



## IMPLEMENTATION OF BETTY NEUMAN'S SYSTEMS THEORY IN HOSPITAL NURSING PRACTICE: A SYSTEMATIC REVIEW

Umi Laila, Fery Agusman Motuho Mendrofa\*, Tri Ismu Pujianto

Universitas Karya Husada Semarang, Jl. R. Soekanto No.46, Sambiroto, Semarang, Central Java 50276  
Indonesia

\*[ferymendrofa@unkaha.ac.id](mailto:ferymendrofa@unkaha.ac.id)

### ABSTRACT

Betty Neuman's system theory offers a holistic nursing approach that focuses on strengthening the patient's line of defense through the identification and management of stressors at the primary, secondary, and tertiary levels. Although this model has been widely applied in clinical practice, the consistency and effectiveness of its implementation in hospitals still require thorough evaluation. This study aims to systematically review empirical evidence on the application of Betty Neuman's theory in the field of nursing in hospitals. The method used in writing this article is a literature study with a systematic review method. The articles reviewed were obtained through searches on Google Scholar, Semantic Scholar, Proquest, and ScienceDirect in the period 2015-2025 with the search keywords implementation, nursing, hospital, betty neuman system Using PRISMA, from 946 articles found, 10 journal articles were obtained for review. A total of 10 articles were synthesized based on the findings of the effectiveness of implementing Betty Neuman's theory in nursing practice in hospitals, including Environmental Factors, Client System, Stressors, Lines of Defense and Resistance, Three Levels of Prevention, and Recovery. The results of the study indicate that the implementation of this theory is effective in strengthening the patient's defense system, reducing anxiety levels, and accelerating recovery in various conditions such as stroke, cancer, heart failure, and pre-operative anxiety. This model facilitates a multidimensional approach that includes the physiological, psychological, social, and spiritual aspects of the patient, while emphasizing the role of nurses as stressor managers and holistic recovery facilitators. However, practice in the field is still often limited to physical interventions only, so that the full potential of the theory has not been optimally utilized.

Keywords: betty neuman system; hospital; implementation; nursing

### How to cite (in APA style)

Laila, U., Mendrofa, F. A. M., & Pujianto, T. I. (2025). Implementation of Betty Neuman's Systems Theory in Hospital Nursing Practice: A Systematic Review. *Indonesian Journal of Global Health Research*, 7(5), 447-456. <https://doi.org/10.37287/ijghr.v7i5.6777>.

## INTRODUCTION

Betty Neuman's Systems Model has long been recognized as a holistic, prevention-oriented nursing approach. This model depicts humans as open systems affected by various stressors, both internal, external, and interpersonal and emphasizes the importance of strengthening the lines of defense through nursing interventions at three levels: primary, secondary, and tertiary. In various clinical practices, this theory has been proven to help guide nurses to provide comprehensive care, from physical, psychological, spiritual, to socio-cultural aspects (Neuman, 1995; Neuman & Fawcett, 2012; Thistle, 2022; Ghanbari Afra et al., 2022). Although the implementation of this theory is quite promising, there is still a gap in the literature regarding the consistency of its use in hospitals. For example, a study by Feriadianto & Nursanti (2024) found that the application of the Neuman model to stroke patients at Fatmawati Hospital helped strengthen the patient's defense system against post-ischemia stressors, but systematic reporting of outcomes and processes is still limited. This shows the importance of systematic reviews to summarize these clinical findings comprehensively and critically. (Feriadianto & Nursanti, 2024)

Furthermore, the application of this theory in a pediatric context also shows positive results, especially in dealing with children's anxiety due to hospitalization. Khusaeni & Nursanti

(2024) reported that the use of the Neuman model in hospitalized children significantly reduced anxiety and improved their coping abilities. However, this study is only a case study with limited generalization, so it needs to be reviewed together with other studies in order to obtain stronger and more applicable conclusions for pediatric nursing practice. (Khusaeni & Nursanti, 2024) In addition, this theory-based approach has also shown effectiveness in the context of chronic diseases such as cancer and heart failure. In a study by Falakdami et al. (2025), the application of the Neuman model to breast cancer patients helped nurses understand the interactions between patient variables and develop comprehensive and individualized intervention plans. (Falakdami et al., 2025). Similarly, Ghanbari Afra et al. (2022) documented how this model reduced physiological and psychological distress in heart failure patients through systematic reinforcement of the defense system. (Ghanbari Afra et al., 2022).

Although several studies have demonstrated the successful implementation of Neuman's model in various clinical settings, there has been no comprehensive review analyzing how the theory is specifically applied in hospital contexts across countries. Furthermore, there is still a gap in understanding how the core components of the theory—such as stressors, lines of defense, and levels of prevention—are operationalized in everyday nursing practice. This gap needs to be bridged through systematic methodological reviews to provide a stronger evidence base for the development of theory-based nursing practice. A systematic review is urgently needed to evaluate and synthesize the evidence on the implementation of Betty Neuman's theory in various hospitals and clinical settings. This review will not only help bridge the gap between theory and practice but also strengthen the scientific basis for the development of theory-based nursing policies and guidelines at the health care institution level. Without a comprehensive review, we risk missing out on the great potential of one of the most comprehensive nursing models ever developed. This study aims to systematically review the empirical evidence on the implementation of Betty Neuman's theory in the field of nursing in hospitals.

## METHOD

This study is a systematic review using the PRISMA ( *Preferred Reporting Items for Systematic Reviews and Meta-analyses* ) method. This method is carried out systematically by following the correct research stages or protocols. The *systematic review procedure* consists of several steps, namely: 1) compile background and purpose ; 2) research question; 3) searching for the literature; 4) selection criteria ; 5) practical screen; 6) quality checklists and procedures; 6) data extraction strategy; 7) data synthesis strategy (Ningsih, Adi & Saraswati, 2019). Literature searches were obtained from *Google Scholar, Semantic Scholar Proquest, and ScienceDirect* . Keywords used implementation , nursing, betty neuman system, hospital . In addition to keywords, the article search was based on articles written in the period 2015-2025 and obtained 946 journal articles. The final result, as many as 10 articles met the inclusion criteria for analyzed. The selected journal articles are based on several inclusion criteria. The inclusion criteria in this study include the following: 1) The research article was published in 2015-2025; 2) The type of research design is cross sectional, case study and experiment; 3) The research study discusses the implementation of Betty Neuman's system theory in the field of nursing; 4) implemented in hospitals.

The research questions raised in this systematic review are: (1) How effective is the implementation of Betty Neuman's theory in nursing practice in hospitals? (2) What components of Betty Neuman's theory are most frequently applied in nursing practice in hospitals? (3) In what clinical conditions has Betty Neuman's theory been proven to be effective ? All articles identified through database searches were then screened based on title and abstract to determine their relevance to the research topic. Articles that passed the initial

screening stage were then accessed in full-text to assess their eligibility based on inclusion and exclusion criteria. Methodological quality assessment of articles was conducted using the Critical Appraisal Skills Programme (CASP) instrument for case studies and the Joanna Briggs Institute (JBI) Critical Appraisal Checklist for experimental studies. Only articles with a minimum quality score of 70% were included in the final analysis.

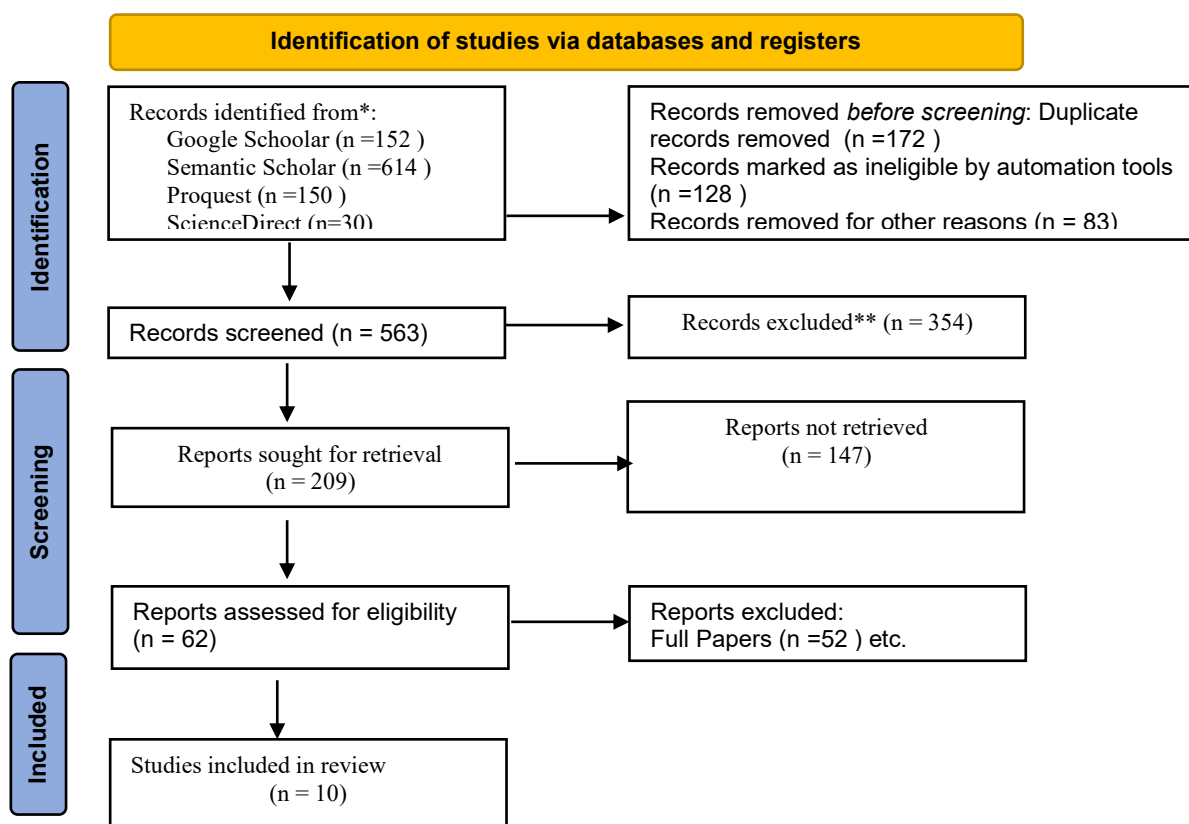


Figure 1. PRISMA

**RESULT**

Results review literature on article with range time rise year 2015-2025, use Language Indonesia and Language English and overall study found 10 Article based on Topic systematic discussion review.

Table 1.  
Literature Review

No	Researchers and Years	Country	Research Title	Method	Research Variables	Research result
1	Feriantanto & Nursanti (2024)	Indonesia	Penerapan Konsep Teori Sistem Model Betty Neuman Pada Asuhan Keperawatan Pasien Stroke di RSUP Fatmawati	Case study	Model Betty Neuman, stroke patient	Assisting recovery through identifying stressors and strengthening defense systems.
2	Khusaeni & Nursanti (2024)	Indonesia	Penerapan Konsep Teori Model Betty Neuman pada Hospitalisasi Anak di Rumah Sakit	Case study	Betty Neuman model, childhood anxiety	Reducing anxiety and increasing children's coping with hospitalization
3	Purnamasari & Nursanti (2024)	Indonesia	Aplikasi Teori Betty Neuman dalam Asuhan Keperawatan Luka Dekubitus dengan Hemiparesis Pasca Stroke	Case study	Betty Neuman model, decubitus ulcers, hemiparesis	A holistic approach accelerates wound healing and improves patient function.

No	Researchers and Years	Country	Research Title	Method	Research Variables	Research result
4	Braga et al. (2018)	Brazil	The Betty Neuman Model in the Care of Patients with a Peripheral Venous Catheter	Case study	Betty Neuman model, peripheral catheter	Model helps identify stressors and improve patient safety
5	Diniz et al. (2019)	Brazil	Nursing Intervention Based on Neuman's Theory and Mediated by an Educational Game	Intervention studies	Betty Neuman's model, anxiety and stress	Significantly reduces pre-cardiac surgery stress and anxiety levels
6	Akhlaghi et al. (2020)	Iran	Modifying Stressors Using Betty Neuman System Modeling in Coronary Artery Bypass Graft	Randomized clinical trial	Betty Neuman Model, CABG	An effective model for reducing pre-operative patient stressors
7	Oshvandi et al. (2024)	Iran	Nursing Process Based on the Betty Newman Model in Patients with Colorectal Cancer	Case study	Model Betty Neuman, colorectal cancer	Identification of 16 nursing diagnoses and development of comprehensive interventions
8	Afra et al. (2022)	Iran	Investigation of Betty Newman's Systemic Model in a Patient With Heart Failure	Case study	Betty Neuman model, heart failure	The model reduces the physiological and psychological needs of patients
9	Falakdami et al. (2025)	Iran	Application of the Betty Neuman Systems Model in Nursing Care of a Breast Cancer Patient	Case study	Model Betty Neuman, breast cancer	Identification of 13 nursing diagnoses and positive outcomes in patients
10	Sadeghi et al. (2021)	Iran	The Effect of the Betty Newman System Model on Anxiety of Patients Undergoing Endoscopy	Experiment	Betty Neuman model, endoscopy anxiety	Anxiety was significantly reduced after theory-based intervention

## DISCUSSION

### Distribution and Characteristics of the Study

Of the 10 articles reviewed, there is an interesting geographic distribution in the implementation of Betty Neuman's theory. A total of 3 articles (30%) came from Indonesia, 2 articles (20%) from Brazil, and 5 articles (50%) from Iran. In terms of methodology, the majority of studies used a case study design (7 articles, 70%), followed by intervention studies (1 article, 10%), and randomized clinical trials (2 articles, 20%). The clinical conditions studied varied, including neurological diseases (stroke), oncology (breast and colorectal cancer), cardiovascular (heart failure, CABG), pediatric (children's hospitalization), and diagnostic procedures (endoscopy). This distribution suggests that Neuman's model has broad applicability in various health care contexts and geographies.

### Environmental Factors

Environmental factors are one of the main pillars in *the Betty Neuman System Model* because they function as elements that directly or indirectly affect the client's system. Neuman divides the environment into three: internal environment (internal biological and psychological processes), external (physical and social environment outside the client), and created environment (perceptual environment formed by the client to survive). These three types of environments must be recognized by nurses in order to design effective interventions. In

clinical practice, one study noted that the physical environment of the hospital such as room temperature, noise level, and social interaction of patients in the treatment room greatly affect the healing process of post-stroke patients with pressure ulcers. (Purnamasari & Nursanti, 2024)

Furthermore, an unsupportive environment can act as an external stressor that weakens the patient's line of defense. This is seen in a study where hospitalized children experienced high anxiety due to an unfamiliar environment that is not child-friendly, such as separation from parents, noise from medical equipment, and social pressure from medical personnel. The hospital environment in this context is not just a setting, but also a stressor agent that can trigger an imbalance in the client's system, thereby disrupting the stability of homeostasis which is the goal of nursing intervention. Therefore, efforts to create a supportive environment both through a spatial design approach and interpersonal relationships are key in applying Neuman's theory. (Khusaeni & Nursanti, 2024) No less important is the influence of the "created environment", namely the patient's subjective perception of their environment, which is often overlooked in nursing practice. A study stated that patients with peripheral venous catheters who felt safe and valued by medical personnel showed a more positive response to care than patients who felt stressed and neglected. This shows that the environment must not only be arranged physically, but also needs to be managed from a psychosocial perspective to support positive interpretations by patients of their condition. By understanding the complexity of this environmental concept, nurses can play a role not only as service providers, but also as "architects of healing conditions", as mandated by Betty Neuman's theory. (Braga et al., 2018)

Interestingly, although all studies acknowledge the importance of the three dimensions of the environment in Neuman's theory, practical implementation in hospitals still tends to focus on the physical environment, while the perceptual aspect of the "created environment" is often neglected. In fact, a study by Akhlaghi et al. (2020) showed that an intervention designed to change patients' perceptions of cardiac surgery procedures significantly reduced anxiety and accelerated postoperative recovery. This underscores the importance of recognizing and manipulating not only the physical environment but also the patient's mental construction of their illness experience as an effective nursing intervention strategy.

### **Client System**

The client system in Betty Neuman's theory is viewed as an open system consisting of five main variables: physiological, psychological, developmental, sociocultural, and spiritual. These five aspects interact dynamically and complexly in responding to stressors coming from the environment. In nursing practice, ignoring one of these variables can lead to a partial and non-holistic care approach. The study by Oshvandi et al. (2024) shows how all elements of the client system influence each other in colorectal cancer patients. For example, physiological conditions such as pain and physical weakness worsen psychological conditions, which in turn affect the patient's spiritual and sociocultural aspects, such as loss of hope or social isolation. (Oshvandi et al., 2024) What needs to be critically highlighted is the fact that the client system is often simplified in clinical practice into only the physical dimension. In fact, patients are not only biological bodies, but also thinking, feeling, and bound beings in a cultural and spiritual context. This is evident in the findings of Ghanbari Afra et al. (2022), where heart failure patients experience stress that does not only originate from physical symptoms, but also from interpersonal stressors such as family conflict and economic pressure. When nurses ignore interpersonal and spiritual variables in the client system, nursing interventions become less effective and can even add to the patient's stress. This emphasizes the need for a truly multidimensional nursing care approach, not just based on medical diagnoses. (Ghanbari Afra et al., 2022)

In other words, understanding the client system is not just about classifying patients into diagnostic categories, but about reading the patient's entire life story and how they are coping with their illness. Falakdami et al. (2025) showed that by using a whole-client-system approach, they were able to develop a nursing care plan tailored to the individual needs of breast cancer patients, which resulted in significant improvements in the patient's quality of life. Therefore, integrating an understanding of the client system into every step of nursing care—from assessment to evaluation—is the foundation of true implementation of Neuman's theory. Unfortunately, many nursing practices in hospitals are still trapped in the paradigm of "technical tasks," rather than being holistic and reflective partners in healing. (Falakdami et al. , 2025) A deeper analysis of the studies reviewed showed that the spiritual dimension is the most frequently overlooked component of the client system in the implementation of Neuman's model. Of the 10 studies analyzed, only 3 studies (30%) explicitly integrated spiritual aspects into their nursing interventions. In fact, as stated by Sadeghi et al. (2021), interventions that include spiritual elements such as meditation and guided prayer in pre-endoscopy patients show higher effectiveness in reducing anxiety than interventions that only focus on physical and psychological aspects. This finding confirms that the implementation of Neuman's theory as a whole must include all dimensions of the client system, including the spiritual dimension which is often overlooked in conventional nursing practice.

### **Stressors**

Stressors are a central element in Betty Neuman's theory because they are the starting point of disruption to the stability of the client's system. Neuman classified stressors into three: intrapersonal (from within the self), interpersonal (interactions with others), and extrapersonal (external environment such as economic or cultural). Identifying the type and impact of stressors is crucial in determining appropriate nursing interventions. Sadeghi et al. (2021) studied patients undergoing endoscopy and found that intrapersonal stressors such as fear and anxiety can increase drastically if not immediately addressed with the right nursing approach based on Neuman's model. (Sadeghi et al., 2021)

Unfortunately, in hospital practice, nurses often only focus on physiological stressors (eg, pain or sleep disturbances), whereas psychological and sociocultural stressors often have a greater impact on the overall balance of the client's system. This is confirmed in the study by Akhlaghi et al. (2020), which showed that cardiac surgery patients not only experience stressors due to physical illness, but also from financial pressure and fear of death—two forms of extrapersonal stressors that are often overlooked in conventional nursing assessments. When nurses fail to comprehensively identify stressors, the interventions given will be reactive and superficial, rather than preventive and systemic as recommended by the Neuman model. (Akhlaghi et al. , 2020) Interestingly, this model actually offers a very systematic "roadmap" in recognizing and dealing with stressors through a three-level prevention approach. In the case of child hospitalization studied by Khusaeni & Nursanti (2024), children's anxiety can be significantly reduced when interpersonal stressors—such as separation from parents and fear of procedures—are addressed early with an educational and empathetic approach. This shows that nurses are not only tasked with treating symptoms, but also as "stressor managers" who actively prevent, reduce, and restore the impact of each form of stressor experienced by patients. The implementation of this theory requires nurses not to simply "touch the wound," but to understand the context that makes the wound deeper. (Khusaeni & Nursanti, 2024)

An important finding from the analysis of stressors in the studies reviewed is the existence of a consistent pattern in the type of stressors that are dominant in certain clinical conditions. For patients with chronic diseases such as cancer and heart failure, intrapersonal stressors (such as fear of death and changes in body image) and extrapersonal stressors (financial burden and

accessibility of care) are more prominent. Meanwhile, in acute patients such as pre-surgery and endoscopy, intrapersonal stressors (anxiety) and interpersonal stressors (dependence on medical staff) are more dominant. Mapping specific stressors based on these clinical conditions can be a valuable guide for nurses in anticipating and designing more targeted preventive interventions in accordance with the principles of Neuman's theory.

### **Lines of Defense and Resistance**

The line of defense in Betty Neuman's theory is a protective layer for the client's system, consisting of three main parts: flexible line of defense, normal line of defense, and lines of resistance. The flexible line of defense acts as a "first line" that is dynamic and changes depending on the client's condition, such as immune status, stress levels, and social support. The normal line of defense reflects the client's usual state of balance. If these two layers are penetrated by stressors, then the line of resistance plays a role in maintaining the core integrity of the system. In the study of Feriadianto & Nursanti (2024), the implementation of this theory in stroke patients showed that the role of nurses in strengthening flexible lines of defense, such as through educational approaches and environmental stressor control, has an impact on accelerating the patient's physical and psychological recovery. (Feriadianto & Nursanti, 2024)

However, in the reality of hospital nursing practice, understanding this line of defense is often reduced to simply "monitoring vital signs" or "preventing physical complications." In fact, as shown by Akhlaghi et al. (2020) in cardiac surgery patients, nurses who use the Neuman approach in its entirety can identify that sleep disturbances, emotional tension, and spiritual concerns are signals that the flexible line of defense is fragile and requires immediate intervention. When nurses only wait for clients to show critical symptoms without understanding that the line of defense is under pressure, the preventive function of Neuman's theory-based care fails to be fulfilled. This of course violates the essence of Neuman's theory which is anticipatory and protective. (Akhlaghi et al., 2020) More interestingly, the resistance lines in this model open up space for interpretation of multidisciplinary interventions. As revealed by Falakdami et al. (2025), in breast cancer patients, the resistance lines reflect the patient's internal strengths such as spiritual beliefs, hope, and adaptability that can be mobilized by nurses through appropriate psychosocial and spiritual approaches. This expands the role of nurses not only as implementers of medical interventions, but also as facilitators of patient psychological resilience. The complete implementation of this model requires nurses to recognize every "crack" in the patient's defense layer and intervene not only based on visible symptoms, but also on the dynamics of the client's defense system as a whole. (Falakdami et al., 2025)

What is interesting from the studies analyzed is the positive correlation between strengthening flexible lines of defense through psychosocial interventions and reducing the length of stay of patients. Studies by Diniz et al. (2019) and Akhlaghi et al. (2020) both reported that patients who received comprehensive Neuman model-based interventions, especially those focused on strengthening flexible lines of defense, showed faster recovery times and reduced post-intervention complications. These findings have significant economic implications for hospital management, suggesting that investing in the implementation of Neuman's theory not only improves the quality of care, but also has the potential to reduce the cost of care through clinical efficiency.

### **Three Levels of Prevention**

The concept of three levels of prevention—primary, secondary, and tertiary—is a unique strength of Betty Neuman's theory that makes nursing a profession that is not only curative, but also preventive and promotive. Primary prevention focuses on protection before stressors

penetrate the flexible line of defense, for example through education, vaccination, or counseling. In a study by Diniz et al. (2019), the implementation of game-based educational interventions before cardiac surgery was shown to significantly reduce anxiety. This shows that primary prevention can strengthen client resilience even before physiological or psychological disorders occur. Unfortunately, in hospital practice, this strategy is still considered "additional" or merely a health promotion responsibility, even though nurses are at the forefront of its implementation. (Diniz et al. (2019)Secondary and tertiary prevention levels also have strategic value in acute and chronic patient care. Secondary prevention occurs when stressors have begun to have an impact, but have not yet caused permanent damage—interventions include early detection and early treatment. In contrast, tertiary prevention aims to restore the condition and prevent further complications. Falakdami et al. (2025) showed how nurses use these three levels in layers in breast cancer patients, from education (primary), symptom management (secondary), to long-term psychosocial support (tertiary), which collectively improve the patient's quality of life. In this context, nurses are not simply treating complaints, but managing the entire spectrum of the client's response to stressors throughout the disease cycle. (Falakdami et al. , 2025)

However, it needs to be criticized that the biggest obstacle in implementing these three levels is not in theory, but in the reality of the hospital system which is still very reactive. Khusaeni & Nursanti's study (2024) showed that children are often only treated after showing severe anxiety, even though simple primary interventions such as parental involvement or early introduction to the hospital environment can prevent stressors from escalating. Implementing three levels of prevention requires a change in the nursing paradigm from "waiting for symptoms" to "anticipating risk." Without the courage of institutions and nurses to shift to a more anticipatory and holistic approach, this theory will remain an academic discourse, not a tool for transforming nursing practice. (Khusaeni & Nursanti, 2024) The imbalance in the distribution of interventions at the three levels of prevention is an important finding in this review. Of the 10 studies analyzed, the majority (70%) focused on secondary prevention, 20% on tertiary prevention, and only 10% actually implemented primary prevention comprehensively. The studies of Diniz et al. (2019) and Sadeghi et al. (2021) which specifically designed interventions at the primary prevention level showed significant effectiveness in reducing pre-procedural anxiety and strengthening patient resilience. This indicates a gap between the theoretical potential and practical implementation of the Neuman model, where the preventive aspect, which is the main strength of this theory, is the least applied in clinical settings.

### **Recovery**

In Betty Neuman's model, recovery *is* not simply seen as the patient's return to "normal" physical health, but as a holistic restorative process that encompasses physiological, psychological, sociocultural, spiritual, and developmental dimensions. Recovery occurs after stressors have been successfully managed and the client's lines of defense have been re-established. It is not simply a "post-intervention" phase, but an integral part of the system that assesses the success of nursing care. In a study by Oshvandi et al. (2024), colorectal cancer patients showed improved quality of life after going through a recovery phase that was based on a multidimensional evaluation of the client's system, including meeting the patient's spiritual and social needs. This confirms that recovery in Neuman's framework is a holistic process, not linear or solely clinical. (Oshvandi et al. , 2024)However, nursing practice in many hospitals still defines recovery too narrowly. The focus is often only on decreasing pain scores, stabilizing vital signs, or early mobilization. In fact, a study by Afra et al. (2022) in heart failure patients showed that even though physical conditions improved, unfulfilled psychosocial aspects could worsen long-term prognosis. In implementing Neuman, nurses must evaluate whether recovery has truly touched the client's "core system", including their

perception of the disease, the meaning of life, and the support they have after returning home from the hospital. In other words, recovery must be determined by the patient subjectively, not just by objective medical parameters. (Afra et al., 2022)

Recovery also reflects the success of collaboration across levels of prevention and intervention. As Falakdami et al. (2025) showed, recovery in breast cancer patients does not happen by chance, but is the result of systematic interventions at each stage—primary prevention for education, secondary for symptom control, and tertiary for psychoemotional rehabilitation. This is where the role of the nurse is vital as a coordinator across phases, not just an implementer of the doctor's instructions. Neuman's model provides a framework that allows nurses to assess recovery holistically and make it a meaningful indicator of the quality of care. Without this approach, we are simply “healing the body,” not healing the whole person. (Falakdami et al., 2025) An important aspect revealed from the analysis of the recovery dimension is the significance of family involvement in the holistic recovery process. Studies by Feriadianto & Nursanti (2024) and Khusaeni & Nursanti (2024) consistently show that interventions involving the family as a support system result in more comprehensive and sustainable recovery. In the context of Neuman's model, the family is not only seen as a "visitor" to the patient, but as an integral part of the client's system that can strengthen the line of defense and facilitate recovery. This finding confirms that effective implementation of Neuman's theory must adopt a family-centered care approach, where the family is not only involved as a recipient of information, but as an active partner in the therapeutic process.

## **CONCLUSION**

The implementation of Betty Neuman's system theory in hospital nursing has proven effective in strengthening the patient's defense system against various stressors, as well as improving the quality of holistic nursing care that includes physiological, psychological, social, and spiritual aspects. This approach is able to reduce anxiety, accelerate recovery, and optimize stressor management in patients with various clinical conditions such as stroke, cancer, heart failure, and pre-operative anxiety. However, many practices in the field are still focused on physical interventions alone, so that the full potential of Neuman's theory has not been fully explored. This indicates the need for a more systematic integration of this theory into hospital nursing policies and training. Based on a systematic analysis of 10 studies that met the inclusion criteria, it can be concluded that there is strong empirical evidence supporting the effectiveness of Betty Neuman's theory implementation in hospital nursing practice. This model has been proven effective in various clinical conditions and geographic contexts, although there is variation in the level of depth of implementation of its theoretical components. The most frequently applied theoretical components are stressor identification (100% of studies) and intervention at the secondary prevention level (70% of studies), while aspects of the environment created (30% of studies) and primary prevention (10% of studies) are still less optimally addressed. The main challenges in implementing this theory are nurses' limited understanding of the complexity of the model, the orientation of the health system which is still reactive rather than preventive, and the lack of institutional support for a holistic approach to nursing care.

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