ORIGINAL ARTICLE

Educating for Equity: The Role of Educational Intervention in Shaping Health Care Students' Knowledge of Universal Health Coverage and Primary Health Care

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Abstract

Background: Universal health coverage (UHC) and primary health care (PHC) are critical components of equitable health systems. Medical and allied health science students, as future healthcare providers, need to possess knowledge and understanding of these concepts. Educational interventions are pivotal in enhancing this knowledge and preparing students for effective healthcare delivery.

Objectives: This study aimed to assess the impact of an educational intervention on the knowledge and perception of UHC and PHC among healthcare students at a private medical university in north Karnataka.

Methodology: A quasi-experimental study design was employed involving 300 healthcare students during June–August 2024. The study comprised 3 phases: a pretest to gauge baseline knowledge about UHC and PHC. An educational session focused on UHC and PHC was conducted, and a posttest to evaluate the knowledge acquired was done. The pretest and posttest consisted of a 23-item questionnaire. Statistical analysis comprised the Kruskal–Wallis and Wilcoxon signed ranks tests to compare pre- and postintervention knowledge scores.

Results: The pretest results indicated a mean knowledge score of ±8.07. Following the educational intervention, the posttest results revealed a significant increase in knowledge, with a mean score of ±13.8. This positive outcome emphasizes the effectiveness of the educational intervention.

Conclusion: The study demonstrates that targeted educational interventions can significantly improve the knowledge of UHC and PHC among healthcare students. Incorporating regular educational programs, including practical seminars on UHC and PHC, in their study curricula is recommended to sustain and enhance this knowledge.

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Introduction

The World Health Organization describes universal health coverage (UHC) as a system in which all individuals and communities receive the health care they require without experiencing financial hardship. This encompasses a wide range of services, including health promotion, sickness prevention, treatment, rehabilitation, and hospice care. UHC is a critical component of a fair and just society because it assures that everyone, regardless of socioeconomic status, has access to quality health care services without incurring financial hardship. Equality in health care services is a fundamental human right.[1]

The objective of UHC is a global commitment, as evidenced by the United Nations Sustainable Development Goals, particularly Goal 3: "Ensure healthy lives and promote well-being for all at all ages." The 2030 Agenda for Sustainable Development Target 3.8 asks for "achieving UHC, including financial risk protection, access to quality essential health care services, and affordable essential medicines and vaccines for all."[2] Achieving UHC will be essential for improving population health, reducing health disparities, and promoting social and economic development. India's immense and diversified population presents distinct hurdles in achieving UHC. Despite major advances in recent decades, health care access and quality inequities persist.[3] Recognizing the relevance of UHC, India has taken major measures toward its implementation. The National Health Mission and Ayushman Bharat, among other policies and programs, demonstrate the country's commitment to UHC.[2] Ayushman Bharat, launched in 2018, is one of the world's largest government-funded health insurance programs, intending to provide financial protection against catastrophic medical bills.[4]

To achieve UHC and strengthen primary health care (PHC) in India, health care curricula must undergo significant reform. However, current health care curricula often fall short of this need, especially in terms of orienting students about the comprehensive concept of UHC and its components.[5] Students are more focused on specialized hospital individual care rather than preventable and equitable community health care. This knowledge gap limits health care professionals' preparedness to engage with UHC's broad objectives, which include ensuring accessible, quality, and financially protective health care for all. Studies show that while PHC forms the backbone of UHC, many health systems remain under-resourced in PHC, with too few opportunities for health care students to gain practical skills in community-oriented and preventive care.[6] By addressing these gaps, health care students can be better equipped to provide equitable and accessible health care, contributing to the realization of UHC and improving the overall health of the population.

The purpose of this study is to analyze how an educational session affects health care professional students' knowledge and perceptions of UHC and PHC.

Methodology

Study Area

The study was conducted at a private medical university in north Karnataka, offering a comprehensive range of courses across all clinical and paraclinical specialties.

Study Period

The study was conducted for a period of 3 months from June–August 2024.

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Study Design and Participants

This study is a quasi-experimental study design. It was conducted among 302 third-year MBBS, nursing, and physiotherapy students.

Inclusion and Exclusion Criteria

All students in the third year across all 3 streams who had consented to participate were included in the study, and those who were absent on that day were excluded.

Ethical Consideration

The ethical clearance was obtained from the ethical clearance department of the BLDE(DU) Shri B M Patil Medical College Hospital and Research Centre, Vijayapura.

Data Collection

A pilot study was undertaken to ensure the questionnaire's clarity and feasibility. The questionnaire's reliability was assessed using Cronbach's alpha, which returned a score of 0.814, indicating good reliability. Purposive sampling was used to acquire data from 302 participants. The study was explained to health care students, informed consent was obtained, and data were gathered using a self-administered questionnaire. A pretest was administered first, followed by a 45 minutes educational and interactive session on UHC and PHC, after which a posttest questionnaire was used to assess the students' knowledge and perception of the educational session.

Data Analysis

The acquired data were analyzed using the Statistical Package for Social Sciences (SPSS), version 26.

Results

The study participants are enrolled in 3 different programs: MBBS (55.6%), nursing (36.1%), and BPT (8.3%) (Fig. 1).

The age distribution of the participants in the current study shows that the majority (88.7%) are between the ages of 18 and 22, with the remaining 11.3% aged 23–27 years (Fig. 2).

The gender distribution shows a female majority, with 55.0%, and the remaining 45.0% male (Fig. 3).

Table 1 presents the mean scores and standard deviations (SD) for pretest and posttest knowledge assessments across 3 programs (MBBS, nursing, and BPT). MBBS students demonstrated the highest improvement, with their mean score rising from ±9.02 to ±15.82. BPT students also showed significant improvement, with their posttest mean score at 15.20, despite starting with a lower pretest mean of ±4.80. Nursing students improved from ±7.38 to ±10.45. The Kruskal–Wallis test for both pretest and posttest shows significant results ($p < 0.001$), indicating statistically significant differences in knowledge improvement across the 3 programs. Overall, the total mean score increased from ±8.07 (pretest) to ±13.83 (posttest), indicating a general increase in knowledge after the educational session.

Table 2 evaluates changes in participants' perceptions before and after the intervention. MBBS students demonstrated notable improvement, with a pretest mean of ±18.54 and a posttest mean of ±18.92, yielding a significant Wilcoxon signed ranks test result ($p < 0.001$). Nursing and BPT students also improved their perceptions, with nursing showing a significant increase from ±17.87 to ±19.11. The BPT group showed a similar positive shift from ±16.84 to ±18.52. The total perception scores increased from ±18.16 (pretest) to ±18.95 (posttest), indicating an overall improvement in participants' perception following the intervention. The results demonstrate the effectiveness of the educational intervention

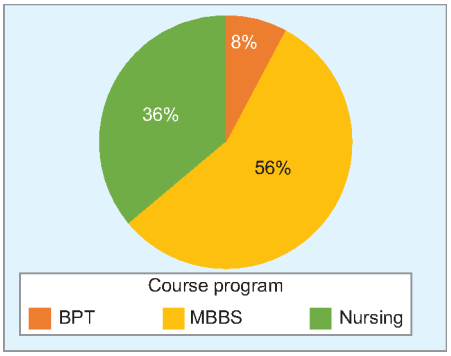

Fig. 1: Distribution of participants

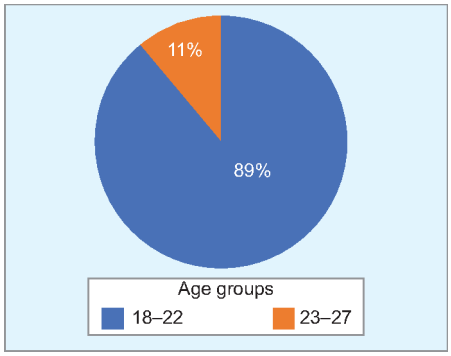

Fig. 2: Age distribution among the participants

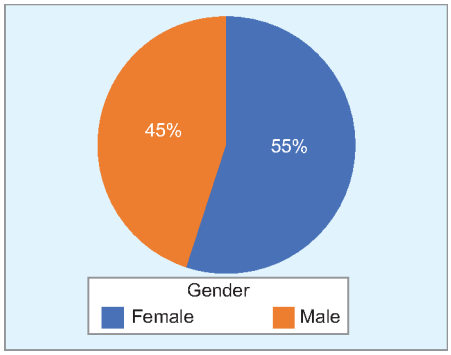

Fig. 3: Gender distribution among the participants

Table 1: Evaluation of pretest and posttest knowledge

		Pretest				*Posttest*			
Course	*No.*	*Mean*	*SD*	*Kruskal–Wallis test*	*p-value*	*Mean*	*SD*	*Kruskal–Wallis test*	*p-value*
MBBS	168	9.02	3.68	30.23	0.001*	15.82	1.88	110.89	0.001*
Nursing	109	7.38	4.42			10.45	4.03		
BPT	25	4.80	1.84			15.20	1.41		
Total	302	8.07	4.05			13.83	3.80		

*Indicates significance $p < 0.05$

Table 2: Evaluation of pretest and posttest perception

		Pretest		*Posttest*		*Pretest vs posttest*	
Course	*No.*	*Mean*	*SD*	*Mean*	*SD*	*Wilcoxon Signed-Rank test*	*p-value*
MBBS	168	18.54	2.04	18.92	2.44	–3.59	0.001*
Nursing	109	17.87	3.07	19.11	3.10		
BPT	25	16.84	2.74	18.52	2.14		
Total	302	18.16	2.56	18.95	2.67		

*Indicates significance $p < 0.05$

in enhancing both knowledge and perception across all programs, with statistical significance in key areas.

These findings highlight the program's impact on improving understanding and attitudes toward the topics covered, contributing valuable insights into medical education and perception improvement across different student populations.

Discussion

The results show a clear improvement in both knowledge and perception of UHC and PHC after the interventional session, with MBBS students demonstrating greater gains due to their broader curriculum exposure. However, lower pretest scores suggest a limited understanding of the concepts and components of UHC and PHC before the intervention, even among third-year students of all streams. Minimal exposure to government PHC centers, especially for nursing and physiotherapy students, likely contributed to their lower baseline scores. The improved posttest results highlight the importance of educational interventions and practical exposure to government PHCs in bridging this knowledge gap, emphasizing the need to incorporate such experiences into medical and paramedical syllabi.

Given the evolving needs of the health care industry, it would be highly beneficial for health care education programs to incorporate UHC principles into their curricula. Global health initiatives increasingly emphasize equity, accessibility, and sustainability, embedding these principles into training for future health care professionals. Developing such a curriculum might not only provide students with theoretical knowledge but also integrate practical experiences, such as hands-on exposure at government primary health centers (PHCs).

UHC-focused training needs to be incorporated, as health systems worldwide face challenges from aging populations, pandemics, and rising noncommunicable diseases. Equipping health care students can help build a resilient, inclusive, and sustainable global health workforce.

Conclusion

The baseline knowledge of UHC and PHC among health care students is below 50%, indicating a critical gap in current curricula. To bridge this, UHC must be systematically integrated into both academic and clinical training, enabling future health care professionals to develop the competencies needed to advance equitable health care access and address health disparities effectively.

Acknowledgment

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Ethical Approval

Ethical clearance was obtained from the ethical clearance department of BLDE(DU) Shri B M Patil Medical College Hospital and Research Centre, Vijayapura. Reference No. (IEC/1101/2024–25).

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