



Reflective Learning Experience in Primary Care Medicine Posting: A Potential Qualitative Study

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Authors' contributions

This work was carried out in collaboration between all authors. Author HL designed the study, managed data collection, performed the statistical analysis, wrote the protocol and wrote the initial draft of the manuscript, revised it critically for important intellectual content, final approval of version to be published. Authors NNT and MNNH equally managed data collection, the data analysis, advised for initial draft of manuscript, revised it critically for important intellectual content. Authors HHKS, ALA and SM equally managed the literature searches, data analysis and final draft of manuscript. All authors read and approved the final manuscript.

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ABSTRACT

Purpose: The purpose of this study is to determine the effects of reflection on learning during family medicine posting, to introduce a reflective writing exercise into an undergraduate medical curriculum, including their levels of satisfaction and their concerns.

Methods: We used the secondary data taken from the final year medical students' feedback records during their one-week family medicine posting. The total number of 148 students' reflective writings were collected. Among them, 52 students' data (35% of total participants) who provided the full answers were included in the analysis. Qualitative analysis was done using RQDA (Free qualitative data analysis) software. Data were entered first in the notes and transferred to RQDA software as files. Codes and code categories were formed by using both pre-set code and

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emergent codes. Code categories were also pre-settled according to the objectives and the outcomes. We compared the reflective ideas of the students' with the objectives.

Results: The qualitative analysis of the students' reflection revealed four salient themes based on their learning experiences. They are (1) Learning and experiences at primary health care (KK) clinics, (2) Understanding the role of family medicine clinic and health care personals, (3) Benefits and drawbacks of Primary health care clinics for the patients and (4) positive attitudes and behavior towards family medicine services and staffs. Medical students' responses to effects of reflection on learning are "enhanced their learning process and gain knowledge", "improved their awareness about the common medical illness", "improved their communication skills", "improved their practical skills", "applied their theory knowledge", and "motivated them to become the efficient medical doctors in future". There is a positive attitude on awareness of reflective writing, the role of importance of teamwork and good communication skills during the primary health care posting.

Conclusion: This qualitative study revealed the students' achievement in learning through reflexion in problem solving, concept, and services of primary health care during their community clinic posting. In order to have the better understanding of primary health care services and provide the better care to the community in future, the clinical exposure at the primary care clinics should be promoted for medical students in Malaysia.

Keywords: Knowledge; skills; qualitative; reflection; primary health care.

1. INTRODUCTION

During the past few years the development of professional identity has been a major focus of medical education, emphasising the multifaceted and individualised process through which students develop into physicians [1,2]. Reflection in experiential learning plays an important part in shaping physician's professional identity [3]. In order to augment their learning process, it is important to explore their experiences, strength, and areas to improve in future. Reflection is a way for students to express their experience throughout the learning process [4]. Reflective learning has been used in the professional field since the 1930s to enhance their own individual and life-long learning process [5].

Medical teachers are facilitators who play an important role in medical education. They help students to convey their experiences more explicitly, identify feelings or perceptions that underlie their behaviour, formulate future plans, interact openly with other students in the group and develop generic skills, such as active listening [6–9]. The clinical experience is essential for the medical students during their study period. Reflective learning on the student's clinical experience is crucial to become the active learning process, in which they incorporate their experience to pre-existing knowledge to develop the expended knowledge [10].

A week clerkship is mandatory for all the final year medical students in this institution according to the curriculum. Students spend five hours at

respected clinic allocated for each group; one-hour teaching session with either family medicine specialist or senior medical officer or appointed faculty members from the college. We advised the Students to learn from different preceptors in the clinics. Preceptors in the clinic are part time faculty members and all are instructed the course objectives and outcomes, knowledge and skills in the following areas: 1) Malaysia health system and delivery. 2) Importance of clinical practice guide lines in treating patients. 3) Medical ethics. 4) Importance of doctor patient relationships and communicable skills. 5) Understand and promote effective working relationships between health care professionals. 6) Health promotion and prevention. 7) Practical knowledge of medical procedures in primary care centres, 8) hands on experience in basic laboratory investigations available in government clinic. The purpose of this study is to define the effects of reflective thinking during family medicine posting in this institution.

2. METHODS

The final-year medical students took one-week family medicine posting in the primary health care clinics (KK, Klinik Kesihatan). At the end of the one-week posting, they were assigned to write the reflection on their learning process during the family medicine posting in the portfolio. The students were instructed to write the reflection to recall their expectations, attitudes and experiences during the posting. Participants- semester9 students, total **148 students** were participated in this study.

Students were asked to write reflective essay by answering 3 questions from Kolb's reflective models for reflective learning (Table 1). We did the Data collection after end of posting. The total number of **148 students'** reflective writings were collected from their portfolios and recoded as "R" and number for each participants to be anonymous. Authors accessed and screened the data. We exclude the incomplete data responded by the students and **52 students'** reflective writing were included in the analysis. We entered the data into the text document files and then imported to the RQDA software. The qualitative data analysis was done in RQDA software by using the thematic analysis. Two researchers separately analyzed for the initial coding. The researchers discussed together to deduce sub-themes and themes by comparing the similarities and differences in the coding.

Reflected model used in this study was Kolb's model (1985). (Table 1)

Table 1. Kolb's model of reflection

Model	Questions
What happen	Ask the experience during this posting
So what	Discuss what it means
What next or what now	Identify the next steps

3. RESULTS

Results are based on the Response rate, Percentage of students meet the objectives and Qualitative list of feedback. The qualitative analysis of the students' reflection revealed four salient themes based on their learning experiences. They are (1) Learning and experiences at primary health care (KK) clinics, (2) Understanding the role of family medicine clinic and health care personals, (3) Benefits and drawbacks of Primary health care clinics for the patients and (4) positive attitudes and behavior towards family medicine services and staffs. The results showing that Medical students' responses to effects of reflection on learning are "enhanced their learning process and gain knowledge", "improved their awareness about the common medical illness", "improved their communication skills", "improved their practical skills", "applied their theory knowledge", and "motivated them to become the efficient medical doctors in future".

3.1 Learning and Experiences at Primary Health Care (Klinik Kesihatan, KK) Clinics

3.1.1 Learning at the primary health care clinics

The final-year students shared their learning process and experiences at Family Medicine clinics in Klinik Kesihatan (KK) through their reflection. The family medicine posting enhanced their learning process and gain knowledge at the first contact care. Through the clinic experiences, they have improved their awareness about the common medical illness occurred in Malaysia.

"Though there were some challenges I faced during this positing, for example in taking a proper history and doing a complete physical examination in the clinic, I had a great time collecting invaluable knowledge and experiences together with my colleagues." (R 138)

"It is seen that chronic illnesses such as hypertension and diabetes sums up to almost half of the patients visited the clinic daily." (R 42)

Through the exposure with the patients at the primary care setting, the students admitted that they improved their communication skills with the patients during clerking and counselling sessions. They also mentioned that they have improved their practical skills through performing the procedures at the clinic. They also have the chance to apply their theory knowledge while handling the patients in the real life setting.

"I have seen many kind of cases and patients that indirectly taught me how important it is to be a good communicator and professionalism in any kind of situations." (R 124)

"I learnt that we need to implement some creativity in counselling sessions as not all patients are the same and counselling has to be delivered intelligently according to the patient that we are dealing with." (R 123)

"I had a chance to apply my theoretical knowledge and exercise it on the real patient thus it help to improve my understanding towards the disease." (R 98)

In this study, the students reflected that they had the exposure with the patients at primary care setting and had hands-on experience in managing the patients. This learning process motivated them to become the efficient medical doctors in future, mentioned by a student as follow:

“This had motivated me throughout this posting where in the past I was unable to correlate the symptoms to arrive at a diagnosis. But as time has pass, I am able to arrive at a diagnosis and an idea on how to treat the patient based on the 10 minutes that I've spent with each patient at the OPD.” (R 1)

Awareness of the areas to improve will enhance the students' learning to be focus on those issues for their professional development. Some students in this study admitted that they still needed to improve some areas to become competent medical doctors in future.

“It is a very great opportunity to learn and open my eyes to see where am I standing now and how should I improve for the future doctors who going to be in service for the people, and native. Never give up.” (R 113)

“I should have the knowledge at tip of my finger, so that in emergency situation at KK, if nobody around I can resuscitate the patient well. So, I have to study and understand the symptom well, so that I can manage to save a life.” (R 35)

3.1.2 Experiences with patients at the clinics

The primary health care clinics are the centers for the follow up and monitoring for the progress of patients. However, some patients failed to come for the regular follow up which might lead to the undesirable complications of their diseases. Non-compliances of medication in some patients resulted in difficulty to control their diseases. Moreover, some students mentioned that cultural believe on traditional medicine is also a barrier to control their disease.

“From my experienced in KK, I have noticed that people with lower income tend to become a defaulted patient, especially TB patient. They did not come to KK after receiving an intensive phase drug. This is because of the cost to come to KK and lack of education among them. This condition will

cause trouble to both patient and doctor as the patient may come again due to the same symptoms.” (R 64)

“I have met a few patients who are not complaint to medication and is shown to deranged fasting blood sugar and blood pressure increased, they have not developed any symptoms of complications thus they are not worried yet but this is not right. Doctors are counselling and advising them to make them understand the consequences.” (R 58)

“Their beliefs are hugely influenced by socio-cultural barriers such as resorting to traditional medication in hopes of "curing" their disease.” (R 125)

The students also written their experience of managing the manipulative patients they have seen in the clinic:

“I have also encountered with manipulative patients. Patient, who is a school- going boy, presented with history and examination that does not make sense. After that I discussed with the FMS (Family Medicine Specialist) that the boy was just simply making excuse to be absent from school. To tackle this kind of patient, the FMS has taught me to not over sympathies about the patient's own personal problem and just managed the patient based on actual "real" symptoms to avoid misuse of the GP for personal gain.” (R 91)

3.2 Understanding the Role of Family Medicine Clinic and Health Care Personals

3.2.1 Role of primary health care clinic

The Klinik Kesihatan (KK) are established by the Malaysian government to improve the primary health care in the community. The students' reflection revealed that they gained insight on the role of primary health care clinics as the centers for prevention of diseases and the first contact care in community. Moreover, the KK shared the health care provision and reduced the hospital workload.

“I realized the important of family medicine at it plays an important role in preventive medicine as well as it acts as a filter to diagnose and channel the cases to the right specialty.” (R 134)

"It has to give utmost priority because it's the first line of interaction between health system and the community. Even if the tertiary institution are well advanced, it is useless if the patients in need of those facilities cannot be channeled to it." (R 110)

"I realized that primary healthcare is not just from the family doctors' point of view, it includes a multi-disciplinary team that work together to ensure the proper management of patients and to reduce the hospital burden." (R 9)

Community participation is crucial for the prevention of diseases and the primary health care clinics are playing a vital role to deliver the health education and health promotion. When the students were posted in family medicine at KK, they realized the services of clinics as the strategy to promote health in community:

"It is also a strategic method of diffusing into the community to integrate our health program into them." (R 30)

3.2.2 Role of healthcare personals

In this study, the students identified the unique features of primary health care providers as comprehensive care providers and good communicators with the patients.

"I learnt that in family medicine, we treating the family, not only the disease by including advice and care about family status of a patient." (R 132)

"Apart from treating the patients, the healthcare provides (sisters, nurses and doctors including pharmacists) also have role in educating the patients regarding health education, vaccination, healthy diets, exercise and other lifestyle modification especially in those diabetic and hypertensive patients which are commonly seen in this country." (R 88). The students also realized the role of family medicine practitioners in making the clinical decision and providing the appropriate management in different situations. "As a general practitioner, the mindset should be set to a more wide range of disease possibilities that the patients come with. Figuring out the exact diagnosis is essential. This is overcome by a good history taking and a good physical examination as well as proper investigations that need to be carried out." (R 123)

3.3 Benefits and Drawbacks of Primary Health Care Clinics for the Patients

3.3.1 Benefits of primary health care clinics for the patients

Among the benefits of the primary health clinics, the students pointed out the allocation of patient zones according to their address. The reason for dividing the zones, i.e., A, B, C, D, etc., is to implement the concept of "one doctor, one patient". It means that the patient will meet the same doctor at every follow up visit. "I got to know that the area under KK are divided into zone A, B, C. This will help to mapping out communicable disease so that further investigation can be done to treat the disease. Besides that this will make the patient more comfortable and rapport is good between doctor and patient. Since they are meeting the same doctors." (R 17)

Malaysian health care system creates the convenience for citizens to access to health services by focusing on the primary health care centers. The student mentioned about the easy accessibility of health care as follow: "KK plays as a primary care and this type of KK provides service for all ages where the minor cases can be treated here as well as long term follow up patients can be attended here. This give convenience for those who stays for away from hospital." (R 42)

3.3.2 Drawbacks of primary health care clinics for the patients

While the students are posted in family medicine clinics, they are exposed to the real situation and aware of some drawbacks for the patients at the clinic:

"The drawback is there is mix of people (for example, Pregnant lady may get exposed to TB patient)." (R 17) "I noticed and think it is the drawback in this posting is the specialist or operation procedures is not present over here and the waiting period for doctor consultation is very long for particular patient." (R 62)

3.4 Positive Attitudes and Behavior towards Family Medicine Services and Staffs

In their way to become medical professionals, the learning environment, the mentors and

teachers have influence for the development of their knowledge and skills. The students revealed their positive attitudes towards the medical officers' guidance and the teamwork spirit at the primary health care clinics. They also appreciated the service of Ministry of Health provided to the citizens.

"The medical officers in KK were really helpful and dedicative in teaching and guiding us despite their busy schedule posting." (R 138)

"It is important for the staff in the clinic to have a good team work and attitude towards each other. Thus, it is essential to have a good work etiquette in addition to logic theoretical knowledge on diseases." (R 94)

"In my opinion, Malaysia has a very good health care system. Citizens are able to be treated in government hospitals for just RM 1 fee." (R 63)

Even though the students had seen the challenges especially at emergency department, they appreciated the team effort and satisfied with their posting.

"Tense was the word given if we there and also being part of the emergency team. Some even takes their lunch at night, unable to attend family calls or even to take a nap. They work round the clock to deal with the number in a particular area." (R 110)

"It is a golden opportunity to take part in the services given to people and indirectly helps to educate the patients about their diseases, ways to manage them and how to prevent them." (R 29)

"I think this whole experience has boost my confidence and given me the opportunity to learn and do many new things." (R 78)

4. DISCUSSION

The study took place mainly in the primary health care clinic under the Melaka-Manipal Medical College (MMMC), Melaka campus comprising final year students from Bachelor of Medicine and Bachelor of Surgery (M. B., B. S). Briefly, MMMC was established in 1997 when they recognized that there were shortage of doctors in Malaysia. MMMC admitted its first batch of MBBS students in 1997 with the support of

experienced medical educationists from Manipal University who helped in the implementation of the medical programs.

In this study we observed the effects of a voluntary intervention in reflective learning on Final year medical students as they began the task of integrating their clinical learning. We achieved our aim of examining the efficacy of reflective learning and we found that participants perceived the reflective learning helped them select what they needed to learn and raised their awareness of their individual learning styles. They were better able to integrate what they had learned from different sources, which proved helpful for revision. Reflective learning gave students confidence in what they knew and was associated with a sense of achievement which encouraged them to continue using it.

As well as this efficacy data, we discovered how reflective learning related to the workload, the curriculum and to students' learning styles. Participants developed their ability to formulate their own learning objectives. Integration of new and prior learning fits with the constructivist model and is a feature of deeper learning [11]. A student who is spurred on by previous episodes of reflective learning is evidence of intrinsic motivation [12]. The participants were made aware of gaps in their knowledge by the other students' reflective diary entries, as well as their own.

It was also felt valuable for students to have their feelings, thoughts, and behaviour validated as part of a group learning process. This is consistent with results of previous studies addressing benefits to students [13,14,15]. In addition, we found interesting benefits of this activity for us. We valued the new approach as a tool for our own professional and personal development and eager to use reflection both in other teaching situations and in our personal lives. The facilitation of student reflection led teachers in turn to reflect on their own roles. We, the teachers concerns over the skills needed for facilitating reflection, especially managing the tension between preserving confidentiality and maintaining engagement, developing a group dynamic that encourages students to participate, and establishing a balanced role between facilitation and teaching.

According to Pee's study [15] in which students and dentist tutors expressed doubts that students would complete reflection honestly. Teachers

should be aware that this could arise from a lack of student understanding of the objectives of the activity, an inability to identify significant problems, or anxiety about achieving a particular grade. If it is to be taken up by a greater proportion of students, reflective learning needs to be better aligned with the curriculum and the way it is assessed. According to Sukhato et al. [16] BMC Medical Education study, Medical teachers perceived benefits both to students and themselves from reflective writing with small group discussion. Before implementing this approach in other courses, a comprehensive faculty development programme should be commenced in order to improve the ability and confidence of teachers as facilitators. Several studies report attempts to incorporate reflection into a medical curriculum [14,17–19], the impact of reflection on medical students' perceptions [20–24] and the educational features that promote the development of reflective practice [13,25].

We used a qualitative method to collect and collate the perceptions and clinical learning experiences of students involved a reflective writing activity as part of a new curriculum. There are some limitations in our study. Firstly, as all participants were students from a Family Medicine posting in primary health care clinic and their perspectives might not be generalized for other departments in our medical fields. Due to these limitations, further study should be needed whether the perceived benefits and concerns we discovered would be similar among teachers in different settings and fields of practice.

5. CONCLUSION

We believe that this study provides evidence to extend the use of reflective learning in undergraduate medical education. Students with greater enthusiasm take up reflective learning if they perceive that it will help them achieve the goals of their curriculum. There is a positive attitude of students' on awareness of reflective writing, the role of importance of teamwork and good communication skills in the primary health care. This study revealed the students' learning experiences, which resulted in the positive attitudes towards the learning, concept, and services of primary health care during their community clinic posting. In order to have the better understanding of primary health care services and provide the better care to the community in future, the clinical exposure at the

primary care clinics should be promoted for medical students in Malaysia.

CONSENT AND ETHICAL APPROVAL

Informed consent was taken from the students and also obtained ethical clearance from the Institution Research Ethics Committee.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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