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# Research on Nurses' Psychological Empowerment: A Bibliometric Analysis

***Abstract: -*** Psychological empowerment is a cultural, social, or psychological process that enhances individual control and autonomy over thoughts, emotions, and behaviors by developing attributes like self-identity, autonomy, and self-efficacy, which are integral to success in modern organizational management, particularly in service sectors like nursing. This study aimed to analyze the study focus, thematic trends, and evolution of studies on nurse psychological empowerment by using bibliometric analysis. The articles on nurses' psychological empowerment were obtained from the Web of Science Core Collection (WOSCC) database from its inception to November 30, 2023. The R package "bibliometrix" was used to conduct the data analysis and graphical presentation. A total of 188 publications on nurses' psychological empowerment were included. Publications were mainly from the USA, Canada, and China. The most frequent keywords included "empowerment", "psychological empowerment", "nurses", "nursing", "job satisfaction", "structural empowerment", "burnout" and "leadership", the most frequent topics were "power", "settings", "work satisfaction", and "turnover". This bibliometric analysis identified the research trend of nurses' psychological empowerment in the past 25 years, and this subject has already become an active field of study in nursing research. In addition, nurse retention-related themes such as job satisfaction, and work environment have become hot topics in current research while structural equation model-based themes have been less studied.

***Keywords:*** bibliometric analysis, nurse, network analysis, psychological empowerment.

## I. INTRODUCTION

Psychological Empowerment (PE) refers to an employee's psychological perceptions or attitudes toward their work and organizational role [1]. It represents intrinsic task motivation and reflects an individual's desire and ability to influence their work and workplace. KW Thomas (1990) conceptualized PE as the gestalt of four dimensions, which include: (1) meaning, or the value of the work goal about one's ideals and standards; (2) competence, or one's work role efficacy; (3) self-determination, or an individual's sense of autonomy; and (4) impact, or one's belief to make a difference or produce the intended effect in one's task context[2]. GM Spreitzer (1995) validates that through these four dimensions, empowered individuals feel a sense of psychological ownership of their work, feel competent, and have personal control over meaningful components of their work[1]. Therefore, psychologically empowered employees perform their work with a sense of control over what they do and are engaged in their work [2].

In the last decades, psychological empowerment has emerged as a pivotal factor in the triumph of numerous organizations that embrace contemporary management environments, particularly in-service sectors like nursing [3]. Nurses' psychological empowerment refers to nurses' perceptions of meaningful nursing work, ability to perform professional tasks, involvement in decision-making within the organization, and professional efficiency [4, 5]. This sense of empowerment can enhance nurses' attitudes, mitigate their burnout, and enable them to attain favorable outcomes in the organization [6]. Currently, heightened levels of nurses' psychological empowerment have garnered substantial attention from the various levels of healthcare administration and management. Simultaneously, the numerous empowerment-related research and publications have been rapidly merged in recent years.

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However, despite the rapid increase in the number of published studies, previous studies did not analyze the current status and evolution of studies on nurses' psychological empowerment. Bibliometrics is a quantitative analysis method that uses statistical tools to measure the interrelationships and impacts of publications within a given area of research [7]. This method can be used to efficiently identify influential journals, countries, organizations, and authors and predict relevant research trends [8]. Therefore, this study aims to apply bibliometrics to analyze the research hotspots and cutting-edge trends in the field of research on nurses' psychological empowerment and to illustrate an overall picture of it in order to inspire nursing professionals with innovative ideas for future studies.

## II. METHODS

### A. Data Acquisition and Search Strategy

Web of Science (WOS) is one of the most commonly used academic database sources which contains the most important and highly cited journals in the world. Compared with other databases such as Scopus and PubMed, WOS is widely recognized as the most comprehensive and reliable database for bibliometric analysis [9]. This study searched and exported the relevant literature in the Web of Science Core Collection database (WOSCC). The search strategy: TS = ("nurses" OR "nurse" OR "nursing personnel" OR "registered nurses" OR "registered nurse") AND TS=("psychological-empowerment"). The search time frame was set from inception to November 30, 2023. The literature was limited to articles published in English, resulting in the retrieval of a total of 368 documents. The exclusion criteria employed in this study were (1) letter, news, book, duplicated literature, and others; (2) literature that did not pertain to the research topic of psychological empowerment of nurses; and (3) literature that did not focus on nurses as the main research subject. Ultimately, 188 valid articles were selected through the screening process. The selected articles were exported and saved in plain.txt format (including full records and cited references) for further analysis.

### B. Data Analysis

Bibliometric results were presented and visualized using the bibliometrix package in R programming language [10]. The exported data files were converted to a convenient form for data analysis. Thematic maps, trend topics, thematic evolution, and cooccurrence map analyses were used for the research focus, thematic trends, and evolution of studies. Based on MK Sott (2020) and F Kantek (2023), the four quadrants included in the thematic map are defined as follows:

(1) Motor themes: clusters in the upper right quadrant are highly developed and important themes. The quadrant comprises of strong centrality and high-density clusters.

(2) Niche themes: the upper left quadrant comprises of low centrality and high-density clusters. These clusters have few but strong links with other themes.

(3) Basic themes: the lower right clusters are themes that have many relationships with other themes but whose relationships are weak.

(4) Emerging or declining themes: clusters in the lower left quadrant are themes represent clusters with few and weak links with other themes[11, 12].

## III. RESULTS

### A. Analysis of Annual Publications Distribution

From 1999 to 2023, 188 publications with the theme of nurses' psychological empowerment were published on WoSCC in 98 journals. Figure 1 presents the statistics of annual publications and the trend, and the number of publications in this field shows a two-stage trend. During the period from 1999 to 2014, the number of papers published each year was relatively stable (0-4) except for a larger number of publications in 2010, 2011,2012, and 2014 (10, 7, 8, and 9 respectively). Since 2015, the number of annual publications has obviously increased, reaching 31 in 2022. Table 1 presents the basic information of the top 10 published journals. The Journal of Nursing Management ranks first with 39 published papers, the Journal of Nursing Administration ranks second with 10 published articles, and the Applied Nursing Research and Journal of Advanced Nursing are equally tied for third with six publications each.
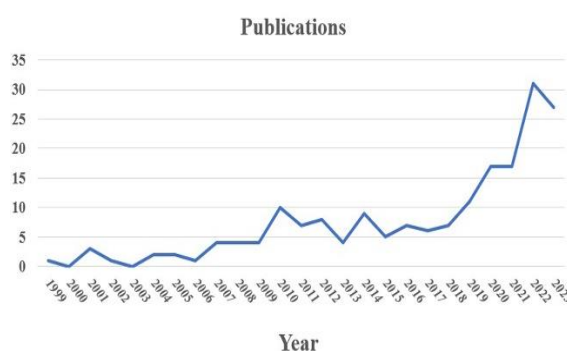
**Fig 1. Annual publication volumes in the field of nurses' psychological empowerment.**

**Table 1. Top 10 journals publishing the highest number of articles on nurses' psychological empowerment.**

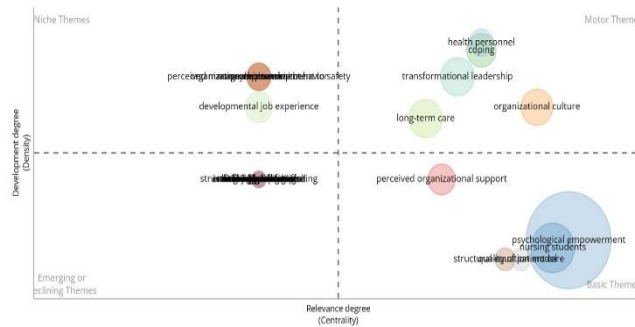| Ranking | Journal | Number of Publication |
|---|---|---|
| 1 | Journal of Nursing Management | 39 |
| 2 | Journal of Nursing Administration | 10 |
| 3 | Applied Nursing Research | 6 |
| 4 | Journal of Advanced Nursing | 6 |
| 5 | Journal of Nursing Education | 5 |
| 6 | BMC Nursing | 4 |
| 7 | International Journal of Nursing Studies | 4 |
| 8 | Nurse Education Today | 4 |
| 9 | Healthcare | 3 |
| 10 | Journal of Clinical Nursing | 3 |

*B. Analysis of the cooperative relationship and keywords*

The results of the WoSCC database search indicated that a total of 41 countries/regions, 316 institutions, and 570 authors participated in the publication of nurses' psychological empowerment. Of these, most of the studies were conducted in the USA (44 studies), Canada (28 studies), and China (24 studies). The University of Western Ontario (36 publications), Uppsala University (6 publications), and University of Gavle (6 publications) were found to be the most productive institutions. Laschinger HKS (13 publications), Engström M (6 publications), and Finegan J (6 publications) were the most prolific authors. It was further reported that 432 author keywords were used in studies conducted on nurses' psychological empowerment. The word cloud of the most frequently used 100-author keywords is given in Figure 2. As the frequency of words increases, they appear bigger in the word cloud. As indicated in Figure 2, the most frequent author keywords were psychological empowerment (87 times), empowerment (35 times), nurses (25 times), structural empowerment (23 times), job satisfaction (20 times), nursing (17 times), and burnout (10 times).

Figure 3 shows the co-occurrence map of author keywords. While building this map, the node number is accepted as 25, and the word co-occurrence rate is accepted as 2. The higher the rate of word cooccurrence is, the bigger the nodes and words are. The color of nodes indicates word co-occurrence. Co-occurrence analysis has

revealed that the most frequently used words are psychological empowerment, empowerment, leadership, job satisfaction, nurses, nursing, emotional intelligence, and structural empowerment.

The co-occurrence network of research on nurses' psychological empowerment can be categorized under five clusters. The first cluster (blue) includes fifteen words which are "psychological empowerment" (Betw = 151.49), "job satisfaction" (Betw = 21.25), "nurses" (Betw = 20.39), "structural empowerment" (Betw =1.51), "work engagement" (Betw = 0.70) and so on. The second cluster (red) has five words which are "empowerment" (Betw = 58.39), "nursing" (Betw = 8.13), "retention" (Betw = 0.02), "long-term care" (Betw = 0.19), and "patient safety" (Betw = 0.17). The third cluster (green) includes two words which are "emotional intelligence" (Betw = 3.01), and "nursing students" (Betw =1.05). The fourth cluster (purple) contained one word which is "leadership" (Betw = 22.03). The Fifth cluster (orange) contained one word which is the "workplace" (Betw = 0.03). While Clusters 1, 3, 4, and 5 are found to be related to nursing management, Clusters 2 is more suitable for nursing practice.



**Fig 2. Visualized word clouds of author keywords in the field of nurses' psychological empowerment.**



**Fig 3. Overview of co-occurrence map of author keywords in the field of nurses' psychological empowerment.**

The theme typology of research on nurses' psychological empowerment is given in Figure 4. The number of words in thematic map analysis is 1,000 with a minimum cluster frequency of 5 (Figure 4).

Motor themes are positioned in the upper right quadrant which are characterized by both higher density and higher centrality, and they were composed of five words: long-term care, transformational leadership, organizational culture, health personnel, and coping. The upper left quadrant, on the contrary, has lower centrality and higher density, which includes niche themes and indicated unimportant external links that have a limited significance for nurses' psychological empowerment. These niche themes have two words, which are developmental experience and organizational citizenship behavior.

The lower right quadrant demonstrates basic themes that have lower density but higher centrality, which includes five words: psychological empowerment, nursing students, perceived organizational support, quality of patient care, and structural equation model. Moreover, the lower left quadrant indicates emerging and declining themes with lower centrality and lower density, which particularly includes the structural equation model

suggesting that the structural equation model in nurses' psychological empowerment research has low centrality and low density.



**Fig 4. Thematic maps of author keywords in the field of nurses' psychological empowerment.**

Figure 5 shows the thematic evolution of keywords in four stages. Thematic evolution analysis enables to explore the evolutionary correlations and evolutionary trends of thematic context and evolutionary trends of structures [12]. Figure 5 indicates the correlation between different themes and their progress and a time span of approximately 25 years is divided into four stages: 1999-2013; 2014-2019; 2020-2022; and 2023-2023. The most frequently used keywords are "job satisfaction" in early years, "psychological empowerment" between 2014-2019 and 2020-2022, "covid-19", "psychological empowerment" and "work engagement" between 2023–2023. In recent years, such keywords as "emotional intelligence", "work engagement", and "COVID--19" were gradually growing popular while there are only a few studies that had keywords like "job satisfaction" and "leadership".
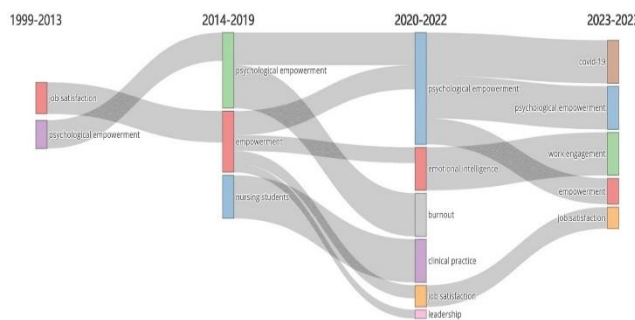


**Fig 5. Thematic evolution of author keywords in the field of nurses' psychological empowerment.**

Figure 6 indicates the trend topics in nurses' psychological empowerment for 20 years. The minimum word frequency is accepted as 1 and the number of words per year is taken as 1. It has been noted that the most frequent topics are "psychological empowerment", "empowerment", "structural empowerment", "job satisfaction", and "burnout". While the most popular topics in early years are "work empowerment", "elderly care", and "retention" in contrast, the topics like "covid-19", and "work environment" have become more popular in recent years.
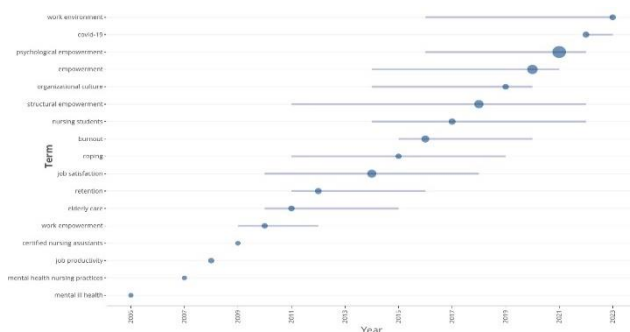
**Fig 6. Trend topics of author keywords in the field of nurses' psychological empowerment.**

## IV. DISCUSSION

Nurses' psychological empowerment plays a significant role in nursing. This study aims to employ bibliometric analysis to depict the research focus, thematic trends, and progress concerning the nurses' psychological empowerment. The outcomes will enrich the understanding of nurses' psychological empowerment and guide future scientific investigations by identifying literature gaps. Notably, there has been a notable increase in scholarly articles on nurses' psychological empowerment since 2015, which can be attributed to the growing acknowledgment of its importance, particularly in nursing management. This recognition has resulted in increased research funding in this field. Furthermore, these studies have been published in reputable journals such as the Journal of Nursing Management, Journal of Nursing Administration, Applied Nursing Research, and Journal of Advanced Nursing, which have the highest impact in the "nursing" category "leadership and management" subject area of SJCR (Scimago Journal & Country Rank). The publishing of the studies in high-ranking journals in nursing affirms the significance of such research while, at the same time, promoting the research in this field.

Hot topics characterize major problems in a certain field, and they allow researchers to develop an insight into the research trends [12]. The keyword analysis conducted in this study revealed that "job satisfaction" and "burnout" emerged as hot topics about nurses' psychological empowerment. The studies suggest that elevated levels of psychological empowerment can contribute to increased job satisfaction and reduced burnout among nurses [4]. At the same time, job satisfaction and burnout serve as crucial predictors of nursing turnover [13]. Therefore, much of the research related to nurses' psychological empowerment has also focused on issues related to nurse retention [4, 13]. The outcomes of our thematic evolution analysis lend support to this perspective, as the identified themes of "job satisfaction", "work engagement", and "empowerment" all possess an impact on nurse retention.

The thematic map analysis of the study on nurses' psychological empowerment revealed several prominent motor themes, namely long-term care, transformational leadership, organizational culture, health personnel, and coping. These motor themes exhibited high density, centrality, and development, indicating their significance within the study [14]. Consequently, it can be argued that these five themes currently receive considerable researchers' attention, indicating their maturity, and suggesting the need for exploration of other aspects to further advance the field. The analysis also identified emerging and declining themes, which displayed lower centrality and density to the structural equation model in nurses' psychological empowerment research. The structural equation model plays a crucial role in investigating the relationships between various organizational factors or nurses' personal characteristics and psychological empowerment [15]. Emphasizing this statistical approach in future studies will contribute to the advancement of psychological empowerment research among nurses.

The trend topic analysis revealed which topics are researched frequently over the years. Popular topics in recent years were work environment and COVID-19. A favorable work environment encompasses effective leadership, organizational support, and ample resources for career development [16]. Research suggests that nurses operating within psychologically empowering work environments tend to experience positive outcomes, such as reduced job stress, heightened job satisfaction, and increased organizational commitment [4]. Furthermore, it has been established that enhanced nursing environments contribute to heightened psychological empowerment, professionalism, job satisfaction, and decreased burnout among nurses, ultimately leading to improved retention rates [17, 18]. This clearly demonstrates the correlation between psychological empowerment and the work

environment. However, the number of studies in this area remains relatively limited. Therefore, future research on the work environment of nurses should be prioritized.

COVID-19 has emerged as a pressing and significant issue in recent years, and swiftly integrated into studies related to nurses' psychological empowerment. Nurses have faced escalated stress levels in their work environment during the outbreak of the COVID-19 disease, leading to negative emotions such as fear and anxiety [19, 20]. It becomes crucial to enhance nurses' ability to cope with the psychological demands they face. In this context, the concept of positive occupational health, including tools like psychological empowerment, is gradually being applied as a means of preventing mental health problems in the workplace [21, 22]. Current evidence indicates that psychological empowerment plays a role in the prevention of mood disorders associated with COVID-19 [23]. The unique experiences encountered during the pandemic have likely influenced the behavior and mental well-being of nursing staff differently [22]. Therefore, it is imperative to examine these experiences to enhance the efficiency and quality of care beyond the pandemic. This aspect warrants further attention in future studies.

## V. LIMITATION

This study inevitably has some limitations, which include (1) though the Web of Science database is the most influential worldwide multidisciplinary academic database covering more than 12,400 prestigious academic journals, our study only searching this database, it may miss some relevant articles; (2) keyword-cleaning process and statistics are self-designed though with expert's guidance, it still needs cautions in its results' generality.

## VI. CONCLUSION

This bibliometric analysis identified the research trend of nurses' psychological empowerment in the past 25 years. Nurses' psychological empowerment is an active field of study that has been developing. Noteworthily, themes centered on nurse retention, such as job satisfaction, and work environment have become hot topics in current research. In addition, studies in the field of nurses' psychological empowerment have increasingly delved into nursing practice and nursing management. However, a notable gap still exists in the literature concerning the structural equation model. In the future, researchers taking into account the results of this study will contribute positively to the development of scientific literature.

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