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## Occupational Health Nursing models and theories: A critical analysis in the scope of the unitary-transformative perspective

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## Abstract

Occupational Health Nursing (OHN) has followed a complex path to build and strengthen its theoretical basis. Starting with Public Health core principles, theories were shaped by the dualism of person worker and working environment, where sometimes the centre of the thought was given to the latter and other times to the former. The problem was not much on such conflict but on the definition of the correct OHN focus and whether genuine nursing knowledge was being applied. We are worried that other disciplines radically influenced the theoretical path taken by OHN theorists. To approach this problem, a unitary-transformative perspective can help us describe and analyse this phenomenon and engage scholars to reflect upon the accurate epistemological focus of OHN. We aimed to deepen this reflection and uncover a new OHN theoretical focus.

## KEYWORDS

models, nursing, nursing theory, Occupational Health Nursing, philosophy, unitary transformative perspective

## 1 INTRODUCTION

In the unfolding narrative of Occupational Health Nursing (OHN) development, a profound engagement with diverse dimensions emerges, encompassing the individual worker, the intrinsic nature of work, the surrounding occupational environment and the spectrum of work-related disorders. This intricate evolution presents challenges and profound inquiries into the very nature of knowledge within OHN.

At the core of this exploration is a fundamental inquiry into the purpose of OHN models and theories—a critical examination that transcends a mere focus on nurses' role delineation. The central question that looms is the nuanced position these constructs are meant to play—whether they should primarily serve as instruments for delineating roles or as conduits for representing 'knowledge'. This dichotomy, shaped by the evolving landscape of Nursing as a discipline, unfolds against the backdrop where the concept of 'knowledge' takes on a complex and integral role (Reed, 2021).

Within this rich context, the transformative agency of occupational nurses becomes apparent, uniquely positioned in seemingly disparate environments. Despite unfamiliar surroundings, these nurses wield the agency to infuse nursing principles and values into their occupational roles, thereby contributing to the construction of novel knowledge.

Our exploration of the intricate relationship between practice and knowledge in OHN is rooted in the unitary-transformative perspective, which not only offers a distinctive vantage point regarding health and nursing practice but also emphasises the irreducible, indivisible and holistic nature of individuals (Newman et al., 1991). This foundational understanding provides a comprehensive insight into the discipline, accentuating the significance of contextualization and complexity and rejecting overly simplistic or linear methodologies.

As this study will demonstrate, the development of OHN theory over the years has alternated between focusing on the worker as the central concern, emphasising the occupational environment and focusing on the nurse and their actions. The first perspective relegates nurses to a secondary role, while the second perspective creates an ambiguous similarity between nurses and their actions, suggesting that their actions could eventually be replicated by others. Although OHN emerged with significant support from public health and other disciplines, this study argues that OHN should always centre its practice on nursing principles. This approach will promote knowledge grounded in traditional nursing metaparadigms, such as the person, advocating for a more holistic and person-centred approach. By adopting this unitary perspective for OHN, we aim to avoid an exaggerated focus on work-related issues and instead concentrate nursing care on a broader system that addresses the whole individual.

In the face of numerous models and approaches designed to address the scope and intervention of OHN, this paper strives to critically analyse existing theories and models through the lens of the unitary-transformative perspective, fostering a holistic understanding of nursing practice and knowledge in the field. In doing so, it carefully addresses the essential question of what a model or theory is meant to achieve—whether to focus on mere role delineation or to serve as a profound representation of 'knowledge' in the context of OHN.

## 2 THE ORIGINS OF OHN

This section provides the context in which OHN theories evolved and how early occupational health nurses defined their field. Although the authors mentioned below did not create specific OHN models or theories, they significantly contributed to its initial development and definition.

The inception of Occupational Nursing, originally denoted as Industrial Nursing or OHN, found its roots in the United States and Canada during the late 19th century, around 1895 (Mathewson, 1945; Wright, 1919).

From the early 20th century onward, OHN experienced a remarkable evolution, marked by a particular emphasis on addressing health issues intricately linked to labour. These issues encompass a wide array of ailments, ranging from musculoskeletal disorders to stress and anxiety, the latter of which stands as a pervasive global cause of absenteeism (Albrecht et al., 2020; European Foundation for the Improvement of Living and Working Conditions, 2010). Stress and anxiety contribute significantly to absenteeism and cast a shadow on workers' overall productivity (Sohrabi & Babamiri, 2021).

The concept of Industrial Nursing was initially detailed in Wright's 'Industrial Nursing for Industrial Public Health and Pupil Nurses and for Employers of Labor' (1919). During this early period, Industrial Nursing had similarities with Public Health Nursing, grounded in principles outlined by Mary Gardner in 1916. These principles included that nurses should not distribute relief material and that nursing care should be accessible to all, regardless of ability to pay.

Wright (1919) identified the distinct responsibilities of Industrial Nursing, highlighting its varied interventions and the strict limitations it sometimes faced. Industrial Nursing reflected the diversity of industrial settings, with nurses playing a crucial role in utilizing community resources to support labour. Wright's public health-based definition significantly influenced the conceptualisation of Industrial Nursing within the broader Nursing field. Over time, Industrial Nursing sought to establish its identity separate from Public Health and General Nursing. This distinction was evident in Mathewson's (1945) description: 'Industrial Nursing may be defined as the application of nursing skills and procedures to the care of the injured or sick employee, the use of community resources to restore such an employee to maximum usefulness, safety education to prevent accidents and the promotion of the health of industrial workers by instructing them in the fundamental principles of healthful living, adapted to their specific needs and in terms that they can understand'.

In 1953, Wheeler reinforced the foundation of Industrial Nursing in Public Health, while also introducing the term Occupational Health Nursing (OHN). Wheeler's broader concept of OHN encompassed more than Industrial Nursing, aligning it with a comprehensive approach to health.

In 1977, Catherine Tinkman emphasised the centrality of 'health' within Nursing, advocating for a holistic approach that went beyond workplace boundaries. Tinkman's ideas, originally from a lecture that was later published, laid a crucial foundation for OHN, expanding its scope to address various contexts influencing workers' health.

Similarly, Cahall (1981) connected OHN to Public Health Nursing, ensuring that Occupational Nursing's interventions were not confined to the workplace but addressed broader external factors affecting workers. By 1990, OHN continued to evolve, with an emphasis on holistic and person-centred care initially proposed by early pioneers. This approach aligns with traditional nursing metaparadigms, focusing on the individual as a whole rather than just their occupational environment.

### 3 EPISTEMIC DEVELOPMENT OF OHN

The previous section provided a concise historical overview aiming to acquaint the reader with the realm of OHN and its initial advancements. In the present section, marking the commencement of our philosophical discourse, we have chosen to methodically lead the reader through what we perceive as a somewhat disorderly evolution of OHN theory across centuries. Recognising the inherent connection between history and philosophical thought, evident in the successive embrace of various philosophies and theories, we have categorized this development into three distinct periods: 'From the 70s to the 80s of the 20th century', 'At the end of the 20th century' and 'The 21<sup>st</sup> century'. While the primary focus is not on history, we believe

that the use of these headers serves as a valuable tool for readers to pause their reading at each period, allowing them to gather and consolidate the information presented.

Many contend that the core of care lies in the 'person', justifying the relevance of 'person-centred care'. We concur with this perspective, recognising the active role of individuals in the process, encompassing internal factors such as moral values and external factors like family and community.

However, our argument advocates for a reconfiguration of OHN models to centre their philosophies and considerations around nursing action and, consequently, the role of nurses. This stands in contrast to the prevailing trend of developing OHN models based on business or public health principles, a shift that we believe risks gradually eroding the essence of 'nursing' within OHN.

To clarify further, our argument does not advocate for the nurse to reassume the central focus within OHN. Instead, our contention is that the focal point of OHN thought, encompassing models and theories, should be the nursing way of thinking. In this sense, the focus of OHN is not the 'worker' anymore, but the 'person who works'. This is the reason why we ask ourselves about the true utility of theories or models in explaining nursing practice.

This begets two fundamental queries that we aspire to confront. First, does OHN primarily grapple with nursing-centric concerns, or does it veer into dilemmas distantly related to its intrinsic vocation? Does OHN remain loyal to its nursing ancestry, or does it venture into the uncharted territories of peripheral issues? Second, does the praxis of OHN contribute to the cultivation of specialised knowledge within its unique dominion, or does it amass a compendium of wisdom with broader applications extending beyond its specific ambit? In essence, does OHN's solitary mandate serve as a crucible for cultivating professional knowledge tailored to its distinct sphere or is it a repository of erudition transposable to a broader landscape of global health concerns?

### 3.1 | From the 70s to the 80s of the 20th century

In the closing decades of the 20th century, there was a profound reevaluation of the existing nursing theories within OHN. This section will elucidate the evolving conceptual landscape in OHN, drawing attention to how different theoretical approaches resulted in distinct conceptions of the nurse's role and the overarching hierarchy (Table 1).

In the annals of 1977, a seminal event unfolded—the birth of the first OHN theory. Although this theory's origins were not explicitly tied to OHN or the delineation of the nurse's role, it marked a crucial turning point. The theory, expounded by Shirley Baughn in 'A Nursing Theory and Model for OHN' emphasised the urgent need to establish a theoretical foundation for OHN, even though it refrained from presenting a comprehensive framework (Baughn, 1977).

Baughn introduced the concept of the 'stress theory', providing a systematic framework for comprehending human behaviour within well-defined contexts. One pivotal insight of this theory was acknowledging the multifaceted responses to stress, underscoring the intricate nature of human experiences within the occupational realm. Nevertheless, Baughn's model posed a profound epistemological question: it placed the nurse not as a distinct variable but as an entity denoted as 'nursing action'. In this framework, the nurse's role held equal prominence with the physician, labour union, safety protocols and management.

This vantage point raised concerns about the epistemological quandaries concerning the fundamental essence of OHN theory. If knowledge construction is contingent upon the execution of 'nursing actions' rather than the underpinning of 'nursing science', does it not follow that individuals other than nurses

might be aptly suited to engage in the latter? Does this model, by implication, lend credence to the concept of task delegation? Remarkably, the answers leaned towards affirmation, albeit with a crucial caveat: the foundational knowledge had to remain firmly grounded in nursing expertise.

Baughn's perspective faltered in elucidating the nurse's significance relative to the other actors encompassed within the network. This posed a formidable epistemological challenge, given that OHN was an emerging discipline and nurses found themselves at a crossroads, isolated amid diverse professions. However, a seismic paradigm shift occurred less than a decade later with the emergence of a novel framework encapsulated in Dees' 'A Conceptual Model for Nursing Practice' (Dees, 1984). This model represented a departure from its predecessor, sporting a more engaging nomenclature. Dees' paradigm proposed that the role of the OHN should be a self-defined concept within the purview of the nurse, especially considering the frequent isolation of OHNs within organisational structures. This isolation paradoxically offered unique opportunities for proactive agency. In this model, the autonomy of the nurse was nurtured and cultivated from within rather than being externally imposed by the employing institution. The imperative for nursing resided in the independent formulation of its distinctive logical underpinnings and the scientific method, compelling its presentation to external stakeholders, thus inverting the customary direction of discourse.

While the employee remained central in Dees' conceptualisation, the model was more intricate and dynamic, emphasising fostering meaningful therapeutic relationships and interactions. Dees emphasized that these relationships were indispensable for positive health and well-being outcomes. In contradistinction to Baughn's viewpoint, Dees's argument posits that external influences were incidental occurrences in the progression of OHN. Within the crucible of these interactions, the nurse could distil profound insights fundamentally arising from their interrelationships with workers. Essentially, Dees' conceptual model underscored the ascent of individual agency, recognized the intricate nature of human experiences and highlighted the vital role of relationships in shaping healthcare practice within the realm of OHN. This paradigm shift accentuated the transformative potential residing within nurses for reshaping the field. Despite the inherent cogency of this model, it becomes apparent that OHN continued to unveil further layers of insight as the latter half of the 20th century progressed.

During the latter half of the 20th century, OHN underwent a profound metamorphosis characterised by a paradigm shift towards holistic, patient-centred care. In 1985, Linda Morris introduced 'A Conceptual Model for OHN Practice' (Morris, 1985), signifying a momentous departure from orthodox perspectives and initiating a significant transition in the trajectory of future model development within the domain of OHN. Morris's model embraced the principle of holism, recognising that individuals encompass multifaceted dimensions—intellectual, psychosocial, spiritual and physical. This comprehensive approach to care resonated with the unitarytransformative perspective's emphasis on the whole person within the healthcare context. Baughn and Dees, in their respective stances, centred their viewpoints upon the role of the employee. However, Morris introduced a paradigm that assigned equal importance to every facet of the environment, demanding a thorough examination of all components as a prerequisite for cultivating care.

In 1988, Ruth Alston unveiled the Hanasaari Model, 3 years hence, wherein the occupational health nurse was finally positioned at the core of OHN practice. This repositioning highlighted the principles of individual agency. Alston's model presented a compelling challenge to established hierarchies in healthcare by situating the nurse as a central figure, providing a critique of conventional structures and roles. Alston's model was more than a mere reaction to existing practices; it was visionary. Placing the professional nurse at the centre celebrated the concept of nursing autonomy and acknowledged the evolving trajectory of nursing as a scientific discipline.

Alston's paradigm posed a crucial question: could 'care' be reimagined with the professional nurse as the fulcrum around which all other elements revolve? The reconfiguration of the nurses' role within the context of OHN development served as a pivotal catalyst for illuminating the epistemic foundations of care and acquiring knowledge pertaining to occupational healthcare practices. Over time, this redefined perspective gained acceptance as a transformative framework for OHN practice.

### 3.2 At the end of the 20th century

In exploring the landscape of OHN models during the latter part of the 20th century, it becomes evident that the role and hierarchy of OHN were not static but rather contingent on the specific nursing theories applied (Table 2). This interplay between nursing theories and the construction of OHN models deserves a more profound examination, as it significantly influenced the delineation of the nurse's role and the contextual framework.

The foundation of OHN models drew inspiration from established nursing theories, most notably the works of Virginia Henderson, Imogene King and Callista Roy. While these foundational theories refrained from explicitly prescribing the precise focus of OHN, they played an instrumental role in shaping the overarching metaparadigms, laying the groundwork for subsequent OHN models.

However, these perspectives appeared insufficient to fully embrace and comprehend the inherent intricacies and characteristics of occupational nursing practice. They persistently positioned the worker at the forefront, as we will see with the following models, thus displacing the initial metaparadigm of 'person'. This matter will be addressed subsequently in our study's conclusion as we pivot towards adopting the concept of 'the person who works', with a keen awareness of the manifold and intricate dimensions integral to this revised perspective.

In 1990, a significant turning point arrived with the introduction of Wilkinson's Windmill Model, a departure from previous paradigms (Wilkinson, 1990). Inspired by the Neuman Systems Model, Wilkinson highlighted the intricate interplay between the client (worker) and the work environment. What stands out is the emphasis on contextual and environmental variables as potential risk factors for health. In this model, the occupational nurse assumed a central role in setting the 'mill' into motion. Nonetheless, the nurse felt compelled to act, influenced by both the worker and their environment, which acted as sources of motivation and knowledge. It also seems that the nurse, at the beginning, had not thoroughly analysed their approach to care. This apparent omission led to a profound realisation that the inherent issues were not inherently nursing problems. Rather, they bore the distinct imprint of public health and occupational concerns. The nurse, it appeared, was entangled in a web of obligations and dynamics imposed by the occupational environment, which, in turn, was the primary driver in shaping the logic and resources that framed the nurse's responsibilities. The conventional notion of 'care' in nursing has been overshadowed by the influence and determinants of the occupational milieu. This realization catalysed a shift in perspective, prompting the nurse to reconsider and reconfigure their role in the context of public health and occupational health, rather than being confined within the traditional boundaries of nursing. While on the surface, this novel model may appear as a progressive development, it, in essence, recaptured the foundational principles of Public Health as initially introduced in the field referred to as 'Industrial Nursing' by Wright back in 1919.

The year 1990 saw the Modified Hanasaari Model emerge, as later presented by Ekeberg et al. (1997), introducing a unique approach distinct from Ruth Alston's prior propositions. This model championed critical theories within Occupational Nursing to guide the conceptualisation of care. The Modified Hanasaari Model deftly wove threads from several nursing theories, including Neuman's Systems Model, Nola Pender's Health Promotion Model and Callista Roy's Adaptation Model. These theories collectively aimed at disease prevention and health promotion but appeared to fall short of capturing the comprehensive role of

the occupational nurse. This deficiency was highlighted by earlier scholars, such as Wheeler (1953) and Tinkman (1977), who argued for a more inclusive approach. Ekeberg et al. (1997) identified a critical missing piece in the puzzle, aptly labelled 'empowerment'.

Notably, the Modified Hanasaari Model doesn't fully adopt a person-centred approach, but it does embrace Ruth Alston's insightful idea of 'empowerment' as a central concept. This notion bore a resemblance to Gries' (1980) model, wherein empowerment was seen as emanating from the professional, emphasising the importance of training and education as agents of empowerment.

In 1992, Lundberg unveiled a model emphasising autonomy in decision-making. This model implicitly embraced the concept of 'empowerment', echoing Ekeberg's perspective that individuals who best understand their stress factors' intricacies should have a central role in decision-making. It also introduced key features like operating as an open system and incorporating a dynamic process, reminiscent of the Nursing care process introduced by Dees in 1984. This momentous development marked a significant stride towards fostering a deeper alignment between the professional and the organizational construct, offering the tantalising prospect of a delicate equilibrium amidst the previously mentioned tensions. Within the interconnected network, the nurse and the organisational framework emerged as distinct actors, each guided by unique aspirations.

However, both shared a common interest vested in a particular actor: the person who stood as the focal point for the nurse and assumed paramount importance as the worker for the organisation. However, in 1993, Maciag introduced the Group Model, marking a discernible shift towards engagement with the singular challenges inherent in business strategy (Maciag, 1993). This shift departed from delineating a distinct separation between the nurse and the remaining actors within the domain. This model presupposed a shared and erroneous overarching aim that united nurses and business managers: cultivating a robust, productive and financially prosperous enterprise. Maciag's approach deftly incorporated principles from Public Health, advocating for group health education sessions and worker-centric programmes. This approach distanced itself from the individualistic paradigm and recognised the significance of the community perspective.

Marjorie Slagle et al. (1998) further expanded this group-oriented approach, assimilating community viewpoints. This complex model positioned the client (worker) back at the centre while placing the professional outside. In doing so, Marjorie Slagle echoed Linda Morris's (1985) insights about the multifaceted roles of the occupational health nurse, including 'caregiver', 'work environment manager', 'educator', 'lawyer' and 'community contact'.

### 3.3 The 21st Century

The culmination of the 20th century brought forth a disillusioning chapter in the narrative of OHN practice and theory. Business-centric models came to the fore, casting an overshadowing veil upon the core nature of nursing practice (Table 3).

In the early years of the 21st century, the previous trend kept growing with the introduction of Skillen's model, with a clear managerial focus. At its core, Skillen's model prioritised the meticulous evaluation of nursing interventions, emphasising the wealth of experience held by professionals in the field and, as so trying to synthesise its previous peers, argued that nursing experience would allow a certain type of knowledge, which would then be adopted for the wealth of the organisation (Skillen et al., 2002). Within the confines of OHN as a distinct subdiscipline of the broader field of Nursing, the intrinsic value of a particular nursing experience, as exemplified by an occupational nurse, should not be represented as a means to achieve the organisation's wealth but the person's health. Now, like Byrne (2015), we also argue that experience is more than that. It can do more: it is a way of knowing.

Transitioning to the nascent years of the 21st century, Lins et al. (2017) introduced a theoretical framework for OHN rooted in the profound philosophical currents of Rosemarie Parse's Theory of Becoming Human. This framework brought forth a seismic shift away from its predecessors, embracing a holistic paradigm in OHN. Lins's model transcended the conventional fixation on occupational hazards and expanded its focus to encompass the comprehensive well-being of the workers under its purview. The model mandated that the occupational nurse's role extended beyond scrutinising the workplace and identifying potential hazards. It required the nurse to undertake a multifaceted mission to promote and enhance employees' overall quality of life. Furthermore, this model recognised the dynamic nature of the occupational health domain. Here, the nurse assumed a role in addressing potential hazards while simultaneously and diligently striving to improve the workers' overall quality of life.

#### 4 CONCLUSION

The journey of conceptual evolution and refinement within the OHN domain has not adhered to a singular, homogeneous trajectory, nor has it remained uniform in its philosophical underpinnings. Instead, it has woven a tapestry of diverse threads, each bearing the imprints of distinct philosophical perspectives.

It becomes apparent that the worker and the work have progressively emerged as central conceptual pillars, shaping the knowledge framework underpinning care delivery. The transformation has reframed the nature of care, imbuing it with a purpose geared towards fostering the prosperity and productivity of businesses. Our conviction firmly underscores that OHN theories embarked upon their journey with a keen and sagacious comprehension of the sacred place of nursing. Our unwavering belief is that repositioning the nurse at the heart of OHN augments the intrinsic worth of the individual receiving care. This positioning underscores the profound significance of the nurse's presence as a vital conduit for safeguarding and enhancing the well-being of those entrusted to their care.

Some theorists have advocated for professional-centred models within OHN, emphasising the healthcare practitioner's pivotal role. Conversely, others have leaned towards person-centred models, prioritising the individual under the nurse's care.

Fundamentally, this epistemological exploration within the sphere of OHN emphasises our argument that the focus of OHN thought should centre around the nursing way of thinking. This perspective advocates for a transition from concentrating on the 'worker' as an isolated entity to acknowledging the 'person who works' as a complex, dynamic individual shaped by personal experiences. It accentuates the importance of recognising the intricate interplay between the individual, their work and their larger social context. This transformative perspective empowers the 'tobo works' to be an active participant in their health and well-being, and it is within this transformative agency that the true potential of OHN is realised.

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#### CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

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Table 1. The first OHN models.

Authors	Model/theory	Role of the nurse	Centre of the model and source of knowledge
Baughn (1977)	Nursing Theory and Model for OHN	Care for people under some degree of stress	Patient/worker
Dees (1984)	Conceptual Model for Nursing Practice	Help the person to reach a high level of well-being	Relationship between person and environment
Linda Morris (1985)	A Conceptual Model for Occupational Health Nursing Practice	Provider of care, manager of the work environment, educator, lawyer, contact with the community and emotional support. The nurse needs to determine whether the intellectual, psychosocial, spiritual and physical components are a need or a resource.	Nurse/worker
Foundation of Occupational Health Nurses in European Union (FOHNEU) (n.d.)	Hanasaari Model	Improve people's health at work and affect the health of communities outside the workplace (total environment).	Nurse

Abbreviation: OHN, Occupational Health Nursing.

Table 2. Models developed at the end of the 20<sup>th</sup> century.

Authors	Model/theory	Role of the nurse	Centre of the model and course of the knowledge
Wilkinson (1990)	Windmill Model	Assists the worker in environmental adaptation. Affects the workers at primary, secondary and tertiary levels of prevention. The primary point of entry into the healthcare system for workers.	OHN practice
Ekeberg et al. (1997)	Modified Hanasaari Model	Facilitate the client's empowerment	Nurse
Lundberg (1992)	A Theoretical Model for Occupational Health Nursing	Provides ethical interventions, confidentiality and privacy to all employees.	Worker
Maciag (1993)	Group Model	Develops a healthy, productive and profitable company.	Company
Slagle et al. (1998)	A Conceptual Model of Occupational Health Nursing	Caregiver, work environment manager, educator, lawyer and community contact.	Worker

Abbreviation: OHN, Occupational Health Nursing.

Table 3. 21<sup>st</sup>-century models.

Authors	Model/theory	Role of the nurse	Centre of the model and course of the knowledge
Skillen et al. (2002)	A Model for Effectiveness	Balance, communication, continuing competence, leadership, trust.	Vertical organisation: nurse's experience at the basis, but business-centric approach
Lins et al. (2017)	A model based on the Theory of Becoming Human	Assess the work environment, environmental and occupational hazards and promotion and quality of life.	Horizontal organisation: the relationship between nurse and worker and the environment, specially the organisation.