



Management of Multimorbidity in Teaching Curriculum: A Qualitative Study Among Nursing Students in Odisha, India

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Abstract

Background: Multimorbidity presents a significant challenge to both individual health and healthcare systems, diverging from the traditional focus on singular diseases. In this context, nurses serve as pivotal agents in delivering holistic care, particularly to individuals grappling with multiple chronic conditions. Yet, there exists a discernible gap in nursing education concerning multimorbidity management. This study delves into the perspectives of nursing students regarding multimorbidity and its integration into nursing curricula.

Methods: Using a phenomenological approach, the study conducted nine focus group discussions (FGDs) among BSc and MSc nursing students across various colleges in Odisha, India. Open-ended questions and probes were employed to elicit rich insights. Thematic analysis of the FGD transcripts revealed two overarching themes: "Balancing Act: Navigating the Challenges of Multimorbidity Management" and "Enhancing Nursing Education."

Findings: Participants voiced the myriad challenges they encounter in caring for multimorbid patients, emphasizing the need for nurses to provide comprehensive, patient-centred care. They underscored the importance of interdisciplinary collaboration and effective communication in healthcare delivery, advocating for the integration of multimorbidity management into nursing curricula.

Conclusion: The nurses occupy a unique position as frontline healthcare providers, both within hospital settings as nursing officers and in community setups as community health officers. Given their continuous presence and direct interaction with patients, nurses require competency in managing multimorbid conditions. Therefore, the incorporation of multimorbidity management content into nursing syllabi is imperative to equip future nurses with the skills necessary to address the complex healthcare needs of multimorbid individuals.

Keywords

Chronic conditions,
 Holistic care,
 Multimorbidity,
 Nursing education,
 Nursing students

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Introduction

Multimorbidity has emerged as a pressing global healthcare concern, necessitating a holistic, system-wide approach (Salisbury et al., 2018; Harrison et al., 2021). Chronic conditions stand as the primary contributors to mortality, disability, and functional decline, accounting for a staggering 73% of global deaths (WHO, 2020; Moffatt & Mercer, 2015). However, healthcare systems, historically focused on individual diseases, struggle to effectively manage the complexities inherent in multimorbidity (Talukdar & Himanshu, 2017; Multimorbidity Wikipedia; Moffatt & Mercer, 2015; Kshatri et al., 2020). This complexity leads to challenges in care coordination, resulting in suboptimal treatment outcomes, prolonged hospital stays, escalated healthcare costs, and an elevated risk of readmission. Moreover, issues such as polypharmacy and care fragmentation further compound the management of multimorbidity (Gruneir et al., 2016), ultimately contributing to diminished quality of life and heightened psychological distress among patients (Tinetti et al., 2015; Prior et al., 2023; Pati et al., 2019).

Nurses, operating across various fields, play a crucial role in managing multiple chronic conditions through their provision of holistic care (Chowdhury et al. 2023; Anushree & Mishra, 2022; Furuichi & Odajimal, 2020). They are pivotal in delivering integrated care and supporting self-management among adults grappling with multimorbidity. Nurses are uniquely positioned to spearhead the transformation of healthcare for individuals with chronic illnesses, leveraging their expertise to provide health education, facilitate learning, and advocate for patients and their families (Isabel et al.,

2021; Griffin, 2017). However, nurses face significant challenges in navigating the complexities of multimorbidity in both hospital and community settings (Holm et al., 2016; Moffatt & Mercer, 2015). Issues such as care continuity and coordination can be exacerbated by gaps in knowledge and training (Timmers et al., 2022; Dobarrio-Sanz et al., 2023).

Given the projected increase in patients with multiple chronic conditions, nursing education must address multimorbidity management comprehensively (Hopkinson, 2021; Multimorbidity RACGP aged care clinical guide). By integrating multimorbidity management into the nursing curriculum, future nurses can acquire the essential knowledge and skills needed to deliver patient-centred care that addresses the complexities of multiple disease conditions. This not only enhances patient outcomes but also aligns with national healthcare objectives by improving care quality and ensuring the well-being of diverse, ageing populations (Khatri et al., 2023).

In light of these considerations, this study seeks to explore nursing students' perspectives on the integration of multimorbidity management into the teaching curriculum. By understanding their experiences and views, educators and policymakers can better equip future nurses to meet the evolving healthcare needs of India, thus contributing to the enhancement of healthcare delivery and outcomes.

Methods

Study design, setting, and participants

We conducted a phenomenological study among nursing students from three colleges

in Odisha, India – one public and two private institutions. Odisha boasts approximately 200 nursing institutions offering various courses, with around 15,000 students graduating annually. For this study, we selected SCB (Govt) College of Nursing in Cuttack, Kalinga Institute of Nursing Science at KIIT University in Bhubaneswar, and SUM College of Nursing at SOA University in Bhubaneswar. These institutions were deliberately chosen due to their high nursing student enrolment capacities and their reputation for maintaining elevated educational standards.

In Odisha, there are three primary nursing courses: General Nursing Midwifery (GNM), BSc Nursing, and MSc Nursing. As the Odisha Government phased out the GNM course by converting all government GNM schools into BSc Nursing colleges, students enrolled in the GNM program were excluded from our study. The participants

consisted of fourth-year BSc and MSc nursing students, chosen specifically for their extensive clinical and teaching experience. They were contacted either in person or by phone by the first author, with assistance from the respective institution heads, to schedule interview sessions. Participation was voluntary, and no compensation was provided. Out of the 84 students contacted, 13 were unwilling to interview.

A total of 71 students participated, comprising 32 from the BSc Nursing course and 39 from the MSc Nursing course. Among them, 30 students were from public colleges, and 41 were from private colleges, with 65 participants being female. The average age of the participants was 23 years, ranging from 20 to 27 years. Most MSc nursing students had prior clinical experience, primarily in private clinics.

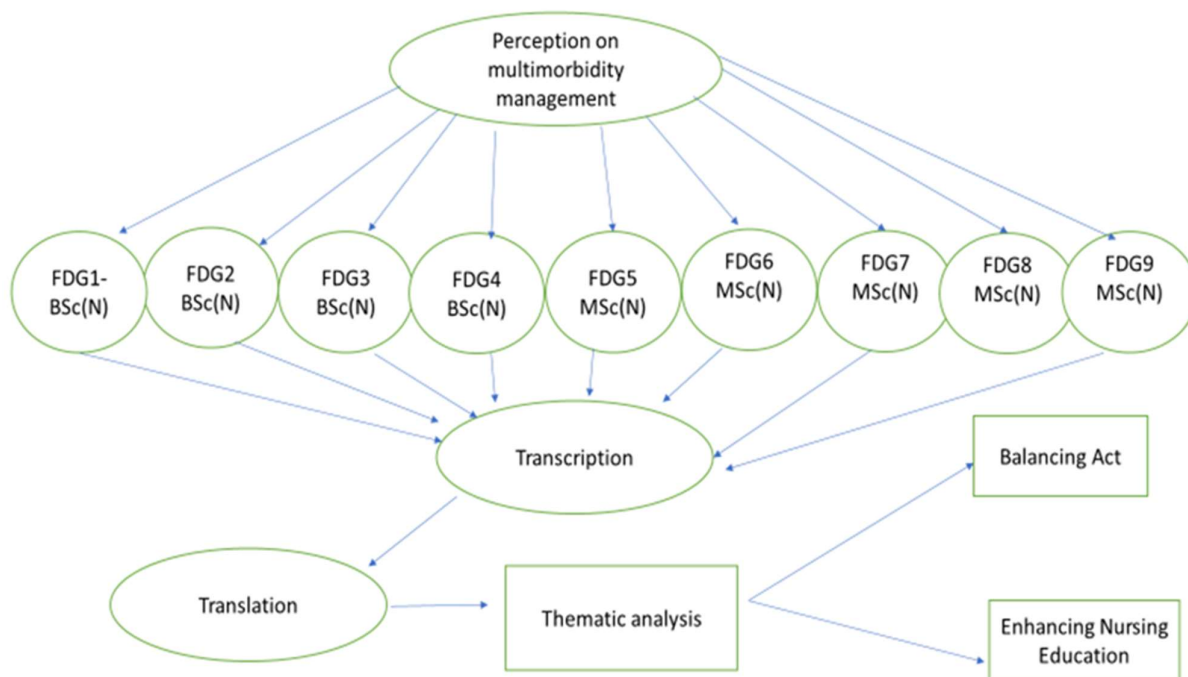


Figure 1 Flow-chart of the study design

Data collection procedures

Nine Focus Group Discussions (FGDs) were conducted, featuring open-ended questions and probes (Table 1). These discussions took place in a blend of Odia and English languages, chosen for the convenience of both students and the facilitator. On average, the FGDs lasted 45 minutes for BSc students (ranging from 35 to 55 minutes) and 50 minutes for M.Sc students (ranging from 45 to 60 minutes). The facilitator for all FGDs was the first author, a nurse educator with a background in nursing. Co-investigators, hailing from diverse public health backgrounds with a specific interest in multimorbidity, supported the facilitation process. Before recording, explicit consent was obtained from all participants, and the discussions were digitally recorded for analysis.

Data management and analysis

The digitally recorded interviews underwent transcription and translation into English, followed by thematic analysis. Meaning units within the transcripts were identified, condensed, and encoded. Similar codes were then grouped and collapsed into distinct categories, elucidating overarching

themes. The MAXQDA Analytics Pro 2020 software (VERBI GmbH Berlin) was used for coding. The study adhered to the Consolidated Criteria for the Reporting of Qualitative Research (COREQ) guidelines for reporting in Annexure 1. (Craig et al., 2007)

Ethical approval

Permission was obtained from the head of each institution. Each participant provided written informed consent. All FGDs took place within the institutions, and we maintained confidentiality. The study received approval from the Ethical Committee of ICMR-Regional Medical Research Centre, Bhubaneswar, Odisha, India.

Results

Two major themes emerged from the analysis: 1) Balancing Act: Navigating the Challenges of Multimorbidity Management, and 2) Enhancing Nursing Education: The Importance of Multimorbidity Management in the Curriculum. The findings are illustrated with relevant quotes categorized under each major theme.

Table 1 Focus Group Discussion Guide

1	Can you tell the name of some chronic illness please? Please explain what chronic diseases you have aware
2	What are the impacts of that on patients physical & psychosocial health?
3	Have you realized this multi morbidity affect quality of life of peoples if yes please explain
4	What challenges you are facing during management of such cases
5	Explain your views regarding the number and type of medicines a patient is taking, and their side effects
6	What is your idea regarding management of multimorbidity cases
7	Are you thinking the management of multimorbid condition should include in nursing syllabus?
8	If yes which course it should be included (BSc nursing & MSC nursing) & why you think so please explain.?

Theme 1. Balancing Act: Navigating the Challenges of Multimorbidity Management

When asked about their understanding of multimorbidity, the majority of students described it as the coexistence of multiple disease conditions resulting from overlapping risk factors. While they grasped the concept of multimorbidity, many students expressed a lack of knowledge about its management. They identified challenges related to providing patient-centered coordinated care, prioritizing problems, and determining treatment priorities. Participants highlighted how multiple chronic diseases adversely affect an individual's quality of life and psychosocial well-being. They observed that psychological health suffers alongside physical health, with individuals experiencing stress, irritability, and depression due to the appearance of multiple symptoms and the prospect of lifelong treatment. One participant shared,

"I have seen some multimorbid cases who are always looking stressed. They used to say death is better than living life with so many diseases with lifelong medications."

Participants recognized numerous challenges faced by nurses in caring for individuals with multimorbid conditions. These challenges include dealing with the complexities of multiple medications, such as adverse drug reactions, medication side effects, and drug-disease interactions, which can lead to extended hospital stays. Additionally, managing multiple disease symptoms presents difficulties. Nurses often lack specific guidelines for managing multimorbid conditions within healthcare settings, and their nursing education does not adequately prepare them for caring for

such patients. Overall, the management of patients with multiple disease conditions has not been integrated into any nursing syllabus.

Theme 2. Enhancing Nursing Education: The Importance of Multimorbidity Management in the Curriculum

All participants across every group unanimously advocated for the inclusion of multimorbidity management content in the nursing syllabus. They recognized that addressing the challenges encountered by students in both hospital and community settings could be achieved through proper education on multimorbidity management. Moreover, they emphasized the pivotal role of nurses in managing multimorbid patients.

The majority of participants highlighted nurses as the primary healthcare providers who consistently engage with patients, whether in hospitals as nursing officers or independently in community health officer roles. They stressed that nurses play a crucial role in delivering comprehensive, patient-centred care to individuals with multimorbidity. As frontline healthcare providers, nurses are tasked with planning and providing direct patient care, health education, advocacy, and other supportive services tailored to the holistic needs of patients. One participant expressed,

"Nurses have been posted at every healthcare setup and attending patients 24x7 as 1st line health care provider. They should know how to provide comprehensive patient-centred care among multimorbidity clients."

The overwhelming consensus among participants was the necessity for practical training in polypharmacy, medication management, and counselling to effectively handle patients with multiple chronic

conditions. They believed that integrating multimorbidity management into the nursing curriculum would better prepare them to address such challenges.

Discussion

The findings highlight the difficulties students face in fulfilling their clinical and community responsibilities as a result of a significant knowledge gap in multimorbidity management, which is not covered in their teaching curriculum or syllabus. They have highlighted their challenges when dealing with multimorbidity in hospital & community. They explained how the patients are avoiding medications due to the effect of poly pharmacy. Educational interventions for nurses' multimorbidity management have far-reaching and multifaceted implications. There are numerous benefits to incorporating multimorbidity management content into nursing education curricula. So, all of them given their views to add the management of multimorbidity in nursing curriculum

Given the global rise in multimorbidity, nurses are seeing more patients with complex health needs. Nurse education in multimorbidity management allows them to gain a better understanding of the interactions between various conditions, resulting in more effective assessment, treatment, and care coordination (Steponkute & Galdikiene, 2021). The educational interventions enable nurses to take a patient-centered approach when caring for people with multiple diagnoses. Understanding each patient's unique needs and preferences allows nurses to collaborate on developing care plans that prioritise holistic well-being and quality of life (Whitehead et al., 2024; Rushton et al., 2015).

This personalised approach strengthens therapeutic relationships between nurses and patients, ultimately increasing patient satisfaction and adherence to treatment regimens.

Moreover, incorporating multimorbidity management into nursing promotes interdisciplinary collaboration among healthcare professionals. Nursing curricula need to evolve & include management of multiple chronic conditions in it as nurses are the first line care providers and facing challenges when dealing with multimorbidity patients. The participants viewed that managing multimorbidity cases are the greatest challenges for them they have knowledge gaps regarding multimorbidity management and the content has not been included in nursing curriculum so far. It is well known that nurses play an important role in coordinating care across multiple specialities and professions. Nurses with a strong background in multimorbidity management can communicate effectively with other healthcare professionals, facilitate care transitions, and promote continuity of care for patients with complex health needs (Goncalves et al., 2022; Lewis et al., 2016). Furthermore, educational interventions can help to reduce healthcare disparities among patients with multiple conditions. Educational interventions that improve nurses' knowledge and skills in multimorbidity management can help vulnerable populations gain access to high-quality care and better outcomes. Healthcare systems can reduce the negative effects of polypharmacy, avoid unnecessary hospitalisations and readmissions, and optimise resource utilisation by providing nurses with the competencies they need to effectively manage multimorbidity. Even

though it is essential to include multimorbidity management in nursing curriculum there are so many obstacles to implementing multimorbidity management content in the curriculum. No strict guideline/module on multimorbidity management is available till now. The value of nurse in dealing with multimorbidity has not been realized. Even a module will be prepared with the consultation of experts and validated still there is so many administrative issues to add this in nursing curriculum. Hence more research may be conducted on this to make realisation of stake holders to add multimorbidity management in nursing curriculum

Conclusion

The participants overwhelmingly expressed the necessity for multimorbidity management content to be integrated into the nursing curriculum. They emphasized the pivotal role of nurses in providing comprehensive, patient-centred care to individuals with multimorbidity. Addressing this need through education and training is crucial to equip nurses with the knowledge and skills necessary to navigate the complexities of multimorbidity and enhance patient care outcomes. The educational interventions for multimorbidity management among nurses show great promise for improving the quality, efficiency, and equity of healthcare delivery.

Policy Recommendation

On the basis of the findings of the study, the following recommendations have been made for further study.

- A similar study can be conducted on larger samples to generalize findings.

- A module may be developed, validated & tested its effectiveness on enhancing knowledge & practice of nurses.
- A Study can be conducted to assess the perception of doctors and other health care providers regarding multimorbidity management

Data availability

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

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Annexure 1

Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist for interviews and focus groups Discussion

Developed from:

Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

No. Item	Guide questions/description	Reported on Page #
Domain 1: Research team and reflexivity		
<i>Personal Characteristics</i>		
1. Interviewer/facilitator	Which author/s conducted the interview or focus group?	Bijayalaskhmi Dash
2. Credentials	What were the researcher's credentials? E.g., PhD, MD	Bijayalaskhmi Dash MSc Nursing.
3. Occupation	What was their occupation at the time of the study?	Associate Prof./Ph.D Scholar
4. Gender	Was the researcher male or female?	Female
5. Experience and training	What experience or training did the researcher have?	The researcher has training in research methods for qualitative research as part of her PhD
<i>Relationship with participants</i>		
6. Relationship established	Was a relationship established prior to study commencement?	No
7. Participant knowledge of the interviewer	What did the participants know about the researcher? e.g., personal goals, reasons for doing the research	Participant information sheet and Consent Form
8. Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? e.g., Bias, assumptions, reasons and interests in the research topic	Methods
Domain 2: study design		
<i>Theoretical framework</i>		
9. Methodological orientation and Theory	What methodological orientation was stated to underpin the study? e.g., grounded theory, discourse analysis, ethnography, phenomenology, content analysis	Methods
<i>Participant selection</i>		
10. Sampling	How were participants selected? e.g. purposive, convenience, consecutive, snowball	Methods
11. Method of approach	How were participants approached? e.g., face-to-face, telephone, mail, email	Methods
12. Sample size	How many participants were in the study?	Methods
13. non-participation	How many people refused to	Methods

	participate or dropped out? Reasons?	
<i>Setting</i>		
14. Setting of datacollection	Where was the data collected? e.g., home, clinic, workplace	Methods
15. Presence of non-participants	Was anyone else present besides the participants and researchers?	No
16. Description of sample	What are the important characteristics of the sample? e.g., demographic data, date	Methods
<i>Data collection</i>		
17. Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Methods
18. Repeat interviews	Were repeat inter views carried out? If yes, how many?	No
19. Audio/visual recording	Did the research use audio or visual recording to collect the data?	Methods
20. Field notes	Were field notes made during and/or after the interview or focus group?	Methods
21. Duration	What was the duration of the inter views or focus group?	Methods
22. Data saturation	Was data saturation discussed?	Methods
23. Transcripts returned	Were transcripts returned to participants for comment and/or	Methods
Domain 3: analysis andfindings		
<i>Data analysis</i>		
24. Number of data coders	How many data coders coded the data?	Methods
25. Description of the coding tree	Did authors provide a description of the coding trees?	Methods
26. Derivation of themes	Were themes identified in advance or derived from the data?	Methods
27. Software	What software, if applicable, was used to manage the data?	Methods
28. Participant checking	Did participants provide feedback on the findings?	Methods
<i>Reporting</i>		
29. Quotations presented	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	Results
30. Data and findings consistent	Was there consistency between the data presented and the findings?	Discussion
31. Clarity of major themes	Were major themes clearly presented in the findings?	Results
32. Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Results