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RESEARCH ARTICLE

FACTORS INFLUENCING CLINICAL TEACHING IN PRIMARY HEALTH CARE: A STUDY FROM OMAN

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ABSTRACT

Background Ambulatory care gives a better opportunity for medical students to acquire appropriate medical knowledge with diversity of cases. Identification and managing factors affecting clinical teaching of undergraduate students training in primary care will improve health out come in community. This study aims the identification of factors influencing clinical teaching hence to improve health care in outpatient. **Methods** A cross sectional study was conducted at College of Medicine and health Sciences. All students in clinical years invited to participates. Data was collected with self-filled questionnaire incorporating student's perception regarding clinical teaching and learning. Data was analyzed using Statistical Package for Social Sciences (SPSS) version 20.0. Data was expressed in frequencies and percentages for questionnaire responses. Independent sample t-test was used to compare differences between two groups. **Results** A total of 100 students were participated in the study off which 62% were 6th year and 38% were 7th year students. Majority of students (99%) believed that lack of commitment to and interest in learning and increasing numbers of students in clinic influencing clinical teaching in primary health care. More than 40% of students believe that dedication and self-motivation in teachers is important factor along with inadequate supervision, teaching method, lack of feedback and conflicts between medical education and healthcare. More than half of the students think that inappropriate or small rooms for teaching, insufficient technological and audiovisual resources suitable for teaching and lack of institutional support are the main administrative problems. A significant statistical difference ($p < 0.03$; 95 % CI: -0.384-0.019) was observed between 6th year and 7th year students regarding student-related factors. However, no significant difference ($p > 0.05$) was observed between 6th year and 7th year students regarding patients, clinical teacher and administrative support related factors. **Conclusion** Clinical practice is the most important component of health professional education. Undergraduate medical students require effective and conducive learning environment facilitates with appropriate supervision by teacher.

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INTRODUCTION

The teaching methods used in outpatient clinics are fundamentally different from those used in wards, outpatient clinics offer more diverse and effective educational opportunities (Croft, 2012). Effective and conducive learning environment facilitates in depth learning where students express their opinion, questioning, evaluating own and peer performance with maximum hands on practice (doing). Students' focused teaching with meaning full interaction improves self-confidence and self-control in learner and better in depth learning in ambulatory care (Hundertmark, 2018; Ashley, 2009).

World Health Organization emphasizes the importance of good primary care in improving population health and health equity (World Health Organization, 2008). Furthermore, clinical practice is the most important component of health professional education. One of the criteria for effective learning in clinical practice is clinical competence (Dent, 2005; Alberti, 2018). Competencies are the ability of the student to integrate skills, knowledge and attitudes that are instrumental in the delivery of desired results. Clinical practice is the means by which students learn to apply the theoretical knowledge in to practical skills in clinical setting (Schultz, 2004; Steven, 2014). Academic staffs have greater teaching opportunities, with the potential to address topics of medical ethics and preventive medicine (Williams, 2013).

The learning attitude of student identifying their learning needs, formulating goals, and evaluating learning outcomes are the main objectives of medical education. Students can acquire a greater understanding of the impact of diseases on patients and their families (Croft, 2012; Serrao, 2016). Moreover, the clinical reasoning process is different in this practice scenario. Medical education in outpatient clinics also provides training in communication skills while prioritizing the medical-patient relationship (Denton, 2015). Outpatient clinics provide better venues for learning about the functioning of the health system and its costs, allowing students to develop certain medical skills. This study aims the identification of factors influencing clinical teaching hence to improve teaching and learning in outpatient care.

MATERIALS AND METHODS

Design and Setting: A cross sectional study was conducted at College of Medicine and health Sciences (CoMHS).

Participants/sample: All students in 6 and 7 year consented to participate included in the study for a self-filled survey (google form).

Data collection tool: An online structured questionnaire was designed incorporating student's perception regarding clinical teaching and learning that were identified through an extensive literature search of the Pub Med database. Study was approved by Institutional Ethical Review Committee.

Validity of the tool: Survey instrument was made after literature search reviewed by and agreed on via several brain storming sessions and understanding, so the questionnaire would maximize the response rates. The validity of the tool done by three experts in Family Medicine department for completeness and clarity (content validity), accuracy and internal validity. After consensus of all study investigators, few questions were included, which were particularly important to local scenario. The experts also judged the relevancy, clarity, fluency, and simplicity of each component in the questionnaire and their suggestions were incorporated into the tool. Survey questionnaire have four components. The first part of the questionnaire was about the student-related factors and second part of the questionnaire was about patient related factors. Third part is about clinical teacher related factors and fourth part was about administrative support and facility in primary care related factors regarding clinical learning. The format of all the responses is in Likert scale 1-5, by choosing appropriate responses among already given options (strongly agree, agree, neutral, disagree and strongly disagree).

Statistical Analysis: Statistical analysis was performed using Statistical Package for Social Sciences (IBM SPSS Statistics 24.0). Data was expressed in frequencies for questionnaire responses calculated for all variables in numbers and percentages. Independent sample t-test was used to compare differences between two groups.

RESULTS

A total hundred student were participated in the study off which 62% were 6th year and 38% were 7th year students. Students were asked multiple questions regarding Student-

related factors in clinical teaching in primary care. Their answers were labeled as Strongly Agree, Agree, Neutral, Disagree and Strongly disagree. Table 1 shows the students responses in this regard. A significant statistical difference ($p=0.03$; 95 % CI: -0.384-0.019) was observed between 6th year (mean-2.12±0.46) and 7th year students (mean-2.32±0.42). In the questionnaire, students were asked regarding factors related to patients in improving clinical teaching in primary care. More than half (60%) of the students believe that lack of suitable patients is the factor associated with teaching and learning standard (Table 2). No significant statistical difference ($p=0.89$; 95 % CI: -0.330-0.287) was observed between 6th year (mean-2.42±0.75) and 7th year students (mean-2.44±0.73).

Students were inquired about impact of clinical teaching on the learning. More than 40% of students believe that dedication and self motivation in teachers is important factor along with inadequate supervision, teaching method, lack of feedback and conflicts between medical education and healthcare (Table 3). No significant statistical difference ($p=0.06$; 95 % CI:-0.563-0.014) was observed between 6th year (mean-2.70±0.65) and 7th year students (mean-2.98±0.67). In the questionnaire, students were asked about series of questions related to administrative support and facility in primary care (Table 4). More than half of the students think that inappropriate or small rooms for teaching, insufficient technological and audiovisual resources suitable for teaching and lack of institutional support are the main administrative problems that have influence on students learning. No significant statistical difference ($p=0.14$; 95 % CI:-0.482-0.067) was observed between 6th year (mean-2.53±0.71) and 7th year students (mean-2.74±0.61).

DISCUSSION

The main purpose of medical education worldwide is to graduate safe and competent medical doctors who are capable of managing common medical problems in the community. Medical students learn to apply the theory facilitating integration of theoretical knowledge and practical skills in the clinical setting. This correlation of theory and practice, and the building of meaningful experience, take place during clinical practice in the health care services (Aluko, 2018). In our study students were asked regarding factors related to patients in improving clinical teaching in primary care. More than half of the students believe that lack of suitable patients is the factor associated with teaching and learning standard (Table 1). Literature has shown the same factors, Ali et al mentioned students' exposure to a large volume and variety of clinical experiences, learning in authentic clinical settings, self-directed learning, and the provision of a supportive environment are the main factors (Ali, 2015). The role of the teacher is of significant importance in this process, promoting feedback and reflection to compensate for the lack of other factors such as sufficient patient mix and less motivated students. Practical clinical experiences should be introduced early and integrated within the undergraduate medical education (Dusch, 2018). In this study patient related factors are of great importance, more than half of the students believe that lack of suitable patients is the factor associated with teaching and learning standards (Table 2). Many of these factors remain overlooked by educators, who can use these factors to modify their academic activities for more effective results (Ricardo, 2019).

Table 1. Student-related Factors (%)

	Strongly Agree	Agree	Neutral	Dis agree	Strongly disagree
Lack of commitment to and interest in learning	99	0	1	0	0
Increasing numbers of students in clinic	99	0	1	0	0
Student difficulties in prescribing medication	24.5	42.9	21.4	10.2	1
Language barriers	16.2	15.2	23.2	28.3	17.2
Time constrain	17.2	32.2	39.4	10.1	1
Communication skills of student	15.2	29.3	32.3	19.2	3
Motivation and self directed learning	18.4	44.9	33.7	3.1	0
Stress and anxiety	29.6	42.9	22.4	2	3.1
Peer teaching helps in learning	27.6	43.9	22.4	5.1	1

Table 2. Patient related Factors (%)

	Strongly Agree	Agree	Neutral	Dis agree	Strongly disagree
The lack of suitable patients for teaching	17.2	42.4	21.2	18.2	1
Failure to obtain patient consent for academic activities	14.3	35.7	24.5	22.4	3.1
No follow-up/continuity of cases attended in the clinic	27.3	39.4	22.2	10.1	1
Patients waiting time	20.2	32.3	38.4	9.1	0
Non cooperative patient	18.4	29.6	29.6	18.4	4.1

Table 3. Clinical teacher related Factors (%)

	Strongly Agree	Agree	Neutral	Dis agree	Strongly disagree
Intense and inadequate schedule for teaching/insufficient time for teaching	23	37	25	11	4
A lack of professional training and knowledge	11	21	23	32	13
Inadequate clinical competency	6	24	35	27	8
Dedication and self motivation in teachers	10.1	35.4	36.4	14.1	4
Patient over load	11.1	29.3	30.3	23.2	6.1
Fear of losing professional autonomy by doctors	6	20	52	17	5
Inadequate supervision model/teaching method	12	35	28	20	5
Inappropriate or absence of feedback	18	30	29	17	6
Failure to recognize the need for excellence in teaching	10.1	23.2	41.4	20.2	5.1
Conflicts between medical education and healthcare	13.3	32.7	31.6	20.4	2
Professionalism/ role model	12	24	40	19	5

Table 4. Administrative support and facility in primary care related factors (%)

	Strongly Agree	Agree	Neutral	Dis agree	Strongly disagree
Outpatient and university curricula not being integrated	19.2	26.3	37.4	17.2	0
Academic costs/insufficient funding for academic outpatient clinics	10.1	23.2	51.5	12.1	3
Inadequate financial incentives for academic staff	10.1	20.2	54.5	11.1	4
Difficulties in the hiring of qualified academic staff	11.1	22.2	44.4	19.2	3
Inadequate criteria for the hiring of academic staff	8.3	22.9	50	15.6	3.1
No contact/lengthy distances between the outpatient clinic and university	10.1	31.3	46.5	11.1	1
Inappropriate or small rooms for teaching	23.7	35.1	20.6	16.5	4.1
Insufficient technological and audiovisual resources suitable for teaching	20.2	35.4	26.3	13.1	5.1
Lack of institutional support by medical college	19.2	31.3	20.3	15.2	4

More than 40% of students believe that dedication and self motivation in teachers is important factor along with inadequate supervision, teaching method, lack of feedback and conflicts between medical education and healthcare (Table3). The literature supports our finding, Helena et al describe shortage of staff, lack of learning materials, and overcrowding of patients were important barriers to clinical practice. Student's willingness, competency of the clinical of instructor, and attitudes of staff towards students in clinical area have significance performance in clinical practice (Saeedeh, 2018; Helena, 2019). More than half of the students in our study think that inappropriate or small rooms for teaching, insufficient technological and audiovisual resources suitable for teaching and lack of institutional support are the main administrative problems that have influence on students learning (Table 4). Literature is also shown that instructor support, adequate clinical case in practical placement, use continuous assessment checklist and integration of three learning domain were factors affect clinical practice

competency of the students. Clinical education environments, and educational facilities/equipment) and individual factors (the knowledge and skills of students and characteristics of clinical trainers) were identified as the most influential factors in clinical education (20). So improving supervision of clinical instructors, appropriate selection of clinical site and design appropriate clinical practice protocol has important to enhance clinical practice competency of students. Training of teachers has also indicated the positive influence on quality of clinical teaching and fosters quality of clinical teaching through applications of variety of teaching methods this integrates knowledge, skills and attitude (Evodia, 2017). Teaching in primary care family practice will probably provide the most effective approach because students will be exposed to a variety of experiences that will prepare them to face most common medical problems that they will encounter after graduation (Fikrem, 2016). In family practice primary care deploying competent physicians, systematic curriculum development and planning, providing a suitable clinical

environment will improve clinical teaching and learning (Salerno, 2002).

Conclusion

Clinical education in primary care needs to be more comprehensive as students need to recognize the value for a physician and learn to provide optimal care as well as consultation competences including knowledge, skills and attitudes, required to define and manage the health problems in primary care. Medical students identified factors could influence clinical teaching mainly clinical competence, motivation and environmental factors. By identification of these factors and promotion of clinical education, new teaching strategies as simulation should be considered and implemented to face the problems encountered in teaching medical students in primary care.

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