ORIGINAL ARTICLE

EXPLORING POSTGRADUATE MEDICAL RESIDENTS' PERSPECTIVES ON LEARNING BEDSIDE CLINICAL SKILLS: A QUALITATIVE STUDY

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Background: The bedside learning is a unique type of learning experience, used as a prime model of teaching for teaching of clinical skills. Learning is always enhanced in a real-world scenario with hands on experience of patients. Objective was to explore the learning experience of Postgraduate Medical Residents in Bedside Clinical Skills and identify the hurdles in good learning experience. **Methods:** This study was conducted in the Department of Medicine, Ayub Medical Teaching Institute of Khyber Pakhtunkhwa. The duration of the study was till the saturation of data. The participants were inducted after taking informed consent and proper explanation of the objectives of the study. Induction was through purposive sampling for a focus group comprising eight postgraduate medical residents from different years of residency. The data analysis was from the audio recordings of the focus group and were transcribed verbatim. From the transcribed data codes were identified to look for themes, sub-themes and individual quotes within the data. **Results:** All participants appreciated the effectiveness of bedside clinical skill teaching. They unanimously agreed on the beneficial role of the supervisor in improving the learning experience. Our participants identified different barriers and suggested ways to overcome them. Overcrowded, hectic, and underequipped medical units were reported as barriers to learning, and necessary actions by hospital administration was identified as a mechanism for addressing this issue. Our participants were unsure of the impact of regulatory institutes in improving the overall learning experience for bedside clinical skills. **Conclusion:** Bedside clinical skills teaching is an effective tool to enhance the learning as well as decision making capability of postgraduate medical residents. Barriers like fear, overcrowding and poor medical resources in hospitals impede effective learning.

Keywords: Bedside clinical skills; Learning experience; Supervisor role; Ward environment.

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INTRODUCTION

Sir William Osler, a renowned physician, once said, "*Medicine is learned by the bedside and not in the classroom. Let not your conceptions of disease come from the words heard in the lecture room or read from the book. See and then reason and compare and control. But see first."*[1] The bedside learning is a unique type of learning experience, used as a prime model of teaching for teaching of clinical skills. Learning is always enhanced in a real-world scenario with hands on experience of patients. The main focus of bedside teaching are the postgraduate students but usually their perspective of bedside teaching is ignored.[2] Bedside teaching of clinical skills enhances the working relationship of patient-student-physician. The interaction of physician-patient and focused clinical examination in the presence of the students leads to good patient and student relationship as well as better learning experience.[3] In a resource restrained area of our country the bedside teaching is influenced by many factors like over-crowding of units, patient-student relationship, ethical and environmental issues. Despite of all these factors bedside teaching is still a major factor for role-modelling, retention of knowledge, formative assessments and improvement in the quality of learning for clinical skills.[4] Moreover lack of proper teacher training, inconsistency in curriculum guide, frequent absenteeism among the students are also barriers to effective bedside learning.[5] Following the covid pandemic, the time spent by physicians and students with the patients reduced remarkably thus hampering the acquisition of real time experience.[6] In view of the importance of bed side clinical teaching in medical education, this qualitative study was designed to gain an insight into the experiences of postgraduate medical residents and explore potential future strategies. A lot of research has been conducted around the globe, but studies exploring this vital learning strategy are scarce in our area. Hence, we set out to ascertain our students' learning experiences and gain a

deeper grasp of their perspective of bedside teaching so as to identify shortcomings and formulate strategies for an enhanced and effective learning experience.

MATERIAL AND METHODS

This qualitative study was conducted in the Department of Medicine, Ayub medical teaching institute of Khyber Pakhtunkhwa between December 2024 and March 2025. The participants were inducted after taking informed consent and a proper explanation of the objectives of the study. Induction was through purposive sampling for a focus group comprising eight postgraduate medical residents from different years of residency. Two PGRs were from 4th year, two from third year, two from second year and two from first year. The group was diverse in nature as the postgraduate medical residents were from different residency years. Both male and female participants having diversified basic education, language and representing the various areas of KPK were included. The study design was qualitative inductive thematic analysis. The focus group discussion was conducted using a semi-structured questionnaire. Open ended questions were used to enhance the in-depth experience and exploration of students' perception of bedside learning. The focus group ,of 45-50 minute, was audio recorded and all the recordings were listened again and again and transcription verbatim was done. The facilitator asked all questions and was continuously encouraging the participants to share their lived experience. A separate 45-minute audio recording was done with a different participant by one-on-one interview, investigating the same semi-structured questionnaire for saturation of data. The data analysis was from the audio recordings of the focus group and were transcribed verbatim. From the transcribed data codes were identified to look for themes, sub-themes and individual quotes within the data. All these were written and read again and were compared with the original audio recordings and transcribed data. Ethical approval was obtained for current study from the IRB.

RESULTS

All the participants shared their previous experiences of bedside teaching as structured, closely observed by the senior faculty including bedside examination and short case presentations. They acknowledged that the consultants helped them in picking clinical signs. One of the PGR was of the opinion "When something is written in a book, that these are the findings, but we have never seen those findings before... nor can we pick those findings through any step or clinical skill." Observed clinical skill learning on bedside plays a significant role in professional development of the PGRs. Solitary learning without a mentor during the residency creates gap in the learning experience. "For examination, it is very important to have a mentor. We read the book, we see a lot of findings there, but the patient… also has those findings, hmm.. we can't pick them."

All the PGRs emphasized the fact that alone theoretical learning is deficient and must be reinforced by bedside clinical skills examination. Most of the participants viewed bedside clinical teaching as a real time direct patient interaction in the presence of the mentor. And further explaining the supervisor role.. "Some of our supervisors are more on the research line... they are more up to date... so, they keep us up to date." and.. "The main thing is that the format of CPSP, especially in terms of examination, in that most of the people who are successful, we gain the most theoretical knowledge." Time management issues and fear of examining under observation fades gradually with the passage of time in the medical unit.

Most of the participants were happy by the support they gained by the unit consultants and the senior peers, while a few were thinking opposite to it…."When I started, most of the seniors were helping us a lot... there were some seniors who, even if we were doing something right, they would sometimes demotivate us."… Most of them found over all the medical unit environment was supportive and friendly but the advanced medical equipment was missing most of the time. Persistent perseverance and hard work ultimately build confidence in PGRs to deal with difficult clinical scenarios and also helps them in critical decision making.

All PGRs shared same experience of enhanced clinical skills to assess, diagnose and treat in the emergency room. They also observed continuous exposure to various medical scenarios during the training enhanced PRGs skills to make a list of differential diagnosis and a to the point treatment plan.

The limited bedded medical units are always overburdened which result in limited access to the PGRs for proper clinical examination and too much paperwork in an overpopulated unit hamper true learning. The overcrowded bedside environment also impairs effective case discussion and clinical skill assessment during rounds.

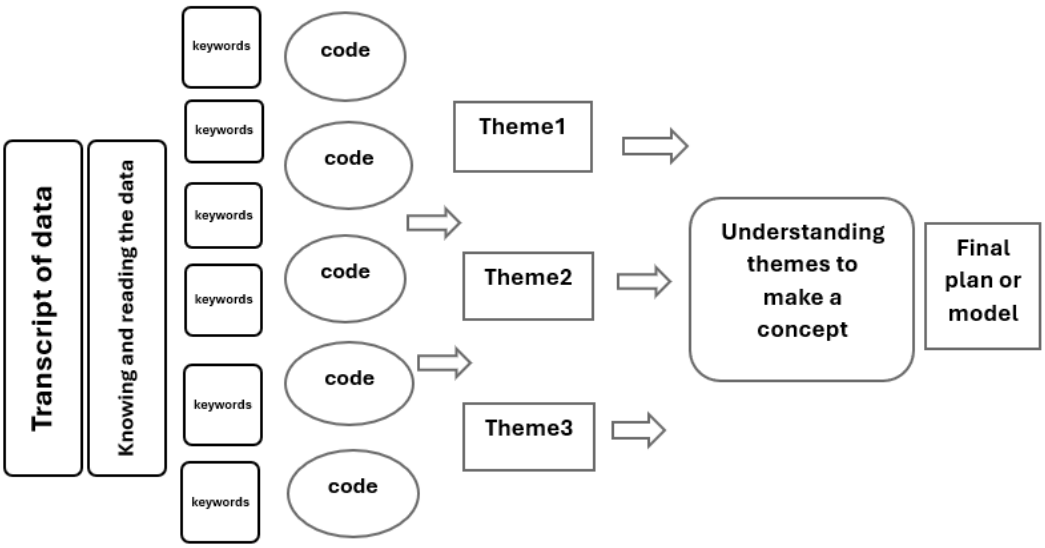
Few believed that during the duty hours, non-availability of essential medical equipment like glucometer, oxygen ports etc.as well as lack of separate examination rooms for female patients, result in poor clinical examination hence hampering effective clinical learning.

Participants reported fear and anxiety for mistakes while performing clinical skills in front of students, peers and supervisors. The supportive supervisors, senior colleagues and persistent engagement in learning clinical skills in ward rounds alleviate the feeling of fear and anxiety. One PGR "There is a fear, there is a fear of what the seniors will think, what the juniors will think...". while another "I do not get much exposure… you feel ashamed. With time, you get

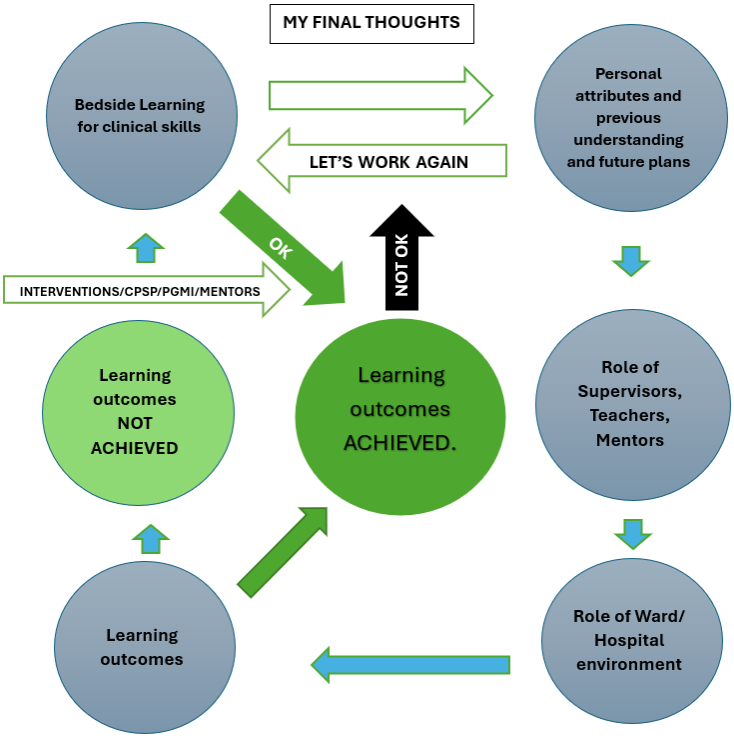
exposed more… this fear will end."… "If I am not getting anything right, then I get depressed about it... Right now, I am in the learning phase." Becoming a fellow of CPSP and a better future career keeps the participants highly motivated for learning. Furthermore, the supportive environment of the medical unit also contributed in keeping their morale high. Participants also pointed for inherent challenges in the training but at the same time see it rewarding for personal growth. Gender difference especially for female PGRs contributes to initially limited learning as reported by the female participants, but later during the training they felt at par with their male counterparts.

Bedside teaching is usually fellowship exam oriented and definitely contributes to improved performance in professional exams by reinforcing clinical reasoning and practical skills in the presence of senior faculty. All participants were of the opinion that PGMI is mainly an administrative body and has nothing as contribution in clinical skills learning…."Sir, it is just a platform through which we have got induction, apart from that, we do not have much idea about it." They only see the administrative role of PGMI. Regarding interaction with PGMI about clinical teaching, the PGRs were unsure of any interaction…."No, sir. Actually, we have never had any such interactions." The PGRs recognized the major role of CPSP for structured learning, including strictness for log book case entries and recently introduced workplace-based assessment …"CPSP has provided a platform that you can do something further. It also depends on you that how much hard work you do, how you do it."… While a few participants were not happy because of its inconsistent policies…"CPSP's policies, they do not have long-term... they do not have a process… they change policies for others.". One participant mentioned long duty hours (72 hours by CPSP) as burden.

Most of the participants suggested to adopt a systematic and comprehensive approach to cover the curriculum inculcating one system per week, and conducting short and long cases incorporating the same system. Participants were well aware of the recent advances in AI and were keen to use simulation base, video assisted and online learning resources in addition to the bedside teaching…: "There should be some presentation or simulation... We can't cover it all with only clinical examination" and "We should pick up on everything... In need of the day, AI is coming." Most of the participants emphasized that use of digital material may be introduced on priority basis in clinical skills teaching…"I completely agree. Nowadays, these things are coming more in advance... we keep it aside." One of the participants wished that a specific consultant may be asked to perform more frequent clinical rounds, as his bedside teaching is more effective than others. PGRs suggested a well-structured and confidential feedback about the supervisors as additional factor for enhanced learning. They also pointed out that best clinical practice demands provision of necessary medical equipment in the ward and the administration must put every effort to maintain the supply chain of these equipment for continuous patient care. The investigations for common and a few rare diseases and proper record maintenance must be guaranteed by the administration. PGRs also suggested to stop criticizing the PGRs publically, during ward rounds as it leads to negative effect on learning while on the other hand, positive feedback always reinforces the learning experience and boosts the confidence.



Work flow Diagram



Learning cycle

DISCUSSION

Bedside clinical skill teaching has remained the corner stone of medical education since centuries but is on decline[7]. Fortunately, our focus group was very hopeful and 100% of the participants were of the opinion that bedside teaching is quite helpful in learning clinical skills. This finding was in consistence with another study done on same subject in Malaysia[8] while in another study in United Kingdom, only 45% were happy about the effective bedside teaching[9]. Regarding the role of supervisor in effective learning all participants shared same view and acknowledge it to be of paramount importance. This finding was in contrast to a study where on 35% of the participants agreed to have an effective bedside learning.[9] The important role of supervisor in bedside clinical teaching was also identified in AMEE guidelines.[10] Our participants were not happy regarding the environment of the ward and identified overburdened medical units as a hurdle to better learning experience, this finding was also previously identified in a multicenter qualitative study[11] in USA. Most of our participants faced fear while being asked to perform clinical examination in front of the peers, medical students and the supervisors. To this comparison only 21.3% reported same fear in a study done in Peshawar.[3] This difference in our finding may be because of the type of our study participants and their social and educational background. One of our participants was of the opinion that a particular type of supervisor or his personal skills as effective teacher improves learning experience. Another study also highlighted that personal characteristic of supervisor have a deep impact on learning good bedside clinical skills.[12] Most of our participants found crowded and busy medical units detrimental for good learning and same was also noted in a study in UK[13] where most of the participants were working in overcrowded units with no fixed visitor's hours. This was not a problem in one study from a newly built facility with spacious wards in Pakistan.[5] All participants were hopeful that good bedside learning for clinical skills will definitely affect their performance in the fellowship exams and personal professional growth, this finding goes in parallel with another study where researchers found the same observation from their participants.[14] The postgraduate students in this study acknowledged the importance of feedback to and from the mentor, one participant was not happy about the way feedback was communicated. Timing and method of feedback was very important positive effect and must be learnt by the teachers, this was further highlighted in a study USA.[15] All participants shared common ideas on future of bedside teaching and improvements. All were well aware of digitalization and use of AI in medical education though a few were still holding tight on the concept of bedside teaching. Another study[16]

identified same findings of inculcating digital methods along with the traditional bedside teaching as effective learning tool. Bedside learning of clinical skills in the presence of mentors and peers remains the cornerstone of modern medical education. It not only promotes professional development but also enhances the capacity to identify clinical symptoms for rapid medical diagnosis and therapy. Good learning would undoubtedly improve overall patient outcomes as well as good performance in fellowship examinations. It is hoped that the relevant departments will place more emphasis on this area of the curriculum and make the required arrangements for supervised bedside clinical skills education. This is a small qualitative study conducted with PGRs from the medical department, but it may pave the way for future studies on postgraduate training. Further research into this area, with more varied participants from various clinical specialties, would be more important for further exploration of lived experience of bedside teaching.

CONCLUSION

Bedside clinical skills education of postgraduate medical students by their supervisors is a useful strategy for improving learning and decision-making while interacting with patients. Fear, overcrowding, and a lack of medical resources are widely regarded barriers, although they can be overcome over time by adapting to the environment. More structured and integrated learning, digitization, concentrated mentorship, and a well-defined and supporting administrative role will brighten the future of bedside clinical skill learning.

AUTHORS' CONTRIBUTION

SYHG: Conceptualization of the study design, data collection, data analysis. SB: Data interpretation, write-up. AJ: Proof reading. JSK: Proof reading, study design.

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