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Interventions in patients with nutritional disorders: Literature Review

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ABSTRACT

Background & Objective: Nutritional disorders are disorders caused by a lack of nutritional needs that cannot be met to maintain body health. This nutritional disorder problem can be caused by diseases that make it difficult to eat so that nutritional disorders can occur. This nutritional disorder occurs in patients with cancer, diabetes and elderly people who are old because of the reduced level of appetite they have. **Method:** The method used in writing this literature review is to use a comprehensive strategy, such as searching for articles in the research journal database used, keywords used to search for articles, and limitations of the search for articles to be reviewed based on the year of publication of at least the last 5 years, language, and availability in full text form. **Result:** Interventions that can be given to these patients are feeding through nasogastric and parenteral. Parenteral nutrition is done by administering 10% aminosteril, 20% lipid and NS+KCL+Ca fluid (a mixture of NACL, calcium potassium chloride, and calcium). **Conclusion:** Various interventions have been identified as solutions to overcome nutritional disorders, including feeding through nasogastric or parenteral, proper diet planning, regular monitoring of patient nutritional status, and health education to patients and their families.

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Introduction

Nutritional disorders are conditions caused by an inadequate intake of essential nutrients required to maintain the body's health. Nutrition and fluid intake play a vital role in supporting growth, development, and the prevention of various diseases associated with malnutrition. Meeting nutritional needs typically requires oral

communication and intake. However, patients who are often physically weak, bedridden, or have impaired kidney function may experience decreased consciousness, making oral intake impossible. In such cases, a nasogastric tube is used as a substitute for oral feeding (Aef Eka Saputra et al., 2024).

According to the World Health Organization (WHO), the number of cancer patients worldwide increases by approximately 6.25 million annually, with 4%—or around 250,000—of those being children. The National Cancer Institute estimated that in the United States alone, there were 1,665,540 new cancer cases and 585,720 cancer-related deaths in 2014. Childhood cancer ranks as the fifth leading cause of death among children globally. In Indonesia, 150 out of every 1 million children are diagnosed with cancer. On average, there are around 4,100 new childhood cancer cases annually in Indonesia (Roghayah, 2022).

Nutritional disorders can result from diseases that impair the ability to eat, leading to malnutrition. Such disorders are common among patients with cancer, diabetes, and the elderly, who often experience reduced appetite. Diseases like cancer and diabetes can disrupt the metabolic processing of nutrients such as energy, carbohydrates, proteins, fats, and other micronutrients. These metabolic changes affect the individual's nutritional status. The onset of nutritional disorders in such patients may be due to poor food intake, medical procedures, psychological factors, and the disease itself (Lukman et al., 2023).

Objective

To identify effective interventions for managing nutritional disorders in patients with chronic illnesses through a literature review.

Method

The method used in writing this literature review involved a comprehensive strategy, including article searches within selected research journal databases, the use of relevant keywords, and the application of specific inclusion criteria such as publication year (minimum from the last 5 years), language, and full-text availability. The databases used for the search were Google Scholar and PubMed. For the national (Indonesian-language) article search on Google Scholar, the keyword used was intervention for patients with nutritional disorders, which yielded approximately 600 articles. These articles were then filtered by publication year (2020–2025), resulting in 100 articles. Further screening was conducted by analyzing the relevance of the topic, research objectives, methods used, research ethics, findings of each article, and their limitations. Based on this process, a total of 8 articles were selected for the literature review.

Results

TABLE 1. Summary and Synthesis of Study Results

Researcher	Title	Objective & Sample Characteristics	Research Methodology	Results
Roghayah (2022)	Nursing Care for Children with Cancer and Nutritional Problems in the Non-Infectious Pediatric Ward at Sisma Medika Hospital	General objective: Describe nursing care for children with cancer experiencing nutritional issues. Sample: 5 children with cancer and nutritional problems. Characteristics: Parents of children with cancer. Sampling: Purposive sampling.	Descriptive	Nutritional problems found in all samples, with the main nursing diagnosis being "imbalanced nutrition less than body requirements."
Fadhila et al. (2024)	Nursing Care for Child M with Lung Cancer in the PICU: A Case Study	Objective: Examine nursing care for child M with lung cancer in PICU. Sample: 1 child (9 years old) diagnosed with lung cancer. Characteristics: Diagnosed patient. Sampling: Case study.	Descriptive case study	After five days of nursing care, "ineffective breathing pattern" was unresolved; "acute pain" and "risk of nutritional deficit" were partially resolved. Family involvement recommended.
Ningrum et al. (2022)	Nursing Care for Elderly Mrs. L with Nutritional Imbalance Related to Gastritis in Candi Negoro Village	Objective: Describe nursing care for elderly with gastritis and nutritional imbalance. Sample: 1 elderly woman with gastritis. Characteristics: Loss of appetite. Sampling: Convenience sampling.	Mixed-method (qualitative and quantitative) descriptive	Nursing care improved client's nutritional status and diet understanding for gastritis patients.
Cahyati & Rahmawati (2020)	Nursing Care for Patient Mrs. "D" with Type 2 Diabetes Mellitus at Labuang Baji Hospital, Makassar	Objective: Describe nursing care for a patient with Type 2 Diabetes focusing on nutrition and blood sugar management. Sample: 1 inpatient with Type 2 Diabetes. Sampling: Purposive.	Descriptive case study	Condition not fully resolved but showed improvements: family cooperation, patient adherence to diet, and understanding of hypo/hyperglycemia.
Lukman et al. (2023)	Nursing Care for Type II Diabetes Mellitus Patients in Nutritional Fulfillment	Objective: Depict nursing care for Type II DM patients in nutritional fulfillment. Sample: 1 patient with Type II DM. Sampling: Purposive.	Descriptive	Nutritional imbalance and unstable glucose levels not fully resolved after 3 days. Improvements in appetite, diet understanding, and therapy adherence.
Febriwanti et al. (2024)	Nursing Care for Pulmonary Tuberculosis Patients with Nutritional	Objective: Evaluate care plans and outcomes for pulmonary TB patients with nutritional deficits. Sample: 2 male	Descriptive	Positive outcomes from nursing care focusing on nutrition, but requires intensive and continuous

Researcher	Title	Objective & Sample Characteristics	Research Methodology	Results
	Deficit at Putri Hijau Hospital, Medan	TB patients. Characteristics: Weight loss, decreased appetite, weakened physical condition. Sampling: Purposive.		monitoring of intake and treatment response.
Aef Eka Saputra et al. (2024)	Critical Nursing Care for CKD Patients Using Intermittent Feeding to Reduce Gastric Residuals in ICU	Objective: Provide comprehensive care to CKD patients using intermittent feeding to reduce gastric residuals. Sample: 1 ICU patient with CKD. Sampling: Observational case study.	Descriptive	Intermittent feeding effectively reduced gastric residuals, enhanced gastric readiness, and lowered aspiration risk. Recommended for ICU CKD patients.
Lukman et al. (2023)	Nutrition Management in Nursing Care for Type II Diabetes Patients with Nutritional Deficit	Objective: Compare two Type II DM patients using nutrition management interventions. Sample: 2 patients (Ny.Z, 39 y.o., and Ny.A, 67 y.o.). Sampling: Not stated.	Descriptive-analytic, case study approach	Showed effectiveness of nutritional management for DM patients with nutritional deficits in improving care outcomes.

Discussion

A. Nutritional Needs Disorders

Basic human needs encompass various categories, one of which is physiological needs (such as oxygen, fluids, nutrition, elimination, rest, and exercise). A disorder in meeting nutritional needs leads to an imbalance that requires assistance in fulfilling these basic needs. Nutrition is one of the essential human needs necessary for survival. Failure to meet nutritional needs results in nutritional disorders, which can impact growth and development. Inadequate nutrition remains a leading cause of disease and mortality.

B. Factors Related to Nutritional Disorders in Children with Cancer

Cancer treatment is adjusted based on the histological type of cancer cells, metastatic development, and the patient's condition. Types of cancer therapy include chemotherapy, radiation, surgery, and palliative care. Cancer treatment depends on the patient's condition, cancer stage, and socioeconomic status in determining the approach between radiation, chemotherapy, or surgery. Cancer patients often experience a nursing problem of nutritional deficits due to unmet nutritional needs, especially because cancer can hinder eating ability (Roghayah, 2022).

Interventions for these patients include feeding via nasogastric tube or parenteral nutrition. Parenteral nutrition involves the administration of 10% aminosteril, 20% lipids, and NS+KCL+Ca fluids (a mixture of NaCl, potassium

chloride, and calcium). Aminosteril helps to maintain nitrogen balance for patients lacking protein intake. Lipids provide calories and essential fatty acids. A 5% dextrose solution is used to provide an energy source and replace fluids, and it is also used as a diluent for medications administered via intravenous bolus or drip (Fadhila et al., 2024).

C. Factors Related to Nutritional Disorders in Patients with Diabetes Mellitus

Diabetes mellitus (DM) is known as a disease closely related to food intake, both as a cause and part of treatment. Nutritional regulation through diet is crucial for diabetic patients. Nutritional management is a primary therapy among the five core treatments of diabetes mellitus, known as the diabetes mellitus therapy pentalogy (Hasanuddin, 2020).

Interventions or plans to address nutritional disorders focus on identifying factors such as dietary intake, eating patterns, swallowing ability, oral cavity abnormalities, monitoring nausea and vomiting, food intake, laboratory results, anthropometric measurements, nutritional management, assisting patients who cannot eat independently, and providing health education on nutritional status. The goal of this plan is to restore the patient's nutritional status with the outcome criteria of improved nutrition, increased energy, and the absence of malnutrition symptoms (Cahyati & Rahmawati, 2020).

D. Factors Related to Nutritional Disorders in the Elderly

Many elderly individuals do not pay attention to their health, particularly daily dietary intake, and often ignore early symptoms of gastritis. This negligence can lead to various nursing problems, one of which is nutritional disorders caused by inadequate intake due to a lack of knowledge in managing symptoms. Elderly patients with gastritis may struggle to meet nutritional needs due to reduced appetite and diminished taste sensation. Interventions include monitoring eating patterns and administering medication as needed (Ningrum et al., 2022).

In addition to gastritis, many elderly individuals suffer from tuberculosis, caused by Mycobacterium tuberculosis, which affects the lungs and other organs. Nursing interventions for elderly patients with nutritional disorders due to tuberculosis include identifying recent weight changes, monitoring skin turgor and mobility, blood pressure, muscle tone, temperature, respiratory status, skin color, temperature and moisture, nausea and vomiting, performing oral care before meals, and educating patients and families on meal planning. These interventions are tailored to the patient's condition and habits to achieve optimal outcomes (Febriwanti et al., 2024).

Conclusion

Nutritional disorders are common problems among cancer patients, individuals with diabetes, and the elderly due to limited food intake, metabolic disturbances, and

reduced appetite. Effective interventions include providing nutrition through nasogastric or parenteral feeding, proper diet planning, regular monitoring of nutritional status, and health education for patients and their families.

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