

EMERGENCY SCENARIOS IN MATERNITY: ATTITUDES OF MEDICAL AND MIDWIFERY STUDENTS ON SIMULATION - BASED INTERPROFESSIONAL EDUCATION

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Abstract

Objective: The primary objective of the study was to evaluate effectiveness of Interprofessional education activities on attitudes of Medical and Midwifery students towards IPE at undergraduate level.

Study Design: Mixed quantitative and qualitative study

Place and Duration of study: This study was designed to enhance interprofessional collaboration between final year MBBS and midwifery students of CMH Lahore Medical college, National University of Medical Sciences NUMS from May to July 2023.

Methods: Three activities were done based on emergency maternity scenarios. Pre and Post sessions attitudes were assessed by Likert scale with five items towards simulation, interprofessional learning, communication, roles and responsibilities and situation awareness. Qualitative survey was done by reflection and feedback of students and colleagues.

Results: A total of 100 students 30 Midwifery and 70 MBBS students participated in three IPE simulation activities. Students disclosed level of apprehension on first day of activity. Following the activities, Students reported 100% positive attitude to interprofessional learning, communication and roles and responsibilities with 88% for simulation and 84% for situation awareness. Qualitative survey, reflection and feedback of students commented their positive experience and recognition of need of teamwork, and interprofessional communication in managing these emergency conditions can improve care of women and babies

Conclusion: These IPE activities at undergraduate level has protentional to improve their attitudes and experience towards need. of Interprofessional collaboration during emergency situations in workplace so can improve care of woman and babies.

INTRODUCTION

Interprofessional learning occurs when two or more professions (students, residents and health workers) learn with, about, and from each other to enable effective collaboration and improve health outcomes¹. Interprofessional education is important for students at undergraduate level who are required to work in Multidisciplinary team with other health professionals after graduation². So it should be initiated in undergraduate students to prepare them with effective communication and collaborative skills in future. So training healthcare professionals at undergraduate education to work and learn in collaboration with other disciplines is important part of their education. Interprofessional education prepares the students to understand scope of practice of other health professionals with aim to prepare students to work with colleagues to improve patient health outcomes.

In maternity care, the health professionals work in Multidisciplinary team to improve care of women and babies³. Interprofessional learning was introduced in 2004 in maternity health care due to adverse health outcomes due to poor working of health professionals as team in management of emergency situations⁴. Interprofessional simulation learning between medical and midwifery students develops positive attitudes, respect and support to each other in spite of their difference in background knowledge and skills⁴. Those who work together should learn together has been part of National Maternity Review in UK to make interprofessional learning as essential part of pre-Registration.⁵ In Obstetrics and Gynecology, interprofessional simulation learning give opportunity session give opportunity to medical and midwifery students to learn from each other, respect and teamwork so can achieve their effective appropriate participation in interprofessional healthcare system.⁶ After this interprofessional simulation education, awareness to interprofessional learning improved with students⁷ self-confidence working in collaboration between medical professions.⁸ This collaborative learning with medical and midwifery students can improve working of new graduates in workplace especially while managing emergency clinical situations which can greatly improve care mother and babies. After participation

in simulation birth workshops, studies have shown improvement in knowledge and confidence.³

In Pakistan, little is known about medical and midwifery students' experiences of interprofessional learning when focus is on maternity scenarios during birth. We are teaching Both Medical and Midwifery students now. They are often well versed in content but demonstrating their understanding of interprofessional harmony is the challenge. This study shows collaboration between school of Medicine Department of Obstetrics and Gynecology at CMH Lahore Medical College and School of Nursing. We developed three activities of interprofessional simulation learning on managing emergency maternity scenarios to meet requirement for IPE. Both Medical and Midwifery students participated in simulation-based Role play learning focused on maternity emergency scenarios followed by collaborative debriefing and feedback session. This study aims to evaluate the student attitude to interprofessional learning activities between medical and midwifery students.

The primary objective of the study was to evaluate effectiveness of Interprofessional education activities on attitudes of Medical and Midwifery students towards interprofessional learning, simulation, communication, roles and responsibilities with situation awareness to patient safety in managing emergency maternity scenarios at undergraduate level.

Methodology:

This mixed qualitative and quantitative study was designed to enhance interprofessional learning between Final year Medical and Midwifery students. This was conducted in CMH Lahore Medical College and Institute of Dentistry, NUMS from May to July 2023 after permission from the Ethical Review Committee of CMH LMC (Case #.760/ERC/CMHLMC). Students were selected by Non-Probability Purposive sampling technique. After getting permission from HOD Medical Education, HOD obstetrics and Gynecology and HOD Nursing school, this activity was planned with one session per week. A total of 30 Midwifery students and 70 Medical Final year students coming for obstetric ward rotation were selected after their consent. Total three interprofessional simulation activities were planned

on emergency maternal scenarios. Each simulation topic was selected by coordination of Medical and Nursing faculty as per their course requirement and simulation scenarios was completed by adjusting difficulty level through consultation with faculty colleagues. Three topics were selected based on three maternity emergencies: Postpartum Hemorrhage, Shoulder Dystocia and Eclampsia. Although the scenario cases for simulation are different, the task to be performed is the same including diagnosis, treatment planning and action of treatment through interprofessional collaboration, communication, teamwork with roles and responsibilities between obstetrician and nurses

We created WhatsApp group with students with their consent. The topic with reading material and video Drills with education on management of emergency maternity scenarios (Flipped Classroom) and Learning resources was shared with them 4 days before so to come with basic knowledge of the subject on day of activity. They were asked to make four groups with 7-8 Midwifery and 17-18 Medical students in each group. Time and learning environment as Role Play and Venue Skill Laboratory of CMH Lahore Medical college was shared with them in Group. On day of Activity, Pre briefing session the facilitator explained the aims of interprofessional simulation activity. Pre session Questionnaire was filled by all students with Five Questions on relevance of simulation, interprofessional education, communication, roles and responsibilities and situation awareness A case scenario template and learning outcomes were shared with them and obtained consent to record simulations. They were encouraged to ask any questions regarding to activity. Then they were given 20 minutes for task training in which students started preparing task determination, role sharing with task practice. Then after 20 minutes ,10 minutes was given to one group to perform role play/simulation activity with Peer Evaluation of another group. Then second group performed and first group assess them. After activities of both groups followed by Debriefing session. Through peer evaluation, students were able to reflect on their own experience which serves as debriefing. After 3 activities in three weeks, Post session same Questionnaire was filled by all students. Feed Back of Students on themes on their experience of

interprofessional learning, teamwork and roles and responsibilities was taken from students after every activity. Last session was also observed by colleague with feedback to students and facilitator. Teacher feedback and observation by colleague was also involved in study.

The pre-session tool consist of five items from Kid SIM ATTITIDES that provides a reliable and construct valid measure of students perception of and attitudes towards Interprofessional education, teamwork and simulation as a learning modality. (Sigalet, Donnon et al. 2012). It uses a five -point Likert scale and ask questions related to their attitudes to simulation, interprofessional learning, communication, roles and responsibilities and situation awareness. This was also filled by all students after three interprofessional simulation activities. They were also asked that they have attended any previous Interprofessional education activity before. Immediate feedback of students was taken after each activity on themes / experience of teamwork, interprofessional learning and communication. They were asked how useful this session was in understanding of need of teamwork, understanding other health professionals' roles and responsibilities and communication with other health professionals. Teacher feedback was also collected. Feedback and formative assessment of students by one of faculty colleague was also done.

Pre session, Medical and midwifery students' awareness of attitude was measured with Likert scale 1-3 (Negative attitude) and 4-5 (Positive attitude) towards simulation, interprofessional learning, communication, roles and responsibilities and situation awareness and then measured after IPE activities. Data analysis was done by SPSS Version 16. Qualitative survey was done on feedback of students after each session and teacher observation and observation and formative assessment of students by faculty colleague who has observed the session.

Results:

A total of 32 Students have attended three simulation interprofessional sessions based on emergency maternity scenarios. Out of these 20 were Midwifery students and 12 were Final year medical students with six male and six female students. All of the students have not attended any interprofessional simulation

educational activity before. On day of first activity, Students disclosed a level of apprehension and ambiance in the pre session towards interprofessional simulation learning. After first activity, they were confident during second and third activity with awareness to Interprofessional simulation education, communication, roles and responsibilities to situation awareness. On day of second and third activity, during

task training they were using word cloud, need of team work, collaboration, communication with task and responsibilities of each team member to improve patient care.

Their attitudes towards simulation as learning environment for interprofessional education pre and post session was given in Table 1.

Table 1:

Relevance of Simulation Pre-session

	Frequency	Precent
Negative	62	62
Positive	38	38
Total	100	100

Relevance of Simulation Post-session

	Frequency	Percent
Negative	12	12
Positive	88	88
Total	100	100

Positive attitude was improved from 38% to 88% after session.

The attitude towards interprofessional learning between different health professional together pre session negative is 60% and positive is 40%. After session, positive attitude is 100%.

The attitude towards role of communication between different health professionals for patient management pre session negative is 62% and positive is 38%. After session, positive attitude is 100%

The attitude of students to understand need of roles and responsibilities of other health professional Pre session negative is 54% and positive is 46%. Post session positive attitude is 100 % increased by 54%.

The attitude of students towards situation awareness of each member of health professionals pre session negative is 66% and positive is 34%. Post session positive attitude is 84% increased by 50%.

B. Student's Comments and Feedback

Students feedback was positive towards themes of teamwork, communication and interprofessional learning at undergraduate level. In summing up the best aspects of the interprofessional learning.

"Today identified need of teamwork, communication, interprofessional work for managing obstetric emergencies" (Medical)

' It is the first time learning to experience need of Team work, Interprofessional learning with other health professionals." (Medical)

" I believe we all have roles and responsibilities to care for patient as we have to work together in future so we should also learn together" (Midwifery)

'This has turned ice breaker for us learning with other health professionals" (midwifery)

'Shared learning and experience of both of us will improve care of patient" (Medical)

Both disciplines reported that the simulation scenario and collaborative learning improve their understanding of practice of other professionals in practice.

" I felt need of other professional Midwifery in managing emergency situations" (Medical)

C. Teacher Observation and Feedback

Feedback of faculty colleague on observation is very positive for improvement in students learning towards team work, interprofessional collaboration. On formative assessment, my colleague gave them

feedback of their performance of IPE station as Excellent performance.

Teacher observation that it has enhanced their learning by doing in simulation towards interprofessional communication and collaboration and teamwork in management of emergency obstetric cases and achieved third level of Millers pyramid comprises of "Shows How".

Discussion:

The study has provided insight into medical and midwifery students experience and attitude towards interprofessional education. Students reported apprehension before interprofessional education activities yet found its effectiveness on their attitude and experience to be positive and beneficial in future. Students reported importance of simulation environment learning to work together allow them to appreciate work and experience of each other in managing emergency conditions in maternity.

When I got their consent for interprofessional education activities, they talked about disparity of their knowledge and experience⁹ but when I told to share reading material and links will be shared with them four days before then this act as ice breaker of it. In this study, all medical and midwifery students reported positive attitude towards interprofessional learning, communication and roles and responsibilities of each member after IPE. A study compared attitudes to interprofessional learning before and after IPE showed that medical students had more positive attitudes towards IPE than nursing students that is contrary to this study as we have not assessed separately attitudes of medical and midwifery students.^{10,11,12} In Medical school, we are more interested on attitudes of medical students but we focused just on effectiveness of IPE on attitudes of students of both disciplines. Unifying experiences of Medical and midwifery students are important because these professions are engaged directly in managing obstetric emergencies.^{13,14} as graduating midwifery students were expected to manage obstetric emergencies so IPE is very important to practice in these both disciplines at undergraduate level.^{15,16}

In this study, through the use of reflection and feedback students reported to recognize and appreciate role of communication, teamwork and interprofessional learning in care of patient with

importance of collaboration between two disciplines to improve care of patient. Conversely this shows the sense of belittlement of nursing students in an IPE workshop towards them than ¹⁷ medical students. This collaborative learning at undergraduate level has protentional to improve their attitude and experience in managing emergency situations in workplace.¹⁸

In Pakistan, little is known on attitude of medical and midwifery students after IPE in managing obstetric emergencies. Only studies don on attitudes of different disciplines towards IPE with strong positive correlation to readiness and perception to teamwork and inter professional collaboration.^{19,20}

This study reported effectiveness in attitude of both disciplines at undergraduate level to teamwork, interprofessional collaboration and communication with recognition of roles and responsibilities of each member in managing emergency conditions in simulated settings. More is needed to see long term impacts of this form of collaborative learning in workplace.

The limitation of this study is subjective evaluation interprofessional simulation experience and awareness to interprofessional education. This study is done with limited group of students from two disciplines. This study focuses on short term experience as Post session rather than its impact on clinical practice.

Conclusion:

Interprofessional simulation learning at undergraduate level has improved attitude and experience of Medical and Midwifery students towards interprofessional collaboration, need of teamwork with other disciplines and communication to improve care of patient. These activities also act as ice breaker of learning with other disciplines.

List of abbreviations:

IPE Interprofessional Education

Declarations:

Ethic approval and consent to participate: Ethical approval obtained from Institutional review board. Consent to participate taken verbally from participants.

Consent for publication: Not Applicable

Availability of data and materials: The datasheets used and analyzed during the current study are available from the corresponding author on reasonable request. Competing interests: The authors declare that they have no competing interests.

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Authors Contribution

PA is the corresponding author. She is primary investigator. She conceptualized the study and done data collection and analysis.

NM contributed to data collection and review the manuscript

QM contributed to data collection and review of literature

ST contributed to data collection and review of literature

RS contributed to data collection and data analysis

JS contributed to data interpretation, final review of the article

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