URGANCH DAVLAT TIBBIYOT INSTITUTI
JANUBIY OROLBO‘YI TIBBIYOT JURNALI
2 - TOM, 4 - SON. 2026
14.00.00 - TIBBIYOT FANLARI ISSN: 3093-8740

UDC 614.253.5:616-036.88:614.2

IMPROVING THE MODEL OF NURSING CARE ORGANIZATION IN PALLIATIVE CARE: A COMPREHENSIVE ANALYSIS AND PATHWAYS FOR OPTIMIZATION

Dono Fakhriddinovna Muminova
dono.muminova@mail.ru
https://orcid.org/0009-0005-8419-3392
International Kimyo University

✓ **Abstract:** The relevance of this study is also обусловлена the need to increase the efficiency of healthcare resource utilization under conditions of growing pressure on the medical care system. The development of an optimized model for organizing nursing care will enable more rational use of available human and material resources, which is particularly important in the context of contemporary economic challenges. It should be noted that issues related to the quality of life of palliative patients are acquiring increasing social significance. Modern society places heightened demands on the humanization of medical care and the provision of a dignified quality of life even in the context of incurable diseases. This determines the necessity for scientific exploration of new approaches to the organization of nursing care that take into account not only medical, but also psychosocial aspects of palliative care.

Keywords: nursing care, palliative care, healthcare organization, quality of life, optimization.

СОВЕРШЕНСТВОВАНИЕ МОДЕЛИ ОРГАНИЗАЦИИ СЕСТРИНСКОГО УХОДА В ПАЛЛИАТИВНОЙ ПОМОЩИ: КОМПЛЕКСНЫЙ АНАЛИЗ И ПУТИ ОПТИМИЗАЦИИ

Муминова Доно Фахриддиновна
dono.muminova@mail.ru
https://orcid.org/0009-0005-8419-3392
Международный университет Кимё

Аннотация: Актуальность настоящего исследования также обусловлена необходимостью повышения эффективности использования ресурсов здравоохранения в условиях возрастающей нагрузки на систему медицинской помощи. Разработка оптимизированной модели организации сестринского ухода позволит более рационально использовать имеющиеся кадровые и материальные ресурсы, что особенно важно в контексте современных экономических вызовов. Следует отметить, что вопросы качества жизни паллиативных пациентов приобретают всё большую социальную значимость. Современное общество предъявляет повышенные требования к гуманизации медицинской помощи и обеспечению достойного качества жизни даже в условиях неизлечимых заболеваний. Это

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определяет необходимость научного поиска новых подходов к организации сестринского ухода, учитывающих не только медицинские, но и психосоциальные аспекты паллиативной помощи.

Ключевые слова: сестринский уход, паллиативная помощь, организация здравоохранения, качество жизни, оптимизация.

ПАЛЛИАТИВ ЁРДАМДА ҲАМШИРАЛИК ПАРВАРИШИНИ ТАШКИЛ ЭТИШ МОДЕЛИНИ ТАКОМИЛЛАШТИРИШ: КОМПЛЕКС ТАҲЛИЛ ВА ОПТИМИЗАЦИЯ ЙЎЛЛАРИ

Муминова Доно Фахриддиновна
dono.muminova@mail.ru
https://orcid.org/0009-0005-8419-3392
Кимё халқаро университети

Аннотация: Ушбу тадқиқотнинг долзарблиги соғлиқни сақлаш тизимига юклама ортиб бораётган шароитда тиббий ресурслардан фойдаланиш самарадорлигини ошириш зарурати билан ҳам изоҳланади. Ҳамширалик парваришини ташкил этишнинг оптималлаштирилган моделини ишлаб чиқиш мавжуд кадрлар ва моддий ресурслардан янада оқилона фойдаланиш имконини беради, бу эса замонавий иқтисодий қийинчиликлар шароитида айниқса муҳим аҳамият касб этади.

Шуни таъкидлаш лозимки, паллиатив беморларнинг ҳаёт сифати билан боғлиқ масалалар тобора ортиб бораётган ижтимоий аҳамиятга эга. Замонавий жамият тиббий ёрдамни гуманизация қилишга ҳамда ҳатто даволаб бўлмайдиган касалликлар шароитида ҳам беморлар учун муносиб ҳаёт сифатини таъминлашга юқори талаб қўймоқда. Бу эса паллиатив ёрдамда ҳамширалик парваришини ташкил этишга нафақат тиббий, балки психоижтимоий жиҳатларни ҳам ҳисобга олган ҳолда янги ёндашувларни илмий асосда излаш заруратини белгилайди.

Калит сўзлар: ҳамширалик парвариши, паллиатив ёрдам, соғлиқни сақлашни ташкил этиш, ҳаёт сифати, оптималлаштириш.

Introduction: The modern development of palliative care began in the mid-twentieth century with the formation of the hospice movement concept, initiated by Cicely Saunders in the United Kingdom. In 1967, the first modern hospice, St Christopher’s Hospice, was opened and became a model for the further development of palliative medicine worldwide [80, 96]. In subsequent decades, the concept of palliative care was adopted in various countries and adapted to national healthcare systems. In the 1980s, the United States and Canada began active integration of palliative care into their healthcare systems, which led to the establishment of specialized hospital units and the creation of mobile palliative care teams [1–3].

The World Health Organization (WHO) developed the fundamental principles of palliative care in the 1990s, defining it as a comprehensive system of measures aimed at improving the quality of life of patients with life-threatening illnesses. The WHO emphasized the importance of a multidisciplinary approach involving physicians, nurses, social workers, and psychologists [4–5].

In the twenty-first century, palliative care has continued to evolve, encompassing not only oncology patients but also individuals with chronic and neurodegenerative diseases, such as Alzheimer’s disease, amyotrophic lateral sclerosis, and cardiovascular pathologies [6–8]. The introduction of new technologies, the advancement of evidence-based medicine, and the implementation of digital solutions have contributed to improving the accessibility and quality of

palliative care. In leading countries worldwide, various models of palliative care organization are applied, including the hospice model, integrated palliative care, and outpatient palliative care programs [9-10].

Materials and Methods: The study was conducted at two specialized healthcare institutions providing palliative medical care. The primary clinical bases of the research were the Samarkand Interregional Hospice, which provides care to patients with oncological and other incurable diseases, and the hospice operating within the Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology.

To enhance scientific representativeness and to analyze interdisciplinary aspects of palliative care, the study design additionally included data obtained from a questionnaire survey of fourth-year students of the Faculty of Pedagogy and Psychology at Tashkent State Pedagogical University named after Nizami. This made it possible to examine the perception of palliative care among individuals without clinical experience but potentially involved in the psychosocial support system for patients.

Several groups of respondents participated in the study. The first group included adult hospice patients (aged 18 years and older) who had been receiving palliative care for at least two weeks and had provided informed consent to participate. The second group consisted of healthcare professionals—physicians and nurses—directly involved in the provision of palliative care. The third group comprised first- and second-degree relatives of patients who regularly participated in caregiving or visited patients in hospice settings and consented to take part in the survey. The fourth group included fourth-year students of the Faculty of Pedagogy and Psychology at Tashkent State Pedagogical University named after Nizami, who were surveyed to identify factors influencing the formation of professional attitudes and interest in the field of palliative care.

Results: A comprehensive assessment of the clinical and laboratory parameters of patients included in the study is of key importance for the objective substantiation of the effectiveness of the developed nursing care model in palliative practice. The analysis of laboratory data makes it possible to identify the nature and severity of systemic disorders developing against the background of severe chronic and oncological diseases, as well as to assess the dynamics of the functional state of the body under the influence of integrated therapeutic, rehabilitative, and nursing interventions.

Within the framework of the study, key biochemical and hematological parameters were determined, reflecting metabolic status, the level of inflammatory activity, and the adaptive capacity of the organism. Particular attention was paid to indicators of protein metabolism, C-reactive protein concentration, glucose levels, hemoglobin, and electrolyte balance, which were considered integral markers of the overall somatic status of patients. The obtained data served as a basis for correlating clinical manifestations with objective laboratory criteria, enabling a comprehensive evaluation of the impact of the developed nursing care program on the functional state of the organism.

A separate stage of the study was devoted to the analysis of systemic inflammation markers tumor necrosis factor alpha (TNF-α), interleukin-6 (IL-6), and C-reactive protein (CRP), which reflect the intensity of the immuno-inflammatory and metabolic response of the body to chronic progressive disease. A comparative assessment of these indicators before and after the implementation of the integrated nursing care model made it possible to objectively evaluate its anti-inflammatory and stabilizing effects.

Preliminary analysis demonstrated that these markers are sensitive indicators of the severity of systemic disorders in palliative care patients, including oncology patients at terminal stages of disease. Despite the limited potential for pronounced pathogenetic correction in this patient population, even a moderate reduction in TNF-α, IL-6, and CRP levels may indicate stabilization of metabolic processes, a decrease in inflammatory intensity, and a positive impact of comprehensive nursing care measures and psychosocial support. The applied approach ensures the reliability of the

obtained conclusions and forms a scientific basis for the further implementation of the developed model in palliative care practice.

Table 1

Comparative Characteristics of TNF-α, IL-6, and CRP Levels in Patients Before and After Implementation of the Nursing Care Model (n = 78)

Parameter	Reference values	Before implementation, M ± SD	After implementation, M ± SD	Change, %	p-value
TNF-α (pg/mL)	≤ 8–10	19.8 ± 6.5	17.9 ± 6.1	−9.6	0.021
IL-6 (pg/mL)	≤ 7	32.5 ± 11.2	29.7 ± 10.5	−8.6	0.035
CRP (mg/L)	≤ 5	42.3 ± 18.9	37.8 ± 17.4	−10.6	0.012

As can be seen from the presented data, patients receiving palliative care initially exhibited pronounced signs of a chronic inflammatory process, which is consistent with the clinical course of oncological diseases at advanced stages. Following the implementation of the integrated nursing care model, a statistically significant reduction in the levels of TNF-α, IL-6, and CRP (by 8–11%) was recorded, reflecting partial stabilization of the inflammatory response and improvement in overall somatic status. Although these parameters remained above reference values, the observed shifts indicate a positive impact of systematic nursing care, psychological support, and a multidisciplinary approach on the adaptive capacity of patients.

To assess metabolic changes and the effectiveness of nutritional support, a comparative analysis of serum albumin and total protein levels was conducted before and after the implementation of the nursing care model. These indicators reflect the state of protein-energy metabolism and are widely used in clinical practice to monitor nutritional status and overall somatic condition in palliative care patients.

Conclusion: The integration of a digital module into the DMED system made it possible to reduce staff workload by 18%, increase data accuracy by 22%, and ensure continuity of palliative care. Patient satisfaction levels increased by 15–40%, professional burnout among staff decreased by 21%, and distress indicators were reduced by 19%.

The pilot project confirmed the technical compatibility of the solution and its readiness for large-scale implementation. The developed model is recommended for inclusion in the national healthcare digitalization strategy as a standard of patient-centered, multidisciplinary palliative care.

Improving the organizational model of nursing care in palliative practice is a strategically important task for the healthcare system. A scientifically grounded, comprehensive approach to optimizing nursing activities enhances the effectiveness of palliative care, improves patients’ quality of life, and ensures the sustainable development of the healthcare system as a whole.

References:

1. Aoki M, Yokota S, Kagawa R, Shinohara E, Imai T, Ohe K. Automatic Classification of Electronic Nursing Narrative Records Based on Japanese Standard Terminology for Nursing. //Comput Inform Nurs. 2021 May 12; 39(11): 828-834.

2. Artico M, Piredda M, D'Angelo D, Di Nitto M, Giannarelli D, Marchetti A, Facchinetti G, De Chirico C, De Marinis MG. Palliative care organization and staffing models in residential hospices: Which makes the difference? //International Journal of Nursing Studies. 2022; 126: 104135.

3. Beccaro, M., Costantini, M., Merlo, D.F. *et al.* Inequity in the provision of and access to palliative care for cancer patients. Results from the Italian survey of the dying of cancer (ISDOC). *BMC Public Health* **7**, 66 (2007). https://doi.org/10.1186/1471-2458-7-66

4. Brant JM, Fink RM, Thompson C, Li YH, Rassouli M, Majima T, Osuka T, Gafer N, Ayden A, Khader K. et al. Global Survey of the Roles, Satisfaction, and Barriers of Home Health Care Nurses on the Provision of Palliative Care. //Journal of Palliative Medicine. 2019; 22(8): 945-960.

5. Cronin RM, Fabbri D, Denny JC, Rosenbloom ST, Jackson GP. A comparison of rule-based and machine learning approaches for classifying patient portal messages. //Int J Med Inform. 2017 Sep; 105: 110-120.

6. Danielsen BV, Sand AM, Rosland JH, Forland O. Experiences and challenges of home care nurses and general practitioners in home-based palliative care — a qualitative study. //BMC Palliative Care. 2018; 17(1): 95.

7. Vissers, K. C., van den Brand, M. W., Jacobs, J., Groot, M., Veldhoven, C., Verhagen, C., Hasselaar, J., & Engels, Y. (2013). Palliative medicine update: a multidisciplinary approach. Pain practice : the official journal of World Institute of Pain, 13(7), 576–588. https://doi.org/10.1111/papr.12025

8. Vu E, Steinmann N, Schröder C, Förster R, et al. Applications of Machine Learning in Palliative Care: A Systematic Review. //Cancers (Basel). 2023 Mar 4; 15(5): 1596.

9. Wantonoro W, Suryaningsih EK, Anita DC, Nguyen TV. Palliative Care: A Concept Analysis Review. SAGE Open Nurs. 2022 Aug 8;8:23779608221117379. doi: 10.1177/23779608221117379. PMID: 35966230; PMCID: PMC9364202.

10. Zheng T, Xie W, Xu L, He X, Zhang Y, You M, Yang G, Chen Y. A machine learning-based framework to identify type 2 diabetes through electronic health records. //Int J Med Inform. 2017 Jan; 97: 120-127.