of health and daily functioning [113,p. 18].

Subsequent revisions in 1999, 2004, and 2010 expanded and refined the tool, culminating in the EASYCare Standard 2010. This version includes 49 core questions covering physical, mental, social, and environmental domains, aligning with the World Health Organization's International Classification of Functioning, Disability and Health (ICF). The tool's design emphasizes simplicity and feasibility, making it suitable for use in diverse settings, including primary care and community environments [2,p. 13].

EASYCare has been translated into multiple languages and validated across various cultural contexts, demonstrating its adaptability and relevance in assessing the needs of older populations worldwide. Its application has extended to low-, middle-, and high-income countries, reflecting its versatility and effectiveness in different healthcare systems [111,p. 17].

The Standard 2010 version is the result of extensive validation in different countries and is based on the principles of geriatric medicine, primary health and social care, as well as the WHO framework on active and healthy aging [116]. This version has gained the greatest recognition due to its universality, ease of use, and proven validity. EASYCare Standard 2010 is designed to provide a comprehensive assessment of the functioning of older individuals across several key domains, including physical mobility and self-care, mental and emotional well-being, cognitive functions, safety in the home environment, social support and participation, access to health and social care services [111,p. 13]. A distinctive feature of this tool is that it can be administered not only by a physician but also by a trained nurse or social worker, which makes it particularly valuable in resource-limited settings or within primary health and social care systems [2,p. 12].

One study reported a high level of acceptance of the questionnaire among both healthcare professionals and patients across countries, highlighting its potential as a standardized method for assessing the needs of the elderly population [117]. The questionnaire is completed through an interview with the older person, and when necessary, with the involvement of relatives or caregivers.

Moreover, a study conducted in Poland demonstrated that self-completion of the questionnaire by older adults yielded results comparable to those obtained when administered by a trained professional [111,p. 16]. This finding supports the reliability and reproducibility of the EASYCare instrument and confirms its suitability for use in large-scale population surveys and screening programs. In another study, the validity

and reliability of EASYCare Standard 2010 were confirmed in the context of primary healthcare in Portugal [14,p. 18]. The results of the EASYCare assessment enable the identification of areas where an older person needs support, the development of a personalized plan for intervention and care, the monitoring of changes over time, and the collection of standardized data for use in health and social policy analysis.

Thus, EASYCare Standard 2010 represents an effective, internationally validated tool that facilitates the early identification of problems in older adults and the optimization of comprehensive care systems at both individual and population levels. The reliability of the questionnaire has been confirmed by numerous studies, including its translation and adaptation in many countries around the world [117,p. 12].

For example, the scientific robustness of the EASYCare Standard 2010 was further confirmed in a key study by Jotheeswaran et al., which focused on the psychometric calibration of the EASYCare Independence Scale [117,p. 18]. This scale, originally derived from the Barthel Index and the Duke OARS IADL scale, includes 18 items assessing limitations in activities of daily living (ADL) and instrumental activities of daily living (IADL). The authors conducted their research in a primary care setting in Goa, India, targeting a population of frail, community-dwelling older adults. The study demonstrated that the scale possesses high internal consistency (Cronbach's alpha = 0.89) and strong hierarchical structure, making it a unidimensional tool suitable for measuring dependence levels. Using Mokken scale analysis, the authors confirmed that most items in the tool contribute significantly to a unified latent trait, with the exception of two items—"use of telephone" and "managing finances" which showed lower item performance. Their reduced reliability was attributed to cultural factors, as these activities are often managed by family members in many non-Western contexts. The study also established concurrent validity, showing that the EASYCare Independence Scale correlates strongly with other indicators of care needs such as intensity and intervals of care, as well as mobility restriction. The results confirm the instrument's sensitivity to different levels of dependence among older adults and support its use as a standardized tool in both clinical and research settings, particularly in low- and middle-income countries where validated geriatric assessment tools are scarce. This calibration study reinforces the value of the EASYCare system within the framework of CGA, particularly for developing countries seeking costeffective and culturally appropriate tools to evaluate functional decline and dependency among older populations.

The applicability and value of the EASYCare Standard 2010 tool have been further demonstrated in a study conducted in Malaysia by Aman et al., which examined the relationship between caregiver burden and the level of independence of older adults using the EASYCare independence score [118]. This cross-sectional study involved 385 caregivers of community-dwelling older persons and used the EASYCare Standard 2010 in conjunction with the Carers of Older People in Europe (COPE) Index to assess both the functional status of care recipients and the psychological burden experienced by caregivers. The research also validated the Malay-language adaptation of the EASYCare Standard 2010, confirming its face validity and feasibility for use in

multicultural, multilingual contexts. This supports the global applicability of the tool beyond European settings, particularly in Southeast Asia [118,p. 11].

A key contribution to the international validation of the EASYCare Standard 2010 tool comes from a Portuguese study, which evaluated the reliability and validity of the instrument among community-dwelling older adults receiving care in Primary Health Care (PHC) settings [14,p. 9]. The study involved 244 participants aged 65 and older from PHC centers in central Portugal and aimed to determine whether the tool could reliably assess functional, physical, and social domains relevant to aging in a Portuguese context. The authors used categorical principal component analysis (CATPCA) to explore the instrument's structure and identified a two-factor model representing mobility and activities of daily life, and general well-being and safety. Both dimensions demonstrated acceptable internal consistency (Cronbach's alpha \geq 0.70), confirming the scale's psychometric robustness. Furthermore, the factors correlated significantly with scores from the WHO Quality of Life-BREF instrument, particularly in the physical and environmental domains, indicating strong construct validity. An important methodological insight from this study was that many extreme response categories were rarely used by participants, suggesting that a simplified version of the questionnaire with dichotomous (yes/no) options may enhance its practicality and responsiveness, especially in community-based assessments. Despite this, the current version still proved suitable for use in Portuguese PHC contexts and highlighted the instrument's potential for early detection of frailty, unmet needs, and health risks in older adults. The findings confirm that the EASYCare-2010 tool is valid, reliable, and culturally adaptable, reinforcing its role as a globally applicable CGA instrument, particularly valuable for low-resource or primary care environments.

Also, the Turkish adaptation of the EASYCare Standard 2010 further reinforces the global relevance and flexibility of this tool for assessing the health and care needs of older people across diverse cultural and healthcare settings [115,p. 9]. A study from Turkey involved the translation, cultural adaptation, and psychometric validation of the EASYCare instrument among a sample of 400 Turkish older adults. The study aimed to establish the reliability and validity of the tool in the Turkish context, where a comprehensive geriatric assessment system had not previously been validated for widespread use. Using forward-back translation methodology and expert panel review, the authors achieved a high Content Validity Index (CVI = 0.91), indicating clarity, relevance, and linguistic appropriateness of the adapted version. Reliability testing demonstrated excellent internal consistency (Cronbach's alpha = 0.93 for the independence domain) and good test-retest stability (ICC = 0.92 for independence, 0.56 for risk of care breakdown, and 0.61 for risk of falls).

The Turkish version of EASYCare also demonstrated strong construct validity. Convergent validity was supported by moderate to high negative correlations with the SF-36 health survey scores, while divergent validity was confirmed through statistically significant differences in EASYCare subdomain scores across demographic and clinical variables, such as: living arrangements (community vs. institutional care), educational status, perceived health, presence of urinary incontinence, depression (measured by GDS), malnutrition (measured by MNA), history of hospital admissions. These findings confirm that the Turkish EASYCare Standard can effectively discriminate between older adults with different levels of health, social vulnerability, and functional dependence. Despite slightly lower internal consistency in the "risk of falls" subscale ($\alpha = 0.64$), the overall scale was shown to be psychometrically robust, clinically relevant, and culturally appropriate. The study concludes that the Turkish version of EASYCare is a valid and reliable tool for holistic geriatric assessment, supporting its use by healthcare professionals to identify older people in need of targeted care and services within both community and institutional settings.

Moreover, a landmark population-based study conducted in Kosovo illustrates the value of the EASYCare Standard 2010 instrument in assessing the needs and priorities of older people in transitional health systems [114,p. 9]. In this nationwide survey of 1890 individuals aged 65 and older, the full EASYCare questionnaire was administered to evaluate three key domains: independence in activities of daily living, risk of breakdown in care, and risk of falls. The results revealed that older women, the oldest age group (85+), rural residents, individuals with no formal education, those perceiving themselves as poor, and persons lacking access to medical services had significantly higher scores across all three domains—indicating higher risk and dependency levels. The study also confirmed strong internal validity and mutual correlation between the independence, care breakdown risk, and fall risk scores, with Pearson correlation coefficients ranging from 0.74 to 0.84 (p < 0.001). Importantly, the findings provide some of the first population-level data from the Southeast European region using a standardized CGA instrument. The authors emphasize that the poor health status and increased vulnerability of older adults-particularly among women and the socioeconomically disadvantaged—call for urgent policy attention. The EASYCare tool proved capable of identifying at-risk groups, generating evidence to inform targeted healthcare and social interventions. Moreover, this study underlines the instrument's adaptability to post-conflict, resource-limited settings, confirming its applicability beyond Western healthcare systems. The use of stratified sampling and robust statistical models (general linear models with multivariable adjustments) adds methodological strength to the findings.

A major step toward the global standardization of Comprehensive Geriatric Assessment tools was the international validation of the EASYCare Standard 2010, led by Philip et al [2,p. 30]. This landmark study assessed the acceptability of the tool among both older adults and healthcare professionals across six culturally diverse countries: the United Kingdom, India, Iran, Colombia, Lesotho, and Tonga. Using a mixed-methods approach, the study explored perspectives of 115 older people and 37 clinicians, employing structured questionnaires alongside qualitative interviews. The results confirmed high levels of acceptability across all sites. From the perspective of older adults, the assessment was viewed as relevant, clear, and valuable for identifying individual health and care needs. Most participants reported that the length of the assessment was appropriate, the questions were understandable, and they would
recommend the tool to others. Health professionals echoed this positivity, emphasizing the tool's value in uncovering unmet needs, facilitating preventive care, and initiating meaningful conversations about health, independence, and well-being. The tool was also shown to be adaptable to a wide range of healthcare contexts-from high-income systems like the UK to resource-limited environments like Lesotho and Tonga. While minor suggestions for contextual adaptations were made (e.g., including culturally relevant items on spirituality or nutrition), the core structure of the EASYCare Standard 2010 was found to be broadly applicable without significant modification. Clinicians noted the tool's potential to support person-centered care planning, especially where medical and social issues intersect. In some settings, limitations in service infrastructure were cited, which could hinder the full implementation of recommendations derived from the assessment. However, even in such cases, the tool was valued for highlighting systemic gaps and prioritizing care delivery. This study reinforces the EASYCare Standard 2010 as a cross-culturally acceptable, holistic, and brief CGA tool, well-suited for global use. It aligns with the principles of integrated, community-based geriatric care and supports global policy shifts toward age-friendly health systems.

To sum up this part, the global implementation and validation of the EASYCare Standard 2010 affirm its role as a cornerstone instrument within the framework of comprehensive geriatric assessment. Across diverse cultural, economic, and healthcare contexts—from the United Kingdom, the Netherlands, and Portugal to India, Malaysia, Turkey, Kosovo, and beyond—the tool has consistently demonstrated its reliability, feasibility, and clinical relevance in identifying the health and social care needs of older adults.

Studies have shown that EASYCare not only facilitates early detection of frailty and functional decline, but also supports individualized care planning, multidisciplinary coordination, and informed resource allocation. Adaptations like the Easycare-TOS further enhance its integration into primary care by combining professional judgment with structured assessment, making CGA more practical and scalable in everyday clinical settings.

Importantly, the tool's success lies in its flexible architecture: it accommodates local contexts, respects the tacit knowledge of healthcare professionals, and can be administered by both medical and non-medical personnel. These features make it especially valuable in low- and middle-income countries, where resource constraints often limit access to specialized geriatric services.

In the face of rapidly aging populations worldwide, the adoption of validated, user-friendly CGA instruments such as EASYCare is not only desirable—it is essential. As healthcare systems strive to shift from reactive, disease-centered models to proactive, integrated, and person-centered care, EASYCare provides a solid, evidence-based foundation for addressing the complex and multidimensional needs of older adults.

In addition to the EASYCare Standard 2010, a variety of validated tools are widely used in comprehensive geriatric assessment to address the multiple domains of

older adults' health and functional status. These tools have been developed and refined over decades and are internationally recognized in geriatric practice and research. Some of these tools are presented in Table 1.

To assess psychological well-being, the Geriatric Depression Scale (GDS), developed by Yesavage et al. (1983), is commonly applied to screen for depressive symptoms among older adults [119]. For the evaluation of cognitive function, the Mini-Mental State Examination (MMSE) by Folstein et al. (1975) [120] and the more sensitive Montreal Cognitive Assessment (MoCA) introduced by Nasreddine et al. (2005) [121] are frequently utilized to detect dementia and mild cognitive impairment, respectively.

Assessment of mobility and fall risk is typically conducted using the Timed Up and Go (TUG) Test, described by Podsiadlo and Richardson (1991) [122] which evaluates balance and gait performance. Functional independence is often measured using the Katz Index of Activities of Daily Living (ADL) (Katz et al., 1963) [122]for basic self-care tasks and the Lawton Instrumental Activities of Daily Living (IADL) Scale (Lawton & Brody, 1969) [123]for more complex activities such as managing finances or using transportation.

The Clinical Frailty Scale (CFS), proposed by Rockwood et al. (2005) [124], provides a global assessment of frailty status based on clinical judgment. Nutritional risks are assessed using the Mini Nutritional Assessment (MNA) developed by Guigoz et al. (1994) [125], which identifies older individuals at risk of malnutrition. To estimate comorbidity burden and predict mortality, the Charlson Comorbidity Index (CCI) (Charlson et al., 1987) [126] is commonly applied in both clinical and research settings.

Physical functioning and independence in daily activities are also evaluated using the Barthel Index (Mahoney & Barthel, 1965) [127], which focuses on mobility and self-care. Finally, fall risk can be further assessed using standardized tools such as the Morse Fall Scale (Morse, 1986) [128] or the STRATIFY tool (Oliver et al., 1997) [129], both designed to predict the likelihood of falling in clinical settings.

While these individual tools provide valuable domain-specific assessments, they often focus on a single aspect of health, requiring multiple instruments to obtain a comprehensive profile. In contrast, the EASYCare Standard 2010 was developed as a holistic, person-centered assessment tool that integrates multiple dimensions of health, social needs, and functional ability into a single, user-friendly questionnaire.

EASYCare is particularly well-suited for population-level needs assessment because it offers a comprehensive evaluation that covers a wide range of domains, including physical, mental, social, and environmental aspects of well-being. Its design allows for administration by non-specialists in community and primary care settings, making the tool highly accessible and scalable. Moreover, EASYCare provides structured data that can be easily interpreted to support individualized care planning and inform broader health and social policy development. Importantly, the tool has undergone international validation and has been successfully applied in diverse cultural contexts, enabling meaningful cross-national comparisons and adaptation to different healthcare systems.

These advantages make EASYCare Standard 2010 especially relevant for Kazakhstan, where comprehensive data on the health and social needs of the elderly population are still limited. By using EASYCare, this study aimed to generate practical evidence to inform healthcare planning, service delivery, and long-term care strategies in the context of the country's demographic transition.

Therefore, the choice of EASYCare Standard 2010 reflects both theoretical and practical considerations, positioning it as a comprehensive and culturally adaptable tool that meets the objectives of this dissertation.

Tool name	Purpose	Authors/sources	
Geriatric Depression	Depression screening	Yesavage et al.,1983	
Scale (GDS)			
Mini-Mental State	Cognitive screening (dementia)	Folstein et al., 1975	
Examination (MMSE)			
Montreal Cognitive	Mild cognitive impairment	Nasreddine et al., 2005	
Assessment (MoCA)	screening		
Timed Up and Go	Mobility and Fall risk	Podsiadlo and	
(TUG) Test	assessment	Richardson, 1991	
Katz Index of ADL	Assessment of basic daily living	Katz et al., 1963	
	activities		
Clinical Frailty Scale	Frailty status evaluation	Rockwood et al., 2005	
(CFS)			
Mini Nutritional	Nutritional risk screening	Guigoz et al., 1994	
Assessment (MNA)			
Charlson Comorbidity	Comorbidity and mortality risk	Charlson et al, 1987	
Index (CCI)	assessment		
Falls Risk Assessment	Assessment of risk of falling	Morse 1986; Oliver et al	
Tools (eg Morse,		1997 (STRATIFY)	
STRATIFY)			

 Table 1 - Comprehensive geriatric assessment tools

1.5 Research on the needs of older adults in Kazakhstan – toward comprehensive geriatric assessment in Central Asia

Despite the accelerating pace of population aging in Kazakhstan and across Central Asia, the systematic study of older adults' health and social needs remains limited, particularly through the lens of comprehensive geriatric assessment. While CGA is a well-established, multidimensional tool in many parts of the world, its adoption in Kazakhstan is still at an early stage. This gap significantly hinders evidence-based planning, resource allocation, and policy development for aging populations in the region. Studies have been conducated in Kazakhstan so far mostly focused on palliative care or quality of live of old individuals. For instance, a recent protocol study proposes to examine the burden on informal caregivers, who are often the backbone of elder care in Central Asia [16,p. 30]. This study highlights the urgent need to consider the broader caregiving ecosystem, yet its novelty also reveals how rare such investigations are in Kazakhstan's scientific and health planning frameworks. A readiness assessment conducted in Astana found that community leaders and systems are at early stages of awareness and engagement when it comes to promoting physical activity among older adults [17,p. 34]. Barriers included limited leadership support, cultural misconceptions about aging and physical activity and lack of age-inclusive urban planning. These findings illustrate how public health efforts aimed at older adults are still emergent, and often not guided by CGA-informed population data.

Other research has documented that older adults in Kazakhstan often face financial instability, with pensions covering only a fraction of monthly living costs [93,p. 22]. Many continue working past retirement age—not out of choice, but necessity. Health system fragmentation and a lack of geriatric specialization further exacerbate these vulnerabilities [17,p. 31] These studies underline the systemic neglect of geriatric-focused care models, and the absence of CGA in clinical or social policy practice, unlike in Western Europe or East Asia. While Kazakhstan has taken promising steps toward understanding the needs of its older population, research using comprehensive geriatric assessment frameworks remains sparse. In the context of global aging, Kazakhstan and its neighbors stand at a pivotal juncture. Investing in structured, evidence-based assessment tools like EASYCare—and embedding CGA principles into primary care and public health—offers a real opportunity to improve the lives of millions of older adults in the region.

2 MATERIAL AND METHODS

This study was approved by the West Kazakhstan Marat Ospanov Medical University's bioethical committee, Aktobe, Kazakhstan (October 14, 2020; № 8) and was funded by the Science Committee of the Ministry of Education and Science of the Republic of Kazakhstan (AP09562783).

2.1 The program of dissertation research

Study design: Cross sectional study.

Object of the study: Older adults aged 65 and over residing in the cities of Aktobe, Uralsk, Shymkent, and Kyzylorda. The use of the definite article *"the"* in the dissertation title is intentional, emphasizing that the research specifically addresses the needs of those older individuals who participated in the study and met the defined inclusion criteria. The choice of 65 years in this study aligns with standard practices in geriatric research, particularly in the context of clinical assessments, long-term care planning, and health policy frameworks. Moreover, selecting this age group ensures consistency with international literature and facilitates comparison with studies the age at which functional decline and chronic health conditions become more prevalent, thereby increasing the relevance of comprehensive geriatric assessment tools such as EASYCare.

Subject of the research: medical and social needs of the old people.

Inclusion Criteria: Individuals aged 65 and older individuals with full verbal communication abilities and no cognitive impairment.

Exclusion criteria included individuals younger than 65 years of age and those with cognitive impairment.

Calculation of sample size

To ensure methodological rigor and statistical validity, the required sample size for the planned regression analysis was determined through a priori power calculation using G*Power version 3.1, a recognized tool for statistical power estimation in behavioral and health sciences. The analysis was conducted for a fixed-effects linear regression model, assuming five independent variables and an anticipated effect size (f²) of 0.176, which corresponds to a minimum expected proportion of explained variance (R² \approx 0.15). This estimate was informed by prior studies examining similar constructs in geriatric populations.

The significance level (α) was set at 0.05, and statistical power (1 – β) at 0.80, in accordance with conventional thresholds in epidemiological research to limit the probability of Type I and Type II errors, respectively. Under these parameters, the minimum required sample size was calculated to be 92 participants. However, anticipating real-world challenges in field-based data collection—including potential non-response, incomplete questionnaires, and participant attrition—a 20% inflation factor was applied, yielding an adjusted sample size of 111 participants.

Nevertheless, given the complexity of the research objectives, including subgroup analyses and regional comparisons, a substantially larger sample was sought to enhance generalizability and precision. Ultimately, 1000 participants were targeted. Recruitment took place in four major urban centers of Kazakhstan—Aktobe, Shymkent, Uralsk, and Kyzylorda—which collectively represent a significant portion of the older adult population (aged 65 and above) in western and southern regions of the country. The choice of these cities was guided not only by logistical considerations but also by the aim to capture potential interregional variations in health and social needs among the elderly.

A total of 1050 individuals were approached for participation. Of these, 49 individuals were did not participated for various reasons reasons. Consequently, data from 1000 older adults were successfully collected and included in the final analysis. This sample size exceeds the initially estimated minimum and provides a robust empirical basis for the statistical modeling and subgroup analyses performed in the study.

Structure of the dissertation research:

The dissertation research was structured into four main stages, each corresponding to a specific objective and methodological approach:

Stage 1 – Linguistic and cultural adaptation

This stage involved the adaptation and validation of the EASYCare Standard 2010 questionnaire into Kazakh and Russian languages. Two separate validation studies were conducted (n = 100 for each language group) to ensure the reliability and cultural relevance of the instrument for use among the older adult population in Kazakhstan.

Stage 2 – Assessment of medical and social needs

Using the validated versions of the questionnaire, a cross-sectional survey was carried out to assess the physical, psychosocial, and functional status of older adults. The study was conducted in four cities (Aktobe, Uralsk, Shymkent, and Kyzylorda), with a total sample size of n = 1000.

Stage 3 – Statistical analysis of determinants

In this stage, univariable and multivariable statistical analyses were performed to identify the key factors influencing the three summary indices derived from the EASYCare tool. This stage was essential for understanding the predictors of medical and social needs in the elderly population.

Stage 4 – Synthesis and recommendations

The final stage focused on the integration of findings from the previous stages to formulate evidence-based recommendations for improving the system of medical and social monitoring and support for older adults in Kazakhstan. Refer to Figure 6.



Figure 6 - Dissertation research outline

2.2 Validation of Russian version of EASYCare Standard 2010

For the pilot study validating the Russian version of EASYCare, participants were recruited from Policlinic №1, one of the largest healthcare institutions in Aktobe city. The recruitment process was facilitated by general practitioners and social workers. Patients without cognitive impairments were randomly selected from patient registration lists. After obtaining verbal consent from the remaining participants via phone, necessary precautions were implemented during in-person meetings. Data collection took place between September and December 2020, amidst the COVID-19 pandemic. Participants were thoroughly briefed on the study's objectives and procedures, and written consent was obtained. The final sample comprised 100 participants, of whom 65 were female.

The assessment process involved evaluating participants' functional abilities, including their independence in both basic and instrumental daily activities. Following this evaluation, the EASYCare questionnaire was employed to identify the participants' health and social care needs. To ensure the reliability of the data, the EASYCare Standard 2010 questionnaire was administered twice by the same trained researchers, with a 10- to 14-day interval between assessments, allowing for test-retest reliability assessment.

To ensure linguistic and cultural accuracy, the EASYCare Standard 2010 questionnaire was first translated into Russian. Subsequently, a back-translation process was carried out in accordance with the World Health Organization guidelines ensuring semantic consistency and cultural appropriateness [130].

To evaluate the construct validity of the Russian version, participants' functional abilities were assessed independently using two internationally validated instruments:

the Barthel Index and the Lawton scale. The Barthel Index was used to assess basic activities of daily living (ADL), including tasks such as feeding, bathing, grooming, dressing, and bowel control. Scores range from 0 to 100, with lower scores indicating higher levels of dependence [131] The Lawton Scale, in contrast, measures more complex instrumental activities of daily living (IADL) [105,p. 22] such as telephone use, shopping, transportation, meal preparation, medication and financial management [132] "Are you able to do your own laundry (by hand or in a washing machine)?" Response options included: Yes, I do all my laundry myself; I can, but there is no need because my children/daughters-in-law do it for me; I can only wash small/light items (e.g., socks, handkerchiefs); No, someone else must wash my clothes for me. The second added question evaluates mobility within the urban environment, an important dimension of social participation and access to services: "How do you get around the city?" Response options included: Independently by public transport or in my own car; I take taxis independently; I use public transport only with someone's assistance; I can reach the car only with help; I do not leave the house and do not move around the city. By incorporating these two culturally and contextually relevant questions, the research team aimed to optimize the ecological validity and practical applicability of the instrument. This modification ensured that functional independence was captured in a manner aligned with the everyday realities of older adults in Kazakhstan, thereby enhancing the quality and completeness of the data used for further analysis.

Construct validity was assessed by comparing results from the EASYCare questionnaire to those from the Barthel and Lawton scales, evaluating the degree of alignment between related constructs (convergent validity). This comparison helped determine whether the EASYCare tool accurately captured functional limitations and support needs as measured by established gold-standard instruments. The overall validation process confirmed the conceptual integrity, reliability, and cross-cultural applicability of the Russian version of EASYCare Standard 2010 in the context of Kazakhstan's healthcare setting.

2.3 Validation of Kazakh version of EASYCare Standard 2010

Since no validated Kazakh version of the EASYCare Standard 2010 questionnaire previously existed, the tool was translated from English into Kazakh in accordance with the World Health Organization's standard translation and cultural adaptation protocol [130,p. 24]. This included forward translation by bilingual experts, back-translation into English, and reconciliation of discrepancies to ensure semantic and conceptual equivalence.

To assess the psychometric properties of the Kazakh version, a pilot study was conducted with the first 100 participants. The translated questionnaire was administered twice by trained researchers with an interval of 10 to 14 days to evaluate test-retest reliability. Functional capacity was concurrently assessed using internationally recognized instruments: the Barthel Index for basic activities of daily living (ADL) and the Lawton Scale for instrumental activities of daily living (IADL). These tools provided a reference standard for evaluating construct validity, specifically

convergent validity, by comparing EASYCare scores with established measures of functional independence.

The methodology used for validating the Kazakh version mirrored the approach applied to the Russian version, with the exception of the data collection period, which occurred between May and September 2021 and in addition to Cohen's kappa statistic, Cronbach's alpha coefficient was computed during the statistical analysis to evaluate internal consistency. The results of the validation study demonstrated that the Kazakh version of EASYCare Standard 2010 possesses satisfactory reliability and validity, supporting its use in the assessment of health and social care needs among older adults in Kazakhstan. Findings from the Kazakh validation study were published in a peerreviewed international journal [133].

2.4 Instrument EASYCare Standard 2010

The original version, known as "Easy," was first developed in 1994 and included 31 questions. It underwent revisions in 1999, 2004, and 2010. The most recent version, EASY Care Standard 2010, integrates questions from multiple validated and widely recognized health assessment tools. These sources include the Short Form-36 Medical Outcomes Scale, the Barthel Index for Activities of Daily Living, the Lawton Instrumental Activities of Daily Living Index, and select components from the World Health Organization's international study on the socio-medical conditions of older adults [111,p. 29].

The EASYCare Standard 2010 employs specific algorithms to generate three key summary indices, which assess different aspects of health and functional status:

- **Independence score:** This index measures an individual's ability to perform both basic and instrumental daily activities. Scores range from 0 to 100, where higher values indicate greater dependence.

- **Risk of breakdown in care:** This index estimates the probability of hospitalization. The score varies between 0 and 12, with higher scores signifying a greater risk of requiring hospital care.

- **Risk of falls:** This index assesses the likelihood of falls, with scores ranging from 0 to 8. A score of 3 or above is categorized as an increased fall risk.

The assessment tool comprises a total of 49 questions designed to evaluate the need for physical, mental, and social support:

The Independence score contains the following points: 1 from the 1st domain ("Can you use the phone?"), 10 from the 2nd domain ("Can you take care of yourself?", "Can you dress yourself?", "Can you take a bath or shower on your own?", "Can you clean the house yourself?", "Can you cook your own food?", "Can you eat on your own?", "Can you take medications yourself?", "Do you have bladder problems (urinary incontinence)?", "Do you have intestinal problems (fecal incontinence)?", "Can you use the toilet yourself?", 6 from the 3rd domain ("Can you move from a bed to a chair if they are next to each other?", "Can you go shopping?", "Do you have any difficulties in

obtaining public services? (for example, a doctor, pharmacist, dentist, etc.)"), and 1 of the 5th domain ("Can you manage your money and financial affairs?").

The Risk of a breakdown in care consists of the following items: 5 from the 2nd domain ("Can you get dressed yourself?", "Can you use the bathroom or shower yourself?", "Can you eat on your own?", "Do you have problems with your bladder (urinary incontinence)?", "Can you use the toilet yourself?", 1 from the 3rd domain ("Have you had any falls in the last 12 months?"), 1 from the 6th domain ("Do you have any worries about your weight?"), and 5 from the 7th domain ("How would you rate your health in general?: (excellent, very good, good, satisfactory, bad)?", "Have you had any pain in your body during the last month?""Have you often been bothered by feelings of depression, depression, or hopelessness over the past month?", "Have you often been bothered by a lack of interest or pleasure in what you are doing over the past month?", "Do you have any concerns about memory loss or forgetfulness?")

The Risk of falling contains the following items: 1 from the 1st domain ("Can you see (with glasses if you wear them)?"), 4 from the 3rd domain ("Can you move from bed to chair if they are next to each other", "Do you have any problems with your legs?", "Have you had any falls in the last 12 months?", "Can you go outside?"), 2 from the 4th domain ("Do you feel safe inside your house?", "Do you feel safe outside your home?"), and 1 of the 6th domain ("Do you think you drink too much alcohol?").

2.5 Fieldwork and data collection

Data collection was conducted by a team of five trained research staff members, who also provided support in clarifying questionnaire items when needed. This process was carried out over two consecutive years, 2020 and 2021, during the COVID-19 pandemic, under conditions that required adherence to public health and safety protocols. The research team worked in coordination with general practitioners, social workers, and nurses, whose involvement was limited to the identification and recruitment of eligible older adults from outpatient clinic patient lists. A convenience sampling method was used.

Inclusion criteria required participants to have intact verbal communication skills and no clinically evident cognitive impairment. Individuals who did not meet these criteria were excluded from the study. Of the individuals approached, a total of 49 did not participate in the study: 21 people explicitly declined due to concerns about COVID-19 or lack of time, while 28 did not respond to follow-up phone calls. Participation in the study was voluntary, and no monetary or material compensation was provided.

Initial verbal consent was obtained via telephone, after which in-person appointments were arranged at either the participant's residence or outpatient clinic, depending on their preference and convenience. During these meetings, the research staff provided detailed explanations of the study's objectives, procedures, and ethical safeguards. Written informed consent was then collected prior to the administration of the questionnaire. Participants completed the paper-based version of the EASYCare Standard 2010 questionnaire (ECQ), which was used to assess their medical and social care needs. Data were collected from a total of 1000 older adults across four regions of Kazakhstan: 200 participants from Kyzylorda, 400 from Shymkent (Southern Kazakhstan), 200 from Uralsk (Western Kazakhstan), and 200 from Aktobe. This regional distribution ensured a diverse representation of elderly populations from both southern and western parts of the country.

A visual summary of the participant recruitment and inclusion process is provided in Figure 7.



Figure 7 - Flowchart of participant recruitment and inclusion process

2.6 Statistical analysis

STATISTICA 13.0 software (TIBCO Software, Poland) was used to perform the statistical analysis. Normality in the data distribution was examined using the Shapiro-Wilk test. Descriptive results are presented as means and standard deviations (SD), and due to the lack of normality for some data, also as medians and ranges. Participants were compared with the χ^2 test as males and females by describing socio-demographic characteristics.

Once calculated, the three summarizing indexes of the EC questionnaire were also analyzed with the χ^2 test. A multiple regression model (logistic regression) was used to assess simultaneous interdependence between many variables, specifying the odds ratio and the confidence interval with a confidence limit of 95%. To divide participants according to the score in the individual indexes, a median split (splitting a continuous

variable into high and low values) was used [134]. This analysis was performed by comparing the subjects with the *Independence score* and the score of the *Risk of breakdown in care* results above the median to those at or below the median, and for the score of *Risk of falls* – those with increased risk to those without. All variables that were significant for a particular area of needs in the univariable analysis were included in multiple linear regression analysis.

Agreement between the two assessment scores on the individual items of the ECQ was checked using unweighted Cohen's kappa statistic. The kappa statistic is a chance-corrected measure of agreement between ratings; its interpretation is as follows: less than 0.40 indicates poor to fair agreement, 0.41-0.60 indicates moderate agreement, 0.61-0.80 represents good agreement, and 0.81-1.00 means excellent agreement [135].

Cronbach's alpha coefficient was calculated to assess internal consistency in Kazakh Validation, and the test-retest results were analyzed using the Wilcoxon signed-rank test. Content validity was checked against reference instruments (ADL and IADL) with Spearman's rank correlation coefficient. For the interpretation of Cronbach's alpha results, the George and Mallery rating was used (≥ 0.9 : excellent, $\geq 0.8-<0.9$: good, $\geq 0.7-<0.8$: acceptable, $\geq 0.6-<0.7$: questionable, $\geq 0.5-<0.6$: poor, and <0.5: unacceptable [136]. A p-value of <0.05 was considered statistically significant.

3 RESULTS

3.1 Results of Russian validation of the EASYCare Standard 2010

The sociodemographic profile of the study participants is as follows. The average age was 70.3 ± 5.2 years, with a range spanning from 65 to 90 years. Women made up 65% of the total sample. About 43% of participants were single, with the majority being female (37%). Notably, 57 individuals lived in extended families, whereas only 8 lived alone. This trend reflects a cultural tradition in Kazakhstan, where the youngest son typically remains with his parents and assumes responsibility for their care in old age.

Additionally, nearly 90% of respondents had completed secondary or higher education, signifying that most held professional qualifications. Interestingly, despite 85% of participants being pensioners, 36 individuals reported having surplus money at the end of the month. This may be explained by the fact that many live-in large households where adult children act as the primary financial providers. For a comprehensive breakdown of sociodemographic variables, including gender distribution, refer to Table 2.In terms of caregiving, 26 participants reported receiving assistance from a caregiver, while only 2 individuals acted as caregivers themselves.

Self-assessment findings revealed strong correlations between all three summary indices from the initial evaluation and the results obtained from the reference measures—the Barthel Index and IADL. The independence score demonstrated a strong negative correlation with both the Barthel Index (r = -0.94, p = 0.000) and the IADL (r = -0.82, p = 0.000). Likewise, the risk of breakdown in care score showed a moderate negative correlation with the Barthel Index (r = -0.62, p = 0.000) and the IADL (r = -0.49, p = 0.000). Lastly, the risk of falls score exhibited a moderate negative correlation with both the Barthel Index (r = -0.60, p = 0.000) and the IADL (r = -0.58, p = 0.000). Lastly, the risk of falls score exhibited a moderate negative correlation with both the Barthel Index (r = -0.60, p = 0.000) and the IADL (r = -0.58, p = 0.000). These correlations were measured using Spearman's coefficient (r).

Variable	Total	Male (n; %)	Female (n; %)	p-value	
1	2	3	4	5	
Age	70.3±5.2	71.0±5.7	70.0±5.0	n=0.25	
Age	69.0; 65-90	70.0; 65-90	68.0; 65-86	p=0.23	
Residence area					
Urban	100	35 (100.0)	65 (100.0)		
Marital status					
Single	43	7 (20.0)	36 (55.4)	n <0.001	
Married	57	28 (80.0)	29 (44.6)	p<0.001	
Marital status					
Single	7	0 (0)	7(10.8)		
Married/cohabiting	57	28 (80.0)	29 (44.6)	n <0.05	
Separated/divorced	8	2 (5.7)	6 (9.2)	p<0.03	
Widowed	28	5 (14.3)	23 (35.4)		
Living arrangements					
Alone	8	1 (2.9)	7 (10.8)	p<0.05	

Table 2 - Socio-demographic characteristics of the study sample including sex (n=100)

Continuation of table 2

1	2	3	4	5
With spouse	35	18 (51.4)	17 (26.1)	
With extended family	57	16 (45.7)	41 (63.1)	
Education				
Primary	7	4 (11.4)	3 (4.6)	
Secondary	41	12 (34.3)	29 (44.6)	p=0.35
Higher education	52	19 (54.3)	33 (50.8)	
Financial situation				
Not enough to make ends meet	17	2 (5.7)	15 (23.1)	
Just enough to make ends meet	47	21 (60.0)	26 (40.0)	p<0.05
Some money left over	36	12 (34.3)	24 (36.9)	
Employment status				
Employed full-time	8	3 (8.6)	5 (7.7)	
Employed part-time	4	2 (5.7)	2 (3.1)	n = 0.07
Pensioner	85	27 (77.1)	58 (89.2)	p-0.07
Retired	3	3 (8.6)	0 (0.0)	

No significant differences were observed in the Independence score, Risk of breakdown in care, or Risk of falls between the two assessments (10.4 ± 14.6 vs. 10.1 ± 14.2 , 3.9 ± 2.5 vs. 3.9 ± 2.5 , and 1.6 ± 1.5 vs. 1.6 ± 1.4 , respectively). However, when analyzing the Independence score, variations were found in 11 specific items, with the second assessment yielding a slightly higher score (10.4 ± 14.6 vs. 10.1 ± 14.2 , p=0.09).

Notable differences in responses were observed in specific items, such as "Do you have accidents with your bladder?" where 69 participants responded "No" in the second assessment, compared to 66 in the first. Similarly, for the question "Can you use the toilet (or commode)?", the first assessment recorded 98 participants as "Without help," 2 as "Some help," and 2 as "Unable." In contrast, the second assessment showed 96 participants as "Can use without help" and 4 as "Some help." Regarding the Risk of breakdown in care and Risk of falls, the differences were minimal.

Overall, there was strong agreement between the two assessments across all 49 individual items of the EASYCare questionnaire. The Cohen's Kappa coefficient ranged from 0.89 to 0.99 across all domains, indicating high internal consistency. For further details, refer to Table 4.

Table 3 -	Characteristics	s of the study	sample: referen	nce instrument results
		2	1	

Instrument	Total	Male	Female	p-value
Barthel				
Mean \pm SD	93.3 ± 10.9	88.9 ± 14.6	95.6 ± 7.4	n < 0.01
(median; range)	(95.0; 45–100)	(95.0; 45–100)	(100.0; 65–100)	p<0.01
IADL				
Mean \pm SD	5.9 ± 1.7	5.1 ± 2.0	6.4 ± 1.3	p < 0.0001
(median; range)	(7.0; 0–7)	(6.0; 0–7)	(7.0; 1–7)	p<0.0001

EASYCare domain	Kappa value
Seeing, hearing, and communicating	0.989
Looking after yourself	0.977
Mobility (getting around)	0.993
Safety	0.916
Accommodation and finances	0.898
Staying healthy (prevention)	0.976
Mental health and well-being	0.962

Table 4 - Weighted Cohen's kappa values for the two assessments in all domains of the questionnaire

This confirms that the Russian edition of EASYCare produces reliable results and serves as an effective tool for evaluating the well-being of older adults. It facilitates the identification of both improvements and declines in their health over time. The translated questionnaire demonstrates strong internal consistency, as reflected in self-assessment scores across three key indices: independence score, risk of breakdown in care, and risk of falls. These scores closely correspond to those obtained from the Barthel Index and Lawton scale, affirming the concurrent validity of the Russian version in assessing functional disability in the elderly.

These findings reinforce previous research highlighting the strong measurement properties and unidimensional nature of the EASYCare tool [113,p. 22]. Based on our study results, the overall level of dependence among participants was relatively low, with all individuals exhibiting some degree of self-care ability. None of the participants reported a complete inability to hear, see, or move. However, limited dependency was noted in specific tasks, such as accessing public services (21%), managing medication (17%), and handling finances (9%).

Additionally, nearly half of the participants (49%) reported oral health concerns, including tooth decay, dentures, or missing teeth. These issues may be linked to the poor mineral composition of water in the Aktobe region.

The study findings indicate that most participants exhibited a relatively high level of independence. Additionally, a slight difference in Barthel Index scores was observed between male and female participants in the first phase, with men scoring 88.9 ± 14.6 and women 95.6 ± 7.4 (p<0.01) (Refer to Table 3). These results suggest that older men tend to be more self-sufficient in performing basic daily activities compared to their female counterparts. A similar trend was noted in the Instrumental Activities of Daily Living (IADL) scores, where men scored 5.1 ± 2.0 and women 6.4 ± 1.3 (p<0.001). This pattern suggests that men generally retain their independence and activity levels for a longer duration than women. Notably, a study in Kosovo also identified a significant disparity in independence levels between older men and women, which is particularly concerning given that women typically have longer life expectancies [114,p. 22].

Integrating the EASYCare questionnaire into elderly patient assessments can significantly streamline healthcare processes in primary care centers and hospitals specializing in geriatric and gerontological care. However, nearly half of the participants expressed concerns about the questionnaire's length, indicating a preference for a more concise version with fewer questions and multiple-choice responses [135-137]. This feedback highlights the need for simplifying the format of EASYCare-2010, potentially replacing polychotomous responses with binary options, as the former require greater concentration. This suggests that as people age, completing lengthy questionnaires may become more challenging due to cognitive strain and time constraints.

3.2 Results of Kazakh validation of the EASYCare Standard 2010

The average age of participants who completed the EASYCare questionnaire twice (n=100) was 70.7 ± 4.6 years, with a median age of 70 and a range of 65 to 85 years. Among these participants, 38 were male. The overall Cronbach's alpha coefficient for the ECQ was 0.83, indicating strong internal consistency. No significant differences were observed between the two assessments in terms of the Independence score, Risk of breakdown in care, and Risk of falls. Furthermore, Cohen's kappa coefficient ranged from 0.81 to 0.95 across all domains, demonstrating an almost perfect level of agreement between scale domains (table 5).

Table 5 - Weighted Cohen's kappa values of the validation study for two assessments in all domains of the questionnaire

EASY Care domain	Kappa value
Seeing, hearing, communicating	0,95
Looking after yourself	0,90
Mobility (getting around)	0,87
Safety	0,83
Accommodation and finances	0,95
Staying healthy (prevention)	0,81
Mental Health and well- being	0,92

The average Barthel Index score among the studied participants was 94.0 ± 10.4 , with a median of 100 and a range of 45 to 100. The Lawton scale had a mean score of 7.5 ± 1.2 , with a median of 8 and a range of 2 to 8. All three EASYCare summarizing indexes demonstrated a strong correlation with both the Barthel Index and the Lawton scale, which are recognized as gold-standard tools for evaluating functional independence (table 6).

Table 6 - Correlations between the EasyCare summarizing indexes and Barthel Index and Lawton

Three indexes	Barthel Index	Lawton scale
Independence score	r= - 0,94,p< 0,0001	r= -0,85, p< 0,0001
Risk of breakdown in care	r= - 0,64, p< 0,0001	r= - 0,54, p< 0,0001
Risk of falls	r= - 0,39, p< 0,0001	r= - 0,38, p< 0,0001

Thus, we demonstrated that the Kazakh version of the ECQ possesses strong psychometric properties, confirming its reliability and validity in assessing the needs of older adults in Kazakhstan. The findings revealed a considerable number of unmet needs among the elderly, particularly in areas concerning health, safety, and daily living activities. Socioeconomic factors, such as education level and living arrangements, played a crucial role in determining these needs and associated risks—individuals with lower education levels and those living alone were especially vulnerable to increased dependency and health challenges.

These results highlight the necessity for targeted interventions to support older adults, particularly those at greater risk due to limited education, social isolation, or restricted access to healthcare services. Furthermore, the study emphasizes the urgent need for sustainable and comprehensive eldercare policies in Kazakhstan to address the demands of the country's aging population.

3.3 Results obtained using the EASYCare Standard 2010 questionnaire

3.3.1 Comparison of females and males based on socio-demographic parameters, needs across the seven EASYCare areas, and three key indices—Independence score, Risk of breakdown in care, and Risk of falls

In this section, we present the comparative analysis of male and female participants in relation to their socio-demographic characteristics, identified health and social care needs, and summary outcomes derived from the EASYCare Standard 2010 questionnaire. The rationale for conducting sex-based comparisons stems from the recognition that gender can influence patterns of aging, access to healthcare, functional ability, and vulnerability to adverse outcomes in later life. Understanding these differences is essential for tailoring public health interventions and optimizing geriatric care delivery in Kazakhstan.

The results are structured across three main dimensions. First, we explore gender differences in socio-demographic parameters, including age, marital status, education level, living arrangements, and income sources. Second, we examine the distribution of reported needs across the seven assessment domains of the EASYCare tool: seeing/hearing/communicating, looking after yourself, getting around, your safety, your accommodation and finances, staying healthy, and mental well-being. Finally, we compare the performance of men and women on three key summary indices generated by the EASYCare instrument—Independence Score, Risk of Breakdown in Care, and Risk of Falls—each of which reflects a distinct aspect of overall functional status and care dependency.

This analysis provides a deeper understanding of gender-related differences among older adults in Kazakhstan and supports the development of more equitable and person-centered approaches to healthy aging. 3.3.1.1 Comparison of socio-demographic parameters of females and males

Socio demographic characteristics of study participants by devision to males and females revealed that, most participants (80.3%) were aged 65-74 years, with a higher proportion of males (84.3%) in this age group compared to females (77.2%) (Please refer to Table 7). The proportion of those 75+ years was higher among females (22.8%) than males (15.7%), suggesting a potential longevity difference, as seen in many populations where women tend to live longer. The vast majority (95.8%) lived in urban areas, with only a small percentage (4.2%) residing in rural areas. There was no significant gender difference in rural vs. urban distribution. More men (72.4%) were married compared to women (61.9%), while more women (38.1%) were single than men (27.6%). This could reflect higher widowhood rates among women, a common trend due to their longer life expectancy. Women were more likely to live with extended family (50.7%), while men were more likely to live with a spouse (38.5%). A similar proportion of men (19.4%) and women (20.6%) lived alone. This finding highlights potential social support structures, particularly for women who may depend more on family networks. More men (37.1%) had higher education compared to women (28.5%), indicating a historical gender gap in educational attainment.

Conversely, women had slightly higher rates of primary and secondary education, suggesting that older generations of women had fewer opportunities for advanced education. Financial difficulties were reported at similar rates between men and women, with about one-third (33.5%) struggling to make ends meet.

More men (22.1%) reported having some money left over, compared to 18.0% of women, suggesting a slightly better financial position for males. 30.3% of participants were caregivers, with slightly more men (32.1%) providing care compared to women (28.8%). 34.6% of participants required care themselves, with similar proportions between men (35.1%) and women (34.2%).

Overall, the main points from the Table 7:

- Women tend to outlive men, leading to a greater proportion of females in the 75+ age group and a higher likelihood of being widowed.

- Women are more likely to live with extended family, while men are more likely to live with a spouse, which may influence their caregiving and support needs.

- Men had higher education levels and were slightly more likely to have financial security, reflecting historical disparities in educational and economic opportunities.

- Both genders were involved in caregiving, but a significant portion also needed care themselves, emphasizing the importance of social and health support systems for older adults.

Studied parameter		Total (n=1000)	Females (n=561)	Males (n=439)
	65-74	804 (80.3%)	434 (77.2%)	370 (84.3%)
Age (years)	75+	197 (19.7%)	128 (22.8%)	69 (15.742%)
Desidence area	Rural	42 (4.2%)	21 (3.7%)	21 (4.8%)
Residence area	Urban	959 (95.8%)	541 (96.3%)	418 (95.2%)
Marital status?	Single	335 (33.5%)	214 (38.1%)	121 (27.6%)
Maritar status5	Married	666 (66.5%)	348 (61.9%)	318 (72.4%)
Living	Alone	201 (20.1%)	116 (20.6%)	85 (19.4%)
Living	With spouse	329 (32.9%)	160 (28.5%)	169 (38.5%)
arrangements	With extended family	470 (46.9%)	285 (50.7%)	185 (42.1%)
	Primary	289 (28.9%)	168 (29.9%)	121 (27.6%)
Education	Secondary	389 (38.9%)	234 (41.6%)	155 (35.3%)
	Higher education	323 (32.2%)	160 (28.5%)	163 (37.1%)
Financial	Not enough to make ends meet	336 (33.5%)	208 (37.0%)	158 (36,0%)
rinancial	Just enough to make ends meet	437 (43.6%)	253 (45.0%)	184 (41.9%)
situation	Some money left over	189 (18.9%)	101 (18.0%)	97 (22.1%)
Ano you a conceptor company?	Yes	303 (30.3%)	162 (28.8%)	141 (32.1%)
Are you a carer for someone?	No	698 (69.7%)	400 (71.2%)	298 (67.9%)
Does someone provide care for $y_{0}y_{2}^{2}$	Yes	346 (34.6%)	192 (34.2%)	154 (35.1%)
Does someone provide care for you?	No	655 (65.4%)	370 (65.8%)	285 (64.9%)

Table 7 - Studied subjects including gender (n=1000)

3.3.1.2 Comparison of needs across the seven areas of EASYCare of females and males

Needs	Total	Women	Men	p-value
	N=1000	N=561	N=439	
Area 1	1.0 ± 1.2 (1)	1.0 ± 1.2 (0)	1.0 ± 1.2 (1)	p<0.0001
(Seeing, hearing,	360 (36.0%)	123 (21.8%)	237 (54.0%)	
communicating)				
Area 2	2.2 ± 2.4 (1)	2.2 ± 2.3 (1)	2.3 ± 2.4 (2)	p<0.0001
(Looking after yourself)	492 (49.1%)	160 (28.5%)	332 (75.6%)	
Area 3	1.8 ± 1.9 (1)	1.7±1.8 (1)	1.8 ± 1.9 (1)	p<0.0001
(Mobility)	450 (45.0%)	156 (27.8%)	294 (67.0%)	
Area 4	1.1 ± 1.2 (1)	1.1 ±1.2 (1)	$1.1 \pm 1.3(1)$	p<0.0001
(Safety)	351 (35.0%)	122 (21.7%)	229 (52.2%)	
Area 5	0.7 ± 0.9 (0)	0.7 ± 0.9 (0)	0.7±0.9 (0)	p=0.0001
(Accomodation and	378 (37.8%)	174 (31.0%)	204 (46.5%)	
finances)				
Area 6	2.6 ± 1.4 (3)	2.5 ± 1.4 (3)	2.6 ± 1.5 (3)	p<0.0001
(Staying healthy)	531 (53.0%)	117 (20.8%)	414 (94.3%)	
Area 7	2.7 ± 2.1 (2)	2.8 ± 2.1 (2)	$2.6 \pm 2.0(2)$	p<0.0001
(Mental health and well-	481 (48.0%)	105 (18.7%)	376 (85.6%)	
being)				
Total	12.0 ± 7.3 (11)	12.0 ± 7.2 (11)	12.1 ± 7.4 (11)	p=1.000
	997 (99.6%)	560 (99.6%)	437 (99.5%)	

Table 8 - Needs of elderly people in seven areas based on the EASYCare Standard 2010 questionnaire

Note - Two statistical tests were applied:

Mann-Whitney U test – Used for comparing the median scores of needs between men and women.

Chi-square (χ^2) test – Used for comparing the number of respondents reporting needs in each area

The analysis of the reported needs among older adults (n=1000), disaggregated by gender (561 women and 439 men), revealed pronounced differences across multiple functional domains assessed by the EASYCare Standard 2010. Each domain was evaluated based on both the intensity of needs (mean \pm standard deviation and median) and the proportion of individuals reporting at least one difficulty. Statistical comparisons between men and women were conducted using the Mann–Whitney U test for median differences and the chi-square (χ^2) test for proportions.

Across nearly all domains, men consistently reported significantly higher levels of need than women (p < 0.0001). The most substantial gender gaps were observed in the areas of staying healthy (94.3% of men vs. 20.8% of women), mental health and well-being (85.6% vs. 18.7%), looking after oneself (75.6% vs. 28.5%), and mobility (67.0% vs. 27.8%). These findings suggest a greater vulnerability among older men, particularly in domains related to physical functioning, psychological health, and independence in daily activities (figure 8).

In contrast, while women reported fewer needs overall, a notable proportion (31.0%) indicated difficulties in the area of accommodation and finances, highlighting the importance of financial and environmental support in the female elderly population.

Interestingly, despite the significant differences observed in individual domains, the total needs score was nearly identical for both groups (mean score of approximately 12.0), and no statistically significant difference was found in the overall burden of needs (p = 1.000). This suggests that while men and women may experience different types of challenges, the cumulative impact of those challenges is similar across genders.



Figure 8 - Comparison of the most affected need areas among older men and women (n=1000) (%, and p-value)

3.3.1.3 Comparison of females and males based on three key indices— Independence score, Risk of breakdown in care, and Risk of falls

This subsection examines potential gender-based differences in the functional status and care needs of older adults, as measured by three key indices derived from the EASYCare assessment: Independence score, Risk of breakdown in care, and Risk of falls. Understanding these distinctions is essential for tailoring geriatric interventions and support services to meet the specific needs of men and women in older age. The findings are presented in Table 9.

Table 9 - Comparison of females and males based on three key indices—Independence Score, Risk of Breakdown in Care, and Risk of Falls

	Total	Women	Men	p-value
	N=1000	N=561	N=439	
Index I	11.3 ± 13.1 (7)	10.9 ± 12.9 (7)	11.9 ± 13.3 (8)	p=0.0843
(Independence				
score)				
Index II (risk of	2.9 ± 2.3 (2)	3.0 ± 2.4 (3)	2.8 ± 2.3 (2)	p=0.0713
breakdown in				
care)				
Index III (risk	1.9 ± 1.7 (2)	1.9 ± 1.6 (2)	1.9 ± 1.7 (2)	p=0.7610
of falls)				

Note - The Mann-Whitney test was applied to compare three key indices related to the health and functional status of elderly individuals: Independence Score, Risk of Breakdown in Care, and Risk of Falls. This non-parametric test assesses whether there are significant differences between men and women in these domains

Independence Score (Index I)

From the Table 9 it can be seen that men have a slightly higher independence score than women (11.9 vs. 10.9), indicating a marginally greater ability to perform daily activities independently. However, the p-value of 0.0843 suggests that this difference is not statistically significant, meaning that there is no strong evidence to confirm a gender-based disparity in independence. Given the large standard deviations, variability in individual responses is considerable, suggesting that personal circumstances may play a larger role than gender in determining independence. A visual comparative analysis of the three indices between men and women can be seen in Figure 9.

Risk of Breakdown in Care (Index II)

Women show a slightly higher risk of breakdown in care (3.0 vs. 2.8), suggesting they might be more vulnerable to losing essential caregiving support.

The p-value of 0.0713 is close to statistical significance but remains above the standard threshold (p < 0.05), meaning this difference is suggestive but not conclusive. This result warrants further investigation, particularly into the social and family support systems available for elderly women compared to men.

Risk of Falls (Index III)

There is no meaningful difference between men and women in terms of risk of falls, as both groups have nearly identical mean and median scores. The p-value of 0.7610 is far above the threshold for significance, confirming that gender does not influence the risk of falls in this dataset. Since falls are a critical issue in elderly care, further analysis could explore specific risk factors such as mobility impairments, home environment, and physical activity levels (figure 9).



Figure 9 - Bar chart illustrating the three indices—Independence score, Risk of breakdown in care, and Risk of falls—by total population, women, and men (mean values)

Although gender-based differences in the three EASYCare indices were illustrated graphically, statistical analysis revealed no significant differences between men and women. While women showed slightly lower Independence Scores and slightly higher Risk of Breakdown in Care, these variations did not reach statistical significance (p > 0.05). Moreover, the Risk of Falls index was identical between genders. These findings suggest that, despite minor observable trends, gender does not significantly influence overall functional status or vulnerability levels among the study population.

3.3.2 Comparison of socio-demographic characteristics, needs across the seven EASYCare areas, and three key indices—Independence score, Risk of breakdown in care, and Risk of falls—by language group (Kazakh-speaking vs. Russian-speaking)

In this section, we examine whether the primary language spoken by older adults—Kazakh or Russian—is associated with meaningful differences in their demographic profiles, health and social care needs, or functional status. Given Kazakhstan's multicultural and bilingual context, it is important to understand whether language background may reflect or influence disparities in access to care, perceptions of need, or vulnerability to adverse health outcomes in later life.

To this end, we conducted a comparative analysis between Kazakh-speaking and Russian-speaking participants across three dimensions: (1) socio-demographic characteristics, (2) distribution of reported needs across the seven EASYCare assessment domains, and (3) performance on three summary indices—Independence score, Risk of breakdown in care, and Risk of falls. By stratifying the data by language, we aim to identify any patterns that may inform culturally and linguistically sensitive approaches to geriatric care in Kazakhstan.

Let us now explore the findings from this analysis to determine whether language plays a role in shaping the health and social care profiles of older adults.

3.3.2.1 Comparison of socio-demographic parameters of Kazakh-speaking vs. Russian-speaking participants

Understanding the influence of language and cultural background is essential when examining patterns of aging and care needs in multiethnic societies such as Kazakhstan.

Table 10 presents a comparison of socio-demographic characteristics between Kazakh-speaking and Russian-speaking older adults. While several differences were observed, only a few reached statistical significance. Notably, Kazakh-speaking participants were more likely to live alone (22.4%) or with a spouse (34.4%), whereas Russian-speaking participants were more frequently found to reside with extended family members (51.3% vs. 43.2%). This statistically significant difference (p = 0.0240) may reflect cultural or generational variations in cohabitation norms and family support structures. In terms of economic status, Kazakh speakers reported a higher level of financial hardship, with 40.9% indicating they lacked sufficient income to make ends meet, compared to 31.5% of Russian-speaking participants (refer to Figure 10). Conversely, a larger proportion of Russian speakers reported having some disposable income (22.5% vs. 17.4%), suggesting a possible economic disparity between the two groups. These differences could be influenced by factors such as employment history, access to pensions, or informal support networks.

Overall, the most prominent and statistically significant differences between the two language groups were found in living arrangements and financial well-being. Other socio-demographic variables, including education level, caregiving responsibilities, and marital status, did not differ meaningfully between Kazakh-speaking and Russian-speaking participants.



Figure 10 - Statistically significant differences in living arrangements and financial situation (% and p-values)

These findings may be attributed to a combination of socio-cultural, historical, and economic factors that have shaped the experiences of Kazakh-speaking and Russian-speaking populations in Kazakhstan. The tendency of Kazakh-speaking older adults to live alone or with a spouse may reflect traditional Kazakh family structures and recent shifts toward nuclear family living in rural and semi-urban areas. In contrast, Russian-speaking participants, often concentrated in urban centers, may maintain more extended household arrangements, possibly influenced by different cultural norms or migration patterns.

The economic disparities observed could be linked to differences in lifetime employment sectors, pension entitlements, and access to social support systems. Russian-speaking participants may have had more consistent employment in statesupported or industrial sectors during the Soviet era, leading to relatively better financial security in older age. On the other hand, Kazakh speakers—particularly those from rural backgrounds—may have experienced more informal or agricultural employment, resulting in limited pension coverage and economic vulnerability.

These socio-demographic patterns highlight the importance of considering language and cultural background when designing targeted social and health interventions for older adults in Kazakhstan.

Table 10 - Characteristics of studied subjects including language (statistical analysis comparing Kazakh speaking and Russian speaking participants)

Studied parameter		Kazakh (n=534)	Russian (n=466)	p-value
	65-74	438 (82.1%)	365 (78.3%)	0.1516
Age (years)	75+	96 (17.9%)	101 (21.7%)	0.1516
	Rural	24 (4.5%)	18 (3.9%)	0.6207
Residence area	Urban	510 (95.5%)	448 (96.1%)	0.0397
	Single	172 (32.7%)	162 (34.8%)	0.4212
Mailtai status	Married	362 (67.7%)	304 (65.2%)	0.4215
Living	Alone	120 (22.4%)	81 (17.4%)	
	With spouse	183 (34.4%)	145 (31.3%)	0.0240
arrangements	With extended family	231 (43.2%)	239 (51.3%)	
	Primary	165 (31.0%)	123 (26.4%)	
Education	Secondary	211 (49.4%)	178 (38.2%)	0.0995
	Higher education	158 (29.5%)	165 (35.4%)	
Einensiel	Not enough to make ends meet	218 (40.9%)	147 (31.5%)	
Filialicial	Just enough to make ends meet	223 (41.7%)	214 (45.9%)	0.0056
situation	Some money left over	93 (17.4%)	105 (22.5%)	7
Ano you a company for company?	Yes	176 (33.1%)	126 (27.0%)	0.2462
Are you a carer for someone?	No	358 (66.9%)	340 (73.0%)	0.3402
Dess compone provide core for you?	Yes	195 (36.6%)	150 (32.2.%)	0.1424
Does someone provide care for you?	No	339 (63.4%)	316 (67.8%)	0.1434
Note - p-values indicating significance highlighted i	n bold			

3.3.2.2 Comparison of needs across the seven areas of EASYCare of Kazakhspeaking vs. Russian-speaking participants

This subsection explores how linguistic and cultural factors may influence the expression of needs among older adults. A comparative analysis was conducted across the seven domains of the EASYCare assessment to identify differences between Kazakh-speaking and Russian-speaking participants.

Table 11 - The comparison of needs in Kazakh language speakers and Russian language speakers (mean \pm SD; median and number of patients with the needs in certain area)

Needs	Kazakh	Russian	p-value
	N=534	N=466	1
Area 1	1 ± 1.3 (1)	0.9 ± 1.2 (1)	0.4452
(Seeing, hearing,	276 (51.6%)	237 (50.9%)	0.8492
communicating)			
Area 2	2.1 ± 2.3 (1)	2.4 ± 2.4 (2)	0.3090
(Looking after	397 (74.2%)	363 (77.9%)	0.1827
yourself)			
Area 3	1.8 ± 1.8 (1)	1.8 ± 2.0 (1)	0.2234
(Mobility)	374 (69.9%)	304 (65.2%)	0.1194
Area 4	1.1 ± 1.3 (1)	$1.0 \pm 1.2(1)$	0.0203
(Safety)	292 (54.6%)	241 (51.7%)	0.3745
Area 5	$0.7 \pm 0.9 (0)$	$0.7 \pm 0.9 (0)$	0.4100
(Accomodation and	250 (46.7%)	216 (46.4%)	0.9494
finances)			
Area 6	2.7 ± 1.4 (3)	2.4 ± 1.5 (2)	0.0012
(Staying healthy)	507 (94.8%)	426 (91.4%)	0.0434
Area 7	2.7 ± 2.1 (2)	$2.7 \pm 2.1(2)$	0.2686
(Mental health and	467 (87.3%)	391 (83.9%)	0.1473
well-being)			
Total	12.2 ± 7.2 (11)	11.8 ± 7.4 (10)	0.2465
	533 (99.6%)	464 (99.6%)	1.0000
Note - p-values indicating significance highlighted in bold			

This table presents a comparison of needs across different areas between Kazakhspeaking and Russian-speaking participants, using both mean \pm standard deviation (SD), median values, and the number of individuals reporting needs in each area. Additionally, statistical significance is assessed through two p-values. From this table it can be seen that Kazakh speakers report significantly higher needs in Area 6 (Staying healthy) (Mean: 2.7 \pm 1.4, Median: 3, 94.8%) compared to Russian speakers (Mean: 2.4 \pm 1.5, Median: 2, 91.4%) with p = 0.0012 and p = 0.0434. This suggests a meaningful difference in this specific area. Also, there is a slight difference in mean scores in Area 4 (Safety) (1.1 vs. 1.0, p = 0.0203), but the number of participants reporting needs is similar, and the second p-value (0.3745) suggests this may not be a meaningful difference.



Figure 11 - Statistically significant differences in the domains of Safety and Staying Healthy (% and p-values)

3.3.2.3 Comparison of three key health-related indices between Kazakh-speaking and Russian-speaking elderly participants

Table 12 - Comparison of Kazakh-speaking and Russian-speaking participants based on three key indices-Independence score, Risk of breakdown in care, and Risk of falls

	Kazakh N=534	Russian N=466	p-value
Index I (Independence score)	11.1 ± 12.8 (7)	11.6 ± 13.3 (8)	p=0.7171
Index II (risk of breakdown in	2.8 ± 2.3 (2)	3.1 ± 2.4 (3)	p=0.2028
care)			
Index III (risk of falls)	2.0 ± 1.7 (2)	$1.8 \pm 1.7 (1.5)$	p=0.0550

The table indicates that there are no statistically significant differences between Kazakh-speaking and Russian-speaking old people in terms of *Independence, Risk of breakdown in care, or Risk of falls*. However, the difference in the risk of falls is approaching significance, suggesting a potential trend that may warrant further investigation.

3.3.3 Comparison of participants from South and West regions based on sociodemographic parameters, needs across the seven EASYCare areas, and three key indices—Independence score, Risk of breakdown in care, and Risk of falls

This section presents a comparative analysis of participants based on their geographic location—specifically, those residing in the southern (Shymkent and Kyzylorda) versus western (Aktobe and Uralsk) regions of Kazakhstan. Regional disparities in healthcare access, infrastructure, social support systems, and economic

development may influence the aging experience and care needs of older adults. Therefore, understanding how location correlates with health and social indicators is critical for informing regional policy planning and resource allocation.

The analysis explores three key areas: (1) socio-demographic characteristics, such as age, marital status, education, and living conditions; (2) reported needs across the seven domains of the EASYCare assessment; and (3) performance on the three core indices—Independence score, Risk of breakdown in care, and Risk of falls. By identifying regional trends, this section aims to shed light on the extent to which geographic factors may shape disparities in health, autonomy, and care dependency among the elderly population in Kazakhstan.

3.3.3.1 Comparison of socio-demographic parameters of participants from South and West

Comparison of demographic and socio-economic parameters between elderly individuals in the South and West regions revealed that, a significantly higher proportion of individuals aged 65–74 reside in the South (85.7%) compared to the West (72.3%), whereas the West has a larger proportion of those aged 75+(27.7% vs. 14.3%)(p<0.0001). These parameters are given in Table 13. Urban dwellers dominate in both regions, but the South has a significantly lower percentage of rural residents (2.7%) compared to the West (6.5%) (p=0.0037). The South has a significantly higher proportion of married individuals (75.7%) compared to the West (52.9%), where a larger share of elderly individuals are single (47.1% vs. 24.3%) (p<0.0001). Those in the South are more likely to live with extended family (55.7%) than in the West (33.9%), whereas living alone is more common in the West (29.4% vs. 13.8%). The differences in living arrangements between the South and West of Kazakhstan can be attributed to several socio-cultural, economic, and demographic factors: The South of Kazakhstan is known for its stronger adherence to traditional family values, where multi-generational households are more common. Extended family living arrangements are deeply rooted in cultural norms, with elderly family members often residing with their children and grandchildren. In contrast, the West of Kazakhstan has been more influenced by urbanization and modernization, leading to a shift toward nuclear family structures and a greater tendency for elderly individuals to live alone. Statistically significant differences in the socio-demographic characteristics of study participants between the South and West regions are presented in Table 13 and visually illustrated in Figure 12.

Also, western Kazakhstan has seen significant labor migration, particularly due to its oil and gas industry, which attracts younger working-age individuals who may relocate for employment opportunities. This can lead to elderly individuals being left to live alone. The South has a higher population density and historically stronger ruralurban community ties, making it more common for extended families to live together. Moreover, living with extended family in the South may be partially driven by economic factors, as shared living reduces financial burdens. In the West, where incomes from the oil sector may be relatively higher, elderly individuals might have the financial means to maintain separate households. Thus, we can conclude that the South retains a more collectivist and traditional lifestyle, while the West shows signs of individualization and modernization.

In terms of education, a higher proportion of individuals in the West have higher education (38.9%) compared to the South (27.8%), while secondary education is more common in the South (42.5%) than the West (33.4%) (p=0). As for financial situation, a larger proportion of individuals in the West report having some money left over (24.9%) compared to the South (16.3%). However, those who report struggling financially ("not enough to make ends meet") are more common in the South (39.7%) than in the West (31.9%). The percentage of individuals who report having "just enough to make ends meet" is similar between the two regions (p=0.0015).

In conclusion, the comparative analysis between southern and western regions of Kazakhstan reveals notable differences in the demographic, socio-cultural, and economic profiles of older adults. The South is characterized by a younger elderly population, stronger family cohesion, and more traditional living arrangements, while the West demonstrates patterns of aging more typical of industrialized regions, including higher rates of living alone, greater educational attainment, and slightly better financial self-sufficiency. These differences reflect broader regional dynamics shaped by cultural traditions, economic structures, and migration patterns. The findings underscore the need for regionally tailored approaches in policy planning and service delivery for older adults, as the diversity in living conditions and support systems may require distinct strategies to promote healthy and equitable aging across Kazakhstan.

Studie	d parameter	South (n=600)	West (n=400)	p-value
Age (years)	65-74	514 (85.7%)	290 (72.3%)	p<0.0001
	75+	86 (14.3%)	111 (27.7%)	
Residence area	Rural	16 (2.7%)	26 (6.5%)	0.0037
	Urban	584 (97.3%)	375 (93.5%)	
Marital status	Single	146 (24.3%)	189 (47.1%)	.0.0001
Marital status	Married	454 (75.7%)	212 (52.9%)	p<0.0001
T ::	Alone	83 (13.8%)	118 (29.4%)	
Living	With spouse	182 (30.3%)	147 (36.7%)	p<0.0001
arrangements	With extended family	334 (55.7%)	136 (33.9%)	
	Primary	178 (29.7%)	111 (27.7%)	
Education	Secondary	255 (42.5%)	134 (33.4%)	0.0007
	Secondary 255 (42.5%) 134 (33) Higher education 167 (27.8%) 156 (38)	156 (38.9%)		
F ¹ 1	Not enough to make ends meet	238 (39.7%)	128 (31.9%)	
situation	Just enough to make ends meet	264 (44.0%)	173 (43.1%)	0.0015
	Some money left over	98 (16.3%)	100 (24.9%)	
	Yes	201 (33.5%)	102 (25.4%)	0.0076
Are you a carer for someone?	No	399 (66.5%)	299 (74.6%)	
Deag company provide care for you?	Yes	230 (38.3%)	116 (28.9%)	0.0023
Does someone provide care for you?	No	370 (61.7%)	285 (71.1%)	
Note - p-values indicating signific	ance highlighted in bold			

Table 13 - Characteristics of studied subjects including living area (statistical analysis comparing south and west)



Figure 12 - Statistically significant differences of socio-demographic characteristics of study participants between the South and West regions (% and p-values)

3.3.3.2 Comparison of needs across the seven areas of EASYCare of the participants from South and West

Table 14 - The comparison of needs in South and West (mean \pm SD; median and number of patients with the needs in certain area)

Needs	South	West	Statistical
	N=600	N=400	analysis
Area 1	$0.9 \pm 1.1(1)$	$1.1 \pm 1.4 (1)$	0.2441
(Seeing, hearing, communicating)	309 (51.5%)	204 (50.9%)	0.8468
Area 2	2.3 ± 2.3 (2)	$2.2 \pm 2.4(1)$	0.1445
(Looking after yourself)	482 (80.3%)	278 (69.3%)	p<0.0001
Area 3	1.8 ± 1.9 (1)	1.7 ± 1.9 (1)	0.1211
(Mobility)	420 (70.0%)	258 (64.3%)	0.0628
Area 4	1.1 ± 1.2 (1)	1.1 ± 1.3 (1)	0.3831
(Safety)	312 (52.0%)	221 (55.1%)	0.3655
Area 5	$0.7 \pm 0.9 \ (0)$	0.7 ± 0.9 (1)	0.1650
(Accomodation and finances)	263 (43.8%)	203 (50.6%)	0.0004
Area 6	2.4 ± 1.4 (2)	2.7 ± 1.5 (3)	0.0059
(Staying healthy)	555 (92.5%)	378 (94.3)	0.3067
Area 7	2.6 ± 2.0 (2)	$2.9 \pm 2.2(2)$	0.0567
(Mental health and well-being)	515 (85.8%)	343 (85.5%)	0.9267
total	$11.7 \pm 6.7 (11.0)$	$12.5 \pm 8.1 (11.0)$	0.7920
	597 (99.5%)	400 (99.7%)	0.6534
Note – p-values indicating significance highlighted in bold			

Table 14 compares the needs of elderly individuals in the South and West regions of Kazakhstan based on mean values, standard deviations (SD), medians, and the proportion of individuals reporting needs in specific areas. According to the table needs in Area 2 (Looking after yourself) are more pronounced in the South $(2.3 \pm 2.3, 80.3\%)$ than in the West $(2.2 \pm 2.4, 69.3\%)$ (p < 0.0001). The highly significant p-value suggests a real difference in this domain between the two regions. In Area 5 (Accommodation and finances) needs are reported more frequently in the West (50.6%) compared to the South (43.8%). These findings are illustrated in Figure 13. The difference is significant, indicating a higher demand for support in this area in the West. This, while some specific needs ("looking after yourself" and "Accommodation and finances") are significantly different between the two regions, the overall level of need remains comparable.

Further research is required to understand why these regional variations exist potentially due to differences in healthcare access, social structures, or economic factor.



Figure 13 - Statistically significant differences in needs between South and West regions (% and p-values)

3.3.3.3 Comparison of participants from South and West based on three key indices—Independence score, Risk of breakdown in care, and Risk of falls

Table 15 - Comparison of participants from South and West based on three key indices—Independence score, Risk of breakdown in care, and Risk of falls

	South	West	p-value
	N=600	N=400	
Index I (Independence score)	12.2 ± 13.4 (8)	10.1 ± 12.6 (6)	p=0.0788
Index II (risk of breakdown	2.8 ± 2.3 (2)	3.1 ± 2.4 (3)	p=0.2867
in care)			
Index III (risk of falls)	1.9 ± 1.6 (2)	2.0 ± 1.8 (2)	p=0.0112

As presented in the Table 15, the mean *Independence Score* in the South is 12.2 \pm 13.4 (median: 8), whereas in the West, it is 10.1 \pm 12.6 (median: 6). The p-value = 0.0788, which suggests that the difference between the two regions is not statistically significant (p > 0.05). This implies that independence levels are relatively similar between the two groups, although the South shows slightly higher values. Concerning the *Risk of Breakdown in Care*, the South has a mean score of 2.8 ± 2.3 (median: 2), while the West has a mean of 3.1 ± 2.4 (median: 3), the p-value = 0.2867, indicating no statistically significant difference in the risk of breakdown in care between the two regions. While the differences in Independence score and Risk of breakdown in care between the southern and western regions were not statistically significant, Index III (Risk of falls) revealed a statistically significant difference (p = 0.0112) between the two groups. The mean Risk of falls score was 1.9 ± 1.6 (median: 2) in the South and 2.0 ± 1.8 (median: 2) in the West (figure 14). This difference may be partially explained by climatic conditions, as the western region of Kazakhstan experiences colder temperatures and more severe winter weather, which could increase environmental hazards contributing to falls. However, to fully understand the underlying causes of this regional variation in fall risk, further research is needed—potentially incorporating environmental, behavioral, and health system-related factors.



Figure 14 - Statistically significant difference in Risk of Falls between South and West regions (means presented)

3.3.4 Needs assessment Area 1: Seeing, hearing, communication

This area evaluates the sensory and communication abilities of older adults based on four key questions: "Can you see (with glasses if worn)?", "Can you hear (with hearing aid if worn)?", "Do you have difficulty in making yourself understood because of problems with your speech?", 'Can you use the telephone?". Based on valid entries, approximately 51.3% of respondents reported having needs in this area, while 48.7% reported no needs. This suggests that over half of the surveyed older adults experience challenges related to sensory function or communication that may require support. In this Area there is a clear age-related increase in the prevalence of needs: Among those aged 60–69, needs ranged from as low as 20% (urban females) to 100% (rural males), although extreme values in small subgroups may reflect small sample sizes. In the 70-74 age group, needs remained high in rural areas (up to 75% for males), while urban females had slightly lower levels (43–57%). Needs continued to increase in the 75–79 and 80-84 age brackets, where most subgroups reported need levels between 50% and 80%. Among those aged 85 and older, the need percentages reached up to 100%, especially among urban females aged 90+. This progression underscores the cumulative impact of aging on sensory and communication abilities, leading to increasing dependency in later life.

Men in rural areas generally show higher levels of need, particularly in the 60–69 and 70–74 age groups. Women in urban areas exhibit increasing needs with age, with significant spikes in the oldest group (90+), reaching 100% for urban females. In younger age groups (60–69), urban males had moderate need levels (~53%), whereas rural females reported notably lower needs (~20%).Moreover, rural residents, particularly older men, tend to report higher needs in earlier age groups, possibly due to less access to corrective aids (glasses, hearing aids) or early onset of impairment. Urban residents, particularly older women, show higher needs in the oldest age groups, suggesting longer survival with age-related disabilities.

To sum up, needs in Area 1 are common and increase with age, affecting more than half of participants overall. There are notable differences based on gender and residence, with rural men showing earlier and sometimes more intense needs, while urban women show increasing needs with advanced age. These findings suggest a need for targeted interventions, such as early screening and provision of assistive devices, especially in rural areas and for aging women in urban settings.

Area 2: Looking after yourself

This area covers various aspects of physical self-care and daily living tasks and includes the following questions: "Can you keep up your personal appearance?", "Can you dress yourself?", "Can you wash your hands and face?", "Can you use the bath or shower?", "Can you do your housework?", "Can you prepare your own meals?", "Can you feed yourself?", "Do you have any problems with your mouth or teeth?", "Can you take your own medicine?", "Have you had any problems with your skin?", "Do you have accidents with your bladder (incontinence of urine)?", "Do you have accidents with your bowels (incontinence of faeces)?", "Can you use the toilet (or commode)?".

This section of the EASYCare assessment evaluates older adults' abilities to perform essential self-care and daily living tasks independently. These tasks are fundamental for maintaining personal hygiene, nutrition, and dignity. The analysis of responses reveals both the strengths and vulnerabilities within this population. Results of this section reveals that a strong majority of older adults reported being able to maintain their personal appearance (93%) and wash their hands and face (94%) without assistance. Similarly, 87% could use the bath or shower independently, though about 10% required some help with this task. These figures suggest a generally good level of physical independence in basic hygiene activities, although a small but notable portion of individuals are beginning to need assistance.

When it comes to dressing, 87% of respondents were able to dress themselves without help. However, about 13% needed assistance, and a smaller proportion (2%) were unable to dress themselves at all. Feeding showed even higher levels of independence, with 91% feeding themselves and very few (under 1%) completely unable to do so.

Tasks requiring more physical stamina or coordination, such as housework and meal preparation, showed higher levels of dependency: only 70% could do housework independently, while 30% required some help or were unable to do so. As for meal preparation, 75% could prepare their own meals, but 25% needed help or were completely dependent. These findings reflect a common trend in aging populations: the earliest losses of independence often relate to more demanding instrumental activities of daily living (IADLs), such as cooking and cleaning.

Interesting to note, that 30% of older adults reported having problems with their mouth or teeth, which could affect nutrition and quality of life. 16% experienced skin problems, which may reflect issues like dryness, wounds, or infections common in the elderly. Regarding medication management, 22% needed help, and 2% were unable to manage medications independently, potentially indicating risks for medication errors or missed doses.

Also, needs in Area 2 revealed that 77% reported no urinary incontinence, but 19% had occasional incidents, and 4% experienced frequent issues or required a catheter. For bowel control, 81% had no accidents, while 17% experienced occasional issues and 1% required more extensive management (e.g., enemas). These issues are significant, as incontinence often correlates with reduced quality of life and may contribute to social isolation or increased caregiver burden. Finally, 86% of participants were able to use the toilet or commode independently, though 11% needed help, and 3% were fully dependent. This function is critical for maintaining dignity and delaying institutional care, so even small percentages are important to monitor.

To conclude, the majority of older adults in this study maintained a high level of independence in core personal care activities. However, notable proportions— especially in tasks such as housework, meal preparation, medication use, and managing incontinence—required partial or full assistance. These areas represent key targets for home-based interventions, assistive technology, and caregiver support to preserve independence and well-being in aging populations.
Area 3: mobility (getting around)

This area includes eight following questions assessing an individual's physical movement capabilities, fall history, and access to services: "Can you move yourself from bed to chair, if they are next to each other?", "Do you have problems with your feet?", "Can you get around indoors?", "Can you manage stairs?", "Have you had any falls in the last twelve months?", "Can you walk outside?", "Can you go shopping?", "Do you have any difficulty in getting to public services?".

This Area, mobility (getting around) of the EASYCare assessment evaluates an older adult's ability to physically move around both within and outside the home, as well as their risk of falls and their ability to access essential public services. The findings highlight levels of functional mobility and potential risks to independence and safety in daily life.

The vast majority of respondents-862 individuals (approximately 86%)reported being able to move from bed to chair without help. An additional 128 people (13%) required some assistance, while only 10 participants (1%) were unable to perform this task. This high level of independence in bed-to-chair transfer suggests good basic mobility among most of the elderly respondents. 320 respondents (32%) indicated they had problems with their feet, which can affect balance, walking ability, and overall mobility. Meanwhile, 680 individuals (68%) reported no issues. This is a significant concern, as foot problems are often linked with increased fall risk and reduced physical activity. A strong 898 participants (about 90%) could move around indoors without help. However, a notable minority needed aids or assistance: 58 respondents used a wheelchair independently,40 individuals (4%) required some help, and 4 people were confined to bed. These findings suggest that while most are independently mobile indoors, around 10% face moderate to severe limitations. Only 730 older adults (73%) could manage stairs without assistance. 239 individuals (24%) needed some help, and 31 people (3%) were unable to manage stairs at all. Given the risk of falling on stairs, this represents an area where support or adaptations (e.g., railings, stair lifts) may be especially important.

Falls are a critical indicator of frailty and risk. Of all participants: 726 individuals (72%) reported no falls, 193 (19%) had experienced one fall, and 81 respondents (8%) had two or more falls. The fact that more than one in four older adults (27%) had at least one fall in the past year underscores the importance of fall-prevention programs.

Mobility outside the home is key to social participation. While 808 participants (81%) could walk outside unaided, another 149 (15%) required some help, and 43 people (4%) were unable to go out on foot. Loss of outdoor mobility can signal both physical and social isolation.

Shopping, a common and essential daily activity, demonstrated a decline in independence, with 786 respondents (78%) able to shop without help, while 14% requiring some assistance, and 7% of participants were completely unable to go shopping. These findings emphasize the potential need for community support services (e.g., delivery, home care) for a significant portion of the population.

Accessing places like clinics, post offices, or social services is critical for wellbeing. While 741 people (75%) reported no difficulty, 225 (22%) had some difficulty, and 34 individuals (3%) were unable to access these services at all. This group may be especially vulnerable due to mobility barriers or a lack of transport options.

Overall, the results of Area 3 show that while a majority of older adults retain independence in basic and instrumental mobility tasks, there is a significant minority—ranging from 10% to 30% depending on the task—who experience difficulties or complete dependency. The areas of greatest concern include: managing stairs (27% with difficulty or unable), experiencing falls (27% had at least one fall), access to public services (25% had difficulty or were unable), and shopping (21% required help or couldn't do it at all).

These insights highlight the need for preventive measures, rehabilitation services, assistive devices, and community support systems to help older adults maintain mobility, reduce risk, and support independence.

Area 4: Your safety

This section of the EASYCare assessment explores older adults' perceived safety both at home and in the community, as well as their experiences with harassment or discrimination and whether they have support in emergencies. The findings highlight both psychosocial vulnerabilities and the availability of informal care. This Area includes questions: "Do you feel safe inside your home?", "Do you feel safe outside your home?", "Do you ever feel threatened or harassed by anyone?", "Do you feel discriminated against for any reason?", "Is there anyone who would be able to help you in case of illness or emergency?".

According to the results, a reassuring 789 individuals (79%) reported feeling safe inside their homes, while 211 respondents (21%) expressed that they do not feel safe. This indicates that roughly one in five older adults experiences concerns about safety in what should be their most secure environment. Only 685 participants (68%) reported feeling safe outside, while a more concerning 315 individuals (31%) did not feel safe when outside their homes. This represents a significant barrier to mobility and social participation, potentially leading to isolation and reduced physical activity.

A large majority—844 respondents (84%)—stated that they had not felt threatened or harassed, but 156 individuals (16%) reported that they had experienced such situations. This reflects a meaningful psychosocial risk for a portion of the population and may relate to elder abuse, fear of crime, or interpersonal conflict.

875 older adults (87%) did not feel discriminated against, while 125 participants (12%) reported experiencing discrimination. Although the proportion is relatively small, it still represents a non-negligible group whose sense of social equity and belonging may be affected.

While 725 individuals (72%) reported having someone they could rely on in an emergency, 275 respondents (28%) stated they did not have such support. This is a significant concern, as nearly one-third of the population may be at risk of delayed care or lack of assistance in urgent situations.

All things considered, the analysis of Area 4 reveals several key vulnerabilities: 21% feel unsafe at home, and 31% feel unsafe outside, which may limit independence and quality of life. 16% have experienced harassment, and 12% feel discriminated against—figures that highlight the need for improved social and psychological support.

Most critically, 28% of older adults do not have access to emergency help, pointing to a serious gap in caregiving and social safety nets.

Area 5: Your accommodation and finances

This section explores the living environment and financial well-being of older adults—two crucial domains influencing their quality of life and independence and include only three questions: "In general, are you happy with your accommodation?", " Are you able to manage your money and financial affairs?", "Would you like advice about financial allowances or benefits?".

A significant 845 individuals (85%) reported being satisfied with their accommodation, while 155 respondents (15%) expressed dissatisfaction. While the majority feel comfortable in their current living conditions, the 15% who are unhappy may be facing issues such as inadequate facilities, poor housing quality, or a lack of accessibility and comfort in later life. 859 participants (86%) stated they could manage their own finances, whereas 141 people (14%) were not able to do so. This suggests that while most maintain financial independence, a notable portion of older adults may need assistance with budgeting, bill payments, or avoiding financial exploitation.

According to a survey conducted by UNFPA in Kazakhstan, a comparative analysis of the 2008 and 2020 data reveals subtle but meaningful shifts in the income structure of the retired population [100]. Notably, the proportion of pensioners receiving financial assistance from their children declined markedly — by more than half — from 29% in 2008 to 13% in 2020. Similarly, income derived from household farming activities decreased significantly, falling by 3.5 times from 17% to 4.8% over the same period [100,p. 22].

These trends suggest a gradual erosion of traditional intergenerational support mechanisms in Kazakhstan. Whereas familial financial assistance once played a critical role in the economic security of older adults, its importance has diminished considerably within a single decade. This shift may reflect broader societal transformations, including urbanization, migration patterns, and evolving cultural values surrounding filial obligations.

Moreover, the findings highlight a substantial reduction in the role of subsistence agriculture as a supplementary income source for older individuals. Historically, many elderly Kazakhs engaged in gardening and small-scale farming—growing vegetables and fruit trees to sell produce during the autumn season—as a means of economic selfreliance. The observed decline in such activities points to a weakening of traditional livelihood strategies among the older generation, likely influenced by demographic, technological, and market changes.

Interestingly, 600 respondents (60%) indicated they would like advice on financial allowances or benefits, while 400 individuals (40%) said they did not need advice. This high demand for financial guidance reflects potential gaps in awareness or access to entitlements and benefits—an area where community outreach and social services could play a vital role as the 2020 UNFPA survey revealed a significant increase in the proportion of older adults utilizing bank credit services compared to 2008 [100,p. 22]. Over a 12-year period, the share of older individuals taking out loans grew more than sevenfold, rising from 6% in 2008 to 43.5% in 2020. A socio-

demographic analysis indicated that credit use was more prevalent among specific groups. Higher rates of borrowing were observed among individuals aged 55–59 years (52%), citizens of Kazakh ethnicity (53%), working older adults (57.5%), those who were married (49%), and those who had children (44.5%). Across other socio-demographic characteristics, no statistically significant differences in credit use were identified [100,p. 22]. Respondents who reported using credit services (n=870) were also asked about the primary purposes for which they obtained loans. The most commonly cited reason was the purchase of large items, such as household appliances, furniture, and similar goods, reported by 44% of borrowers. Additionally, nearly one-third (34%) of older adults took out loans to provide financial assistance to their children or grandchildren.

These findings indicate a growing trend of financial engagement among older adults in Kazakhstan, reflecting not only their increased access to financial instruments but also their ongoing intergenerational financial responsibilities. While the ability to access credit may enhance living standards for some, it also introduces new forms of financial vulnerability for aging populations, particularly in the absence of sufficient pension income and social protection mechanisms.

The findings from Area 5 indicate that while most older adults in the study are content with their accommodation and remain financially independent, there are important concerns:15% are not happy with their housing. 14% struggle with managing finances independently. A striking 60% would appreciate advice on financial matters, suggesting that many may not be fully informed about available support.

According to the 2020 UNFPA survey, the material well-being of older adults in Kazakhstan has improved compared to 2008, as reflected in self-assessment indicators provided by survey participants [100,p. 22]. The proportion of respondents reporting "I do not deny myself anything" increased by 2.7 times, from 8% in 2008 to 21.9% in 2020. Similarly, the share of those stating "I have enough for daily expenses but cannot afford durable goods (such as major household appliances, expensive clothing, a car, or furniture)" grew by nearly 11%, rising from 35% to 45.8%.

At the same time, the proportion of respondents who reported that "money is only enough for food" decreased significantly, from 28% to 13.3%, representing a 1.3-fold reduction. Likewise, the share of those indicating "money barely lasts from one pension payment to the next" decreased by 1.65 times, from 22% to 13.3%.

However, the proportion of older adults experiencing severe financial hardship has remained unchanged: approximately 7% of older persons continue to report that they lack sufficient funds even for the most basic necessities.

These findings, together with the results of our own research, suggest that the overall financial situation of older adults in Kazakhstan is relatively stable and improving. Nevertheless, targeted measures are still needed to ensure that the most vulnerable elderly individuals—those whose incomes are insufficient to meet basic living standards—can reliably depend on state support.

Area 6: Staying healthy

This section includes the following 7 questions: "Do you take regular exercise?", "Do you get out of breath during normal activities?", "Do you smoke any tobacco?",

"Do you think you drink too much alcohol?", "Has your blood pressure been checked recently?", "Do you have any concerns about your weight?", "Do you think you are up to date with your vaccinations?". It assesses the health behaviors and preventive health practices of older adults. It includes exercise habits, respiratory symptoms, substance use, weight concerns, and whether respondents are engaging in routine health monitoring like blood pressure checks and vaccinations.

Only 374 participants (37%) reported engaging in regular exercise, while a concerning 626 individuals (63%) stated they do not. The UNFPA survey conducted in 2020 included a dedicated question regarding the frequency of physical activity among older adults in Kazakhstan: "How often do you engage in physical exercise or sports, either through organized activities or independently?" The results revealed a mixed picture. Approximately one-third of older Kazakhstani respondents (33.3%) reported engaging in physical activity daily. Another third (34.1%) indicated that they never participate in any form of physical exercise, while the remaining respondents (32.8%) reported occasional engagement in physical activity [100,p. 22].

Taken together, the two datasets indicate that despite a growing recognition of the importance of physical activity for healthy aging, the majority of older adults in Kazakhstan remain insufficiently active. This indicates a low level of physical activity, which is a critical risk factor for chronic disease, frailty, and functional decline in older age.

665 respondents (66%) said they do experience breathlessness during routine tasks, while 335 individuals (33%) did not. This high prevalence of breathlessness could be indicative of underlying cardiovascular or respiratory conditions, physical deconditioning, or both. A surprisingly high number—791 participants (79%)— reported smoking tobacco, while 209 individuals (21%) said they do not smoke. This finding may reflect self-reported confusion (e.g., current vs. ever smokers) or requires further clarification, as tobacco use in older age is strongly associated with worsened health outcomes. To the question "Do you think you drink too much alcohol?" a total of 862 individuals (86%) responded "Yes" to this question, suggesting they believe they drink too much alcohol, while only 139 participants (14%) said they do not. This result is unusually high and may reflect misinterpretation of the question or recording error, since such high prevalence is not typical in older populations.

Only 609 participants (61%) reported having had their blood pressure checked recently, while 391 individuals (39%) said it had not been checked. Given the prevalence of hypertension in older age, this signals a need for improved access to or awareness of routine monitoring. Among the respondents: 525 individuals (52%) reported being overweight, 475 (47%) indicated weight loss concerns, and a small number (possibly 3 missing) selected no concerns. This almost even split reveals that weight issues are common and varied—some face obesity while others may be underweight due to illness or frailty.

627 respondents (62%) had confirmed they are up to date with their vaccinations, whereas 373 individuals (37%) reported they were not. This suggests a decent level of preventive care engagement, but room for improvement remains—especially given the importance of vaccines (e.g., flu, pneumonia, COVID-19) in older age. Area 6 reveals several health risks and care gaps:

- A majority are not physically active (63%), and many experience breathlessness (66%).

- Smoking and alcohol-related concerns appear high, though these findings might require validation.

- Preventive practices like blood pressure checks (61%) and vaccination updates (62%) are moderately followed.

- Weight concerns are widespread and almost evenly split between overweight and underweight issues.

Area 7: Mental health and well-being

This domain addresses how older adults perceive their mental and emotional health, including aspects such as mood, sleep, loneliness, memory, and the ability to enjoy leisure and meaningful activities. It provides insight into both their psychological resilience and vulnerabilities. Area 7 reveals a high burden of psychological symptoms among older adults: three in four report depressive symptoms or loss of interest; one in three feel lonely, and two in three have experienced bereavement; 60–66% experience sleep trouble, bodily pain, and memory concerns.

Although most respondents rate their overall health as good, these findings highlight the need for comprehensive mental health screening, bereavement counseling, and psychosocial support programs aimed at reducing loneliness, depression, and cognitive stress among older adults.

3.3.5 Results of univariable analysis

Univariable analysis was conducted to examine the association between sociodemographic and contextual factors with three primary outcomes: Independence score (categorized as above or below the median), Risk of breakdown in care, and Risk of falls among elderly participants. Table 16 demonstrates the results of the univariable analysis of the main three indexes: IS, RBC, RF and clearly shows the papameters that independently assossiated with these three indices.

		Independence		Risk of breakdown		Risk of falls	p-value
Analyzed parameter		score n=500		in care		n = 328	_
				n= 485			
Condor	Males	230 (52.4%)	p=0.1813	203 (46.2%)	p=0.2263	142 (32.3%)	p=0.8388
Gender	Females	270 (48.0%)		282 (50.2%)		186 (33.1%)	
	65-74	389 (48.4%)	p=0.0001	368 (45.8%)	p=0.0006	256 (31.8%)	p=0.2357
Age (years)	75+	145 (73.6%)		117 (59.4%)		72 (36.5%)	
Residence area	Rural	22 (52.4%)	p=0.7556	17 (40.5%)	p=0.3447	20 (47.6%)	p=0.0003
Residence area	Urban	478 (49.8%)		468 (48.8%)		308 (32.1%)	
Marital status	Single	182 (54.3%)	p=0.0699	186 (55.5%)	p=0.0016	137 (40.9%)	p=0.0001
	Married	318 (47.7%)		299 (44.9%)		191 (28.7%)	
	Alone (I)	108 (53.7%)	p=0.2429	108 (53.7%)	p=0.0246	91 (45.3%)	p<0.0001
Living arrangements	With spouse (II)	153 (46.5%)		140 (42.5%)		105 (32.0%)	
	With extended family (III)	239 (50.8%)		236 (50.2%)		132 (28.1%)	
	Primary	173 (60.0%)	p<0.0001	158 (54.7%)	p=0.0421	130 (45.0%)	p<0.0001
Education	Secondary	191 (49.1%)		180 (46.3%)		106 (27.2%)	
	Higher education	136 (42.1%)		147 (45.5%)		92 (28.5%)	
Einspeiel situation	Not enough to make ends meet	188 (51.4%)	p=0.5120	191 (52.2%)	p=0.0765	148 (40.4%)	p=0.0001
	At least enough to make ends meet	312 (49.1%)		294 (46.3%)		180 (28.3%)	
Are you a carer for	Yes	153 (50.5%)	p=0.8367	145 (47.8%)	p=0.8365	117 (36.6%)	p=0.0022
someone?	No	347 (49.7%)		340 (48.7%)		211 (30.2%)	
Does a family	Yes	184 (53.2%)	p=0.1440	170 (49.1%)	p=0.7903	126 (36.4%)	p=0.0770
for you?	No	316 (48.2%)		315 (48.1%)		202 (30.8%)	
Language	Kazak	262 (49.0%)	p=0.5266	246 (46.0%)	p=0.0995	184 (34.4%)	p=0.2516
	Russian	238 (51.1%)		239 (51.3%)		144 (30.9%)	
Coographic area	Western Kazakhstan	178 (44.4%)	p=0.0045	207 (51.6%)	p=0.1069	138 (34.4%)	p=0.3724
Geographic area	Southern Kazakhstan	322 (53.6%)		278 (46.3%)		190 (31.7%)	
Note – p-values indicating significance highlighted in bold							

Table 16 - The univariable analysis of the main three indexes: IS, RBC, RF. Percentage of studied individuals with the results above the median for Independence score and Risk of breakdown in care and the percentage of those with increased risk of fall

3.3.5.1 Univariable analysis of Independence score

A significant association was observed between age group and independence, with participants aged \geq 75 years more likely to have an Independence Score above the median compared to those aged 65–74 (73.6% vs. 48.4%, p = 0.0001). Similarly, education level was strongly associated with independence (p < 0.0001); individuals with only primary education were more likely to score higher on the independence scale than those with higher education. Geographic region also showed a significant relationship, where participants from the southern region had higher independence scores compared to those from the western region (p = 0.0045). No statistically significant differences were found with respect to gender, residence (urban vs. rural), marital status, living arrangement, financial status, caregiver status, or language spoken.

3.3.5.2 Univariable analysis of Risk of breakdown in care

Older age (\geq 75 years) was also significantly associated with increased risk of breakdown in care (p = 0.0006). Single participants showed a higher proportion of care breakdown risk compared to married individuals (55.5% vs. 44.9%, p = 0.0016). Living arrangement was significantly related to care breakdown (p = 0.0246), with those living alone or in extended families being more likely to report elevated risk compared to those living with a spouse. Educational level was again significant (p= 0.0421), with the highest risk among participants with only primary education. No significant differences were observed by gender, place of residence, or language.

3.3.5.3 Univariable analysis of Risk of falls

Several factors were significantly associated with increased fall risk. Living in rural areas was linked to higher fall risk than urban living (47.6% vs. 32.1%, P = 0.0003). Single individuals had a significantly greater likelihood of being at risk of falling compared to married ones (40.9% vs. 28.7%, p = 0.0001). Living arrangement was also strongly associated (P < 0.0001), with the highest risk observed among those living alone (45.3%), followed by those living with a spouse (32.0%) and those in extended family settings (28.1%). Participants with primary education reported markedly higher fall risk than those with secondary or higher education (p < 0.0001). In terms of financial status, those reporting insufficient financial resources had a significantly higher fall risk (p = 0.0001). Finally, those who reported caring for others were also more likely to be at increased risk of falling (p = 0.0022). No significant associations were found for age group or gender.

In summary, all variables that demonstrated statistically significant associations with the three key indices—Independence score, Risk of breakdown in care, and Risk of falls—during the bivariate analysis were selected for inclusion in the subsequent multivariable logistic regression models. The rationale for conducting multivariable logistic regression was to identify independent predictors of each outcome while adjusting for potential confounding factors. This analytical approach allows for a more robust understanding of which socio-demographic and health-related variables most strongly and independently influence the likelihood of functional decline, care

dependency, or fall risk among older adults. By controlling for overlapping effects between variables, the regression analysis provides greater clarity and precision in identifying key determinants relevant for targeted interventions and policy planning.

3.3.6 Results of multivariable analysis

3.3.6.1 Multivariable analysis of Independence score

The multivariable analysis for the Independence Score included variables that demonstrated significant or near-significant associations in the bivariate analysis. Specifically, age group, education level, and geographic region were included as key predictors, given their statistically significant relationships with independence. Other parameters such as gender, place of residence (urban vs. rural), marital status, living arrangement, financial status, caregiver status, and language spoken were not included in the final model, as they did not show significant associations in the univariate analysis.

The analysis revealed several important associations between sociodemographic factors and reduced independence in older adults. Older age was significantly associated with higher odds of diminished functional independence. Specifically, with each increase in age category, the odds of having a worse independence score rose by 40%, indicating a clear negative impact of aging on autonomy. Marital status demonstrated a trend toward significance, suggesting that being unmarried may be linked to greater dependence, although this did not reach statistical significance at the conventional p < 0.05 threshold. Educational level also emerged as a strong predictor: individuals with only primary education were 52% more likely to exhibit reduced independence compared to those with secondary education. The association was even more pronounced when comparing individuals with primary versus higher education, with the odds of reduced independence increasing by 89%. These results are detailed in Table 17. This is highly significant and supports the role of education in maintaining functional ability in older age. Geographic location is significantly associated with independence. Older adults in certain regions (likely rural or underserved) have a 58% higher chance of reduced independence compared to others, suggesting regional disparities in aging-related support and resources. Graphical illustration of the statistically significant determinants of the Independence score in this multivariable analysis is given in Figure 15.

Table 17 - Multivariable analysis of determinants for Independence score; odds ratios (OR) and 95% confidence intervals are presented.

Variable	OR	95% CI	p-value		
Age	1,40	1.01 to 1,94	0.046		
Marital status	1,31	0,99 to 1,74	0.059		
Education: primary vs. secondary	1.52	1,11 to 2,07	0.009		
Education: primary vs. high education	1.89	1,36 to 2,62	0.000		
Geographic area: West and South	1,58	1,20 to 2,07	0.001		
Note – p-values indicating significance highlighted in bold					



Figure 15 - Graphical illustration of the statistically significant determinants of the Independence score (from the multivariable analysis): each point shows the OR with 95% CI, p-values are annotated for clear interpretation. A vertical dashed line at OR = 1 helps show neutrality (no effect)

3.3.6.2 Multivariable analysis of Risk of breakdown in care

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Variables included in the multivariable analysis for Risk of breakdown in care were selected based on their significance in the univariable analysis. Specifically, age group, marital status, living arrangement, and education level were included as independent variables due to their statistically significant associations with care breakdown risk. In contrast, gender, place of residence, and language spoken were excluded from the model as they did not demonstrate significant associations in the initial analysis.

Table 18 - Multivariable analysis of determinants for Risk of Breakdown in care. Odds
ratios (OR) and 95% confidence intervals are presented.

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Variable	OR	95% CI	p- value
Age	1,57	1,14 to 2,18	0,007
Marital status	0.74	0.52 to 1.04	0,084
Living arrangements: Alone vs.	0,95	0,60 to 1,51	0,826
With spouse			
Living arrangements: Alone vs.	1,16	0,77 to 1,73	0,483
With extended family			
Education: Primary vs. Secondary	1,36	0,99 to 1,87	0,062
Education: Primary vs.	1.35	0,97 to 1,87	0,076
Higher education			
Financial situation:	1,26	0.96 to 1,64	0.90
Language	1.23	0.95 to 1.59	0,110
Note – p-values indicating significance highlighted in bold			



Figure 16 - Graphical illustration of the statistically significant determinants of the Risk of Breakdown in Care (from the multivariable analysis): each point shows the OR with 95% CI, p-values are annotated for clear interpretation. A vertical dashed line at OR = 1 helps show neutrality (no effect)

In the analysis of factors associated with the risk of breakdown in care, age emerged as a statistically significant predictor (figure 16). Older individuals demonstrated a higher likelihood of experiencing a breakdown in care, with an odds ratio (OR) of 1.57 (95% CI: 1.14-2.18, p = 0.007). This finding suggests that increasing age is independently associated with greater vulnerability in maintaining adequate care. Other variables, including marital status, education level, financial situation, living arrangements, and language, did not reach statistical significance. However, marital status (OR = 0.74, 95% CI: 0.52-1.04, p = 0.084) and educational attainment—specifically primary versus secondary education (OR = 1.36, 95% CI: 0.99-1.87, p = 0.062) and primary versus higher education (OR = 1.35, 95% CI: 0.97-1.87, p = 0.076)—showed trends suggestive of potential associations that may warrant further investigation. Variables such as living arrangements, financial situation, and language were not significantly associated with breakdown in care, indicating that their role in influencing care continuity may be limited in this population.

3.3.6.3 Multivariable analysis of Risk of falls

For the multivariable analysis of Risk of falls, variables were selected based on statistically significant associations identified in the univariable analysis. The following factors were included: place of residence (urban vs. rural), marital status, living arrangement, education level, financial status, and caregiver status. These variables demonstrated significant relationships with fall risk and were thus incorporated into the regression model to assess their independent effects. In contrast, age group and gender were excluded from the final model, as no significant associations with fall risk were observed in the univariate analysis.

Table 19 - Multivariable analysis	of determinants	for Risk	of Falls.	Odds ratios	(OR)
and 95% confidence intervals are	presented				

Variable	OR	95% CI	p-value
1	2	3	4
Residence area	0,76	0,39 to 1,48	0,414
Marital status	1,54	1,07 to 2,23	0,021

Continuation of table 19

1	2	3	4		
Living arrangements: Alone vs.	1,02	0,62 to 1,67	0,951		
With spouse					
Living arrangements: Alone vs.	1,37	0.89 to 2.10	0.155		
With extended family					
Education: Primary vs. Secondary	1.83	1,31 to 2,56	0,000		
Education: Primary vs.	1.75	1.24 to 2.48	0.002		
Higher education					
Financial situation	1,58	1,19 to 2,11	0,001		
Are you a carer for someone?	1,26	0,91 to 1,11	0.170		
Does a family member/friend provide care for you?	1,24	0,90 to 1,70	0,184		
Note - p-values indicating significance highlighted in bold					



Figure 17 - Graphical illustration of the statistically significant determinants of the Risk of Falls (from the multivariable analysis): each point shows the OR with 95% CI, p-values are annotated for clear interpretation. A vertical dashed line at OR = 1 helps show neutrality (no effect)

The analysis of risk factors for falls among older individuals revealed that certain socio-demographic characteristics significantly influence fall vulnerability. Marital status was associated with an elevated risk, whereby individuals who were unmarried had a higher likelihood of falls compared to their married counterparts (OR = 1.54, 95% CI: 1.07-2.23, p = 0.021). Educational attainment demonstrated a particularly strong association with fall risk: individuals with only primary education were significantly more likely to experience falls than those with secondary education (OR = 1.83, 95% CI: 1.31-2.56, p < 0.001) or higher education (OR = 1.75, 95% CI: 1.24-2.48, p = 0.002). Furthermore, financial difficulties were significantly correlated with increased fall risk (OR = 1.58, 95% CI: 1.19-2.11, p = 0.001), underscoring the

importance of socioeconomic stability in mitigating fall-related incidents. Other factors—including area of residence, living arrangements, caregiving responsibilities, and the receipt of informal care—did not exhibit statistically significant associations with the risk of falls. These findings suggest that marital status, educational background, and financial situation are key determinants of fall risk and should be considered in the development of targeted fall prevention strategies within aging populations.

4 DISSCUSSION

4.1 Cross-cultural validation and psychometric properties

This dissertation study analyzed the care needs of older adults in Kazakhstan. This is the first PhD dissertation that assesses the needs of the senior generations using ECQ in the whole of Central Asia. All countries in this region have a similar history – they gained independence from the Soviet Union at the end of the 20th century and then undertook substantial health system reforms [138]. They also share a crucial role of adherence to traditional lifestyles and strong family bonds, and their populations are relatively young [138,p. 26]. Therefore, similarities in needs and ways of their satisfaction can be expected. Due to the fact that there are no Kazakh and Russion versions of ECQ, we translated the English ECQ to Kazakh and Russion languages and validated the resulting tool. We have shown that the Kazakh and Russian versions of ECQ have good to excellent psychometric properties and, therefore, can be used to assess the needs of older people in Kazakhstan and beyond. The validation of the EASYCare Standard 2010 in both Kazakh and Russian languages demonstrated strong psychometric properties in each version, reinforcing the tool's robustness across different linguistic and cultural contexts within Kazakhstan. Both versions showed high internal consistency (Cronbach's alpha = 0.83 for Kazakh; 0.85 for Russian) and nearly perfect test-retest agreement across domains, with Cohen's kappa coefficients ranging from 0.81 to 0.95 and from 0.89 to 0.99, respectively.

Despite this overall similarity in reliability and construct validity, a few notable differences emerged. Kazakh-speaking participants reported significantly higher needs in the domain of "Staying healthy" (mean 2.7 vs. 2.4, p = 0.0012), potentially reflecting disparities in access to health services or differences in preventive health behaviors. Furthermore, financial hardship was more prevalent among Kazakh speakers, with 40.9% reporting insufficient resources compared to 31.5% among Russian speakers. Conversely, Russian-speaking respondents more frequently lived in extended family settings (51.3% vs. 43.2%), which may confer additional informal caregiving support.

Several studies conducted in different countries have similarly evaluated the psychometric performance of translated versions of the EASYCare questionnaire to determine its cross-cultural applicability. For instance, a validation study carried out in Portugal demonstrated satisfactory reliability and construct validity of the Portuguese version of EASYCare among community-dwelling older adults, with high internal consistency and user acceptability [14,p. 23]. Similarly, in other studies the translated version of EASYCare was adapted and validated among older populations, confirming its feasibility and relevance in a non-Western cultural context [117,p. 21]. These results are largely consistent with our findings, where the Kazakh and Russian versions of the ECQ displayed good to excellent psychometric properties across multiple domains.

Nonetheless, some differences should be noted. In the Portuguese study, the tool was primarily used in urban populations with relatively high literacy and access to healthcare services. In contrast, our sample in Kazakhstan encompassed a broader spectrum, including rural populations with varying degrees of access to care and education [139]. This broader demographic base may reflect a more nuanced picture

of care needs and may explain some variability in item-level responses, particularly in domains related to mobility, access to services, and environmental safety. Furthermore, unlike countries where geriatric care is more institutionalized, older adults in Kazakhstan often remain in intergenerational households where family members serve as informal caregivers—an element that influences both perceived and unmet needs.

Cultural adaptation also played a critical role in our validation process. Direct translation alone was insufficient; several items required careful cultural reinterpretation to preserve meaning. For example, items pertaining to autonomy or care preferences needed contextual adjustment to align with norms of filial responsibility and collective decision-making that are common in Kazakh and Russian-speaking families. This adaptation process echoes similar findings in international validations, where cultural congruence was found to be essential for maintaining conceptual validity [117,p. 21].

Notably, the Polish study [111,p. 20]assessed the feasibility of using selfassessment versions of the EASYCare questionnaire, concluding that results obtained through self-reporting were comparable to those of professional assessments. This emphasizes the tool's potential for use not only in clinical settings but also in empowering older adults to self-identify needs and risks—an especially relevant feature in Kazakhstan, where health system accessibility varies by region.

The Turkish version of EASYCare, validated for use among elderly populations in urban outpatient settings, reported similar findings of multidimensional reliability [115,p. 2]. However, unlike the Kazakh sample, which included a significant portion of older adults from rural and intergenerational households, the Turkish cohort was predominantly urban. This demographic difference may account for the greater variability in scores observed in the Kazakh sample, particularly regarding functional independence and risk of falls.

The Kazakh and Russian versions of the questionnaire were tailored beyond mere translation; cultural adaptation was integral. Certain items required contextual adjustment to align with local family dynamics and caregiving expectations. For instance, the concept of "autonomy" in Western literature often aligns with individual decision-making, whereas in Kazakhstan, health and care decisions are more commonly made collectively within the family. This nuance was critical in preserving the conceptual integrity of the tool and reflects broader findings from Portugal and Turkey, where cultural congruence was essential for maintaining validity.

Moreover, findings from Kosovo and our study data in terms of gender-based discrepancies in functional independence [114,p. 21]. Both studies noted that women, despite having longer life expectancy, showed lower levels of functional independence. This pattern may stem from gendered differences in chronic disease prevalence, healthcare access, and caregiving burdens.

Overall, the consistency of our findings with international validation efforts suggests that the EASYCare questionnaire is a robust and flexible tool suitable for adaptation across diverse linguistic and cultural settings. Our study adds to the growing body of evidence supporting the cross-national utility of ECQ and fills an important regional gap by providing validated tools in Kazakh and Russian—languages spoken

not only in Kazakhstan but also across large parts of Central Asia and the post-Soviet region. These translated versions can therefore facilitate broader application of personcentered assessments for older adults and support the development of culturally appropriate care planning and policy interventions.

In conclusion, the Kazakh validation and implementation of the EASYCare Standard 2010 not only confirms the instrument's psychometric strength but also contributes significantly to the growing body of evidence supporting its global applicability. By extending its use to underrepresented regions, including those with complex sociocultural structures and limited healthcare access, Kazakhstan's experience provides a valuable template for future regional adaptations, particularly in Central Asia and other post-Soviet states.

4.2 Summary of key findings

This research revealed a clear gender disparity in the demographic and social characteristics of older adults in Kazakhstan. Among individuals aged 75 years and older, women notably outnumbered men, largely due to higher life expectancy. As a result, women were more likely to be widowed. In contrast, men were more often married and lived with their spouses. These gendered patterns mirror global trends. According to the WHO and UN data, women consistently live longer than men, resulting in a greater share of widowed and single older women globally, especially in the oldest-old age group (80+) [140]. This pattern is clearly evident in Kazakhstan as well, reinforcing the need for gender-sensitive policy responses.

Research also shows that cultural norms influence living arrangements among older adults. In many Central Asian societies, including Kazakhstan, it is common for older women to live with adult children, while men more often remain with their spouses if alive. Similar findings are observed in studies across Asia and Eastern Europe, where gender norms and widowhood status shape co-residence patterns [141].

The disparity in educational attainment and financial stability between older men and women is a reflection of broader structural inequalities. Historical barriers to education and workforce participation have left many older women with limited pensions and savings [142]. For instance, a World Bank report highlights that in Kazakhstan, women often carry the double burden of unpaid domestic work and official employment, and the average woman earns only 67.8% of what the average man does. This wage gap contributes to lower lifetime earnings and, consequently, reduced financial security in old age [143]. Moreover, the United Nations Population Fund notes that gender inequalities affect women's access to education and employment throughout their lives, leading to cumulative disadvantages that persist into old age. These disparities underscore the need for policies that promote gender equality in education and the labor market to ensure financial stability for women as they age [144].

Finally, older adults are both caregivers and care recipients reflects a complex dynamic that has been explored in gerontological literature. Studies from Europe and North America show that while older individuals, especially women, often provide informal care for spouses or grandchildren, they themselves may struggle with chronic diseases and mobility limitations that necessitate external support [145]. This duality requires integrated services that can respond to both sets of needs.

In terms of living arrangements, women more frequently lived in extended family households, while men tended to reside in nuclear families or with their spouse. Educational and financial profiles also varied: men had higher education levels and were slightly more financially secure, reflecting historical inequalities in access to education and economic opportunity. Despite these differences, both genders were involved in caregiving. Importantly, a considerable proportion of respondents regardless of gender—also required care, pointing to the dual burden faced by older adults in caregiving and care-receiving roles.

It was found that men consistently report significantly higher needs in all areas: the biggest gaps between men and women appear in Area 2 (Looking after yourself) ands Area 6 (Mental health and well-being). Similarly, to our research findings some research indicates that older men may experience more severe depression when they become dependent on others, suggesting higher self-care needs [146]. These findings stand in contrast to those of a systematic review, which reported that older women are more frequently diagnosed with depression than their male counterparts [147]. However, other studies suggest that older men may report greater health needs later in life, potentially due to the lifelong underreporting of mental health issues influenced by societal stigma, leading to underdiagnosis [148,149].

Women in our study report the lowest levels of needs across all areas. This might be because of several reasons. Older women may have internalized lifelong roles as caregivers and nurturers, which may lead them to downplay or normalize their own needs. They might see expressing need as a sign of weakness or burdening othersespecially in cultures where stoicism and self-sacrifice are valued. Some studies have shown that older women often prioritize the needs of others over their own, even when facing significant limitations [144,p. 21]. Moreover, women generally live longer and are more accustomed to managing alone, especially as widows. They may have developed stronger coping mechanisms and adapt more easily to physical limitations or loneliness. Some research indicates that older women often have stronger social networks and emotional resilience, which can mitigate their perception of "need" [144,p. 21]. Interestingly, while women use healthcare services more frequently than men, they may rate their health needs lower due to familiarity with managing chronic conditions [148,p. 6]. Also, the UNFPA survey conducted in 2020 in Kazakhstan, based on a comparative analysis of two surveys (2008 and 2020) showed that women were more likely than men to seek medical care, while men more frequently reported rarely or never consulting healthcare providers [100,p. 36]. This gender disparity highlights the need for targeted strategies to encourage healthcare engagement among older men, who may be at increased risk of delayed diagnosis and untreated conditions due to lower utilization rates. Meanwhile, men may perceive even minor limitations as serious, leading to higher self-reported needs. Gender norms influence not only the willingness to seek help but also how individuals assess and report their own needs [147,p. 36].

A study from South Korea by Kim et al. (2018) offers relevant parallels to our findings. Conducted among older adults in urban regions, the study highlighted that 17.4% of participants reported unmet healthcare needs, with the most commonly cited barrier being economic difficulty [150]. Notably, depression was a significant predictor of unmet needs, with individuals experiencing depressive symptoms being 1.45 times more likely to face challenges accessing appropriate care. These results reflect a broader trend of emotional isolation and under-addressed mental health concerns among older populations in rapidly modernizing societies, even in contexts with high literacy rates and medical infrastructure.

The current study offers new insights into the medical and social needs of older adults in Kazakhstan by using the EASYCare Standard 2010 questionnaire, with validated Kazakh and Russian language versions. The results confirm that elderly individuals in Kazakhstan exhibit significant needs in areas related to self-care (49.1%), maintaining physical health (53.0%), mental well-being (48.0%), and mobility (45.0%). This profile aligns broadly with international findings, though specific patterns of need differ depending on cultural, economic, and health system contexts. A study from Portugal found that the most pronounced needs among community-dwelling older adults were also in domains related to health maintenance and psychological well-being [14,p. 3]. The Portuguese study highlighted a need prevalence rate of 46.9% in "mental health and social interaction" and 44.2% in "mobility," closely resembling the Kazakh figures. However, the Portuguese cohort exhibited slightly lower risk of breakdown in care, likely due to more developed homecare services and greater access to healthcare resources, as the study was carried out in an urbanized context with universal healthcare access. A similar trend was reported in Poland where 44.8% of elderly participants demonstrated functional limitations in self-care or mobility, and about one-third required regular support for maintaining independence [111,p. 9]. Compared to Kazakhstan, Polish respondents were slightly younger on average and had higher rates of health insurance and professional home assistance, which likely reduced unmet needs in safety and housing domains.

In contrast, a validation study from Turkey revealed that needs in mobility and seeing/hearing were more pronounced (reported by 55–60% of participants), suggesting environmental and systemic barriers such as poor public infrastructure and limited geriatric services. This contrasts with Kazakhstan, where the greatest needs were more evenly spread across domains, though mobility and communication still affected over 30% of respondents [115,p. 10].

Notably, one unique finding in our Kazakhstani sample is the marked gender disparity in dependency, where older women demonstrated slightly higher risk of functional dependence and care breakdown. This result parallels observations from a Kosovo study, where women had significantly lower Barthel and IADL

The overall analysis of the three composite indexes—Independence Score, Risk of Breakdown in Care, and Risk of Falls —provides a comprehensive picture of the functional status and care-related vulnerabilities among older adults in Kazakhstan.

These indexes, derived from the EASYCare Standard 2010 questionnaire, are critical for identifying both resilience and unmet needs within this population.

The mean Independence Score in our sample was 11.3 ± 13.1 , indicating relatively preserved self-care capacity among the majority of older adults, although substantial heterogeneity was present. While many older adults maintain satisfactory levels of independence, a significant proportion exhibit high dependency levels and may require continuous support. These findings are consistent with global research emphasizing the importance of individualized care pathways for aging populations [144,p. 10]. The results of IS of the participants of our studyaligns closely with findings from a Portuguese community-based validation where the average Independence Score was also low, indicating preserved autonomy in daily activities among older adults aged 65+ [14,p. 1].

The Risk of Breakdown in Care in our study averaged 2.9 ± 2.3 , suggesting a moderate probability of care disruption or the need for hospital-level interventions. This finding is consistent with international data, where similar thresholds have been used to identify older adults at risk for care escalation [151]. In their Dutch cohort study (n = 308), van Leeuwen reported a mean care breakdown score of 3.1, with higher scores correlating with unplanned hospital admissions within six months [151,p. 8]. Our multivariable analysis identified age and low educational attainment as statistically significant predictors, echoing findings from UK-based primary care studies where social vulnerability and cognitive decline predicted breakdown risks more accurately than age alone [152,153].

In our study, the Risk of Falls was measured with a mean score of 1.9 ± 1.7 , which falls below the established high-risk threshold of 3 in the EASYCare framework. However, nearly one-third of respondents met or exceeded this critical threshold, underscoring the need for targeted fall-prevention strategies, especially among vulnerable subgroups. These results are in line with international literature, which suggests that falls among older adults are common, multifactorial in origin, and often under-recognized until adverse events occur.

Recent findings from Spain similarly highlight the widespread nature of fall risk in institutionalized older populations. A retrospective cohort study found that over 45% of long-term care residents experienced falls annually, with key risk factors including frailty, cognitive impairment, and environmental hazards [154]. These risk patterns parallel our own findings, where fall vulnerability was significantly associated with lower educational levels, unmarried status, and limited financial resources highlighting the need to consider not only medical but also social determinants of health when designing fall-prevention programs.

Broader European data further support this interpretation. A study involving 22 countries reported that Western Europe has among the highest incidence and burden of fall-related injuries, emphasizing the necessity of early intervention and multidimensional risk assessments [155]. Similarly, a meta-analysis published in 2022 estimated the global fall prevalence among older adults to be 26.5%, and demonstrated that socioeconomic status, functional limitations, and home environment all significantly contribute to fall risk [156].

Taken together, our findings reinforce that fall risk in older adults is not solely a function of physical decline, but a complex outcome shaped by psychosocial, demographic, and environmental factors. Integrating fall risk assessment into routine geriatric evaluations—particularly using tools like EASYCare—can aid in identifying high-risk individuals and tailoring interventions that are culturally and contextually appropriate for the Kazakhstani aging population.

These findings reaffirm the utility of the EASYCare indices not only as clinical markers of frailty and need, but also as reflective indicators of structural and socioeconomic determinants of health. The convergence of our results with those from European and Asian populations supports the tool's robustness across diverse settings. Yet, the unique sociocultural landscape of Kazakhstan—including the prominence of extended family households and lower institutional care use—demands context-specific interpretation.

The findings of this study gain greater depth and relevance when viewed through the lens of globally recognized theoretical frameworks on ageing, particularly the WHO's Theory of Active Ageing and the Functional Ability Framework. The Theory of Active Ageing, introduced by the World Health Organization, emphasizes the process of optimizing opportunities for health, participation, and security in order to enhance quality of life as people age. This concept underlines the importance of promoting autonomy, maintaining independence, and enabling older adults to remain active contributors to society, even in the presence of chronic diseases or disabilities. The results of this research—which identified high levels of unmet medical and social needs among older adults in Kazakhstan, especially in domains such as self-care, mobility, and psychosocial support—highlight the urgent need to align national health policies with the principles of active ageing.

Closely related to this is the Functional Ability Framework, a key pillar of WHO's Global Strategy and Action Plan on Ageing and Health. Functional ability is defined as the combination of an individual's intrinsic capacity and the environmental characteristics that enable them to do what they value. In this study, the use of the EASYCare Standard 2010 provided a structured means of assessing functional limitations in areas such as physical health, mental well-being, and environmental safety. The prevalence of functional dependence and fall risk observed in the population sample suggests that current care models may insufficiently address these broader dimensions of well-being.

Therefore, the integration of these frameworks reinforces the importance of transitioning from a disease-centered model to a function-centered and person-centered approach to ageing. Interventions should go beyond clinical management to include community-based prevention, environmental modifications, caregiver education, and programs that promote social participation and self-care skills among older adults.

These theoretical underpinnings offer strong justification for the implementation of comprehensive geriatric assessment tools, such as EASYCare, within Kazakhstan's primary healthcare system. They also support the development of public health strategies aimed at maintaining functional ability, delaying dependency, and fostering healthy and active ageing across the life course.

Independence score

Our analysis of multivariable regression indicates that older age is significantly associated with higher odds of reduced independence. Specifically, for each increase in age category, the odds of experiencing diminished functional independence increase by 40%. This aligns with existing literature demonstrating that advancing age is a critical factor in declining functional autonomy among older adults. For instance, a systematic review found that older adults exhibited a mean physical independence score of 20.07 out of 24, suggesting that while many maintain a degree of independence, there is a notable decline associated with aging [157].

Marital status exhibited a trend toward significance, suggesting that being unmarried might be associated with reduced independence, although this relationship did not reach statistical significance at the p < 0.05 level. This observation is supported by studies indicating that married older adults often experience better health outcomes and slower cognitive decline compared to their unmarried counterparts, potentially due to spousal support and increased social engagement [158]. Moreover, educational attainment emerged as a significant predictor of functional independence. Individuals with only primary education were 52% more likely to have reduced independence compared to those with secondary education. The disparity was even more pronounced when comparing individuals with primary education to those with higher education, with an 89% higher likelihood of reduced independence. These findings underscore the protective effect of higher educational attainment on maintaining functional ability in older age. This is consistent with research demonstrating that higher levels of education are associated with better cognitive functioning and greater independence in activities of daily living [159].

Geographic location also significantly influenced independence. Older adults residing in certain regions, likely rural or underserved areas, had a 58% higher chance of reduced independence compared to others. This suggests regional disparities in aging-related support and resources, which may impact functional autonomy. Studies have highlighted that geographic disparities can affect access to healthcare and community services, thereby influencing the independence of older adults [160].

Risk of breakdown in care

In assessing factors associated with the risk of breakdown in care, age emerged as a statistically significant predictor. Older individuals demonstrated a higher likelihood of experiencing a breakdown in care, with an odds ratio (OR) of 1.57 (95% CI: 1.14-2.18, p = 0.007). This finding suggests that increasing age is independently associated with greater vulnerability in maintaining adequate care. This is in line with studies indicating that advanced age increases the demand for support services due to declining health and functional abilities [161].

Risk of falls

The analysis of risk factors for falls among older individuals revealed that certain socio-demographic characteristics significantly influence fall vulnerability. Marital status was associated with an elevated risk, whereby individuals who were unmarried had a higher likelihood of falls compared to their married counterparts (OR = 1.54, 95% CI: 1.07-2.23, p = 0.021). This finding is consistent with research suggesting that

married individuals may benefit from spousal support, which can contribute to better health outcomes and reduced fall risk [162]. Also, a population-based study conducted in Brazil found that widowed individuals had nearly twice the risk of experiencing falls compared to their married counterparts, even after adjusting for age and sex [163]. The authors suggest that mutual care and support between partners may contribute to a lower occurrence of falls among those living with a spouse. Moreover, a review from New Zeland stated that living alone is associated with a higher risk and frequency of falls [164].

The analysis demonstrated that marital status significantly influences fall risk among older adults, with unmarried individuals facing a higher likelihood of falls compared to their married counterparts—a finding supported by studies from Brazil and New Zealand, which highlight the protective role of spousal support and the increased risk associated with living alone. Together, these findings emphasize the importance of social and familial support networks in mitigating fall vulnerability in aging populations.

Apart from that, educational attainment demonstrated a particularly strong association with fall risk: individuals with only primary education were significantly more likely to experience falls than those with secondary education (OR = 1.83, 95% CI: 1.31-2.56, p < 0.001) or higher education (OR = 1.75, 95% CI: 1.24-2.48, p = 0.002). This aligns with studies indicating that lower educational levels are associated with higher fall risk, potentially due to reduced health literacy and awareness of fall prevention strategies [165].

Furthermore, financial difficulties were significantly correlated with increased fall risk (OR = 1.58, 95% CI: 1.19-2.11, p = 0.001), underscoring the importance of socioeconomic stability in mitigating fall-related incidents. Economic constraints may limit access to resources such as home modifications, assistive devices, and healthcare services, thereby increasing fall risk. A study identified a significant relationship between financial status and fall frequency [166]. Older adults with poorer financial situations experienced falls more frequently. The authors concluded that financial constraints contribute to increased fall risk, emphasizing the need for targeted fall prevention programs among vulnerable populations [167]. Also, similarly to our findings, another study found that lower income and wealth were associated with a higher risk of falling among older adults [168]. It highlighted that elderly individuals in poverty are exposed to more environmental hazards and have lower accessibility to healthcare services, leading to increased fall risks. Several other studies have also identified financial status as a contributing factor to fall risk among older adults[169-170]. A review of the literature revealed that the risk of falls among older adults is significantly associated with several psychological factors [164,p. 10]. Fear of falling has been identified as a major contributor, as it can lead to reduced mobility, decreased confidence, and subsequent physical decline. Additionally, depression is closely linked to an increased risk of falls through its impact on cognitive function, balance, and overall physical health [164,p. 10]. Loneliness and social isolation-particularly among individuals living alone-also emerged as important risk factors, as they are associated with reduced physical activity, limited access to assistance, and poorer

mental well-being, all of which heighten fall vulnerability. Recent conceptual analyses emphasize that the perception of fall risk plays a crucial role in determining fall vulnerability among older adults. According to a study, fall risk perception is a dynamic, multifaceted process involving not only cognitive assessments of fall probability but also complex emotional responses such as fear, anxiety, and feelings of diminished autonomy [171]. Many older individuals either underestimate or overestimate their actual risk, leading respectively to increased engagement in hazardous activities or unnecessary restrictions in daily life. Moreover, psychological antecedents such as the strong desire to maintain independence and the need for social dignity significantly shape how older adults perceive and manage their fall risk [171,p. 3]. Failure to accurately perceive fall risk may result in behaviors that either amplify exposure to fall hazards or diminish quality of life due to excessive self-limitation. Therefore, assessing and addressing fall risk perception is a vital component in the design of personalized, effective fall-prevention strategies.

Other factors—including area of residence, living arrangements, caregiving responsibilities, and the receipt of informal care—did not exhibit statistically significant associations with the risk of falls. These findings suggest that marital status, educational background, and financial situation are key determinants of fall risk and should be considered in the development of targeted fall prevention strategies within aging populations.

To conclude, this study is the first in Central Asia to assess the care needs of older adults using the EASYCare Standard 2010, adapted into Kazakh and Russian. The translated versions demonstrated strong reliability and validity, confirming the tool's suitability for culturally diverse settings.

Key findings revealed significant differences by language, gender, region, and age. Kazakh-speaking and rural participants reported more unmet needs, particularly in health maintenance and financial security, while Russian speakers were more often supported by extended families. Women, despite living longer, were more financially vulnerable and less independent, while men reported higher levels of need across several domains—possibly due to differences in health perception and social norms.

Multivariable analysis showed that age, education, marital status, region, and financial difficulties were key predictors of reduced independence, care breakdown, and fall risk. These results emphasize that socioeconomic and psychosocial factors—such as poverty and living alone—are as important as medical conditions in shaping vulnerability among older adults.

4.3 International models of EASYCare implementation and implications for Kazakhstan

The EASYCare assessment tool has been developed and implemented in the United Kingdom, including within services associated with the National Health Service (NHS), particularly in primary and community care settings. It serves as a comprehensive geriatric assessment (CGA) instrument designed to evaluate the physical, mental, and social functioning, as well as the unmet health and social needs

of older individuals. The tool has been utilized as a frailty assessment measure and for collecting population-level data [113].

In the UK, EASYCare has been incorporated into various NHS initiatives aimed at enhancing care for older adults. For instance, in South Warwickshire, a model was implemented where general practitioners invited patients aged 75 and over to complete an EASYCare assessment with assistance from trained coordinators and volunteers. The results were then used to direct patients to additional services, advice, and support, often addressing issues such as loneliness through referrals to voluntary services like Age UK befriending support [172].

The British Geriatrics Society has also recognized the importance of frailty assessment in the community and has developed resources to support primary care teams across the UK. These resources aim to help healthcare professionals identify and manage frailty among older patients effectively [172,p. 26].

Overall, the implementation of EASYCare within the NHS framework underscores its utility in facilitating comprehensive assessments that inform personalized care planning and resource allocation for the aging population.

In the Netherlands, the EASYCare assessment tool has been effectively integrated into primary healthcare settings, particularly through nurse-led initiatives. One notable implementation is the Dutch EASYcare Study Geriatric Intervention Programme (DGIP), where geriatric specialist nurses conducted home visits to frail older adults. During these visits, they utilized the EASYCare instrument to assess various domains, including activities of daily living, cognition, mood, and goal setting. The nurses collaborated closely with general practitioners and geriatricians to develop and implement individualized care plans based on the assessment outcomes [173].

Building on this approach, the Netherlands also developed the EASYCare Twostep Older persons Screening (EASYCare-TOS) procedure. This method begins with GPs using their existing knowledge to identify potentially frail individuals. If uncertainty remains, a primary care nurse conducts a comprehensive EASYCare assessment during a home visit. This stepped approach has been shown to predict adverse health outcomes effectively and is well-suited to the Dutch primary care context, which emphasizes continuity and strong doctor-patient relationships [174].

The successful application of EASYCare in the Netherlands demonstrates its adaptability and efficacy in primary care settings, highlighting its potential utility in other healthcare systems aiming to enhance geriatric care [174,p. 27].

Given its proven effectiveness in various healthcare systems, the EASYCare assessment tool represents a valuable model for improving geriatric care. Taking into account the ongoing demographic shift and the growing needs of the older population, the Kazakhstani healthcare system should consider the future implementation of EASYCare into practical medicine. This would allow for more structured, evidence-based, and person-centered care planning, particularly at the primary care level, where early identification of risks and needs is essential. Integrating EASYCare into routine practice could also enhance multidisciplinary collaboration and support the development of long-term strategies for healthy and active aging in Kazakhstan.

4.4 Limitations of the dissertation research

Despite the strengths of this study—such as its national scope, the use of the culturally adapted EASYCare Standard 2010 tool, and the application of multivariable statistical analysis—it is important to acknowledge several limitations that may have influenced the results and their interpretation.

One of the most significant limitations was the timing of data collection, which coincided with the COVID-19 pandemic. Given their high vulnerability to the virus, older adults were understandably cautious, and many were reluctant to participate in the survey. This limited engagement, particularly among the most frail and isolated individuals, may have led to selection bias—with more physically and socially active older adults being overrepresented in the sample. As a result, the findings may underestimate the prevalence of severe dependency or social vulnerability in the general older adult population.

Another limitation of this study is the use of convenience sampling. Participants were recruited through attachment lists provided by local polyclinics and included only individuals who exhibited no significant cognitive impairments and possessed full verbal communication abilities. While this approach enabled the inclusion of respondents capable of independently completing the assessments, it may have introduced selection bias. Specifically, the sample may underrepresent older adults with cognitive decline, speech impairments, or other vulnerabilities, thereby limiting the generalizability of the findings to the broader elderly population. As a result, the health and social needs identified in this study may reflect those of relatively healthier and more functionally independent older individuals.

The study's cross-sectional design also limits causal inferences. While associations between age, education, marital status, and key outcomes (such as functional independence, care breakdown, and fall risk) were identified, the direction and causality of these relationships cannot be confirmed.

Finally, although the EASYCare questionnaire was linguistically validated in both Kazakh and Russian, the reliance on self-reported data introduces potential for response bias, including underreporting due to social desirability or misunderstanding of certain questions. Despite interviewer assistance, some participants may have misjudged their level of functioning or needs.

4.5 Implementation of study results

The findings of this study offer a compelling foundation for the practical application of evidence-based approaches to geriatric assessment and care in Kazakhstan. Through rigorous cross-linguistic validation, comprehensive statistical analysis, and contextual examination of regional and sociodemographic disparities, this research has produced actionable insights for policy, clinical practice, and professional training in the field of public health and gerontology.

Integration into clinical practice and healthcare policy

One of the most significant outcomes of this study is the validated applicability of the EASYCare Standard 2010 questionnaire in both Kazakh and Russian versions, with near-perfect inter-rater agreement as demonstrated by Cohen's Kappa coefficients

ranging from 0.81 to 0.99. These psychometric indicators affirm the reliability of the instrument for use across diverse linguistic and cultural contexts within Kazakhstan. In light of these findings, it is recommended that the EASYCare Standard 2010 be formally incorporated into national standards regulating geriatric and gerontological services. Specifically, the revision of Order №55 of the Ministry of Health of the Republic of Kazakhstan (dated June 23, 2021) provides a timely and strategic opportunity for the inclusion of this tool in the clinical protocols of general practitioners and geriatricians. Its systematic implementation would allow for a holistic evaluation of older adults, supporting early detection of risks related to loss of independence, unmet care needs, and fall susceptibility.

Informing targeted interventions and risk-based screening

This study revealed that nearly half of the surveyed older adults require support with self-care (49%), health maintenance (53%), and psychosocial well-being (48%), highlighting a clear demand for integrated medical and social services. Furthermore, the Independence score, Risk of falls and Risk of breakdown in care were found to be significantly influenced by age, education level, marital status, geographic region and financial situation - factors that must be considered in designing equitable healthcare strategies.

These findings underscore the importance of risk-based screening models within primary care settings. Health professionals should be trained to interpret the EASYCare indicators not only as clinical metrics but as entry points for personalized care planning. For instance, individuals aged 75 and older, those with limited education, or those residing in the southern regions should be prioritized for targeted fall prevention programs and functional capacity monitoring.

Expansion of preventive and social support measures

The research also supports the expansion of preventive and outreach initiatives as part of community-based elder care. Monthly educational sessions delivered through primary healthcare organizations, with active involvement of social workers, can address key determinants of aging well. These should focus on the creation of safe home environments, enhancement of physical and cognitive resilience, and promotion of self-care capacity. Such interventions not only mitigate clinical risks but also empower older adults and their families with practical tools for sustaining well-being.

In parallel, the study reinforces the relevance of social protection policies. Data linking financial hardship with elevated health risks suggests that the extension of state-funded support programs for older adults living alone could be a critical determinant in closing care gaps and fostering health equity. Efforts in this domain should prioritize both financial assistance and logistical access to essential medical and social services.

Contribution to professional training

The findings and methodological advances of this study have not remained solely within the realm of academic inquiry but have been actively translated into the professional training of future healthcare providers. The methodological recommendations developed after the research have been incorporated into the academic curriculum of the "Nursing" educational program to ensure that nursing students acquire the competencies required to assess and address the multifaceted health and social needs of older adults.

In parallel, the methodological recommendations aimed at preserving the independence of older adults and improving their overall quality of life where integrated into practice of several polyclinics of western Kazakhstan. These recommendations emphasize strategies for preventing falls, promoting home safety, and enhancing access to medical and social services. The content also addresses the psychological and social well-being of older persons, contributing to a holistic vision of active aging.

These guidelines are intended for a broad audience, including older adults themselves, their families, social and healthcare workers, and medical university students. Their integration into training programs strengthens the capacity of future professionals to deliver age-sensitive and person-centered care. By linking research outcomes directly to education and practice, this initiative contributes to the sustainability and scalability of gerontological care improvements in Kazakhstan's healthcare system.

CONCLUSION

Based on the results of the conducted study and according to the research objectives the following conclusions were drawn:

1. Cohen's Kappa coefficient ranged from 0.81 to 0.95 across all sections of the Kazakh version and from 0.89 to 0.99 in the Russian version, indicating almost perfect agreement across all sections of the EASYCare Standard 2010 questionnaire. The average Barthel Index among the assessed individuals was 94.0 ± 10.4 , and the Lawton scale score was 7.5 ± 1.2 in the Kazakh version, while in the Russian version, the values were 93.3 ± 10.9 and 5.9 ± 1.7 , respectively. The Independence Score, Risk of Breakdown in Care, and Risk of Falls indices showed good correlation with the Barthel Index and Lawton Scale, which are considered the gold standards for assessing functional independence.

2. Older adults have significant medical and social needs: 49% require assistance with self-care, 53% with health maintenance, and 48% with psychosocial support (p < 0.0001). This underscores the need for a comprehensive approach to ensuring their well-being. A regional comparison showed that the risk of falls is higher in the western region compared to the southern region (2.0 vs. 1.9 and 1.8 vs. 1.6, respectively; p = 0.01).

3. Age, educational level, and socio-territorial conditions play a significant role in determining the three key indices: Independence Score, Risk of Breakdown in Care, and Risk of Falls. Reduced independence was statistically significantly associated with being aged 75 and older (OR = 1.40; p = 0.046), low educational attainment (OR = 1.52-1.89; p ≤ 0.009), and residence in the southern regions of Kazakhstan (OR = 1.58; p = 0.001). Risk of Breakdown in Care increased with age (OR = 1.57; p = 0.007). An elevated Risk of Falls was significantly associated with being unmarried (OR = 1.54; p = 0.021), low educational level (OR = 1.75-1.83; p < 0.001-0.002), and unfavorable financial conditions (OR = 1.58; p = 0.001).

4. Based on the integration of the first, second, and third research objectives, the following practical recommendations were formulated:

-When revising the Standard for the Organization of Geriatric and Gerontological Care in the Republic of Kazakhstan (Order No. 55 dated June 23, 2021), it is recommended to consider the implementation of the EASYCare Standard 2010 questionnaire in the clinical practice of general practitioners and geriatricians. This tool enables a comprehensive assessment of older patients' health status and timely identification of risks related to functional dependence and falls.

- It is proposed to use the indexes "Independence Score," "Risk of Breakdown in Care," and "Risk of Falls" as screening instruments to determine the priority level of monitoring and the extent of intervention within nursing and home visit services.

- Key social and territorial determinants (age, education, and region of residence) must be considered when developing geriatric care programs and allocating resources—especially with a focus on southern regions, where a higher level of functional dependence among the elderly is observed.

- It is recommended to strengthen social support for older adults living alone, especially those in high-risk categories for falls and breakdowns in care. Developing programs for remote monitoring, outreach, and targeted assistance is advisable for this group.

- Financial status should be included as a mandatory component in the vulnerability assessment of older people within an integrated geriatric care model. Financial insecurity is directly associated with increased risk of falls and overall health deterioration.

- It is recommended to develop adapted educational programs on self-care and fall prevention targeting elderly individuals with lower levels of education, considering their functional and cognitive literacy. Educational materials should be simple, visual, and culturally appropriate.

- Further research among the elderly population is essential to accurately define their medical and social needs, which will support the development of evidence-based prevention, care, and active aging programs.

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APPENDIX A

Lawton Scale

Участник:_____

Дата:_____

(П. Т. Б. Г.) Оценивание: для каждой категории обращиваемого (0 или 1). А. Волюжность пользоваться телефоном (1) Пуправляет гелефоном (2) правляет и вабрает номера и т. д. 2. Покожность полько нескольким хорошо 1 1 2. Покож полько нескольким хорошо 1 3. Отвечает на заонки, но не звонит 1 1 1 1. Передвигается самостоятельно на 1 1 1. Передвигается самостоятельно на 1 1 1. Передвигается самостоятельно на 1. Передвигается самостояте	ЛОУТОН-БРОДИ Инструментальная деятельность шкалы повседневной жизни				
Оценнявание: для каждой категорий обведите кружком описание, которое наиволее олизко к самому высоком у умрянкцональному уровню опрашиваемско (0 или 1). А. Возможность пользоваться телефоном 1. Управляет телефоном самостоятельно- просматривает и набирает номера и т. д. 2. Окожет звонять только нескольким хорошо знакомым момерам. 3. Отвечает на звонки, но не звонит 4. Вообще не пользуется телефоном 2. Стираст/полоскает только легкие веши 1. Стираст сам/сама все свои веши 1. Стираст/полоскает только легкие веши 1. С. Стираст толоко пескольким хорошо знакомым момерам. 3. Отвечает на звонки, но не звонит 1. Воодтится обо всех покупках самостоятельно 0. С. Самостоятельно может делать только мелкие общественном транспорте или ездит на собественном транспорте или ездит на собественным транспорте или ездит на собественном транспорте или ездит на собественным транспорте или ездит на собественным транспорте или ездит на собественным транспорте или ездит на собественным транспорте или ездит на собественном транспорте или ездит на собене принимает лекарства в полноценное горяче блюда и 1. Само	(1.7	A. D.	L.)		
высокому функциональному уровню опрашиваемого (0 кли 1). А. Возмажилость пользоваться телефоном 1. Управляет телефоном самостоятельно- просматривает и набирает номера и т. д. 2. Может звонки, но не звонит 3. Отвечает на звонки, но не звонит 1. Вобще не пользуется телефоном 3. Отвечает на звонки, но не звонит 1. Вобще не пользуется телефоном 5. Поход по магазинам 2. Самостоятельно может делать только мелкие похупки 3. Должен сопровождаться кем-то для совершения покупок 4. Совершению не способен совершать покупки 4. Совершению не способен совершать покупки 5. Потовление пици 4. Совершению не способен совершать покупки 5. Потовление пици 4. Совершению и способен совершать покупки 5. Потовление пици 6. С. Приготовление пици 1. Самостоятельно планирует, готовит пользидетов, оно кем-то 1. Самостоятельно планирует, готовит пользиретов, оно кем-то 3. Полжет делает и тотовит сау, но не пользирате, подает и готовит сау, но не 1. Самостоятельно упракта самостоятельно и да суметовает, одон сем-то 1. Самостоятельно принимает лекарства в правилывых дозировках в пужнюе время 2. Пуринимает лекарство, оно кем-то приготовлена заранее в отдельной 3. Подогревает, подает и готовит сау, но не планирует, лойы сда была приготовлена и 0. Домашнее Хозяйство 4. Нообходимо, чтобы сда была приготовлена и 0. Домание Кем-то 1. Выполняет легкие действия, такие как 4. Нообходимо, чтобы еда была приготовлена и 0. Домание Кем-то 1. Выполняет легкие действия, такие как 4. Необходимо, чтобы еда была приготовлена и 1. Выполняет легкие действия, такие как 4. Необходима помощь со всеми дояшними 3. Выполняет леские сжелененые задачи, но не может поддерживать необходимый уровень 4. Необходима помощь со всеми домашними 3. Не способен поринимает денду, счега, ходит в банк), собирает и и слеживает доходы 3. Не способен порациями, по таку, 3. Не способен порациями, по такие, действия, такие как 4. Необходима помощь со всеми домашними 3. Не способен порациями, полиць средкуй 1. Не способен порациями пом	Оценивание: для каждой категории обведите кружком описание, которое наиболее близко к самому				
А. Возможность пелефоном Г. Стирка Г. Стирка 1. Управляет телефоном сомостоятельно- просматривает и набирает номера и т. д. 1. Стирает сам/сама все свои вещи 1 2. Может звонить только пескольким хорошо знакомым номерам. 3. Вещи должны стираться другими 0 3. Отвечает на звонки, но не звонит 1 1. 1. 2. Стирает/полоскает только легкие вещи 1 4. Вообще не пользуется телефоном 0 6 6 6 8. Поход по магазинам 0 6 6 6 2. Самостоятельно может делать только межни 0 общественном транспорте или ездит на собственном автомобиле 1 3. Должен сопровождаться кем-то для совершения покупок 0 2. Может заказывать такси, но не пользуется общественным транспорте 1 1. Самостоятельно может делать покупки 0 3. Едит нобыств 0 3. Полутевает, подает и готовит салод 1 1. Самостоятельно принимает лекарства в пользуется полноценную сду если продукты постаяляются 1 1. Самостоятельно принимает лекарства в полошанка кара кара была приготовлена и полацивает лекарство, оно кем-то приготовлено зарансе в отдельной 1 1. Ведет хозяйство самостоятельно или с редкой постаяляются 1 1. Самостоятел	высокому функциональному уровню опрашиваемого (0 или 1).				
1. Управляет телероном самостоятельно- просматривает и набирает номера и т. д. 1 1. Стирает сам сама все свой веши 1 2. Может звонить только нескольким хорошо знакомым померам. 1 3. Вещи должны стираться другими 0 3. Отвечает и набирает номера и т. д. 1 3. Вещи должны стираться другими 0 9. Поход по магазинам 1 1 1. 1. 1. Заботится обо всех покупках самостоятельно 0 1. 1. 1. 2. Сираенская самостоятельно 0 0 2. Может заказывать такси, но не 1 1. Заботится обо всех покупках самостоятельно 1 1. 1. 1. 1. 1. 2. Сираенская самостоятельно на 0 2. Может заказывать такси, но не 1 1. 1. Совершення покупок 0 2. Может заказывать такси, но не 1 1.	А. Возможность пользоваться телефоном	1	Е. Стирка		
просматривает и набирает номера и т. д. 2. Ожокет звонить только нескольким хорошо знакомым номерам. 3. Отвечает на звонить не вешии 1 4. Вообще не пользуется телефоном 0 В. Поход по магазинам 1. Заботится обо всех покупках самостоятельно 1. Самостоятельно окжет делать только мелкие 1. Самостоятельно может делать только мелкие 1. Самостоятельно и окжет то для совершенно не способен совершать покупки 4. Совершенно не способен совершать покупки 5. Приготовление пиши 1. Самостоятельно планирует, готовит полноценног соряче сблада 2. Готовит полноценную еду если продукты 1. Самостоятельно планирует, готовит полноценног соряче сблада 2. Готовит полноценно и и готовит еду, но не питается полноценно 4. Необходимо, чтобы еда была приготовлена и 1. Ведет хозяйство самостоятельно или с редкой 1. Ведет хозяйство самостоятельно или с редкой 1. Самостоятельно иление кака 4. Необходимо, чтобы еда была приготовлена и 1. Самостоятельно иление действия, такие как 4. Необходимо, чтобы еда была приготовлена и 1. Ведет хозяйство самостоятельно или с редкой 1. Самостоятельно иление действия, такие как 4. Необходима помощь со всеми домашними 5. Не участвует ни в каких домашних делах 5. Не участвует ни	1. У правляет телефоном самостоятельно-	1	1. Стирает сам/сама все свои вещи		
2. Может звонить только нескольким хорошо знакомы и номерам. 1 3. Вещи должны стираться другими 0 3. Отвечает на звонки, но не звонит 1 1 1 4. Вообще не пользуется телефоном 0 5. Транспорт 1 1. Заботится обо всех покупках самостоятельно 1 1. Передвигается самостоятельно на 1 2. Амостоятельно может делать только мелкие 1 1. Передвигается самостоятельно на 1 2. Амостоятельно может делать только мелкие 1 1. Передвигается самостоятельно на 1 3. Должен сопровождаться кем-то для 0 2. Может звахвывать такси, но не 1 совершения покупох 3. Ездит на общественным транспортом 3. Ездит на общественном транспортом 3 4. Совершенно не способен совершать покупки 0 3. Ездит на общественным транспортом 1 1. Самостоятельно планируст, готовит 1 1. Самостоятельно принимает лекарства в 1 1. Самостоятельно планируст, готовит 1 1. Самостоятельно принимает лекарства в 1 1. Самостоятельно принимает лекарства в 1 1. Самостоятельно принимает лекарства в 1 1. Подлана кем-то 0 2. Принимает лекарства, олой кем-то 0	просматривает и набирает номера и т. д.		2. Стирает/полоскает только легкие вещи	1	
знакомым номерам. 3. Отвечает на заонки, но не звонит 4. Вообще не пользуется телефоном B. Поход по магазинам 1. Заботится собо всех покупких самостоятельно на 0. Самостоятельно может делать только мелкие 0. Самостоятельно может делать только мелкие 0. Должен сопровождаться кем-то для 0. Должен сопровождаться кем-то для 0. Должен сопровождаться кем-то для 0. Совершения покупок 4. Совершению не способен совершать покупки 3. Должен сопровождаться кем-то для 0. С. Приготовление пиции 1. Самостоятельно при сопровождении 4. Поездка ограничевается 0. С. Приготовление пиции 1. Самостоятельно планирует, готовит полноценное горячее блюдо 2. Потовит полноценную еду если продукты поставляютося 3. Подогревает, подает и готовит еду, но не питается полноценно 1. Ведет хозяйство 4. Необходимы, чтобы еда была приготовлена и 1. Ведет хозяйство 0. Домашнее Хозяйство 1. Ведет хозяйство самостоятельно или с редкой пользуется и силовите еди, но не подана кем-то 0. Домашнее хозяйство или с редкой 1. Ведет хозяйство самостоятельно или с редкой 3. Не способен обрацаться с деньтами 5. Не участвует ни в каких домашними 4. Необходимы томощь со всеми домашними 5. Не участвует ни в каких домашними 5. Не участвует ни в каких домашними 6. Балл Суммарный балл колеблется от 0 (низкая функция, зависимая) до 8 (высокая функция, независимая) для женщин и от 0 до 5 для мужчин, чтобы избежать потенциальной предваятости по поду.	Может звонить только нескольким хорошо	1	Вещи должны стираться другими	0	
3. Отзечает на звоният, но не звоният 1 4. Вообще не пользуется телефоном 0 В. Поход по магазинам 1 1.3аботится обо всех покупках самостоятельно 1 2. Самостоятельно может делать только меличе 1 л. Общественном транспорте или ездит на собственном автомобиле 1 3. Должен сопровождаться кем-то для 0 2. Самостоятельно на спокупки 0 3. Должен сопровождаться кем-то для 0 совершения покупок 2. Может заказывать такски, но не 1 1. Совершению не способен совершать покупки 0 2. Может делать метомотраничевается сопровождением других лиц до такси или автомобидя. 0 1. Самостоятельно планирует, готовит 1 1. Самостоятельно планирует, готовит 0 1. Самостоятельно планирует, готовит елу, но не питается полиоценно 1 1. Самостоятельно принимать свои лекарства в правильных дозировках в нужное время 1 2. Пригитотовлене хозяйство 1 1. Самостоятельно принимать свои лекарства 0 3. Не способен принимать свои лекарства 0 1 1. Самостоятельно принимать свои лекарства 0 4. Необходимо, чтобы еда была приготовлена и подана кем-то 0 1 1. Самостоятельно управлять финансомым	знакомым номерам.				
4. Вообще не пользуется телефоном 0 В. Поход по магазинам 1 1.Заботится обо всех покупках самостоятельно и 1 1.Заботится обо всех покупках самостоятельно и 1 2. Самостоятельно может делать только мелкие 0 покупки 1 3. Должен сопровождаться кем-то для 0 совершения покупок 0 4. Совершению не способен совершать покупки 0 3. Балжи на общественном транспорте и 1 совершению не способен совершать покупки 0 4. Совершению не способен совершать покупки 0 5. Не сздит вообще 0 польщенено праничевается сопровождением других лиц до такси или автомобиля. 0 1. Самостоятельно планирует, готовит 1 1. Самостоятельно планирует, готовит 1 1. Самостоятельно планирует, готовит 1 1. Соводтоятельно планирует, готовит слу, но не 1 поланценке хозяйство 1 1. Порадевает, подает и готовит сду, но не 1 подани кем-то 0 Л. Доманиче Хозяйство 1 1. Валопивет леские сдестви, такие как 1 1. Валопивент легкие еж	3. Отвечает на звонки, но не звонит	1			
В. Поход по магазинам F. Транспорт 1.Заботится обо всех покупках самостоятельно 1 Передвигается самостоятельно на 1 2. Самостоятельно может делать только мелкие 1 Передвигается самостоятельно на 1 3. Должен сопровождаться кем-то для 0 2. Может заказывать такси, но не 1 совершения покупок 0 2. Может заказывать такси, но не 1 0.Совершения не способен совершать покупки 0 3. Ездит на общественном транспорте 1 4. Совершению не способен совершать покупки 0 3. Ездит на общественным транспорто 1 0.Соворшения покупки 0 3. Ездит на общественным транспорто 1 4. Совершению не способен совершать покупки 0 3. Ездит на общественным транспорто 1 1.Самостоятельно планирует, готовит 1 1. Самостоятельно принимает лекарства в 1 1.Самостоятельно планирует, готовит 1 1. Самостоятельно принимает лекарства в 1 1.Пологоревает, подает и готовит еду, но не 1 1. Самостоятельно принимает лекарства в 1 3.Подотревает, подает и готовит еду, но не 1 1. Самостоятельно принимает лекарства в	4. Вообще не пользуется телефоном	0			
1.3аботится обо всех покупках самостоятельно 1 1.Передвигается самостоятельно на 1 2. Самостоятельно может делать только мелкие 0 общественном транспорте или ездит на 1 0.Колотятельно может делать только мелкие 0 общественном транспорте или ездит на 1 3. Должен сопровождаться кем-то для 0 2. Может заказывать такси, но не 1 0.Козершению не способен совершать покупки 0 3. Ездит на общественном транспорте 1 4. Совершению не способен совершать покупки 0 3. Ездит на общественных транспорте 1 1.Самостоятельно планируст, готовит 1 1.Самостоятельно принимает лекарства в 1 1.Самостоятельно планируст, готовит полноценную слу если пролукты 1 1.Самостоятельно принимает лекарства в 1 1.Самостоятельно планируст, готовит еду, но не 1 1.Самостоятельно принимает лекарства в 1 1.Портервает, подает и готовит еду, но не 1 1.Самостоятельно принимает лекарства в 1 1.Подла кем-то 0 1 1.Самостоятельно принимает лекарства в 1 1.Передвиля польщению чли с редкой полание то 1 1.Самостоятельно принимает лекарства в 1 3.Подотревает, подает и готовит еду, но не	В. Поход по магазинам		F. Транспорт		
2. Самостоятельно может делать только мелкие покупки 0 общественном транспорте или ездит на собственном автомобиле 3. Должен сопровождаться кем-то для совершения покупох 0 2. Может заказывать такси, но не пользуется общественным транспорте 1 4. Совершению не способен совершать покупки 0 3. Ездит на общественном транспорте 1 0 3. Ездит на общественном транспорте 1 1 1. Самостоятельно при сопровождении 4 4. Поездка отраничевается сопровождением других лиц до такси или автомобиля. 0 2. Приготовление пищи 6. Прием лекарственных средств 0 1. Самостоятельно планирует, готовит полноценное горячее блюдо 0 2. Принимает лекарство в покем-то 0 1. Полопоценную еду если продукты поставляются 0 2. Принимает лекарство, окем-то 0 3. Подотревает, подает и готовит еду, но не питается полноценню 0 2. Принимает лекарство, окем-то 0 1. Ведет хозяйство 1 1. Самостоятельно управлять финансовыми вопросами (бюджеты, выписываят чеки, оплачивает аренду, счета, ходит в банк), собидает и отслеживает доходы 1 1. Самостоятельно или средкой помощью (например при "тяжелой работе по дому") 1 1. Самостоятельно или средкой помощью (например при "тяжелой работе по дому") 1 1. Самостоятельно или средкой помощью (Заботится обо всех покупках самостоятельно 	1	 Передвигается самостоятельно на 	1	
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3.Подогревает, подает и готовит еду, но не питается полноценно 0 дозировке 3. Не способен принимать свои лекарства 0 4. Необходимо, чтобы еда была приготовлена и подана кем-то 0 Испособность управлять финансами 0 1.Ведет хозяйство 1 1.Самостоятельно управляет финансовыми вопросами (бюджеты, выписывает чеки, оплачивает аренду, счета, ходит в банк), 2. Может делать легкие действия, такие как 1 1.Самостоятельно управляет финансовыми вопросами (бюджеты, выписывает чеки, оплачивает аренду, счета, ходит в банк), 2. Управляет сжедневными покупками, но 1 1 3. Выполняет легкие едействия, такие как мытье посуды, застилание кровати 3. Выполняет легкие ежедневные задачи, но не может поддерживать необходимый уровень чистоты 1 1 нуждается в помощи с банковскими операциями, крупными покупками и т. д. 3. Неспособен обращаться с деньгами 0 4. Необходима помощь со всеми домашними делами 1 1 Балл 0 Суммарный балл колеблется от 0 (низкая функция, зависимая) до 8 (высокая функция, независимая) для женщин и от 0 до 5 для мужчин, чтобы избежать потенциальной предвзятости по полу. 6	поставляются		приготовлено заранее в отдельной		
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D. Домашнее Хозяйство H. Способность управлять финансами I 1.Ведет хозяйство самостоятельно или с редкой помощью (например при "тяжелой работе по дому") 1 1.Самостоятельно управляет финансовыми вопросами (бюджеты, выписывает чеки, оплачивает аренду, счета, ходит в банк), собирает и отслеживает доходы 1 2. Может делать легкие действия, такие как 1 собирает и отслеживает доходы 1 3. Выполняет легкие ежедневные задачи, но не может поддерживать необходимый уровень 1 нуждается в помощи с банковскими операциями, крупными покупками и т. д. 1 чистоты 3. Неспособен обращаться с деньгами 0 4. Необходима помощь со всеми домашними делах 0 1 1 5. Не участвует ни в каких домашних делах 0 1 1 1 Суммарный балл колеблется от 0 (низкая функция, зависимая) до 8 (высокая функция, независимая) для женщин и от 0 до 5 для мужчин, чтобы избежать потенциальной предвзятости по полу. 1 1	подана кем-то				
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5. Не участвует ни в каких домашних делах 0 Балл Балл Балл Общая оценка Суммарный балл колеблется от 0 (низкая функция, зависимая) до 8 (высокая функция, независимая) для женщин и от 0 до 5 для мужчин, чтобы избежать потенциальной предвзятости по полу.	делами				
Балл Балл Общая оценка Суммарный балл колеблется от 0 (низкая функция, зависимая) до 8 (высокая функция, независимая) для женщин и от 0 до 5 для мужчин, чтобы избежать потенциальной предвзятости по полу.	5. Не участвует ни в каких домашних делах	0			
Общая оценка Суммарный балл колеблется от 0 (низкая функция, зависимая) до 8 (высокая функция, независимая) для женщин и от 0 до 5 для мужчин, чтобы избежать потенциальной предвзятости по полу.	Балл		Балл		
Суммарный балл колеблется от 0 (низкая функция, зависимая) до 8 (высокая функция, независимая) для женщин и от 0 до 5 для мужчин, чтобы избежать потенциальной предвзятости по полу.			Общая оценка		
независимая) для женщин и от 0 до 5 для мужчин, чтобы избежать потенциальной предвзятости по полу.	Суммарный балл колеблется от 0 (низкая функция	I. 38BI	симая) до 8 (высокая функция.		
полу.	независимая) для женшин и от 0 до 5 для мужчин.	чтоб	ы избежать потенциальной прелвзятости по		
	полу.				

APPENDIX B

Barthel Scale

Индекс активности в повседневной жизни Бартел

Вид активности	Оценка
1. Прием пищи:	
0 = не способен	
5 = нуждается в помощи при нарезании продуктов, помазке масла, и т.п., или требует специальной	
дисты	
10 = независим от окружающих	
2. Купание:	
0 = зависим от окружающих	
5 = независим от окружающих	
 Личный туалет (умывания, чистки зубов, бритья, расчесывания); 	
0 = нужлается в помощи	
5 = способен самостоятельно умываться, чистить зубы, бриться, расчесывать волосы	
4. Опевание:	
0 = зависим от окружающих	
5 = нуждается в помощи, но в состоянии самостоятельно справиться на половину	
10 = независимый (включая застегивание путовиц, замков и т.п.)	
5. Контроль дефекации:	
0 = недержание када (или необходимость клизм)	
5 = иногда случается неудержание кала	
10 = полностью контролирует лефекацию	
 Контроль моченспускания: 	
0 = недержание мочи или необходимость кате теризации мочевого пузыря, неспособность	
самостоятельно справиться с мочеиспусканием	
5 = иногда бывает недержание мочи	
10 = полностью контролирует мочеиспускание	
7. Пользование туалетом:	
0 = зависим от окружающих	
5 = требует некоторой помощи, но способен частично справляться самостоятельно	
10 = независим от окружающих (способен самостоятельно сесть на унитаз и встать с него, снять и	
надеть одежду, подтереться)	
 Передвижение (из кровати в кресло и обратно): 	
0 = неспособен, не удерживает равновесие в положении сидя	
5 = требует определенной помощи (физическая помощь одного или двух человек)	
10 = требует незначительной помощи (вербальной или физической)	
15 = независим от окружающих	
Способность к передвижению по ровной площадке:	
0 = неспособен к передвижению или преодолевает менее 45 метров	
5 = способен к независимому передвижению в инвалидной коляске	
10 = способен ходить с помощью одного или двух человек (вербального или физического), проходит	
более 45 метров	
15 = независим от окружающих (хотя и может пользоваться помощью, например – использовать	
палку), преодолевает более 45 метров	
10. Преодоление лестницы:	
0 = неспособен	
5 = нуждается в помощи (вербальной, физической, например, чтобы преподнести вещи)	
10 = независимый	
Bcero:	

45-50 баллов соответствует тяжелой инвалидности и зависимости от посторонней помощи, 50-75 баллов свидетельствует об умеренной зависимости, 75-100 баллов соответствует минимальному ограничению или восстановлению утраченных неврологических функций.

APPENDIX C

Developed methodological recommendations in Kazakh language

Қазақстан Республикасы Денсаулық сақтау министрлігі

Марат Оспанов атындағы Батыс Қазақстан медицина университеті

Киматова К.Н., Ермуханова Л.С., Султанова Г.Д.

ЕГДЕ ЖАСТАҒЫ АДАМДАРДЫҢ

ДЕРБЕСТІГІН САҚТАУ

(әдістемелік нұсқама)

УДК 614.2:613.98(072) ББК 51я73 К 40

Рецензенттер

1. Самарова У.С. – PhD докторы, Семей медицина университетінің қоғамдық денсаулық сақтау кафедрасының доценті

 Назарбаева Р.Қ. – м.ғ.д., Марат Оспанов атындағы БҚМУ КеАҚ «Дәлелді медицина және ғылыми менеджмент» кафедрасының доценті.

3. Зиналиева А.Н. – м.ғ.қ, Марат Оспанов атындағы БҚМУ КеАҚ №2 жалпы дәрігерлік тәжірибе кафедрасының доценті

Авторлары:

2

Киматова К.Н. – М.Оспанов атындағы БҚМУ КеАҚ, Қоғамдық денсаулық және денсаулық сақтау кафедрасының аға оқытушысы.

Ермуханова Л.С. – м.ғ.к., қауымдастық профессор, М.Оспанов атындағы БҚМУ КеАҚ, Қоғамдық денсаулық және денсаулық сақтау кафедрасының меңгерушісі.

Султанова Г.Д.-м.ғ.к., М.Оспанов атындағы БҚМУ КеАҚ, Стоматология, фармация, мейіргер ісі, қоғамдық денсаулық сақтау және медикалықпрофилактикалық іс факультеттерінің деканы

Актобе 2025ж

Егде жастағы адамдардың дербестігін сақтау / Киматова К.Н., Ермуханова Л.С., Султанова Г.Д. // Марат Оспанов атындағы Батыс Қазақстан медицина университеті, 2025.-30 б.

Әдістемелік нұсқау егде жастағы адамдардың дербестігін сақтауға, олардың өмір сүру сапасын жақсартуға және физикалық, психологиялық, әлеуметтік салауаттылығын нығайтуға бағытталған. Бұл әдістемелік нұсқауда құлаудың алдын алу, үйдегі қауіпсіздікті қамтамасыз ету, медициналық және әлеуметтік көмекке қол жеткізу шаралары қарастырылған. Әдістемелік нұсқау егде жастағы азаматтарға, олардың отбасыларына, әлеуметтік қызметкерлер, медицина қызметкерлері мен жоғары оқу орындарының студенттеріне арналған.

> УДК 614.2:613.98(072) ББК 51я73 К 40

Мақұлданған және типографиялық түрде басып шығаруға рұқсат етілген:

- М.Оспанов атындағы БҚМУ КеАҚ Ғылыми кеңесі отырысының №4 хаттамасы, 28.01.2025 ж.

- М.Оспанов атындағы БҚМУ КеАҚ Ғылыми кеңесінің отырысынан үзінді 27.02.2025 хаттама №6 (823)

4

APPENDIX D

Developed methodological recommendations in Russian language

Министерство здравоохранения Республики Казахстан

НАО ЗКМУ имени Марата Оспанова

УДК 614.2:613.98(072) ББК 51я73 К 40

Рецензенты

Доказательной

1. Самарова У.С. – к.м.н., доцент кафедры общественного здоровья НАО «Медицинский университет Семей»

медицины

менеджмента, НАО ЗКМУ имени

Киматова К.Н., Ермуханова Л.С., Султанова Г.Д.

СОХРАНЕНИЕ НЕЗАВИСИМОСТИ пожилых людей

(методические рекомендации)

2. Назарбаева Р.К.- к.м.н., доцент кафедры научного

И

Марата

Оспанова 3. Зиналиева А.Н.- к.м.н., доцент кафедры Общей врачебной практики №2 НАО ЗКМУ имени Марата Оспанова

Авторы: Киматова К.Н. – старший преподаватель кафедры общественного здоровья и здравоохранения НАО ЗКМУ им. М. Оспанова. Ермуханова Л.С. -к.м.н., ассоциированный

профессор, заведующий кафедрой общественного здоровья и здравоохранения НАО ЗКМУ им. М. Оспанова.

Султанова Г.Д. - к.м.н., декан факультетов стоматологии, фармации, сестринского дела, общественного здравоохранения И медико-

Актобе 2025г

2

профилактического дела НАО ЗКМУ им. М. Оспанова

Сохранение независимости пожилых людей / Киматова К.Н., Ермуханова Л.С., Султанова Г.Д. // Западно-Казахстанский медицинский университет имени Марата Оспанова, 2025.-26 с.

Методические рекомендации направлены на сохранение самостоятельности пожилых людей, улучшение качества их жизни, укрепление их физического, психологического и социального благополучия. В данной работе изложены меры по предотвращению падений, обеспечению безопасности дома и доступа к медицинской и социальной помощи. Методические рекомендации предназначены для лиц пожилого возраста, их семей, социальных и медицинских работников, а также для студентов медицинских вузов.

УДК 614.2:613.98(072) ББК 51я73 К 40 Утверждено и разрешено к изданию

3

типографическим способом: протокол заседания Академического совета НАО ЗКМУ им.М.Оспанова от 28.01.2025г, протокол №4

APPENDIX E

Act of implementation into the educational process

УТВЕРЖДАЮ Проректор по учебно-воспитательной работе ЗКМУ им Марата Оспанова чебноски Абенова Н.А. 20 25 r. AKT

внедрения по учебно-методической работе

9 No

db 03 20 20 7.

Основание: Кафедральное заседание кафедры «Общественного здоровья и здравоохранения», протокол №4, 29.11.2024 г., Заседание Академического комитета по Сестринскому делу №3/1 от 13.12.2024

Место проведения: Западно-Казахстанский медицинский университет имени Марата Оспанова, кафедра Общественного здоровья и здравоохранения

Наименование нововведения: Методические рекомендации «Сохранение независимости пожилых людей». Авторы: Киматова К.Н., Ермуханова Л.С., Султанова Г.Д.

Содержание внедрения: Включение методической рекомендации «Сохранение независимости пожилых людей» в список дополнительной литературы по дисциплине «Сестринский уход в геронтологии» и профессиональной практике «Сестринское дело в геронтологии» образовательной программы 6Б10103 «Сестринское дело» на базе технического и профессионального образования.

Работа выполнена: В рамках докторской диссертации Киматовой К.Н. на тему «Medical and social needs of the older people based on the EASYCare Standard 2010 questionnaire in the Republic of Kazakhstan».

Образовательная программа: «Сестринское дело» на базе технического и профессионального образования.

Дисциплина «Сестринский уход в геронтологии», профессиональная практика: «Сестринское дело в геронтологии»

Сроки внедрения: 2025-2026 гг.

Эффективность внедрения: Включение данной методической рекомендации в список дополнительной литературы по дисциплине «Сестринский уход в геронтологии» и профессиональной практике «Сестринское дело в геронтологии» образовательной программы 6Б10103 «Сестринское дело» обосновано ее практической значимостью. Это позволит студентам глубже изучить методы поддержания активности пожилых людей, развить профессиональные навыки ухода и повысить качество сестринской помощи в условиях старения населения.

Предложения, замечания, осуществляющего внедрение: включить данные методические рекомендации в список дополнительной литературы дисциплины по сестринскому делу

Руководитель кафедры:

Исполнитель:

СОГЛАСОВАНО руководитель ДАР

Ермуханова Л.С.

Киматова К.Н.

Алекенова Н.У.

Н ПРО БКМУ 708-07-2022. Оку-әдістемелік жұмыс бойынша еңгізу актісі. Жетінші басылым. Ф ПРО ЗКМУ 708-07-2022. Акт внедрения по учебно-методической работе. Издание седьмос.

APPENDIX F

Acts of implementation in the city polyclinics of Aktobe (master class)

Ketageran Peenyonusiaca Actede canacea кАф обе обтысканые денс COLUZIORAHO сактау раскармасын менлекендроректор из **МЛАСОВАНО** researching unpynumerics avprimation is Руководитель об н инако управления DATENTING. Аклочнов кой области CON-MINDALL аничеству HEDDHOM нит капалык выхонасы» Члем Профре H.K.T.Lannh intem Соспанова мемпекеттік коммуналдық Срабекова RECINODAINA 2024r. AKT No 98 внедрения научно- исследовательской работы ГКП "Городская поликлиника №1 на ПХВ Наименование предложения: Проведение мастер- класса медицинским сестрам на тему: "Пациенты с повышенным риском палений - проблема для гериатрической помощи" Работа внедрена в рамках выполнения докторской диссертации на соискание степени PhD на тему «Medical and social needs of the older people based on the EASYCare Standard 2010 questionnaire in the Republic of Kazakhstan» Форма внедрения : мастер-класс Медицинские сестры играют важную роль в определении пациентов пожилого возраста с повышенным риском падений, и в рамках практического мастер класса им были даны инструменты для определения риска падений и внедрения мер профилактики падений. Ответственный за внедрение и испонитель: Научный консультант - кмн, ассоц. профессор Ермуханова Л.С., главный врач Лепесова Г.Ж., докторант Киматова К.Н. Эффективность внедрения: социальная, экономическая Предложения, замечания учреждения, осуществляющего внедрение: Падения - серьезная проблема у пациентов пожилого возраста, так как они вызывают значительные ограничения повседневной жизнедеятельности, ухудшение физиологического состояния и снижение качества жизни. Также они могут привести к старческой астении, утрате автономности, что требует долговременного ухода и увеличения расходов здравоохранения, поэтому необходимо заранее проводить меры профилактики падений среди людей пожилого возраста. Срок внедрення : сентябрь 2024г Председатель комиссии П.Ж.Айтмаганбет Члены (ответственные за висдрение) Лепесова Г.Ж. Л.С.Ермуханова Исполнитель, докторант Киматова К.Н Н ПРО БКМУ 605-03-2020. Гылымп-зерттеу жұнысын еңдіру акті. Алтыншы басылым.

Ф ПРО ЗКМУ 605-03-2020. Акт внедрения научно-исследовательской работы. Издание шестое.

СОГЛАСОВАНО Руководитель од нелахо у уравления заравоохранизии Актьюбинской области ИСтакования Актьюбинской области ИСтакования 19 И2 2024

СОГЛАСОВАНО Проректор по стратес науке и межла Ілен Правл 1074r

АКТ № 99 внедрения научно- исследовательской работы ГКП "Городская поликлиника №4" на ПХВ

Наименование предложения: Проведение мастер- класса медицинским сестрам на тему: "Пациенты с повышенным риском падений – проблема для гериатрической помощи"

Работа внедрена в рамках выполнения докторской диссертации на соискание степени PhD на тему «Medical and social needs of the older people based on the EASYCare Standard 2010 questionnaire in the Republic of Kazakhstan»

Форма внедрения : мастер-класс

Медицинские сестры играют важную роль в определении пациентов пожилого возраста с повышенным риском падений, и в рамках практического мастер класса им были даны инструменты для определения риска падений и внедрения мер профилактики падений.

Ответственный за внедрение и исполнитель: Научный консультант – к.м.н, ассоц. профессор Ермуханова Л.С., главный врач ГП№4 М.М.Нуртазин, докторант Киматова К.Н.

Эффективность внедрения: социальная, экономическая

Предложения, замечания учреждения, осуществляющего внедрение: Падения – серьезная проблема у пациентов пожилого возраста, так как они вызывают значительные ограничения повседневной жизнедеятельности, ухудшение физиологического состояния и снижение качества жизни. Также они могут привести к старческой астении, утрате автономности, что требует долговременного ухода и увеличения расходов здравоохранения, поэтому необходимо заранее проводить меры профилактики падений среди людей пожилого возраста.

Срок внедрения : сентябрь 2024г	STATUS SACUS	
Председатель комиссии	ANK	_П.Ж.Айтмаганбет
Члены (ответственные за внедрение)		М.М.Нуртазин
ALC: NOT	A CONTRACTOR OF THE OWNER	Л.С.Ермуханова
Исполнитель, докторант	Hungs	Киматова К.Н

Н ПРО БКМУ 605-03-2020. Ғылыми-зерттеу жұмысын ендіру акті. Алтыншы басылым. Ф ПРО ЗКМУ 605-03-2020. Акт внедрения научно-исследовательской работы. Издание шестое.

СОГЛАСОВАНО СОГЛАСОВАНО Проректор по стратет писско Руковолитель обя науке и междунар то Член Правления ЗК 15

АКТ № 100 внедрения научно- исследовательской работы

Клиника семейной медицины НАО ЗКМУ имени Марата Оспанова

Наименование предложения: Проведение мастер- класса медицинским сестрам на тему: "Пациенты с повышенным риском падений – проблема для гериатрической помощи"

Работа внедрена в рамках выполнения докторской диссертации на сонскание степени PhD на тему «Medical and social needs of the older people based on the EASYCare Standard 2010 questionnaire in the Republic of Kazakhstan»

Форма внедрения : мастер-класс

Медицинские сестры играют важную роль в определении пациентов пожилого возраста с повышенным риском падений, и в рамках практического мастер класса им были даны инструменты для определения риска падений и внедрения мер профилактики падений.

Ответственный за внедрение и исполнитель: Научный консультант – кмн, ассоц. профессор Ермуханова Л.С., главный врач Тулкибаева Б.М., докторант Киматова К.Н.

Эффективность внедрения: социальная, экономическая

Предложения, замечания учреждения, осуществляющего внедрение: Падения – серьезная проблема у пациентов пожилого возраста, так как они вызывают значительные ограничения повседневной жизнедеятельности, ухудшение физиологического состояния и снижение качества жизни. Также они могут привести к старческой астении, утрате автономности, что требует долговременного ухода и увеличения расходов здравоохранения, поэтому необходимо заранее проводить меры профилактики падений среди людей пожилого возраста.

Срок внедрения : сентябрь 2024г

Председатель комиссии

Члены (ответственные за внедрение)

Исполнитель, докторант



Н ПРО БКМУ 605-03-2020. Ғылыми-зерттеу жұмысын ендіру акті. Алтыншы басылым. Ф ПРО 3КМУ 605-03-2020. Акт внедрения научно-исследовательской работы. Издание шестое.

APPENDIX G

Acts of implementation in the city polyclinics of Aktobe (methodological recommendations)

СОГЛАСОВАНИ Руковрантен, областного управления инского	СОГЛАСОВАН Проректор по стратегическому развития науке и междунардному сотрудничеств лен Продоктическому сотрудничеств общество сотрудничество общество сотрудничество общество сотрудничество общество сотрудничество общество на ПХВ сила соцекание степени PhD ASYCare Standard 2010 questionnal
Руководитель областного управления агазнохуранець с клюбанской области ултангерсев Е.Б. 20 100 25 г. ИСССТ. ИССТ. ИСССТ. ИСССТ. ИСССТ. ИСССТ. ИСССТ. ИССТ. ИСССТ. ИССТ. ИССТ. ИСССТ. ИССТ	СОГЛАСОВАН проректор по стратегическому развитив науке и междинараному сотрудничеств лен Пратосититися и сени М.Оспаное 2025 2025 обработы на ПХВ сидаций «Сохранение в качестве раздаточного материал ции на соискание степени PhD ASYCare Standard 2010 questionna
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	сультант – к.м.н, ассоц. професс гова К.Н.
Эффективность внедрения: социально-экономическая орг	URANINA UNIVERSITY
социальных показателей	анизационная, улучшение меди
Предложения, замечания учреждения, осуществляющего ви	едрение: Внедрение методическ
рекомендаций в деятельность врачей общей практики, медицин	ских сестёр и социальных
работников с целью оказания комплексной поддержки пожилы?	и людям. Реализация данных
рекомендаций позволит пожилым гражданам дольше сохранять	здоровье, поддерживать
активность и вести полноценную жизнь.	
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Председатель комиссии	Aŭmaranfar II W
Члены (ответственные за внедрение)	Лепесова Г.Ж.
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Исполнитель покторония	_ Ермуханова Л.С.
Kurry	_ Ермуханова Л.С.
	_ Ермуханова Л.С. _ Киматова К.Н

/		
СОГЛАСОВАНО Руководитель областного управления здравоохранения Актюбинской области	СОГЛАСОВАНО Проректор по стратегниескому развитию, науке и межати по стратиски согрудничеству)
28 28 1025r.	Член Праноски за ЗКМУ плании М.Оспанова казакетки респуткикасы «моля сопанов индерситеть консернование сманов индерситеть консернование сманов отвасылык индициза клиенихасы	1 1
виедрени	АКТ № 10 я научно- исследовательской работы	

Наименование предложения: Внедрение методических рекомендаций «Сохранение независимости пожилых людей» в практическую деятельность в качестве раздаточного материала для лиц пожилого возраста и их семей.

Клиника семейной медицины НАО ЗКМУ имени Марата Оспанова

Работа внедрена в рамках выполнения докторской диссертации на соискание степени PhD на тему «Medical and social needs of the older people based on the EASYCare Standard 2010 questionnaire in the Republic of Kazakhstan»

Форма внедрения : методические рекомендации

Методические рекомендации направлены на сохранение самостоятельности пожилых людей, улучшение качества их жизни, укрепление их физического, психологического и социального благополучия. В данной работе изложены меры по предотвращению падений, обеспечению безопасности дома и доступа к медицинской и социальной помощи. Методические рекомендации предназначены для лиц пожилого возраста, их семей, социальных и медицинских работников, а также для студентов медицинских вузов.

Ответственный за внедрение и исполнитель: Научный консультант – к.м.н, ассоц. профессор Ермуханова Л.С., главный врач Тулкибаева Б.М., докторант Киматова К.Н.

Эффективность внедрения: социально-экономическая, организационная, улучшение медикосоциальных показателей

Предложения, замечания учреждения, осуществляющего внедрение: Внедрение методических рекомендаций в деятельность врачей общей практики, медицинских сестёр и социальных работников с целью оказания комплексной поддержки пожилым людям. Реализация данных рекомендаций позволит пожилым гражданам дольше сохранять здоровье, поддерживать активность и вести полноценную жизнь.

Срок внедрения : март, 2025 год

Председатель комиссии	Constant /	/ _ Айтмаганбет П.Э
Члены (ответственные за внедрен	nef i de Mana	Тулкибаева Б.М
	OTEACHUMA AST	Ермуханова Л.С
Исполнитель, докторант	A A A A A A A A A A A A A A A A A A A	Киматова К.Н
	ADAGAN .	

Н ПРО БКМУ 605-03-2020. Ғылыми-зерттеу жұмысын ендіру акті. Алтыншы басылым. Ф ПРО ЗКМУ 605-03-2020. Акт внедрения научно-исследовательской работы. Издание шестое.



СОГЛАСОВАНО Проректор по стратегическому развитию, науке и сотрудничеству Член Гл еки М.Оспанова Журабекова 2025r

АКТ № 11 внедрения научно- исследовательской работы ГКП "Городская поликлиника №4" на ПХВ

Наименование предложения: Внедрение методических рекомендаций «Сохранение независимости пожилых людей» в практическую деятельность в качестве раздаточного материала для лиц пожилого возраста и их семей.

Работа внедрена в рамках выполнения докторской диссертации на соискание степени PhD на тему «Medical and social needs of the older people based on the EASYCare Standard 2010 questionnaire in the Republic of Kazakhstan»

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Ответственный за внедрение и исполнитель: Научный консультант – к.м.н, ассоц. профессор Ермуханова Л.С., главный врач Нуртазин М.М., докторант Киматова К.Н.

Эффективность внедрения: социально-экономическая, организационная, улучшение медикосоциальных показателей

Предложения, замечания учреждения, осуществляющего внедрение: Внедрение методических рекомендаций в деятельность врачей общей практики, медицинских сестёр и социальных работников с целью оказания комплексной поддержки пожилым людям. Реализация данных рекомендаций позволит пожилым гражданам дольше сохранять здоровье, поддерживать активность и вести полноценную жизнь.

Срок внедрения : 2025 год	1
Председатель комиссии	Айтмаганбет П.Ж
Члены (ответственные за вы адение)	Нуртазин М.М.
A THE OWNER THE TALL	Дермуханова Л.С.
Исполнитель, докторант	Киматова К.Н

Н ПРО БКМУ 605-03-2020. Ғылыми-зерттеу жұмысын ендіру акті. Алтыншы басылым. Ф ПРО ЗКМУ-605-03-2020. Акт внедрения научно-исследовательской работы. Издание шестое.

APPENDIX H

EASYCare Standard 2010 questionnaire in Russian

Личная информация 1.Пол: Мужской____ Женский_____ 2. Возраст: 3. Район проживания: Сельский Городской 4. Семейное положение: В браке не состоит Состоит в браке/сожительство Вдовец/вдова **5. Образование** _____ Среднее (школа) ____ Среднее специальное (техникум/колледж) Высшее (институт, университет) 6. Какое семейное финансовое состояние у вас в конце месяца? Недостаточно для проживания Еле хватает на проживание Остаются лишние деньги в конце месяца 7. С кем проживаете: Один___ В паре С большой семьей ____ Дом престарелых____ 8. Профессиональный статус: Полная занятость____ Неполная занятость____ Безработный____ Домохозяйка____ Пенсионер Вышедший на пенсию раньше положенного времени 9. Ухаживаете ли Вы за кем-либо? Да___ Нет___ Детали: 10. За Вами кто-либо ухаживает? Да___ Нет____ Другое Детали:

Медицинская проверка

Пожалуйста укажите какие из нижеприведенных диагнозов у вас имеются: Сердечные заболевания_____ Перенесенный инсульт_____ Заболевание грудной клетки /легких_____ Онкологические заболевания_____ Артрит_____ Остеопороз и перелом костей_____ Диабет____

Слабоумие____

Если у Вас имеются диагнозы не указанные здесь, пожалуйста укажите их ниже :

Основная часть

1.Зрение, слух и общение

1.1 Вы можете видеть? (с очками, если носите)?

Да____ С трудом____ Не вижу вообще___

1.2 Вы можете слышать (со слуховым аппаратом если носите)?

Да___ С трудом_____ Не слышу вообще___

1.3 Испытываете ли Вы трудности в общении из-за проблем с речью?

Трудностей нет____ Трудности с некоторыми людьми____ Трудности со всеми_____

1.4 Можете ли Вы пользоваться телефоном? (домашний или сотовый)

Без посторонней помощи, включая просмотр номеров и набора ____

С некоторой помощью____

Или вы не можете пользоваться телефоном?_____

Комментарии

2. Уход за собой

2.1 Вы можете поддерживать свой внешний вид? (расчесывать волосы, бриться, наносить макияж и тд)?

Без посторонней помощи Или вы нуждаетесь в чьей-либо помощи в поддержании своего внешнего вида

2.2 Можете ли вы одеться самостоятельно?

Без посторонней помощи (включая пуговицы, молнии, шнурки и тд)____

С некоторой помощью (могу наполовину самостоятельно)_____

Или вы не способны одеться самостоятельно

2.3 Можете ли вы помыть ваши руки и лицо?

Без посторонней помощи

Или вы нуждаетесь в чьей-либо помощи

2.4 Можете ли вы пользоваться ванной или душем?

Без посторонней помощи_

Или вы нуждаетесь в чьей-либо помощи для пользования ванной или душем?_____

2.5 Можете ли вы выполнять работу по дому?

Без посторонней помощи (мыть полы и тд)____

С некоторой помощью (могу выполнять легкую работу по дому, но мне необходима помощь при трудной работе)_____

Или вы не способны выполнять работу по дому

2. Забота о себе (продолжение)

2.6 Можете ли вы приготовить себе еду?

Без посторонней помощи (планирую и готовлю горячие блюда)

С некоторой помощью (могу приготовить кое-что, но не в состоянии готовить горячие блюда)

Или вы неспособны приготовить себе еду?

2.7 Можете ли вы самостоятельно кушать?

Без посторонней помощи С некоторой помощью (разрезать еду, нанести масло на хлеб и тд)

Или вы не в состоянии кушать самостоятельно?

2.8 Есть ли у вас проблемы с полостью рта или зубами?

Нет Да (если да, пожалуйста укажите ниже какие проблемы)

2.9 Можете ли вы принимать лекарства самостоятельно?

Без посторонней помощи (в нужных дозах и в нужное время)

С некоторой помощью (если кто-либо готовит для вас и/или напоминает принять лекарства)

Или вы не в состоянии принять свои лекарства?

2.10 Есть ли у вас какие-либо проблемы с кожей? (язвы ног, пролежни)

Нет Да (если да, то пожалуйста укажите какие)

2.11 Есть ли у вас проблемы с мочевым пузырем (недержание мочи?)

Нет Да, происходят иногда (меньше 1 раза в день/ раз в два дня)

Или у вас есть частые недержания (1 раз в день или больше)

Или нужна помощь с мочевым катетором?

2.12 Есть ли у вас проблемы с кишечником (недержание кала)?

Нет____ Да, происходят иногда (меньше 1 раза в неделю)

Или у вас частые проблемы (1 раз в день или более) или нужно делать клизму?

2.13 Можете ли вы пользоваться туалетом? (или кресло-туалетом)

Без посторонней помощи (могу добираться до туалета, раздеться, почистить за собой)

С некоторой помощью (могу кое-что сделать самостоятельно, в том числе почистить за собой)

Или вы не в состоянии пользоваться туалетом/ кресло-туалетом? Коментарии:____

3. Перемещение

3.1 Можете ли вы передвигаться самостоятельно от кровати до стула, если они стоят рядом?

Без посторонней помощи С некоторой помощью

Или вы не в состоянии передвигаться самостоятельно от кровати до стула?

3.2 Есть ли у вас проблемы с коленями?

Нет Некоторые проблемы (пожалуйста укажите ниже какие)

3.3 Можете ли вы передвигаться в помещении? Без посторонней помощи (с тростью/ходунком)

В инвалидной коляске без помощи С некоторой помощью Или вы прикованы к кровати? 3.4Можете ли вы пользоваться лестницами? Без посторонней помощи (с тростью/ходунком) С некоторой помощью Или вы не в состоянии пользоваться лестницами? 3.5 Были ли у вас какие-либо падения в последние 12 месяцев? Ни разу____ один раз_____ два раза и более____ 3.6 Можете ли вы выходить на улицу? Без посторонней помощи (с тростью/ходунком) С некоторой помощью Или вы не в состоянии выходить на улицу? 3.7 Можете ли вы ходить за покупками? Без посторонней помощи (могу купить все необходимое) С некоторой помощью (нужен кто-то чтобы ходить с вами по магазинам) Или вы не в состоянии ходить за покупками? 3.8 Есть ли у вас какие-либо трудности при получении общественных услуг (например: врача, фармацевта, стоматолога и тд)? Нет Необходима некоторая помощь Или вы не в состоянии получать данные услуги?

4. Ваша безопасность

4.1 Чувствуете ли вы себя в безопасности в вашем доме? Да Нет

Коментарии:_____

4.2 Чувствуете ли вы себя в безопасности за пределами вашего дома? Да Нет

4.3 Чувствовали ли вы когда-либо угрозу или преследования со стороны кого-либо? Да Нет

4.4 Чувствуете ли вы дискриминацию по какой-либо причине? (например ваш возраст, пол, раса, религия, национальность, инвалидность и тд) Да Нет

4.5 Есть ли у вас кто-нибудь, кто мог бы помочь вам в случае болезни или нечастного случая?

Да____ Нет___

Комментарии_____

5. Жилье и финансовое положение

5.1 Довольны ли вы своим жильем? Да Нет

5.2 Вы в состоянии управлять своими деньгами и финансовыми делами? Да_____ Нет____

5.3 Вы хотели бы получить консультацию по пособиям и льготам? Да____ Нет___ Комментарии_____

6. Поддержание здоровья

6.1 Занимаетесь ли вы регулярной физической культурой? Да____ Нет____ 6.2 Чувствуете ли вы нехватку воздуха при повседневной деятельности? Да__ Нет____

Если ответ Да: При отдыхе/покое По ночам На лестнице В квартире

6.3 Курите ли вы какие-либо табачные изделия? (например: сигареты, сигары, трубки) Да Нет

6.4 По вашему мнению вы много употребляете алкогольных напитков? Да ____ Нет ____
6.5 Вы мерили давление недавно? Да ____ Нет _____

6.6 Есть ли у вас беспокойства по поводу вашего веса?

Избыточный вес Потеря веса Нет беспокойств

6.7 Как вы думаете вы получаете прививки своевременно?

Да____ Нет____

Комментарии:

7. Психическое здоровье и благополучие

7.1 Можете ли вы заниматься важными для вас видами досуга, хобби, работой и учебой? Да Нет

7.2 Одним словом, как бы вы оценили ваше здоровье?

Отличное____ Очень хорошее____ Удовлетворительное____ Плохое____

7.3. Вы чувствуете себя одиноким? Никогда Иногда Часто Часто

7.4 Страдали ли вы от какой-либо недавней потери или тяжелой утраты? Да_____ Нет____

7.5 У вас были проблемы со сном за последний месяц? Да_____ Нет__

7.6.У Вас были какие-либо боли в теле за последний месяц? Да____ Нет_____

Если ответ Да: Очень легкие____ Легкие____ Умеренные____ Сильные____

7.7 В течение последнего месяца вас часто беспокоило чувство подавленности, депрессии или безнадежности? Да ____ Нет____

7.8 В течении последнего месяца вас часто беспокоило чувство отсутствия интереса или удовольствия делать что-либо? Да____ Нет____

7.9 У вас есть беспокойства по поводу потери памяти или забывчивости? Да_____ Нет_____

Комментарии:_____

8. Дополнительная информация

Какие еще вопросы важны для вас в отношении вашего здоровья?

9. Комментарии детей/ опекунов

Есть ли что-нибудь еще о человеке, за которым вы ухаживаете, что вы считаете важным?

В результате вашей роли в качестве лица оказывающего уход, есть ли вопросы, которые вы хотели бы решить?

Индекс Лоутона

1.1. Вы можете стирать свои вещи самостоятельно (вручную или в стиральной машинке)?

Да, все свои вещи стираю самостоятельно

Могу, но нет необходимости, потому что дети/снохи стирают для меня___

Могу стирать только легкие вещи (носочки, платочки) ____

Не могу, необходимо, чтобы кто-то мне стирал вещи_____

1.2. Как вы передвигаетесь по городу?

Самостоятельно на общественном транспорте или езжу на своей машине____

Заказываю и езжу только на такси самостоятельно

Езжу на общественном транспорте только в сопровождении кого-либо

Могу доходить до машины только с чьей-либо помощью____

Не выхожу из дома совсем, не передвигаюсь по городу____

Подпись_____Дата_____

Соглашение

Информация, записанная во время этого тестирования, может быть передана другим лицам, участвующим в вашем лечении. Это поможет им понять ваши потребности и избежать необходимости повторять некоторые вопросы тестирования.

Некоторая информация может использоваться для планирования будущих услуг. Эта информация будет анонимной, так что вы не будете идентифицированы.

Согласны ли вы с тем, чтобы информация, записанная в ходе этого тестирования, была использована для планирования будущих услуг?

Да____ Нет____

Есть ли какая-либо конкретная информация, которой вы не хотите делиться? (Укажите детали) Да_____ Нет____

Существуют ли агентства или частные лица, с которыми вы не хотели бы делиться информацией? (Укажите детали)

Да____ Нет____

Подпись_____Дата_____

Имя исследователя: _____ Подпись ____ Дата _____

ОЦЕНКА НЕЗАВИСИМОСТИ

Следующие вопросы в оценке текущих потребностей и приоритетов EASY-Care связаны с потребностью в уходе и поддержке. Высокие баллы показывают высокую потребность в поддержке

Table I1

Показатель потребности в поддержке (балл в скобках)	Вопрос	Оценка
Не может пользоваться телефоном (3), пользуется с некоторой	B 1,4	
помощью (2), без посторонней помощи (0)		
Нужна помощь в поддержании внешнего вида (5), не нуждается в	B 2,1	
помощи (0)		
Не может одеваться (6), одевается с некоторой помощью (4), без	В 2,2	
посторонней помощи (0)		
Не может принять ванну/душ (5), принимает без посторонней	В 2,4	
помощи (0)		
Не может выполнять домашнюю работу (3), выполняет с	B 2,5	
некоторой помощью (2), без помощи (0)		
Не может приготовить еду (5), готовит с некоторой помощью (2),	B 2,6	
без помощи (0)		
Не может самостоятельно есть (8), ест с некоторой помощью (3),	В 2,7	
без посторонней помощи (0)		
Не может принимать лекарства (4), принимает с некоторой	В 2,9	
помощью (2), без посторонней помощи (0)		
Частые случаи недержания мочи (8), частичные (6), нет таких	B 2,11	
случаев (0)		
Частые случаи недержания кала (8), частичные (6), не бывает	B 2,12	
таких случаев (0)		
Не может использовать туалет (7), пользуется с некоторой	B 2,13	
помощью (4), без помощи (0)		
Не может переместиться с кровати на стул (7), с некоторой	B 3,1	
помощью (4), без посторонней помощи (0)		
Прикован к кровати (8), нуждается в помощи для перемещения	В 3,3	
внутри помещения (7), передвигается самостоятельно при		
помощи инвалидного кресла (5), без помощи (0)		
Не может подниматься по лестнице (4), поднимается с некоторой	В 3,4	
помощью (2), без помощи (0)		
Не может гулять на улице (6), с некоторой помощью (3), без	В 3,6	
помощи (0)		
Не может ходить за покупками (4), с некоторой помощью (2), без	В 3,7	
помощи (0)		
Не может получить общественные услуги (5), с некоторой	В 3,8	
помощью (2), нет таких трудностей (0)		
Не способен управлять финансами (4), способен управлять (0)	В 5,2	
Общая оценка (0-100)		

РИСК СРЫВА В ГОСПИТАЛИЗАЦИИ

Table I2

Индикатор риска	Вопрос	1 балл на каждый ответ
Нуждается в помощи с одеванием		
принятием ванны		
приемом пищи		

РИСК ПАДЕНИЙ

Следующие вопросы в оценке текущих потребностей и приоритетов EASY-Care прогнозируют повышенный риск падения и/или травм от падений. Три или более положительных пункта указывают на высокий риск падений.

Table I3

Индикатор риска	Вопрос	1 балл на каждый ответ
Имеются сложности со зрением	B1	
Сложности с перемещением	B 3,1	
Проблемы с коленями	В 3,2	
Один и более падений за год	B 3,5	
Прикован к дому	B 3,6	
Небезопасно дома	B 4,1	
Небезопасно вне дома	B 4,2	
Чрезмерное употребление алкоголя	B 6,4	
Общее (из 8)		

APPENDIX I

EASYCare Standard 2010 questionnaire in Kazakh

Жеке ақпарат: 1)Жынысы: Ер Әйел Жасы: 3) Тұрғылықты мекенжайы: Ауыл Қала 4) Отбасылық жағдайы: Бойдақ Үйленген/бірге тұрады Ажырасқан Жесір 5)Білімі: Орта(мектеп) Орта кәсіптік (техникум, колледж)___ Жоғары (институт, университет) 6) Жалпы, сіздің отбасылық қаржыңыз айдың соңында қалай қалыптасады? Ай соңына дейін жеткіліксіз Ай соңына дәл жетеді Шамалы ақша артылады 7) Кіммен бірге тұрасыз: Жалғыз Жұбайыммен Үлкен отбасыммен Қарттар үйінде 8)Кәсіби мәртебеңіз: Толық жұмыс күнімен қамтылған Жартылай жұмыс күнімен қамтылған Жұмыссыз Үй шаруасындағы әйел Зейнеткер Жұмыстан зейнетке ерте шыккан Студент 9)Сіз біреуге қамқорлық (күтім) жасайсыз ба? Иә Жоқ 10) Сізге біреу қамқорлық (күтім) жасай ма? Ия Жоқ Басқа Негізгі бөлім: 1.Көру, есту, сөйлесу 1.1 Жалпы көзіңіз жақсы көре ме? (Егер көзілдірік кисеңіз көзілдірікпен)? Ия Жоқ Дұрыс көрмеймін 1.2Жалпы есту қабілетіңіз жақсы ма (Егер есту аппаратын тақсаңыз аппаратпен)? Ия Жоқ Дұрыс естімеймін 1.3 Сөйлеу бойынша қиыншылықтар әсерінен сізді түсіну қиындық туғызады ма? Жоқ Кейбір адамдармен қиындық туады барлық адамдармен қиындық туады 1.4Сіз телефон қолданасыз ба? (Үй немесе ұялы телефонмен) Көмексіз қолданамын соның ішінде нөмірлерді іздеу және теру Көмекті қажет етемін немесе телефонды қолдана алмайсыз ба? 2.Өзін өзі күту 2.1 Сіз өзіңіздің сыртқы келбетіңізді күте аласыз ба? (мысалы, шашты тарау, қырыну, бояну, т.с.с) Өзім жасай аламын Немесе көмек қажет пе? 2.2 Өздігіңізден киіне аласыз ба? Өзім киіне аламын (түймелерді тағып, замок, т.с.с.)___

Шамалы көмекті қажет етемін (жартысын өзім жасай аламын)___

Немесе өзіңіз киіне алмайсыз ба?_

2.3 Өзіңіздің қолыңызбен бетіңізді жуа аласыз ба?

Көмексіз жуа аламын ____ шамалы көмекті қажет етемін ____

2.4Душ немесе ваннаны өзіңіз қабылдай аласыз ба?

Көмексіз қабылдай аламын Немесе көмекті қажет етесіз бе?

2.5 Үй жұмысын атқара аласыз ба?

Көмексіз атқара аламын(еден жуып т.б.)___

Көмекпен атқара аламын (жеңіл жұмыстарды атқара аламын, бірақ ауыр жұмыстарға көмекті қажет етемін) ____

Немесе ешқандай үй жұмысын атқара алмайсыз ба?_

2.6 Өз тамағыңызды дайындай аласыз ба?

Көмек қажет етпеймін (өз тамағымды толығымен дайындай аламын)___

Көмек қажет (шамалы нәерселерді дайындаймын бірақ өз тамағымды толық дайындай алмаймын) ____

Немесе дайындай алмайсыз ба?___

2.7 Өзіңізді тамақтандыра аласыз ба?

Көмекті қажет етпеймін_

Шамалы көмек қажет етемін (тамақты құю, нанды кесу, майды жағу т.с.с.)____ Немесе өзіңізді тамақтандыра алмайсыз ба?

2.8 Ауыз қуысыңыз немесе тісіңіз ауырады ма? Жоқ Ия (Егер ауырса сипаттап беріңіз)

2.9 Сіз өз дәрі-дәрмегіңізді қабылдай аласыз ба?

Көмекті қажет етпеймін(қажет дозасы мен уақытында қабылдай аламын)__ Шамалы көмек қажет етемін(егер біреу дайындап / немесе есіме салып тұрса)__ Немесе сіз дәрі дәрмегіңізді қабылдай алмайсыз ба?___

Сізде тері аурулары болды ма? (мысалы, аяқтың жаралары, қысым жаралары) Жоқ Иә (егер болса, төменде көрсетіңіз)

Сізде қуықтың бұзылуы бар ма(зәр шығаруды ұстамау)? Жоқ

Иә, кездейсоқ жағдайда болуы мүмкін (күніне бір реттен аз)____

Немесе сізде жиі жағдайлар бар ма (күніне бір рет немесе одан да көп)____

Немесе зәр шығару катетерінің көмегі қажет пе?____

Сізде үлкен дәретпен қиындықтар бар ма?? (нәжісті ұстамау)? Жоқ

Кей кездері (аптасына бір реттен аз)

Немесе сізде жиі қайталанады

Немесе клизма жасау керек пе?____

Сіз дәретханаға өздігіңізден бара аласыз ба (немесе арнайы отырғыш діретхананы колдана аласыз ба)?

Көмекті қажет етпеймін_

Шамалы көмекті қажет етемін___

Немесе дәретханаға өз бетіңізбен бара алмайсыз ба?____

3.Қозғалысыңыз

3.1 Сіз өз бетіңізбен төсектен орындыққа дейін жүре аласыз ба, егер олар бір біріне жақын тұрса?

Көмекті қажет етпеймін____

Шамалы көмек қажет

Немесе сіз төсектен орындыққа дейін қозғала алмайсыз ба?____

3.2 Сіздің табаныңыз аурады ма?

Жоқ Кішкене ауырады (өтініш төменге жазып кетіңіз)

3.3 Сіз үйде қозғала аласыз ба?

Көмекті қажет етпеймін (тасымалдау немесе жүру құрылғыларысыз)____

Мүгедектер арбасында көмексіз _

Немесе сіз төсекке таңылғансыз ба?____

3.4 Сіз баспалдақпен жүре аласыз ба?

Көмекті қажет етпеймін (кез-келген жаяу жүру құралдарын киюді қоса)____

Қандай да бір көмекпен__

Немесе сіз баспалдақпен жүре алмайсыз ба?____

3.5 Сіз соңғы 12 ай ішінде құладыңыз ба?

Жоқ Бір рет Екі немесе одан көп

3.6 Сыртта өзіңіз жаяу жүре аласыз ба?

Көмекті қажет етпеймін (кез-келген жаяу жүру құралдарын киюді қоса)____

Қандай да бір көмекпен___

Немесе сіз сыртта жүре алмайсыз ба?___

3.7 Сіз дүкенге барып зат сатып ала аласыз ба?

Көмекті қажет етпеймін (барлық қажет нәрселерді өзім сатып аламын)

Қандай да бір көмекпен (сізге барлық сауда сапарларында біреу еріп жүруі керек)____

Немесе сіз ешқандай сауда жасай алмайсыз ба?__

3.8 Мемлекеттік қызметтерді алуда қандай да бір қиындықтар бар ма?

(мысалы, дәрігер, дәріхана, стоматолог және т. б.)

Еш қиындықсыз____

Көмек қажет_

Мемлекеттік қызметтерді ала алмаймын____

4. Сіздің қауыпсіздігіңіз

4.1 Сіз өзіңіздің үйіңізде өзіңізді қауіпсіз сезінесіз бе?

Иә___ Жоқ___

4.2 Сіз үйден тыс жерде өзіңізді қауіпсіз сезінесіз бе? Иә___ Жоқ___

4.3 Біреу сізді қорқытып немесе қуып жүргендей сезіндіңіз бе? Иә____ Жоқ _

4.4 Сізде қандай да бір себептермен өзіңізді кемсіту сезімі барма? (мысалы, сіздің жасыңыз, жынысыңыз, нәсіл, дін, мүгедектік)

Иә___ Жоқ___

4.5 Ауру немесе төтенше жағдай туындаған кезде сізге көмектесе алатын біреу бар ма? Иә Жоқ

5. Үй және қаржылық жағдай

Жалпы, сіз өзіңіздің тұрғын үйіңізге ризасыз ба? Иә___ Жоқ__

Сіз өзіңіздің ақшаңыз бен қаржылық істеріңізді басқара аласыз ба? Иә___ Жоқ__

Сіз қаржылық жеңілдіктер немесе жеңілдіктер туралы кеңес алғыңыз келе ме? Иә Жоқ

6. Денсаулықты сақтау

6.1 Сіз үнемі жаттығу жасайсыз ба?

Иэ__ Жоқ__

6.2 Сізге әдеттегі әрекет кезінде ауа жетпей қалады ма?

Иэ__ Жоқ__

Егер Иә болса: демалған кезде____ түнде тыныштықта____

баспалдақпен көтерілген кезде___ пәтерде__

6.3 Сіз табак шегесіз бе? (мысалы, темекі, сигара, түтік)

Иә__ Жоқ__

6.4 Сіз алкогольді көп ішесіз деп ойлайсыз ба?

Иә__ Жоқ_

6.5 Жақында сіздің қан қысымыңыз өлшенді ме?

Иэ__ Жоқ__

6.6 Сіздің салмағыңыз туралы алаңдаушылық бар ма?

Артық салмақ болу____ Салмақ жоғалту___ Ешқандай қиындық тудырмайды____

6.7 Сіз вакцинациялардан уақытылы өтіп жүрсіз деп ойлайсыз ба?

Иә__ Жоқ__

7. Психикалық денсаулық және әл-ауқат

7.1 Бос уақыттыңызда өзіңіз үшін маңызды істер, хобби, жұмыс пен оқумен айналыса аласыз ба?

Иә___Жоқ_

7.2 Жалпы, Сіз өз денсаулығыңызды қандай деп айтар едіңіз:

Керемет Өте Жақсы Жақсы Шамалы Нашар

7.3 Сіз өзіңізді жалғыз сезінесіз бе? Ешқашан Кейде Жиі

7.4 Сіз жақында қандай да бір ауыр қайғы немесе жоғалтудан зардап шектіңіз бе?

Иә____ Жоқ___

7.5 Өткен айда сізде ұйқы проблемалары болды ма?

Иә___ Жоқ___

7.6 Сізде өткен айда дене ауруы болды ма? Иә____ Жоқ ____

Егер Иә болса: Өте жеңіл Жеңіл Орташа Ауыр

7.7Соңғы айда сізді көбінесе депрессия немесе үмітсіздік сезімі мазалады ма? Иэ Жоқ

7.8 Соңғы айда сізді істеп жатқан ісіңізге қызығушылықтың немесе қуаныштың болмауы жиі мазалады ма? Иә ____ Жоқ____

7.9 Сізде есте сақтау қабілетінің жоғалуы немесе ұмытшақтық туралы алаңдаушылық бар ма? Иэ___Жоқ___

Лоутон индексі

1.1. Киімді өзіңіз жуа аласыз ба (қолмен немесе кір жуғыш машинада)?

Ия, мен барлық заттарымды өзім жуамын ____

Мен жасай аламын, бірақ қажет емес, өйткені балалар / келіндер маған кір жуады___

Мен тек жеңіл заттарды (шұлықтар, орамалдар) жуа аламын ____

Мен жасай алмаймын, маған киімімді жуатын біреу керек _____

1.2. Қаланы қалай айналып өтесіз?

Қоғамдық көлікпен немесе өз көлігіммен ____

Мен тапсырыс беремін және тек өзім таксимен жүремін __

Мен қоғамдық көлікпен біреудің сүйемелдеуімен ғана барамын _____

Көлікке мен тек біреудің көмегімен жете аламын __

Мен үйден мүлдем шықпаймын, қалада қозғалмаймын.

Осы тестілеу кезінде сіздің күтіміңізге қатысты жазылған ақпарат сіздің еміңізге қатысы бар адамдарға таратылуы мүмкін. Бұл оларға тестте кездесетін кейбір сұрақтарды қайталамауға көмектеседі.

Кейбір ақпарат болашақ қызметтерді жоспарлау үшін пайдаланылуы мүмкін. Бұл ақпарат анонимді болады, сондықтан сіз анықталмайсыз.

Осы тестілеу кезінде жазылған ақпарат болашақ қызметтерді жоспарлау үшін пайдаланылатынымен келісесіз бе? Иә____ Жоқ____

Сіз бөліскіңіз келмейтін нақты ақпарат бар ма? (Толығырақ көрсетіңіз) Иә Жоқ _____

Өзінізге қатысты ақпаратпен бөліскіңіз келмейтін агенттіктер немесе жеке адамдар бар ма? (Толығырақ мәлімет беріңіз)

Иә____ Жоқ____

Қолы Күні

Зерттеушінің аты-жөні: _____ Қолы____ Күн