

Ward-rounds: Role in Clinical Teaching and Learning in Contemporary Medicine

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Before we begin this commentary on ward-rounds, a brief overview on what makes learning more effective is appropriate. How do students learn? Firstly, there is surface or superficial learning which concentrates on learning the words for short-term memory whereas deep learning implies a comprehension of what the teacher wants to say or a process of making sense by delving into the ideas behind the words. Deep learning focusses on creating meaning and critical thinking, and it has its underpinning on a scientific principle of distinguishing, using deductive reasoning, the general from the particular and of applying concepts and methods to solving a previously un-encountered problem (1). It prepares one to deal with uncertainty, an attribute of a 'good doctor'.

Doctors today must be life-long deep learners and it is of paramount importance that teachers and trainers provide the opportunities for trainees to interact critically with what they are learning. Teachers can enhance deep learning by creating learning experiences which will facilitate the construction of meaning and the development of metacognitive skills. Metacognition refers to a person's knowledge concerning his or her own mental process and also to the active monitoring and consequent regulation and orchestration of the processes (2).

Information must be presented in a structured and organized manner for effective learning. It is difficult for the student to convert 'amorphous' material into one which has a structure. Quality in learning entails the development of the students' intellectual and imaginative capacities, their understanding and judgement, their problem-solving skills, their ability to communicate effectively, the ability to see relationships within what they have learned and to perceive their field of study in a broader perspective. Biggs described good teaching as creating a positive emotional and motivational climate, having students actively engaging in the learning, and by the provision of well-structured and integrated knowledge (3). The teacher's role is thus not only to consider what is being taught but also how it is being learned.

In this era of the cost-effective healthcare system, equal access, full coverage, integrated care, consumer satisfaction, ethics, population perspective in healthcare delivery, and promotion of healthy lifestyles have led to new paradigms in how we train doctors (4). Work-based teaching, learning, and assessment are one aspect of a mixed diet of learning opportunities for doctors. Ward-round, a form of work-based teaching provides an educational meal that not only satisfies but also nourishes. Furthermore, ward-rounds and bedside teaching provide the avenue for learning clinical medicine in perspective, around the patient. Other advantages of patient-based teaching include improved students' motivation from contact with patients, stimulation of interest in the duties and responsibilities thereby associated, presentation of disease in a realistic manner, recognition of the importance of teamwork, variations in the clinical features of the same disease, individualization of treatment and communication of attitudinal aspects (5). Through this exercise, not only do they become part of the team but they also learn to anticipate the symptoms, signs and investigations the lecturer would need to make a diagnosis. To achieve the maximum benefits from ward-rounds, advanced preparation by the junior staff and the medical students by having case findings, laboratory and radiological results available is essential. Moreover, regularity, punctuality and fixed scheduling must be observed.

Ward-round is unique in that learning is provided in a natural health-related environment; it is patient-oriented rather than disease-oriented; it has an inherent aim of facilitating the trainee's problem-solving and clinical reasoning skills. Bedside rounds are the most patient-centred of all teaching avenues and they provide the most vivid and dramatic stage on which learning can occur (6). Apart from enhancing patient care, ward-rounds also provide a live and lively teaching experience related to the patients visited. Active involvement by the learner affords the opportunity to develop interpersonal skills while interacting with patients and team members, and at the same time to gain experience dealing with the problem of real patients with real medical and social problems (5).

Stanley observed that all types of ward-rounds were avenues for teaching and learning but in different ways. In particular, post-call rounds provided opportunities to review diagnostic and management skills with a senior doctor; rounds led by registrars were valued because of their

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approachability, their closeness in terms of seniority and their levels of clinical experience and skill; and consultant-led rounds provided direct access to 'fountains of knowledge' (7). Bedside teaching is consistent with modern educational theory. It abides by the experiential learning principles as well as the theory of situated cognition or contextual learning which states that the learning of knowledge is inherently dependent on the context in which it is learned. In addition, it provides special opportunities for students to develop 'case memory' which is more sustained than 'book memory'.

Ramani enunciated the following tips to improve bedside teaching *viz*: (i) preparation by the teacher (ii) drawing a road map of the objectives of the teaching experience (iii) orientation of learners to the plan (iv) introduction of all members of the round to the patients and allaying their anxieties and fears (v) role-modelling (vi) observation of the learners 'in action' (vii) creation of challenging but not humiliating experiences for learners (viii) reflection and de-briefing at the end of the session and finally, (ix) commencement of preparation for the next bedside encounter (8). We are of the opinion that poor preparation by students and junior staff, absenteeism and tardiness by trainees have adverse effects on learning. Thus, maintenance of some degree of formality, better preparation by students and a high level of organization could minimize these adverse factors.

Some of the barriers of ward-rounds include lack of respect for the patients, constraints of time and other commitments from academic, administrative and research duties, possible compromise of the autonomy of learners in terms of their relationship with their patients, lack of skill in clinical teaching and over-reliance on technology (9).

Eminent clinician-teachers have advanced the importance of clinical learning at the bedside (10, 11). The emphasis in clinical teaching is on higher-order thinking skills such as analysis, synthesis, creation of evaluation, and problem-solving. Demonstrating communication skills and physical examination findings, teaching humanistic aspects of clinical medicine, passing on 'bad news', and modelling professional behaviours are some essential elements in patient care which cannot be effectively taught in a classroom. We shall never forget the experience of our internal medicine professor demonstrating how to examine for splenomegaly, or our consultant surgeon going at length in describing the characteristics of an abdominal mass, or our professor in obstetrics and gynaecology showing us how to perform a thorough pelvic examination.

The frequency of bedside teaching is progressively decreasing (11). In the United States of America, less than 25% of clinical teaching occurs around the bedside and less than 5% of time is spent on observing learners' clinical skills and correcting faulty examination techniques (12). Although the time spent with the patient on ward-round is rich in visual, auditory and tactile experience, Ahmed argued that bedside teaching has been neglected and rendered haphazard,

mediocre and lacking in intellectual excitement and this has contributed to the skills of many young doctors in clinical examination being seriously compromised (13).

Concern about adverse effects on patients' perception of their healthcare and clinical well-being has resulted in moving discussion about patients away from the bedside. Several studies have suggested that patients like case presentation and discussion at the bedside (14, 15) but medical students, house staff and faculty do not (16). In the latter study, only a few patients were embarrassed by discussion in their presence but 88% voiced strong reservation about hallway or corridor discussion because of concerns about breaching of confidential information. Chauke and Pattinson, in a South African study, found that significantly more pregnant women were satisfied with ward-round than the conference room-round (17). Some of the reasons advanced for this observation included the perception of greater attention given to them by a large group of doctors, the clinicians were more interested in them, and the opportunity existed for improving their quality of care.

Strategies to increase and improve bedside or ward teaching include involvement of patients, reassurance for learners, reward and recognition for patient-centred teaching, and emphasis on evidence-based physical diagnosis, faculty development as clinical teachers, and research in bedside teaching (9). We must make a concerted effort to ensure ward-rounds are more student-friendly. For instance, post-call rounds involving residents who are likely to be fatigued after 24-hour call must be well-planned and as short as possible. There should be adequate planning and structure in the rounds. A diary of cases discussed would avoid unnecessary repetitions and would also allow the trainer to identify deficiencies in training. Teaching ward-rounds should be protected from interruptions such as beeps and mobile calls (18).

Despite the advent of technologically-driven educational tools such as computer-assisted learning, simulators and other aids in skills laboratories, we as academics and clinical teachers must recognize that ward-rounds continue to be a major avenue for teaching and learning clinical medicine and related fields. This is especially so in low-resourced countries where finance for purchasing high-tech teaching tools remains scarce. We also have an abundance of patients with diverse pathologies and clinical manifestations of disease who are willing to be involved in the teaching and training of undergraduate students and residents in training for postgraduate certifications. We must ensure that bedside teaching is riveting (8) by keeping the session learner-centred and not using it to demonstrate teacher eloquence on medicine. Involvement of the learners in presentation of the case and the relevant clinical and investigative findings is essential in their active learning. Moreover, having them present views on investigations and management of cases should assist them in their research and in contemplation on the clinical problems encountered. Teachers need to recognize

the limitations of totally taking over the discussion in bedside teaching as this scenario affords far more opportunity for team participation than many other forms of learning encounters.

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