

## Functional patterns of health Nursing theory in the hospital context: evaluation according to Meleis

*Teoría de enfermería Patrones funcionales de salud en el contexto hospitalario: evaluación según Meleis*

*Teoria de enfermagem padrões funcionais de saúde no contexto hospitalar: avaliação segundo Meleis*

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### How to cite this article:

Bitencourt GR, Souza PA, Ferreira AFM, Fernandes LLRA, Silva CS, Souza OS, Corrêa DBSF. Functional patterns of health Nursing theory in the hospital context: evaluation according to Meleis. *Glob Acad Nurs.* 2023;4(1):e336.  
<https://dx.doi.org/10.5935/2675-5602.20200336>

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Submission: 05-03-2022

Approval: 06-30-2022

### Abstract

The aim was to reflect on the Theory of Functional Health Patterns in the hospital context in the light of Meleis. Theoretical-reflective study based on the literature and the descriptive stage of the theory evaluation model proposed by Meleis in the structural component. The assessment of functionality in the eleven standards is the theoretical phenomenon, so that nursing is responsible for this assessment; health is the analysis of the functionality of these patterns; the environment is somewhat interactive with the client, health-disease, culture and where these standards are evaluated; and the customer is the individual, family, community, or other groups, for whom functionality is evaluated. It can, therefore, be applied in the hospital context, but it lacks sectoral considerations, to capture the uniqueness of customers. The theory of functional health patterns presents structural components described and applicable to the hospital context, although it is necessary to consider areas.

**Descriptors:** Nursing Theory; Theoretical Models; Assessment; Classification; Hospital Assistance.

### Resumén

El objetivo fue reflexionar sobre la Teoría de los Patrones Funcionales de Salud en el contexto hospitalario a la luz de Meleis. Estudio teórico-reflexivo basado en la literatura y la etapa descriptiva del modelo de evaluación de la teoría propuesto por Meleis en el componente estructural. La evaluación de la funcionalidad en los once estándares es el fenómeno teórico, por lo que enfermería es la responsable de esta evaluación; la salud es el análisis de la funcionalidad de estos patrones; el ambiente es algo interactivo con el cliente, salud-enfermedad, cultura y donde se evalúan estos estándares; y el cliente es el individuo, familia, comunidad u otros grupos, para quienes se evalúa la funcionalidad. Puede, por tanto, aplicarse en el contexto hospitalario, pero carece de consideraciones sectoriales, para capturar la singularidad de los clientes. La teoría de los patrones funcionales de salud presenta componentes estructurales descritos y aplicables al contexto hospitalario, aunque es necesario considerar áreas.

**Descriptores:** Teoría de Enfermería; Modelos Teóricos; Evaluación; Clasificación; Asistencia Hospitalaria.

### Resumo

Objetivou-se refletir sobre a Teoria dos Padrões Funcionais de Saúde no contexto hospitalar à luz de Meleis. Estudo teórico-reflexivo a partir da literatura e da etapa descritiva do modelo de avaliação de teorias proposto por Meleis no componente estrutural. A avaliação da funcionalidade nos onze padrões é o fenômeno teórico, de modo que a enfermagem é responsável por essa avaliação; a saúde é a análise da funcionalidade desses padrões; o ambiente é meio interativo com o cliente, saúde-doença, cultura e onde esses padrões são avaliados; e o cliente é o indivíduo, família, comunidade ou outros grupos, a quem a funcionalidade é avaliada. Pode, portanto, ser aplicada no contexto hospitalar, mas carece de considerações setorializadas, para capturar a singularidade dos clientes. A teoria dos padrões funcionais de saúde apresenta componentes estruturais descritos e aplicáveis ao contexto hospitalar, embora seja necessária a consideração por áreas.

**Descritores:** Teoria de Enfermagem; Modelos Teóricos; Avaliação; Classificação; Assistência Hospitalar.



## Introduction

Nursing theory can be defined as an organized, coherent and systematic articulation of statements related to the significant questions of a discipline, communicated, shared in a set as a significant whole. It presents the objective of describing and explaining the relationships between the phenomena, in addition to predicting consequences or prescribing nursing care<sup>1</sup>.

In practice, these theories can support the entire nursing process, that is, a methodological instrument that guides care and documentation of professional practice<sup>2</sup>, including computerized systems. In this way, it is able to guide from the data collection instrument, to the specific look at certain phenomena and even the implementation of interventions in certain contexts.

One of these theories is the Functional Health Patterns idealized by the researcher Marjory Gordon in the 80s, which contributes as one of the comprehensive models for data collection, that is, the first stage of the nursing process through the evaluation of eleven health patterns. Each of the standards consists of different questions to reflect uniqueness, as well as to assess strengths and weaknesses, which may be linked to the nursing diagnosis categories in the patient<sup>3</sup>.

The framework of functional patterns has been widely studied around the world as the basis of the classification domains for Nanda-International nursing diagnoses. It is one of the main options for nurses and nursing students in standardizing data collection and recording nursing diagnoses in patients.

However, a previous study evaluated the content and psychometric properties of nursing assessment tools developed based on functional health standards. As a result, there is a gap on further analysis of the theory. In the findings, four articles were methodological studies and two were descriptive reports of the development of instruments. There are few comprehensive nursing assessment tools that use the Functional Health Patterns Assessment Framework. The differences between the tools and the lack of psychometric tests compromise the visibility of nursing and make it difficult to emphasize the contribution of knowledge in the area to patient care<sup>4</sup>.

With a view to facilitating the understanding and reflection of this theory, it is necessary to apply evaluative proposals, as proposed by Meleis<sup>5</sup>. From this, this study aims to: reflect on the Theory of Functional Health Patterns in the hospital context in the light of Meleis.

## Methodology

This is a theoretical-reflective study based on the literature and the descriptive stage of the theory evaluation model proposed by Meleis to describe the structural components: focus, client, nursing and environment<sup>5</sup>. This model presents as segments: description, analysis, criticism, test and support. In the present study, we will use the

description, since it is a stage of identifying conceptual elements relevant to the central ideas of a theory, in this case, the Functional Health Patterns.

For this purpose, the structural and functional components of the theory were described. Structural components consider assumptions, concepts and propositions. The functional components, on the other hand, were analyzed through central questions about Nursing as a discipline that the theory explains. For data collection, a survey of articles on the theory of functional health standards was carried out. Due to the incipience of the findings, it was not possible to support a review study, opting for reflective analysis. Therefore, the description of the theory according to Meleis was made. As central questions, bases of previous study were used for the analysis and reflection of its main points:

- a) If the theory identifies the focus with the client, family, Community and society.
- b) Definition that the theory offers to Nursing, client, health, nursing problems, nurse-patient relationship.
- c) If the theory offers a clear idea about nursing problems.
- d) Whether the theory offers any insight regarding nursing intervention<sup>6</sup>.

Data analysis was descriptive and from the stages of:

- 1) Presentation of the Theory of Functional Health Patterns.
- 2) Description of structural components.
- 3) Reflection on the application of theory in the hospital context.

In this way, it is intended to favor the identification of the structural elements belonging to the central ideas and the reflexive criticism about the theory under study.

## Results

The implications of the components of Functional Health Patterns in the context of the nursing process are represented in the conceptual scheme of Figure 1.

From the analysis of the structural components, it is possible to reflect on the application of the materialized theory in the nursing process in the hospital context, as shown in Figure 2.

The structure of the nursing process in the light of the theory of functional standards in the hospital context can help support its stages. It can be seen from the collection of data based on theory, followed by the identification of nursing diagnoses in the client and inserted in the environment through Nanda-I; planning, centered on health and its functionality through the elaboration of interventions based on the Nursing Interventions Classification (NIC) and results from the Nursing Outcomes Classification (NOC); execution of assertive interventions and evaluation with analysis of the NOC results, leading to a new data collection.



Figure 1. Conceptual scheme of structural components in the theory of Functional Health Patterns. Rio de Janeiro, RJ, Brazil, 2022

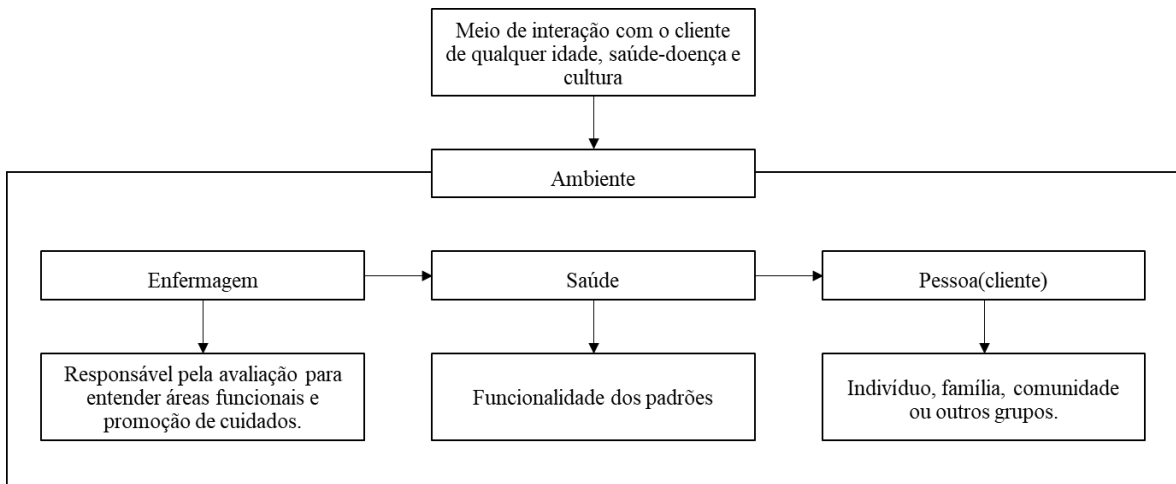
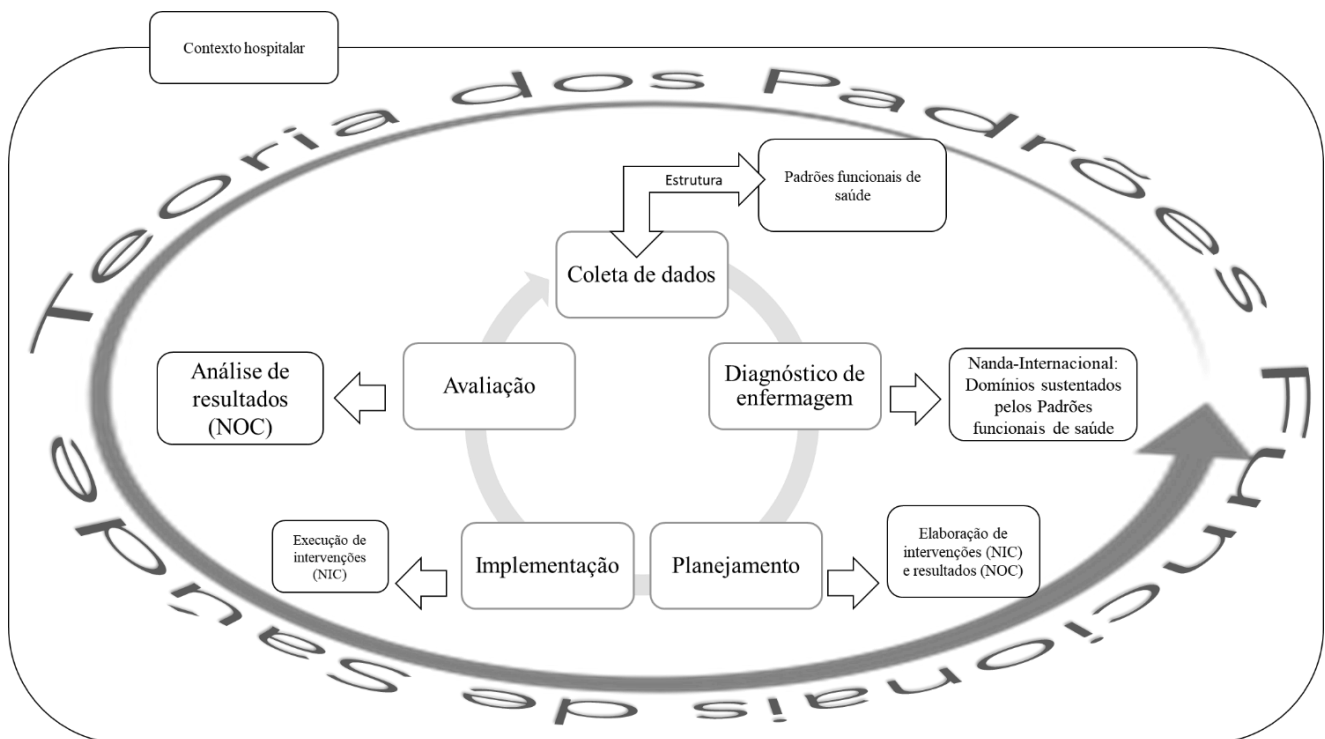


Figure 2. Reflection on the application of Functional Health Patterns in the hospital context. Rio de Janeiro, RJ, Brazil, 2022



## Discussion

Reflections were organized based on: 1) Presentation of the Theory of Functional Health Patterns; 2) Description of structural components; 3) Reflection on the application of theory in the hospital context.

### Presentation of the Theory of Functional Health Patterns

The theory starts from the phenomenon, that is, term, description or label used to describe an idea or reactions of an event, situation or process, a group of events or situations. The phenomenon of the Theory of Functional Health Patterns is the assessment, translated as evaluation, in a way that describes the individual and continuous analysis based on the functionality of the client's patterns, be it an individual, family or community. It is understood that

data collection is structured to facilitate health assessment and the organization of the nursing diagnosis survey<sup>7</sup>.

The word functional is used in several areas of knowledge to describe physiological processes and associated with systems, mainly cardiovascular, neurological and even mobility parameters. However, for nursing, the term transcends areas such as health promotion, care and rehabilitation<sup>8</sup>.

Functionality can be evaluated, therefore, by the interaction between the client and the environment through biopsychosocial integration, so that there is a need for knowledge of all standards for the client's analysis. Each pattern can be influenced by biological, cultural, social and spiritual factors and the judgment whether a pattern is functional or not depends on individual assessments, age, level of care, cultural and social aspects<sup>8</sup>.

This assessment of functional health patterns can be considered in several ways. One of them is in the grouping of nursing diagnoses and that is why it is the theoretical basis of organization of Nanda-Internacional until the present day. Another consideration is the organization of clinical knowledge so that it can outline the curriculum of nursing education or educational programs, in addition to topics in clinical research<sup>3</sup>.

Thus, according to traditional nursing care theory, patient assessment and interventions are based on nurses' individual knowledge, skills, experiences and beliefs. To that end, Gordon breaks down customer needs into 11 functional areas: health perception and control, nutritional-metabolic, eliminations, cognitive-perceptual, self-perception and self-concept, role performance and relationship, sexual-reproductive, stress response and tolerance, belief and value, activity and exercise, and sleep and rest. The assessment of these patterns is advanced and complex, leading to a holistic analysis of each client.

### Description of structural components

The structural components address how the theory perceives the client, environment, health and nursing. In the theory under study, the evaluation of the functionality of the eleven patterns is the core, so that nursing is responsible for this evaluation; health is the analysis of the functionality of these patterns; the environment is a means of interaction with customers of all ages, health-disease, culture and where these standards are evaluated; and the customer is the individual, family, community or other groups, for whom functionality is evaluated<sup>7</sup>.

Each of the eleven standards provides a definition and describes an area of interest<sup>4</sup>:

- a) Health perception and control: client's perception of the standard of health and well-being and how their health is controlled.
- b) Nutritional-metabolic: how is food consumption and water intake relative to metabolic need, in addition to considering specific nutrient support.
- c) Eliminations: excretion (through the skin, intestines and bladder).
- d) Cognitive-perceptual: sensory and cognitive perception.
- e) Self-perception and self-concept: client's self-concept and own perceptions (self-perception, work, body image, state of mind).
- f) Role performance and relationship: rules for establishing relationships and bonds.
- g) Sexual-reproductive: satisfaction or not with the sexual and reproductive pattern.
- h) Stress response and tolerance: general coping patterns.
- i) Belief and value: values and beliefs, including spiritual and life goals for decision-making.
- j) Activity and exercise: what is activity, exercise, leisure and recreation like.
- k) Sleep and rest: sleep, rest and relaxation.

In practice, the information about each of these patterns is collected and evaluated by the nurse, so the

evaluator does not see a pattern, but this is built from the analysis of all the information collected from the client.

### Reflection on the application of theory in the hospital context

Nursing models and theories are used to help nurses assess, plan, and implement interventions in client care, providing a framework.

The theory under study can help nurses to standardize and provide nursing care systematically. In the hospital context, previous studies associate this theoretical model in nursing care with a significant improvement in quality of life and reduction in hospital readmissions, in addition to a reduction in the mortality rate and a positive predictor of event-free survival in 30 days in the multivariate analysis<sup>9</sup>.

Therefore, some aspects must be considered for the selection of this theory in the hospital context, mainly, if its structural components are similar to that recommended by the philosophy of the institution. In addition, one should reflect on whether the theory's concept of person is consistent with the service's clientele; if the concept that grounds health in theory will meet the demands of patients; whether the concept of environment described in the theory is related to the environment in which the professional works<sup>10</sup>.

If these criteria meet the client's and institutional demands, the formulation of a nursing diagnosis based on functional standards is based on the identification of signs and symptoms that characterize it. These signs and symptoms would be the clinical indicators of the diagnoses, and if they are determined for each of them, the reasoning process itself can be facilitated and the error reduced<sup>11</sup>.

Initially, there is the application of functional standards based on the strategy of collecting subjective data and physical examination. In the generalization of health care scenarios, the first patterns identified in order and independently of the care environments are: health perception and control, nutritional-metabolic, eliminations, activity and exercise, cognitive-perceptual, sleep and rest, self-perception and self-concept, role performance and relationship<sup>3</sup>.

On the other hand, a previous study suggests that the functional patterns of health altered in the hospital context, more specifically in critically ill patients, are, respectively: nutritional-metabolic, eliminations, cognitive-perceptual, self-perception and self-concept, activity and exercise, and resting sleep. However, there is a gap in the evidence literature for patterns of role and relationship performance, sexual-reproductive behavior, stress response and tolerance, and belief and value<sup>11</sup>.

Another study, analyzing hospitalized clients in the specific context of COVID-19, identified the pattern of response and tolerance to stress and perception and control of health as the main identifiable in the patient in a hospital context. To do so, they associated scales to ratify the profile of the standards. This data may be of interest, as it brings the implication of context in the analysis of functional patterns<sup>12</sup>.



Likewise, changing patterns in surgical clients are expected, mainly metabolic nutritional and elimination. This is because the main nursing diagnoses by Nanda-I are in the physical injury, self-care, hydration and physical comfort classes. The most identified nursing diagnoses in this context are: risk for deficient fluid volume, risk for unbalanced fluid volume, impaired urinary elimination. It also becomes possible to target NIC interventions, the main ones being risk management, elimination management, coping assistance, tissue perfusion management and facilitation of self-care<sup>13</sup>.

If the hospitalized infant life cycle is specifically analyzed, the analysis profile of nursing diagnoses may be different. The main ones are: perception and control of health, with nursing diagnoses of risk of delayed development; ineffective health maintenance, risk-prone health behavior; nutritional-metabolic, with risk of infection; and interrupted breastfeeding; self-perception and self-concept, with risk of chronic low self-esteem; role performance and relationship: impaired parenting and dysfunctional family process; stress response and tolerance: impaired family coping and risk of self-directed violence.

These analyzes are of interest since they reflect the need to reflect on the patterns of health functions in the

hospital context for the different areas and vital cycles, since each one of them presents a specificity of data, which translate into differentiated diagnoses and nursing interventions. However, there is an analysis gap in the presentation of these patterns in some scenarios, such as maternity, medical clinic, palliative care, among others.

This study is limited to presenting Meleis' reflection on the Theory of Functional Health Patterns. The analysis of the sensitivity and specificity of each of the patterns and in different contexts is necessary in a future study proposal.

### Final Considerations

With the study, it was possible to reflect on the Theory of Functional Health Patterns in the hospital context in the light of Meleis. The structural components of health, nursing, client and environment are presented in the literature and applied in different scenarios in the hospital context. However, each of these presents specificities that need to be considered in data collection with a view to identifying more assertive nursing diagnoses, implementing more specific interventions and better responses in the results.

## References

1. Yip JYC. Theory-Based Advanced Nursing Practice: A Practice Update on the Application of Orem's Self-Care Deficit Nursing Theory. *SAGE Open Nurs.* 2021;20(7):23779608211011993. DOI: 10.1177/23779608211011993
2. Conselho Federal de Enfermagem (COFEN). Resolução COFEN n.º 358/2009. Dispõe sobre a sistematização da assistência de enfermagem e a implementação do processo de enfermagem em ambientes, públicos ou privados, em que ocorre o cuidado profissional de enfermagem, e dá outras providências [Internet]. Diário Oficial da União. 2009 [citado em 2021 mai 02]. Disponível em: [http://www.coren-ro.org.br/resolucao-cofen-35809-dispoe-sobre-a-sistematizacao-da-assistencia-de-enfermagem-e-a-implementacao\\_800.html](http://www.coren-ro.org.br/resolucao-cofen-35809-dispoe-sobre-a-sistematizacao-da-assistencia-de-enfermagem-e-a-implementacao_800.html)
3. Khatiban M, Tohidi S, Shahdoust M. The effects of applying an assessment form based on the health functional patterns on nursing student's attitude and skills in developing the nursing process. *Int J Nurs Sci.* 2019;6(3):329-33. DOI: 10.1016/j.ijnss.2019.06.004
4. Gengo E Silva Butcher RC, Jones DA. An integrative review of comprehensive nursing assessment tools developed based on Gordon's Eleven Functional Health Patterns. *Int J Nurs Knowl.* 2021;6(1):1-7. DOI: 10.1111/2047-3095.12321
5. Meleis AI. *Theoretical nursing: development and progress.* Philadelphia: Lippincott; 1997.
6. Silva CMC, Valente GSC, Bitencourt GR, Brito LN. A teoria do cuidado transpessoal na Enfermagem: Análise segundo Meleis. *Cogitare enferm.* 2010;15(3):548-51. DOI: 10.5380/ce.v15i3.18902
7. Gordon, M. *Manuel of nursing diagnosis.* Burlington: Jones & Bartlett Learning; 2016.
8. Temel M, Kutlu FY. Depresyon Tanılı Bir Hastada Fonksiyonel Sağlık Örüntüleri Modeli Temelinde Bir Bakım Planı [Functional Health Pattern Model Based Care Plan for a Depression Diagnosed Patient]. *Florence Nightingale Hemsire Derg.* 2019;27(1):91-103. DOI: 10.26650/FNHN287469
9. Türen S, Enç N. A comparison of Gordon's functional health patterns model and standard nursing care in symptomatic heart failure patients: A randomized controlled trial. *Appl Nurs Res.* 2020;53:151247. DOI: 10.1016/j.apnr.2020.151247
10. Brandão MAG, Barros ALBL, Primo CC, Bispo GS, Lopes ROP. Nursing theories in the conceptual expansion of good practices in nursing. *Rev bras enferm.* 2019;72(2):577-581. DOI:10.1590/0034-7167-2018-0395
11. Bitencourt GR, Barbosa JES, Taets CMC, Cecccon DL, Coutinho RP, Taets GGCC et al. Padrões funcionais de saúde em adultos com COVID-19 na terapia intensiva: fundamentando diagnósticos de enfermagem. *Int J Dev Res.* 2021;10(06):36540-4. DOI: 10.37118/ijdr.19007.06.2020
12. Alan S, Gokyildiz Surucu S, Avcibay Vurgeç B, Cevik A. An investigation of individuals' health anxiety during the COVID-19 pandemic within the framework of the functional health patterns. *Perspect Psychiatr Care.* 2021;57(3):1103-1113. DOI: 10.1111/ppc.12663
13. Kocaçal E, Karadağ E. Nursing diagnoses and NIC interventions in adult males undergoing radical prostatectomy. *Rev Esc Enferm USP.* 2020;16(54):e03541. DOI: 10.1590/S1980-220X2018038003541

