

# ADAPTATION INTO KAZAKH AND RELIABILITY ASSESSMENT OF THE MULTIDIMENSIONAL SCALE OF PERCEIVED SOCIAL SUPPORT (MSPSS)

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## ABSTRACT

**Relevance:** Social support is crucial for the physical and emotional well-being of individuals with cancer. A cancer diagnosis causes psychological stress, leading to fear, hopelessness, depression, and isolation. Support from family, friends, colleagues, and healthcare providers is vital in such cases. It helps patients stay connected to society, return to work, and improve quality of life while promoting social integration and adaptation to normal life.

**The study aimed to** adapt the Multidimensional Scale of Perceived Social Support (MSPSS) into Kazakh and assess its reliability.

**Methods:** The study design is a cross-sectional momentary study. A survey was conducted to determine the level of social support among cancer patients receiving treatment at the Medical Center of West Kazakhstan Marat Ospanov Medical University (Aktobe, Kazakhstan) using the MSPSS scale. The questionnaire consisted of 12 questions assessing support from family, friends, and significant others. Interpretation of results: 12-35 points – low level, 36-60 points – medium level, 61-84 points – high level. SSPSS version 25.0 was used for statistical analysis.

**Results:** Among 89 participants, the average MSPSS score was 80.54 ± 6.80, indicating a high level of social support. The Kazakh version of the MSPSS scale showed high internal consistency, with a Cronbach's  $\alpha$  of 0.84 and values ranging from 0.39 to 0.95 across three subscales. The item-result correlation coefficients ranged from 0.32 to 0.95, confirming no redundancy in the items.

**Conclusion:** The study results demonstrated that the Kazakh version of the MSPSS questionnaire has high reliability (Cronbach's  $\alpha=0.84$ ), confirming its suitability for use in scientific research. The questionnaire effectively assesses the level of social support among cancer patients, allowing for the exploration of various aspects of social support, identification of social issues, and provision of solutions for their resolution.

**Keywords:** oncology, MSPSS, social support, reliability.

**Introduction:** The diagnosis of cancer can be a very stressful situation for patients, as it is a life-threatening [1] and life-changing disease [2, 3]. In recent years, the life expectancy of cancer patients has increased thanks to advances in technology and Medical Sciences. However, patients face many difficulties, such as poor treatment effects, the presence of side effects, the high cost of treatment, anxiety, and fear of disease recurrence, as well as psychological and physical stress [4]. The psychological state of cancer patients is a crucial indicator; in this regard, it is necessary to assess their condition and conduct an analysis. This can increase awareness and improve the overall quality of treatment. Cancer has physical, emotional, social, and economic consequences. Cancer is often diagnosed before symptoms appear, or they might develop gradually, so routine screening tests and self-examination by patients are required. From this stage onwards, the patients need social support from family, friends, and others. After diagnosis, social support becomes increasingly important for patients as they face the challenges of diagnostic tests, invasive procedures, and complex treatments with little warning and limited ability to adapt to their condition [5].

Social support refers to the assistance and support received from other people, particularly individuals. The

specific social support received by the patient is considered objective social support. Subjective social support refers to the support that a patient receives and evaluates from their perspective, based on how they perceive and interpret the social support provided [6]. The sources of accepted social support can range from spouses, friends, and family members to healthcare providers and other professionals. Social support provides care and attention to cancer patients, helping them overcome their fear and anxiety about the disease, as well as alleviate the difficulties they face at different stages of the disease [7, 8]. Thus, social support plays a crucial role in the psychological well-being of patients. Improving the quality of life of cancer patients is also associated with adequate social support [9]. Mortality rates are also positively correlated with a lack of social support [8].

Social support is an important source of reducing negative psychological reactions such as despair and depression. Thanks to this effect, social support helps mitigate the adverse effects of negative life events on physical health and emotional well-being, and also serves as a buffer against stress. A social support group typically consists of family members, the environment (including relatives and friends), and a medical team (such as doctors, nurs-

es, social service specialists, and psychologists). Therefore, in addition to the fact that caring for patients diagnosed with cancer is a key factor in increasing hope [10], each social connection can become a belief in survival, providing social support [11].

In most cases, cancer leads to serious physical and psychological consequences, material discomfort, and social pressure. The patient's usual lifestyle changes, family relationships are disrupted, and the possibility of severe stressful situations and the number of threats that completely affect family relationships increases. The families learn to cope with the illness of a loved one, fear for their health and life, distrust of the successful completion of the disease, daily household chores, medication, money, search for treatment methods, consultation with doctors, fatigue, and despair [12, 13].

Family is an important resource for patients during their adaptation to the disease [11]. In the study of S. I. Bojarkin, the family was an adaptation factor for cancer patients, because cancer affects the disease as a factor leading to psychological maladaptation. Psychiatrist Jimmy Holland defined the organization of psychotherapeutic services in cancer hospitals and the inclusion of the patient's family in the "circle of care" as a crucial condition for effective medical care. In the family, crisis periods appear from the moment of diagnosis. Difficulties can arise from both objective factors (such as an increase in financial burden, a change in regime, a change in place of residence or work) and subjective factors (such as loss of life prospects, anxiety, fear, and fatigue). Such support helps families rationally utilize their internal and external resources and transition to a new stage of development, adapting to changing guidelines and values [13].

Social support typically encompasses all the social contacts a person receives when facing difficulties. Such support helps reduce depression by creating a safe environment that allows you to talk openly about difficult situations [14]. Additionally, social support can generate and expand the resources necessary to raise expectations [15].

A useful way to study the role of hope and resilience in cancer conditions is to support them socially [16-18]. Social support can protect cancer patients from negative psychological effects and acts as a buffer against cancer-related stress [16, 19, 20]. The above research shows that social support not only determines the direct effect but also indirectly affects depression through trigger mediators, and it has been proven that hope and vitality mediate the relationship between a priori variables and emotional outcomes in cancer patients [21, 22].

It is important in determining the impact and level of social support on the quality of life and vitality of patients. One of the defining questionnaires of social support in the patient environment is the Multidimensional Scale of Perceived Social Support (MSPSS). Since the use of the MSPSS

questionnaire for the Kazakh-speaking population is limited, it is essential to verify its reliability before incorporating it into research work.

**The study aimed to** adapt the Multidimensional Scale of Perceived Social Support (MSPSS) into Kazakh and assess its reliability.

#### **Methods:**

*The study design* is a cross-sectional momentary study.

*Study object.* MSPSS is a common tool to measure social support. It is an open-use questionnaire created by Kenti-Mitchell and Zimet to assess the elements of social support, which consists of 12 questions: the social support of family (questions 3, 4, 8 and 11), friends (questions 6, 7, 9 and 12) and special people (questions 1, 2, 5 and 10). The scale ranges from 1, "strongly disagree," to 7, "strongly agree". The overall score ranges from 12 to 84, with scores of 69 to 84 indicating a high level of support, 49 to 68 – a medium level, and 12 to 48 – a low level [23, 24].

A survey was conducted to determine the level of social support among cancer patients receiving treatment at the Medical Center of West Kazakhstan Marat Ospanov Medical University (WKMOMU) in Aktobe, Kazakhstan, using the MSPSS scale. The data were collected from the WKMOMU Medical Center in Aktobe, Kazakhstan, with the consent of the WKMOMU Medical Center Director, as per Decision #3/2 dated October 7, 2024.

The study consisted of three stages: 1) translation into Kazakh and assessment of the validity of the content, 2) pilot testing, and 3) assessment of the reliability of the MSPSS Kazakh translation. During pilot testing, the sample or number of patients was selected according to the following criteria.

- *Inclusion criteria:* Recipients of treatment at the WKMOMU Medical Center, Aktobe, Kazakhstan; over 18 years of age; those who agreed to participate in the study.

- *Exclusion criteria:* the presence of cognitive disorders; patients with Stage IV cancer (due to the severity of health conditions, the attending physicians did not have permission); those who did not agree to participate in the study.

*Stage 1: translation and adaptation of the questionnaire.* Translation into Kazakh. Using the translation system proposed by Guillemain et al. [25] to translate the MSPSS into Kazakh, it included 5 steps: (1) direct and reverse translation, (2) synthesis, (3) evaluation by a team of experts, (4) evaluation of substantive reliability, and (5) pilot test.

The original English version was independently translated into Kazakh by two translators who were fluent in both English and Kazakh; one of them was a healthcare professional, while the other was not. Each translation version was translated back into English again by MSPSS and two other translators who were unaware of social support. Later, four translators discussed it together and made the final version in Kazakh.

This version was later reviewed and edited by experts in oncology (2), public health (2), psychology, and translation (4). Experts assessed the importance and clarity of each sentence and approved the final version. This version was again translated back into English and reviewed by another professional translator to ensure it was equivalent to the original text.

**Stage 2: Pilot study.** As part of a pilot study, patients who received treatment from November 1, 2024, to February 1, 2025, at the WKMOMU Medical Center in Aktobe were included in the study using a holistic sample method. The translated version of MSPSS was piloted among 89 cancer patients selected according to the inclusion and exclusion criteria. All participants easily understood the translated version. No changes were made to the translated version after the pilot study.

**Stage 3: Assessment of the reliability of the MSPSS Kazakh translation.** Eighty-nine participants were selected for analysis to confirm the reliability of the MSPSS structure in this study. In addition to the MSPSS survey, socio-demographic characteristics were summarized.

**Statistical analysis.** The data were processed, encoded, and analyzed using Statistical Package for the Social Sciences (SPSS) 25.0. The internal reliability (internal stability) of the MSPSS was measured using the Cronbach's  $\alpha$  coefficient. Cronbach shows that alpha questions on a certain scale constantly measure something, the value of which is  $\alpha \geq 0.90$  – it is considered to be very high reliability,  $0.80 \leq \alpha < 0.90$  – high reliability,  $0.70 \leq \alpha < 0.80$  – good reliability,  $0.60 \leq \alpha < 0.70$  – medium reliability,  $\alpha < 0.60$  – low reliability [26]. This resource discusses the value of Cronbach's  $\alpha$  and what its scales should be.

**Results:** Adaptation and translation into the Kazakh language, as well as pilot testing, followed the aforementioned research methods. The final translation proved to be of high content reliability and was deemed suitable for use during pilot testing. The majority of participants said that the scale was clear and easy to answer, and there were no conclusions that could complicate or confuse the meaning of the question. No suggestions were received regarding the processing of words and phrases. Thus, no changes were made after pilot testing.

Socio-demographic characteristics of the respondents in the study: the average age of the 89 respondents was  $53.8 \pm 1.3$ , with 32.6% being men and 67.4% being women. Of these, 67.4% are urban and 32.6% are rural. 77.5% of the participants were married, 2.2% were divorced, and 20.2% were widowed or single. 28.1% of participants had more than four children, 69.7% had fewer than four children, and 2.2% had no children. Additionally, 64.0% of participants had a secondary education, while 36.0% had higher education; 53.9% were engaged in public or private business, and 46.1% were unemployed. 14.6% of the study participants were diagnosed through screening, and 85.4% of them were examined due

to pain. Of them, 69.7% of respondents knew their stage of cancer (Table 1).

**Table 1 – Socio-demographic characteristics of respondents (N=89)**

Variables	N	%
Age [53.8±1.3]		
21-30	5	5.6
31-40	16	18.0
41-50	13	14.6
51-60	28	31.5
61-70	18	20.2
71 and older	9	10.1
Gender		
Male	29	32.6
Female	60	67.4
Place of residence		
Urban	60	67.4
Rural	29	32.6
Education level		
Higher Education	32	36.0
High School	57	64.0
Place of work		
Unemployed	12	13.5
Retired	24	27.0
Civil Servant	29	32.6
Individual Entrepreneur	19	21.3
Disabled	2	2.2
Other	3	3.4
Family status		
Married	69	77.5
Widowed (single)	18	20.2
Divorced	2	2.2
Number of children		
Non	2	2.2
<4	62	69.7
>4	25	28.1
Cancer stage		
I	24	27.0
II	29	32.6
III	9	10.1
Unknown	27	30.3

According to the survey results, the average overall score on the MSPSS scale was  $80.54 \pm 6.8$ , indicating a relatively high level of social support accepted by the studied population (Table 2).

**Table 2 – The level of social support of respondents based on the MSPSS survey results**

Level of social support on the Likert scale		
Low	Medium	High
–	9%	91%

The average scores for the sub-categories of "family" ( $27.5 \pm 1.3$ ) and "special person" ( $27 \pm 3.04$ ) were higher than for the sub-categories "friends" –  $26 \pm 4.6$  (Table 3). The Kazakh translation of the MSPSS scale had a high intrinsic harmony with the Cronbach's  $\alpha$  on the general scale varying from 0.84 to 0.39 to 0.95 for the three sub categories. The "element-result" correlation coefficients were in the range from 0.32 to 0.95, indicating that not all questions on the scale were redundant or content repeating.

**Table 3 – Reliability of MSPSS and its internal scales**

Description	Average score $\pm$ SD	Correlation between the element and the result	Cronbach's $\alpha$
Sub-category "Family"	27.5 $\pm$ 1.3		0.39
- My family is trying to help me		0.32	
- I get the help and support I need from my family.		0.32	
- I can talk to my family about my problems.		0.43	
- My family is ready to help with the decision.		0.45	
Sub-category "Friends"	26 $\pm$ 4.6		0.95
- My friends are trying to help me.		0.79	
- I can trust my friends when everything goes wrong.		0.95	
- I have friends with whom I can share my joys and sorrows.		0.82	
- I can talk to my friends about my problems.		0.94	
Sub-category "Special person"	27 $\pm$ 3.04		0.91
- There is a special person who will be with me when I need it.		0.65	
- There is a special person with whom I can share my joys and sorrows.		0.87	
- I have a special person who is a real source of comfort and joy for me.		0.85	
- There is a special person who perceives my feelings and worries as important.		0.89	
MSPSS overall score	80.54 $\pm$ 6.8		0.84

\*MSPSS – multidimensional scale of acceptable social support; SD – standard deviation.

**Discussion:** Social support can contribute to maintaining a healthy lifestyle, increasing commitment to treatment, and improving the quality of life of cancer patients [27]. Although social support has played an important role in alleviating the psychological and physical challenges associated with cancer [28], prior to this study, there was no linguistically valid tool for assessing social support among cancer patients in Kazakhstan. Our results show that the Kazakh translation of the MSPSS scale is a reliable and effective tool for assessing the accepted social support of cancer patients.

At stages 1 and 2 of this study, we officially translated the original MSPSS questionnaire into the Kazakh language. These stages are important under the translation procedure proposed by Guillemin et al. [25]. In practice, research questionnaires are not always correctly translated before being used in New temporal, cultural, or linguistic contexts, which runs the risk that the translations do not accurately reflect the concepts that should be measured in the original questionnaire.

In our study, the translation was performed in both directions by four independent translators, including health professionals and other experts. This made it possible to ensure the authenticity and reliability of the translation. The results of Stages 1 and 2 showed that the translation was correctly formulated and accurately reflected the meaning of the original MSPSS tool. This translation is suitable for use not only for cancer patients, but also for everyone in Kazakhstan [29, 30].

In our study, the internal consistency of the MSPSS scale ( $\alpha = 0.84$ ) is high. Our results are similar to those obtained in the original study and other studies conducted in various countries worldwide [31, 32]. The internal consistency of the translated MSPSS scale was  $\alpha = 0.89$  for Malay

[33],  $\alpha = 0.90$  for Korean [34],  $\alpha = 0.92$  for Spanish and Thai [35, 36], and  $\alpha = 0.91$  for Russian [37]. The searches [32-34, 36] describe the countries that adapted this questionnaire to their language and determined its reliability, providing Cronbach's  $\alpha$  values.

Social support has a significant impact on treatment commitment and improves the quality of life of cancer patients [38]. Measuring social support allows you to obtain important information regarding the health and treatment of cancer patients. To our knowledge, this study is the first to evaluate the reliability of the MSPSS scale among patients with cancer. The demand for research tools tailored to the culture and language of each country and region is high, particularly in low- and middle-income countries, as it enhances the quality of research [39, 40]. Researchers and health professionals can utilize the MSPSS scale for cancer patients as a screening tool, thereby contributing to the improvement of daily clinical care provided to patients. The MSPSS scale is simple and highly reliable. The use of such tools may help reduce the lack of information about social support and improve the quality of life of cancer patients.

**Conclusion:** The study's results demonstrated that the Kazakh version of the MSPSS questionnaire has high reliability (Cronbach's  $\alpha = 0.84$ ), indicating its suitability for use in scientific research. The questionnaire can not only be used as an effective tool for assessing the level of social support among cancer patients, but also allows you to study various aspects of social support and identify social problems, suggesting ways to solve them.

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## АНДАТПА

### «MULTIDIMENSIONAL SCALE OF PERCEIVED SOCIAL SUPPORT» (MSPSS) САУАЛНАМАСЫН ҚАЗАҚ ТІЛІНЕ БЕЙІМДЕУ ЖӘНЕ СЕНИМДІЛІГІН АНЫҚТАУ

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**Әзектілігі:** Онкологиялық науқастарға өлеуметтік қолдау – олардың физикалық және психоэмоционалдық әл-ауқатының жақсартудың маңызды факторы. Қатерлі ісік диагнозы науқастарға үлкен психологиялық салмақ түсіріп, қорқыныш, үмітсіздік, депрессия және өлеуметтік оқшауланды сияқты жасалыныз эмоцияларға себеп болу мүмкін. Мұндай жағдайда отбасы мүшеселері, достар, оріттестер және медициналық қызметкерлер тарапынан корсетілетін моральдық, эмоционалдық және практикалық көмек – ерекше маңызды. Өлеуметтік қолдау науқастың қоғаммен байланысын сақтап, олардың жұмысық қайта оралуына, омір сапасын арттыруына ықпал етеді. Сонымен қатар, мұндай қолдау өлеуметтік интеграцияны қамтамасыз етіп, науқастың қалынты омірге бейімделуіне және толыққанды омір сүруіне мүмкіндік береді.

**Зерттеу мақсаты** – Multidimensional scale of perceived social support (MSPSS) сауалнамасын қазақ тіліне бейімдеу және сенімділігін анықтау.

**Әдістері:** зерттеу дизайны бір сәттік қолденоңді. MSPSS сауалнамасы М.Оспанов атындағы Батыс Қазақстан медицина университетінің Медициналық орталығында (Ақтөбе, Қазақстан) емделіп жасатқан онкологиялық науқастарды өлеуметтік қолдау деңгейін анықтау мақсатында жүргізілді. Сауалнама отбасынан, достарынан және ерекше адамдардан көлөтін өлеуметтік қолдауды бағалауда арналған 12 сұрақтан тұрады. Нәтижесін бағалауда шкаласы 12-35 үтәй болса томен, 36-60 үтәй аралығында орташа, ал 61-84 үтәй аралығында жоғары деп бағаланады. Статистикалық талдау SPSS бағдарламасының 25.0 нұсқасы комегімен жүргізілді.

**Нәтижелері:** 89 қатысушы арасында сауалнама нәтижелері бойынша MSPSS шкаласының орташа жалты корсеткіші 80,54±6,8 болды, бұл зерттелген популяцияда қабылданатын өлеуметтік қолдау деңгейінің салыстырмалы түрде жоғары екенін корсетеді. MSPSS шкаласының қазақ тіліндегі аудармасы жоғары ішкі үйлесімділікке ие, шкала бойынша Кронбах альфасы 0,84, ал үш субшкала бойынша 0,39-дан 0,95-ке дейінгі аралықта озгерді. «Элемент-нәтижесе» корреляция коэффициенттері 0,32-ден 0,95-ке дейінгі диапазонда болды, бұл шкаладағы барлық сұрақтардың артық немесе мазмұнды қайталаітын емес екенін корсетті.

**Қорытынды:** Зерттеу нәтижелері MSPSS сауалнамасының қазақ тіліндегі нұсқасының жоғары сенімділікке ие екенін корсетті (Cronbach's  $\alpha=0,84$ ) және оны ғылыми зерттеулерде қолдануға болатынын дәлелдейді. Сауалнама онкологиялық науқастардың өлеуметтік қолдау деңгейін бағалауда түмінде қорытады. Сонымен қатар өлеуметтік қолдаудың ұсынуга мүмкіндік береді.

**Түйінді сөздер:** онкология, MSPSS, өлеуметтік қолдау, сенімділік.

## АННОТАЦИЯ

### АДАПТАЦИЯ НА КАЗАХСКИЙ ЯЗЫК И ОПРЕДЕЛЕНИЕ НАДЕЖНОСТИ ШКАЛЫ «MULTIDIMENSIONAL SCALE OF PERCEIVED SOCIAL SUPPORT» (MSPSS)

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**Актуальность:** Социальная поддержка онкологических пациентов – важный фактор улучшения их физического и психоэмоционального благополучия. Диагноз злокачественного новообразования оказывает на пациентов сильное психологическое давление, вызывая такие негативные эмоции, как страх, безнадежность, депрессия и социальная изоляция. В такой ситуации моральная, эмоциональная и практическая помощь со стороны членов семьи, друзей, коллег и медицинских работников имеет особое значение. Социальная поддержка способствует сохранению связи пациента с обществом, возвращению к трудовой деятельности и повышению качества жизни. Кроме того, она обеспечивает социальную интеграцию, помогая пациенту адаптироваться к нормальной жизни и жить полноценно.

**Цель исследования** – адаптация опросника *Multidimensional Scale of Perceived Social Support (MSPSS)* на казахский язык и оценка его надежности.

**Методы:** Дизайн исследования — поперечный моментный. Для определения уровня социальной поддержки у онкологических пациентов, получающих лечение в Медицинском центре ЗКМУ им. М. Оспанова (Актобе, Казахстан), было проведено анкетирование с использованием шкалы *MSPSS*. Анкета состояла из 12 вопросов, оценивающих поддержку от семьи, друзей и значимых других. Интерпретация результатов: 12-35 баллов – низкий уровень, 36-60 баллов – средний, 61-84 балла – высокий уровень. Статистический анализ проводился с использованием программы *SPSS* версии 25.0.

**Результаты:** Среди 89 участников, средний общий показатель по шкале *MSPSS* составил  $80,54 \pm 6,8$ , что свидетельствует о сравнительно высоком уровне социальной поддержки, принимаемой исследуемой популяцией. Перевод шкалы *MSPSS* на казахский язык имеет высокую внутреннюю согласованность, коэффициент альфы Кронбаха по шкале составил 0,84, а по трем субшкалам варьировался от 0,39 до 0,95. Корреляционные коэффициенты «элемент-результат» варьировались от 0,32 до 0,95, что подтверждает отсутствие избыточных или повторяющихся вопросов в шкале.

**Заключение:** Результаты исследования показали, что казахская версия анкеты *MSPSS* обладает высокой надежностью (*Cronbach's α=0,84*), что подтверждает ее применимость в научных исследованиях. Анкета не только эффективно оценивает уровень социальной поддержки у онкологических больных, но также позволяет исследовать различные аспекты социальной поддержки и выявлять социальные проблемы, предлагая пути их решения.

**Ключевые слова:** онкология, *MSPSS*, социальная поддержка, надежность.

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