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THEORY AND METHODS

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Analysis and Evaluation of the Health Promotion Model

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Abstract
The objective of this article is to break down the Analysis and Evaluation of the Health Promotion Model using the methodology proposed by Fawcett, with the purpose of demonstrating the usefulness of this model in the field of health care and nursing research. Although the health promotion model has been used in caregiving and in research related to health-promoting behaviors, this type of article has limited scope in the publications consulted. For Fawcett, the analysis is achieved through the review of what the author has written about his own theory. In the event that the author does not address an extract of the theory or is not very specific, secondary sources can be employed. This process is made up of scope, context and content of the theory. The evaluation consists of making judgments about the degree to which the theory meets certain criteria; these criteria are significance, internal consistency, parsimony, verifiable, empirical adequacy and pragmatic adequacy.
Keywords: Nursing Theory. Nursing Care. Research. Health Promotion.

Análisis y Evaluación del Modelo de Promoción de la Salud

Resumen
El objetivo del artículo es desglosar el Análisis y Evaluación del Modelo de Promoción de la Salud bajo la metodología propuesta por Fawcett, con la finalidad de demostrar la utilidad de dicho modelo en el campo asistencial y en la investigación desarrollada en enfermería. Si bien, el modelo de promoción de la salud se ha empleado en la asistencia del cuidado y en la investigación relacionada con conductas promotoras de la salud, la existencia de este tipo de artículo es de alcance limitado en las publicaciones consultadas. Para Fawcett, el análisis se logra a partir de la revisión de lo que el autor ha escrito sobre su propia teoría. En caso de que, el autor no aborde algún extracto de la teoría o no sea muy específico, se podrán utilizar las fuentes secundarias. Este proceso está conformado por el alcance de la teoría, el contexto de la teoría y el contenido de la teoría. La evaluación, consiste en realizar juicios, sobre el grado en que la teoría cumple ciertos criterios; estos criterios son la significancia, consistencia interna, parsimonia, demostrable, adecuación empírica y adecuación pragmática.
Palabras clave: Teoría de enfermería. Atención de enfermería. Investigación. Promoción de la salud.

Introduction

Health promotion was a milestone in the new conception of Public Health since the first International Conference on Health Promotion held in Ottawa on November 21, 1986 in pursuit of the objective "Health for all by the year 2000". Health promotion consisted of providing people with the necessary means to improve their health and exercise greater control over it, conceiving health as a treasure of daily life. In this sense, health promotion emphasized social and personal resources, including physical fitness. In addition, prerequisites for health were established, such as peace, education, housing, food, environment, justice, equity, economy and politics, which should be favorable to contribute to the health of the people. Under this premise, health professionals act as mediators between antagonistic interests and interests in favor of health, being participants in care and recognizing that individuals are the main source of health, and must support them, train them and provide the necessary means for them and their families to remain in good health.[1]

In response to the above, various models of health care for prevention have been formulated, including the Health Promotion Model (HPM) proposed by Nola Pender in 1990, which was last updated in 2018. The HPM explores the biopsychosocial process that motivates individuals to make a commitment that improves their health, through three components.[2] The first component addresses individual characteristics and experiences; it includes related prior behavior and personal biological, psychological, and sociocultural factors. The second component involves the cognitions and affections of the specific behavior. This component is divided into two blocks; the first one incorporates the perceived benefits of the action, perceived barriers to the action, perceived self-efficacy and affection related to the activity. The second includes interpersonal and situational influences. This is followed by two constructs that

intervene in health-promoting behavior, which are commitment to an action plan and immediate competence demands and preferences. Finally, the third component contains the behavioral outcome that explains the health-promoting behavior.

Considering the above, the methodology proposed by Fawcett[3] for the Analysis and Evaluation of Theories in Nursing will be used, since this process allows determining the usefulness of the HPM in the field of nursing care and disciplinary research, in such a way that there is congruence and the possibility of a relationship between the theory and the phenomenon being addressed, given that it is important to remedy the scarcity of articles dedicated to analyzing and critically evaluating the theories that are used to represent the realities related to the health of the population, especially in terms of primary, secondary or tertiary health prevention.

Methodology

The information was collected from the electronic databases PubMed and SciELO, with the search strategy (Nursing Theory OR Teoría de enfermería) AND (Nursing Care OR Atención de enfermería) AND (Research OR Investigación) AND (Health Promotion OR Promoción de la salud OR Nola Pender), articles were selected in English, Spanish and Portuguese from 2004 to 2023 with a quantitative and qualitative approach. A total of 412 articles were obtained; however, 16 articles were selected that included the HPM in the explanation of some health-related situation, regardless of the context and age of the participants, in full text. Articles that approached health promotion from other theoretical approaches, such as the health belief model, integrated theory of behavior change, among others, were excluded.

Theory analysis

Theory analysis requires a review of all primary sources of the author of the model. If the author omits certain information, model revisions can be made to analyze the scope, context and content of the theory.

Scope of the theory

First, it is determined whether what is being reviewed is a conceptual model, a grand theory, a middle-range theory or a practice theory, by asking: what is the scope of the theory? In this case, the Health Promotion Model (HPM) is a Middle Range Theory, due to its theoretical level of abstraction and the concrete propositions of its structure. It functions as an explanatory and predictive theory, as it describes and explains the nature of the relationships between individual characteristics and experiences, specific cognitions and affections, and health-promoting behavior.

The HPM is centered on the Interactive-Integrative Paradigm, since it describes people as reciprocal entities that interact with multiple factors. The knowledge is based on the social sciences, which were considered for its structuring.[4]

Context of the theory

Involves identification of the concepts and propositions of the nursing metaparadigm, the philosophical goals, the conceptual model from which the theory was derived, contributions to nursing knowledge, and accompanying disciplines.

Concepts of the metaparadigm

Generically, the Nursing Metaparadigm is made up of a set of statements that identify the phenomenon; it includes the person, the environment, the health and nursing.[4] In the HPM, the metaparadigm is ambiguous, since it provides generic information and does not allow the differentiation of the phenomenon in particular; such is the case of health and nursing.[5]

In the HPM, the person is the individual and the center of the theory, hence, each person is uniquely defined by their own cognitive-perceptual pattern and variable factors. The environment represents the interactions between cognitive-perceptual factors and modifiable factors, which influence the occurrence of the health-promoting behavior. Health is the highly positive status of the person, which is more important than any other general statement of the theory. Finally, nursing is the main agent in charge of motivating users to maintain their personal health.

Propositions of the metaparadigm

The HPM does not clarify in detail the propositions of the nursing metaparadigm; it only refers that the person interrelates with the environment for the development of a health-promoting behavior; and that nursing is an agent, which can influence the person, for the acquisition of that healthy behavior.[5]

Philosophical objectives

The HPM deals with the life process and human beings who are in constant relationship with their environments.[3] It indicates that each person is a biopsychosocial being partially shaped by the environment, but also seeks to create an environment to manage their health-promoting behaviors.[6] In a general way, it indicates that:

1. Individuals seek to create living conditions to enhance their health.
2. Individuals have a reflective self-awareness, which allows them to value their own competences.
3. Individuals value growth in directions perceived as positive, and the attempt to achieve a personally acceptable balance between change and stability.
4. Individuals actively seek to regulate their own behavior.
5. Individuals progressively transform the environment and are themselves transformed over time.
6. Healthcare professionals are part of the interpersonal environment and influence individuals throughout their lives.
7. Personal reconfiguration of the individual-environment relationship is essential for behavioral change.[7]

Conceptual model from which the theory was derived

The Health Promotion Model (HPM) was proposed by Pender et al. in 1982 and revised in 1987, 1996, 2002, 2006, 2015, and 2018[2,7] It had as its theoretical basis Kurt Lewin's Expectancy Value Theory, Rosenstock's Health Belief Model 8, and Albert Bandura's Social Cognitive Theory.[2]

Contributions from nursing or other disciplines to develop the theory

The development of the HPM relies on the contribution of psychology and sociology.[2]

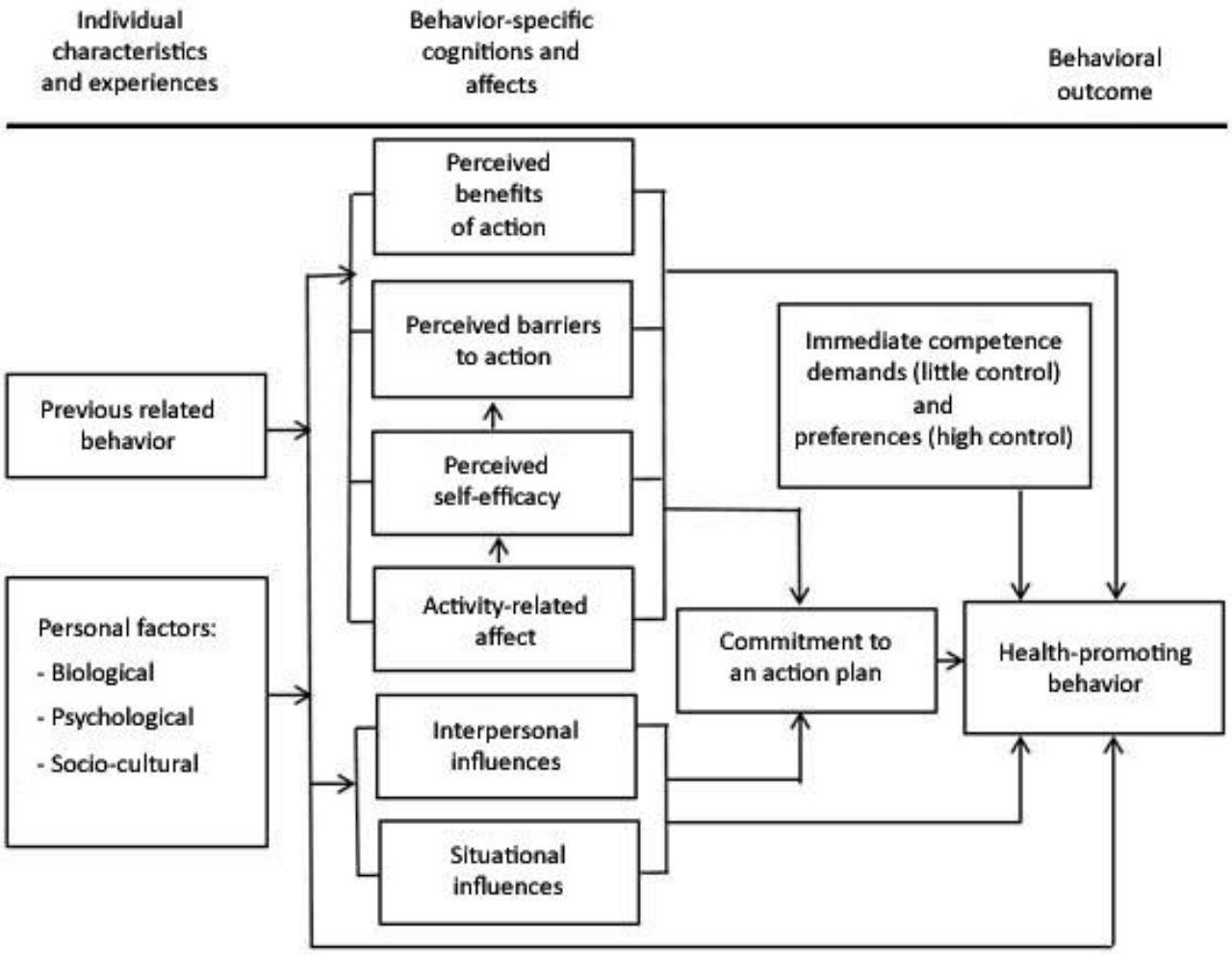
Content of the theory

In this section, the content or subject of the theory is dealt with from the main concepts, i.e., the non-relational and relational propositions of the theory.

Concepts

The HPM consists of 3 components and 2 mediating factors, [Figure 1]. The first component addresses individual characteristics and experiences. This includes previous related behavior and personal biological, psychological, and socio-cultural factors. The second component involves behavior-specific cognitions and affections. Perceived benefits of action, perceived barriers to action, perceived self-efficacy, activity-related affect, interpersonal influences, and situational influences are incorporated here. The third component refers to the expected health-promoting behavior. The mediating factors between behavior-specific cognitions and affections, and health-promoting behavior are commitment to an action plan, and immediate demands and preferences. For the concepts and non-relational propositions of the HPM, see Table 1.

Figure 1. Components and mediating factors of the Health Promotion Model



Source: Adapted from "The Health Promotion Model" by Pender NJ, Murdaugh CL, Parsons MA. Individual Models to Promote Health Behavior. Health Promotion In Nursing Practice: Health Promotion in Nursing Practice (Pender) (7ª edition). NY: Pearson Education, 2015. p. 35

Table 1. Concepts and non-relational propositions of the HPM

Concept	Definition (non-relational proposition)
Previous related behavior	Frequency with which the person performs the same or similar behavior in the past.
Personal factors	Individual characteristics that predict health-promoting behavior (biological, psychological, and sociocultural).
Perceived benefits of the action	Mental representations of positive consequences, or reinforcement of behavior.
Perceived barriers to action	Perception of unavailability or inconvenience, expense, difficulty and time consumed that prevents performing the behavior.
Perceived self-efficacy	Judgment of personal capacity to carry out a course of action, making use of the resources that the individual possesses.
Activity-related affection	Cognitive label that is stored in memory and associated with subsequent behavioral thoughts. It includes the arousal to the act itself (act-related), the related to oneself (self-related) and the environment, in which the action takes place (context-related).
Interpersonal influences	Cognitions that are involved in the behavior, beliefs and attitudes of others, and influence behavior.
Situational influences	Personal perceptions and cognitions of any situation or context that facilitates or prevents the behavior.
Commitment to an action plan	It is the initiation of a behavior. It includes the place, time, person and action strategies.
Immediate demands and preferences	These are the behavioral alternatives that consciously interfere, prior to the intentional behavior. The individual has little control over demands and high control over preferences.
Health-promoting behavior	It is the achievement of positive health outcomes for the individual.

Source: Adapted from "The Health Promotion Model" by Pender NJ, Murdaugh CL, Parsons MA. Individual Models to Promote Health Behavior. En Health Promotion In Nursing Practice: Health Promotion in Nursing Practice (Pender) (7ª edition). NY: Pearson Education, 2015. p. 35-40

Propositions

The propositions of the theory determine the vertical and horizontal interaction of each concept, in the case of the HPM the propositions are the following:

1. Previous related behavior and personal factors influence cognitions, affection, and health-promoting behavior.
2. Perceived benefits of the action positively influence commitment to an action plan.
3. Perceived barriers to action can influence commitment to an action plan, which is a mediator of health-promoting behavior.
4. Perceived self-efficacy increases the likelihood of commitment to an action plan and health-promoting behavior. The higher the self-efficacy, the lower the perceived barrier to health-promoting behavior.
5. Positive affection toward a behavior leads to greater self-efficacy, which can, little by little, lead to an increase in positive affection.
6. When positive emotions or activity-related affection are associated with a behavior, the likelihood of commitment to an action plan increases.
7. People are more likely to engage in health-promoting behaviors when individuals important to them model their behavior, expect the behavior to occur, and offer their help and support to enable it.
8. Families, partners, and health caregivers are important sources of interpersonal influences that can increase or decrease commitment to health-promoting behavior.
9. Situational influences in the external environment may increase or decrease engagement or participation in health-promoting behavior.
10. Greater commitment to an action plan increases the likelihood of sustaining health-promoting behavior over time.
11. Commitment to an action plan is less likely to result in desired behavior when there are immediate competence demands.
12. Commitment to an action plan is less likely to become the desired behavior when there are actions that are more attractive than others and are therefore preferred.
13. Individuals can modify cognitions, affection, interpersonal influences, and situational influences to create incentives for health-promoting behavior.[7]

For HPM interactions see Figure 1.

Evaluation of the theory

The evaluation is based on the results of analysis, published reviews, research reports, and the application of the model in nursing education, administration, and practice; it consists of 6 steps: significance, internal consistency, parsimony, testability, empirical adequacy, and pragmatic adequacy of the theory.

Significance

Significance comes from the justification of the theory for the discipline, focusing on the context of the theory and the specification of the metaparadigm, philosophy and knowledge. In this sense, the significance of the HPM lies in the fact that it can be used in different age groups, from infancy to senescence. Both in health and in disease, to prevent complications. It incorporates cognitions and specific behavioral affections as core components of the model. The importance lies in the fact that these components can be modifiable through nursing and multidisciplinary interventions. Another contribution is that the model excludes perceived threats, made up of the susceptibility to suffer a problem and its severity, unlike the Health Belief Model, which is a theoretical reference prior to the model in question.

Internal consistency

Consistency is evaluated in a cross-sectional manner, some questions of this process are: Are the context and content of the theory congruent? Do the concepts reflect semantic clarity and consistency? Do the propositions reflect structural consistency? Among others.

In this regard, the HPM has semantic clarity, since, in order to prevent confusion, the authors highlight the differences between the perceived barriers to action and the

immediate demands and preferences, emphasizing the control that the individual has in both of them. In turn, the HPM presents semantic consistency, since the authors use the same term and definition for each concept.

Regarding the structural consistency of the theory, some limitations were identified. The authors mention that there is direct and indirect influence on behavior, specifically on benefits, affection, self-efficacy, and interpersonal and situational influences. However, the HPM tends to focus on direct rather than indirect influence. Furthermore, proposition number six, which deals with the reciprocal influence between affection and self-efficacy, is not clear in the model, since the model only has a unidirectional relationship. Likewise, the blocks of cognitions and affections may cause confusion in the interpretation, if the construction of the model is not reviewed in depth; as well as the mediating factors of commitment to an action plan, and the immediate demands and preferences, since the figure of the model gives the impression that they belong to the outcome component, which is not the case.

Parsimony

Parsimony requires that the theory be stated in the most "economical" way possible. The HPM meets the parsimony criterion because most of the content of the theory is clear, concise and simple. Only the concept of immediate preferences does not turn out to be very understandable. In this regard, the authors describe that immediate preferences are behavioral alternatives and that the individual has a high degree of control over them. But, they do not exemplify what kind of situations can be considered here, in comparison to the explanation and clear examples that are given about immediate demands.

Testability

The testability of the theory occurs when it can be used scientifically, focusing on the content of the theory. In this case, the HPM is scientifically useful because it demonstrates acceptance in nursing practice and research. Although most research based on the HPM includes some components, many have neglected to test the whole model, given the number of constructs subject to testing.[6] In this regard, the HPM has been used to predict hearing protection,[9] nutrition, oral health,[2] physical activity,[10] monitoring of pregnant women,[11] counseling in the reproductive years,[12] and adherence to exclusive breastfeeding.[13] As for interventions, it has been used to estimate the effectiveness of interventions on post-infarction complications,[14] overweight,[15] hypertension,[16] mammography adherence,[16] osteoporosis, chronic diseases and kidney disease.[17] In qualitative studies, the HPM has been used to understand the lived experience of the coronavirus pandemic,[18] the hygiene of informal caregivers,[19] the sexual health of women in shelters,[20] and self-care during aging.[21]

In turn, the HPM has testability in the elaboration of empirical indicators based on the development of an instrument to measure self-efficacy, affection, interpersonal relationships, commitment to an action plan, and demands and preferences, in which the factorial validity of the constructs was determined.[22] On the other hand, a team of researchers conducted face and content validity of the instrument adapted from Mohammadian.[11] This instrument included the concepts of benefits, barriers, self-efficacy, affection and interpersonal influences. As for situation-specific theories derived from the HPM, none were found.

Empirical adequacy

Empirical adequacy evaluates whether the theory's statements are congruent with the empirical evidence, both at the explanatory and predictive levels. In this respect, a team of researchers[22] who studied Black, White and Hispanic adolescent females concluded that self-efficacy has a direct effect on behavior (β=0.337, 95% CI [0.223, 0.451]); and that commitment to an action plan (β= -.056, [-0.157, 0.044]) and demands (β =-.021, [- 0.130, 0.088]) have a negative influence on behavior. In turn, interpersonal influences influence behavior (β =.018, [- 0.096, 0.132]). In contrast to what was stated by the HPM, in this research, commitment to action was not found to act as a mediating variable. Self-efficacy, interpersonal relationships and demands predicted 31.2% of the variance in commitment to an action plan. Self-efficacy showed the strongest predictive effect (β=0.310, [0.212, 0.407]).

In a study conducted with pregnant women in Iran using the HPM through the Multiple Regression Model, it was found that benefits (p = 0.001), barriers (p = 0.001) and interpersonal influences (p = 0.001) showed a significant effect on behavior.[11] This reflects that the HPM is applicable in nursing practice and research. However, no literature was found on the applicability of the HPM in education and administration.

Pragmatic adequacy

Pragmatic adequacy assesses the usefulness of the theory in nursing practice. The HPM can be implemented in actual practice, after special training of the facilitator, especially for the identification of barriers, immediate demands and preferences, self-efficacy and action plan. In this sense, the HPM is congruent with the Mexican health provisions and legal framework. Nursing actions are congruent with the relational propositions of the health-environment and health-nursing metaparadigm, and the HPM can be implemented to explain and predict changes in health promoting behavior, from interventions focused on cognitions.

Conclusion

The HPM helps to describe, explain and predict health-promoting behaviors in different age groups and contexts. From the analysis of the theory, the HPM has a consistent scope, context and content; however, it has areas of opportunity in the specification of the paradigm and the relational propositions incorporated, such as commitment to a plan of action, preferences and demands of immediate competence.

Regarding the evaluation of the MPS, the theory has significance, internal consistency, parsimony, testability, empirical adequacy and pragmatic adequacy; however, it is necessary to extend its scope to the educational and administrative environment as part of the generic disciplinary functions.

In turn, the testability of the research shows that the MPS has been studied partially and not as a whole, which determines an area of attention to test the relational propositions of some concepts, such as, activity-related affection, commitment to an action plan, and immediate competing demands and preferences that impact on health promotion behavior.

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