

ORIGINAL ARTICLE

Medical Ward Round Teaching: A Mixed Methods Study to Explore the Perspective of Junior Doctors

SAIMA BIBI¹, SYED YASIR HUSSAIN GILANI², SOBIA ALI³, SEEMAB ZAFAR⁴¹Assistant Professor Pediatrics Amti Abbottabad²Associate Professor Medicine Amti Abbottabad³Lecturer Community Medicine Amti Abbottabad⁴Assistant Professor AJK Medical CollegeCorrespondence to Dr. Syed Yasir Hussain Gilani Email: drgilani78@yahoo.com

ABSTRACT

Aim: To evaluate the educational value of the ward round in medicine and allied wards for junior doctors and identify the barriers to effective learning during a round.**Methodology:** This mixed-method study was conducted over six months in the medicine and allied units of Ayub Teaching Hospital, Abbottabad. A semi-structured online questionnaire consisting of five and six point Likert-type scale responses was administered to 172 house officers and junior residents and data recorded through Google Forms. Data was analyzed by SPSS version 25.0 for descriptive statistics. The quantitative part was triangulated for validation with seven in-depth interviews from purposively selected participants which were thematically analyzed after assigning codes, categories and subthemes.**Results:** The response rate was 76.7%. The most important skill acquired during ward round was development of an approach towards patients 60(45.5%). This was followed by learning presentation skills 56(42.4%) and patient management 52(39.3%). Majority of the participants identified bed-side overcrowding 90(68.1%) to be the greatest barrier in learning during a round. Content analysis of the qualitative part suggested that an improvement in learning could be achieved by reducing the number of participants, introducing structured checklists and removing distractions for a consultant.**Conclusion:** Ward round is perceived to be an important tool for learning in medical education by junior doctors, but its full potential is not being utilized. Improvements can be made by changes made in the ward environment and structuring rounds by leading physicians.**Keywords:** Medical education, teaching rounds, physicians, learning

INTRODUCTION

Ward rounds are the junction point of medical education and patient care in a teaching setup. They act as an opportunity to train the undergraduate and postgraduate students in real-time for handling patients and making clinical decisions. However, the quality of these ward rounds vary in every ward unit as per protocol devised by attending doctors¹.

A ward round is a complex interaction with a variable number of participants and range of discussion happening face-to-face with a patient and their attendants.² The importance of a round lies in its dual function as a tool for patient care and staff training for tangible learning as well as implied teaching of values, ethics and professionalism³. In an era where alternate methods of instruction are gaining more and more importance for medical teaching, the role of rounds is still significant as it is impossible to effectively demonstrate clinical or communication skills or simulate real-life patients in a classroom. Effective participation in a round involves adequate medical knowledge, interaction skills, time management, teamwork and multi-tasking all under pressure.

Several types of ward rounds are identified in literature including generalized rounds, multidisciplinary rounds, consultant rounds, teaching rounds, post-take rounds and working rounds. The central purpose and team involved in each type is variable but the focus mostly lies on the decision by one leading consultant. Royal College of physicians and National Institute for Clinical Excellence (NICE) of UK recognizes the significance of a ward round and recommend the use of structured ward rounds for better patient care and outcomes. A study exploring impact of changes in rounds on patient care found 68% improvement in teamwork and a reduced length of stay from 5.3 days to 4 days for patients. It has been recommended that a round should involve 12-14 minutes of time given to each patient for maximum learning and should consist of members from nursing staff and students for better coordination.

After graduation, a newly graduated medical doctor is seldom trained for practical management of a patient so the early years of practice are often spent learning the skills that should be possessed by these doctors at graduation creating a lag in the

postgraduate training¹⁰. It is suggested by 93% doctors that training to prepare medical students for conducting rounds should be a part of the medical curriculum¹¹. A clinical teacher has to balance his role as a clinician and a manager against that as a teacher and a supervisor which can be difficult in a setting with a high workload and lack of authority, planning and evaluation systems¹².

The opinions of medical students and teachers have been widely discussed in literature¹⁻¹³ patient outcomes and perceptions have also been explored, through qualitative approaches. However, the perspective of junior doctors is often overlooked though they are the main learners who base their practice on skills acquired during a round and experience the highest levels of stress in the process. Results of this study will help bridge this gap and can be useful for medical educationists for introducing better strategies for learning at the bedside at undergraduate and postgraduate level. Attending physicians can also attain insight to the views of doctors executing their rounds and improve quality of medical training and hence patient management.

The objective of the study was to evaluate the educational value of the ward round in medicine and allied wards in Ayub Teaching Hospital, Abbottabad for junior doctors and to identify the barriers to effective learning during a round.

MATERIALS AND METHODS

This mixed-methods study was conducted in Ayub Teaching Hospital, Abbottabad between July and December 2021 (6 months). An explanatory sequential design was undertaken. Study approval was sought from the Ethical Review Committee of the institution. Junior doctors undergoing house job/internship after graduation and resident doctors from the first 2 years of their postgraduate training were included in the study and approached with an online questionnaire through email. The population consisted of 69 residents and 103 house officers.

Data was collected using a semi-structured questionnaire modified from the study by Tariq M et al² using a combination of closed and open-ended questions including five and six point Likert type scale for rating of various aspects of learning acquired during a ward round and identifying major obstacles encountered that prevented active learning during a round. Written informed consent was required to complete the online questionnaire and participants

Received on 03-01-2022

Accepted on 07-04-2022

were given the option to withdraw from the study at any time. Descriptive statistics were analyzed using SPSS 25.0.

After completion of the survey, validation of the results was done by in-depth interviews conducted with purposively selected doctors from amongst the house officers and residents. An interview schema consisting of seven main questions was constructed by identifying gaps in literature. Interviews were conducted at time and place convenient to the interviewees after piloting and recorded after permission. Saturation was achieved after seven interviews. Interviews were transcribed verbatim and translated from Urdu to English. Inductive thematic analysis was done by assigning codes to the data and drawing further themes and subthemes from categories.

RESULTS

Out of the total 172 doctors approached, 132 participants responded with a completed survey yielding a response rate of 76.7%. The participants included 72(54.5%) males and 60(45.5%) females. Majority of the respondents were year 2 trainees 52(39.4%) followed by year 1 trainees 48(36.4%) and house officers 32(24.2%). Participants were mostly part of 6 or less consultant-led rounds per week (including both morning and evening rounds) as reported by 104(78.78%) responses. Majority of the participants 72(54.5%) reported the ward rounds to be a combination of teaching and service delivery with almost half of the time reserved for formal and informal teaching. Major part of the total learning of a junior doctor was attributed by 42.4% participants (n=56) to a ward round. The most important skill acquired during ward round was development of an approach towards patients 60(45.5%). This was followed by learning presentation skills 56(42.4%) and patient management 52(39.3%).

Table 1: Skills acquired during ward rounds

Skills	Rating on Likert Scale				
	1(not beneficial)	2	3	4	5(most beneficial)
Conveying medical knowledge	28(21.2%)	36(27.2%)	20(15.1%)	28(21.2%)	20(15.1%)
History taking	40(30.3%)	32(24.2%)	16(12.1%)	28(21.2%)	16(12.1%)
Physical examination	40(30.3%)	36(27.2%)	28(21.2%)	12(9.1%)	16(12.1%)
Diagnostic investigations	12(9.1%)	36(27.2%)	28(21.2%)	32(24.2%)	24(18.2%)
Patient management	12(9.1%)	40(30.3%)	28(21.2%)	36(27.2%)	16(12.1%)
Communication skills	28(21.2%)	28(21.2%)	39(29.5%)	28(21.2%)	9(6.8%)
Time management	48(36.4%)	28(21.2%)	28(21.2%)	23(17.4%)	5(3.8%)
Record-keeping	32(24.2%)	28(21.2%)	36(27.2%)	25(18.9%)	11(8.3%)
Teamwork	28(21.2%)	40(30.3%)	27(20.4%)	29(21.9%)	8(6.1%)
Presentation skills	31(23.5%)	29(21.9%)	16(12.1%)	33(25%)	23(17.4%)
Leadership skills	36(27.2%)	36(27.2%)	16(12.1%)	32(24.2%)	12(9.1%)
Ethical principles	24(18.2%)	32(24.2%)	36(27.2%)	23(17.4%)	17(12.9%)
Approach towards patients	16(12.1%)	28(21.2%)	28(21.2%)	45(34.1%)	15(11.4%)

Table 2: Hindrances to learning encountered during a ward round

Barriers to effective learning	Rating on Likert scale				
	1(Strongly disagree)	2	3	4	5(Strongly agree)
Lack of time	56(42.4%)	32(24.2%)	20(15.1%)	8(6.1%)	16(12.1%)
Large no. of patients	16(12.1%)	12(9.1%)	26(19.69%)	35(26.5%)	43(32.5%)
Frequent interruptions	31(23.5%)	29(21.9%)	32(24.2%)	16(12.1%)	24(18.2%)
Lack of interest	28(21.2%)	24(18.2%)	32(24.2%)	19(14.3%)	29(21.9%)
Bed side crowding	16(12.1%)	16(12.1%)	10(7.5%)	33(25%)	57(43.1%)
Ward environment	12(9.1%)	16(12.1%)	36(27.2%)	8(6.1%)	60(45.4%)
Team structure	24(18.2%)	27(20.4%)	33(25%)	28(21.2%)	20(15.1%)
Reliance on technology	20(15.1%)	19(14.3%)	41(31%)	27(20.4%)	25(18.9%)
Patient factors	16(12.1%)	28(21.2%)	35(26.5%)	33(25%)	20(15.1%)

Table 3: Opportunities to engage with the consultant during rounds

Opportunities	Rating on Likert Scale				
	1(never)	2(on few rounds)	3(on some rounds)	4(on most rounds)	5(on every round)
I have the opportunity to ask questions	16(12.1%)	28(21.2%)	35(26.5%)	45(34%)	8(6.1%)
The consultant asks me questions	5(3.78%)	48(36.3%)	56(42.4%)	22(16.6%)	1(0.75%)
I present patients on rounds	20(15.1%)	28(21.2%)	41(31.0%)	23(17.4%)	20(10.6%)
I receive feedback on my performance	53(40.1%)	27(20.4%)	36(27.2%)	16(12.1%)	0(0%)
I learn something new	4(3.0%)	53(40.1%)	36(27.2%)	35(26.5%)	4(3.0%)

When inquired about the barriers to effective learning, the most common problem reported was over-crowding at bedside 90(68.1%). This was followed by large number of patients 78(59%) and the ward environment 68(51.5%) as the leading barriers to effective learning (Table 2).

When asked to rank a round with respect to its educational value in comparison to other resources, ward round received the second rank with textbooks standing at the first. Lectures or presentations, online educational resources, conferences and journals were ranked lesser in order respectively.

The status of engaging junior doctors during rounds can be seen in table 3 which shows that 33.3% participants reported being given an opportunity to ask questions during most rounds while 40.1% of them reported never having any feedback about their performance

Table 4: Qualitative data analysis of in-depth interviews

Themes	Major categories	Minor categories
Reducing distractions	Distractions for the consultant	Time constraints Managerial & administrative tasks
	Overcrowding at bedside	Lack of public awareness Hospital system weakness
	Too many round participants	Large batches of students Large number of residents
Improved coordination	Coordination between doctors & nursing staff	Lack of clear job description Lack of trained staff
	Coordination among consultants	Frequent change of consultants Difference in approach
Streamlining the process	Lack of feedback	Individual feedback Lack of accountability
	Lack of job description	Nursing staff HOs & Residents
	Lack of orientation	Prior training before joining wards Changes in medical curriculum

DISCUSSION

This study found that most of the participants deem ward round to be a useful educational opportunity. Previous studies conducted in Pakistan as well as globally also conclude ward rounds to be an important aspect of learning in medical curriculum.

In this study 56(42.4%) of the participants reported a major part of their learning acquired during a round. In another study by Khan et al, trainees attributed at least one third of their learning to ward rounds. Over the years, the proportion of learning acquired during a round has been reported to decline from 58% to 18%. This comes as a contrast to this study, possibly indicating lack of reliance of trainees on alternate methods of learning.

One third of the subjects in this study ranked ward rounds as the best resource in terms of educational value in comparison to other resources. This depicts the preference of students for theoretical knowledge more than the hands-on practice with patients.

In a previous study, a round was described to be most valuable to learn diagnostic investigation and patient management by 83 and 80% of their subjects⁴. The results are comparable to our study where participants reported ward round to be useful for developing an approach to patients, learning presentation skills and patient management.

A systematic review and then later a qualitative study by Beigzadeh A et al¹² identified the challenges in medical education in an Iranian hospital setting which is comparable to that in Pakistan. These studies recognize crowding during rounds as a common problem during rounds in agreement to this study 101(76.5%)^{12,14}. In contrast to our findings, these studies also mention lack of time as another common theme whereas this aspect was given the least rating in this study.

The program theory as explained by Perversi et al. views the ward round as a collaborative group reasoning to achieve certain outcomes and explains its process by identifying information accumulation, sense-making and decision-making as broad parts of the process deducing nine mechanisms by including sharing, agreeing and recording at each step. Viewing this study in context of this theory, weaknesses of ward rounds in this setup are mostly found at the level of sharing information and agreement about decisions as participants identified that a quality of the round can be improved if the same consultant led the rounds for at least a week. This is most likely due to a difference in treatment approaches of different consultants leading to a confusion in managing patients.

A lack of feedback is mentioned in literature to be the focal point of learner satisfaction in clinical teaching. The focus in this study was also seen to be more toward making the round less crowded and hence receiving better individual feedback. As suggested by Tariq et al in order to gain maximum benefit from a round, it is essential that juniors are provided with a better environment and a sense of responsibility.

The results of this study pertain to a single hospital but its results are generalizable to other public sector hospitals as well since the system is more or less similar regarding rounds and the problems mentioned are also prevalent throughout the government hospitals. This study is limited as it reports the subjective perceptions of junior doctors only in medicine and allied subjects. The study is unidimensional in nature although conduction of a successful ward round is multidimensional and involves more than one stakeholder. Viewpoints of the attending consultants, patients, attendants, nursing staff and paramedical staff can be the focus in future studies attempting to evaluate the educational value of a

ward round and may include opinions of doctors working in surgical disciplines as well.

CONCLUSION

This study concludes that the ward round is an area of immense importance for learning from a junior doctor's point-of-view, but its full potential is not being utilized in local settings. There are areas that need to be strengthened before a round can truly be called an academic round with maximum benefit for the learning of trainee doctors.

Conflict of interest: Nil

REFERENCES

1. Arabshahi KS, Haghani F, Bigdeli S, Omid A, Adibi P. Challenges of the ward round teaching based on the experiences of medical clinical teachers. *J Res Med Sci* 2015;20(3):273-80.
2. Tariq M, Motiwala A, Ali SU, Riaz M, Awan S, Akhter J. The learners' perspective on internal medicine ward rounds: a cross-sectional study. *BMC medical education*. 2010 Dec;10(1):1-9.
3. Haghani F, Arabshahi KS, Bigdeli S, Alavi M, Omid A. Medical academia clinical experiences of Ward Round Teaching curriculum. *Adv Biomed Res* 2014;3:50
4. Khan MA, Rajendram R, Al-Jahdali H, Al-Harbi A, Al-Ghamdi M, Hasan I et al. Do ward rounds offer effective teaching and training? Obstacles to learning and what makes good teaching in a large tertiary care hospital from a trainee doctor's perspective. *GMS J Med Edu* 2021;38(6):1-15
5. Idris UA, Abubakar FU, Nasiru MA. Perceptions toward Ward round and its influence on learning among students of College of Health Sciences, Usmanu Danfodiyo University Sokoto, Nigeria. *Int J Healthcare Sci* 2019;7(2):105-9
6. Walton V, Hogden A, Johnson J, David G. Ward rounds, participants, roles and perceptions: literature review. *Int J Health Care Qual Assur* 2016;29(4):364-79.
7. UK NG. Structured ward rounds. In: *Emergency and acute medical care in over 16s: service delivery and organisation* 2018 Mar. National Institute for Health and Care Excellence (UK).
8. Soliman A, Riyaz S, Said E, Hale M, Mills A, Kapur K. Improving the quality of care for medical inpatients by placing a higher priority on ward rounds. *Clin Med (Lond)* 2013; 13(6):534-8
9. O'Hare J. Anatomy of the ward round. *Eur J Intern Med* 2008;19(5):309-13
10. Nikendei C, Kraus B, Schrauth M, Briem S, Junger J. Ward rounds: how prepared are future doctors? *Med Teach* 2008; 30(1):88-91
11. Powell N, Bruce CG, Redfern O. Teaching a 'good' ward round. *Clin Med (Lond)* 2015; 15(2):135-8
12. Baigzadeh A, Yamani N, Bahaadinbeigy K, Adibi P. Challenges and strategies of clinical rounds from the perspective of medical students: a qualitative research. *J Edu Health Promot* 2021;10:6 doi:10.4103/jehp.jehp_104_20
13. Bahmanbijari B, Beigzadeh A, Etminan A, Najarkolai AR, Khodaei M, Askari SMS. The perspective of medical students regarding the roles and characteristics of a clinical role model. *Electron Physician* 2017; 9(4):4124-30
14. Baigzadeh A, Yamani N, Bahaadinbeigy K, Adibi P. Challenges and Problems of Clinical Medical Education in Iran: A Systematic Review of the Literature. *Strides Dev Med Educ*. 2019;16(1):e89897
15. Redley B, McTier L, Botti M, Hutchinson A, Newnham H, Campbell D et al. Patient participation in inpatient ward rounds on acute inpatient medical wards: a descriptive study. *BMJ Qual Saf* 2019;28:15-23.
16. Tariq M, Iqbal S, Haider SI, Abbas A. Using the cognitive apprenticeship model to identify learning strategies that learners view as effective in ward rounds. *Postgrad Med J* 2020;0:1-5. doi:10.1136/postgradmedj-2020-137519
17. Perversi P, Yearwood J, Belluci E, Stranieri A, Warren J, Burstein F et al. Exploring reasoning mechanisms in ward rounds: a critical realist multiple case study. *BMC Health Serv Res* 2018;18:643 doi:10.1186/s12913-018-3446-6
18. Gray AZ, Modak M, Connell T, Enright H. Structuring ward rounds to enhance education. *Clin Teach* 2020;17: 286-291.