



## Students' Perspectives on Clinical Practice in Medical Assistant Education

Alias Mahmud<sup>1</sup>, Nor Hayati Alwi<sup>1</sup>, Tajularipin Sulaiman<sup>1</sup>,  
Aminuddin Hassan<sup>1</sup>

Received; 17 September 2013 Accepted; 30 September 2013; © The author(s) 2013. Published with open access at [www.questjournals.org](http://www.questjournals.org)

**ABSTRACT :** *The aim of the study was to obtain student' perspectives on the clinical practice on the Diploma in Medical Assistant (DMA). The study design was cross-sectional survey performed in the Medical Assistant College, Seremban Malaysia. A self-administered questionnaire was used to 67 fourth-semester students who have undergone clinical practice in several hospitals in the state of Negeri Sembilan, Malaysia. Data were analysed descriptively as to gain the students' perspectives in the aspects of confidence, clinical learning and the use of clinical equipment. The study outcome showed that there were a degree of concern among the students who undergo the clinical practice. Other than that, there were several issues that emerged in the clinical implementation which was the gap that exists between theory and practice such as the different equipment used in the college compared to the clinical placement where they were assigned. Practical exposure in college needs to be optimised so that it can enhance students' confidence before they undertake clinical practice. Other than that, the implementation of theoretical teaching and practice should be integrated as to prevent the gap from forming between theory and practice.*

**Keywords:** *Medical Assistant Education, Clinical Practice, Paramedic Course, The Theory-Practice gap.*

### I. INTRODUCTION

Diploma in Medical Assistant (DMA) is a paramedical course carried out by the Training Management Division, Ministry of Health, Malaysia (MOH). This course is carried out to equip the country with Medical Assistants (MA) who are able to serve efficaciously and effectively while rendering quality health services guided by the promotional, preventive, curative and rehabilitative approaches with focus on the aspects of primary, secondary and tertiary healthcare (Training Management Division, 2008).

The DMA curriculum carries two main components namely the components of theory and practice. The theory refers to the knowledge and skills in a particular field taught in class (Evetts, 2003). Meanwhile, practice denotes the implementation of a procedure in clinical placement (Suzette & Donna 2005). The practical implementation of the DMA curriculum takes place in hospitals and health facilities, and this is known as clinical practice (Training Management Division, 2008).

The aim of this clinical practice is to give the actual experiences to the students in the aspect of patient care also improve their skills and competency in doing certain procedures (Training Management Division, 2008). Other than that, clinical practice also assists the students in carrying out procedures following the right principles (Sharif & Masoumi, 2005) also able to give the opportunity to the students to integrate theoretical learning with practice (Bill, Louise & Natalie, 2009).

Literature review has demonstrated that there are several factors that influence the effectiveness of clinical practice implementation. Lack of confidence appears to be the main problem faced by the students as they embark in the clinical practice stage and it can raise concern and pressure in clinical placement (Hart & Rotem, 1994). Past studies have shown that the highest pressure experienced by the students in their clinical practice is at the initial stage of the practice (Sharif & Masoumi, 2005). The causes behind this worry and pressure are noted to be the lack of experiences and the lack of clinical skills (Beck & Srivastava, 1991).

The effectiveness of the clinical practice also depends on the role of the lecturer in clinical learning (Ferguson & Jinks, 1994). If the lecturers teaching theory in the lecture rooms are also involved in clinical teaching, then the integration of theory and practice can be improved and at the same time it can contribute to the more effective clinical learning (Corlett et. al., 2003; Landmark et. al., 2003). However, as revealed by the

assessment of the paramedical course in MOH, lecturers do not have enough time to teach and observe their students in their clinical placement as they are also involved in various activities in college (Rotem, 2007).

Other than that, the effectiveness of the clinical practice can also be determined by the advanced technology in medical equipment (Lazafame, 2006). This is due to the fact that this technological change has given an impact to the training in the field of medical education, in a way that it can enhance the students' skills in doing practice in certain procedures (Good, 2003). However, this will invite problems if the use of medical equipment in college is different from that in the clinical placement.

Based on several issues that have been established from previous literature, there is a call for this study, that can shed light on the practice implementation for MOH paramedical course. In the same vein, this study seeks to obtain the perspectives of DMA students who have undergone clinical practice in several hospitals in Negeri Sembilan. The perspectives examined are related to confidence, clinical learning and the use of medical equipment in clinical training accommodation.

The study outcome can provide useful information to the college administrators and the ministry with regards to the clinical practice of the DMA course. This can help the stakeholders to make some improvement especially in the aspect of the skill labs, the use of equipment and the adoption of procedure also the effectiveness of the clinical supervision.

## **II. METHODOLOGY**

The design of the study was a cross-sectional survey. According to Sidek (2011), the survey is decided, aiming at giving a systematic explanation on the facts and characteristics of a given population, or on the field being studied.

This study were involved 67 fourth semester students of the Diploma in Medical Assistant course, at the Medical Assistant College Seremban, Malaysia who have undergone clinical practice in medical and surgery wards in several hospitals in the state of Negeri Sembilan. These students were selected because they were getting their first experience of clinical practice after completing their theoretical learning in college. Past studies have reported that the transitional phase between theory and clinical practice is the most stressful time for the students in medical education (Godefrooij, Diemers & Scherpbier, 2010). Other than that, having clinical experiences for the first time is very important because these experiences give more accurate account of what the students have gone through (Hart & Rotem, 1994).

The study instrument used was the questionnaire containing 20 items and which used the 5-point Likert Scale namely Strongly Disagree (SDA), Disagree (DA), Not sure (NS), Agree (A) and Strongly Agree (SA). The instrument has been verified by two experts namely a senior lecturer from the Faculty of Education, UPM dan a member of paramedical education from the Ministry of Health Malaysia. Meanwhile, the reliability test uses the Cronbach's Alpha to show high level of reliability ( $\alpha > 0.70$ ). The questionnaire form is categorized by component, which are students' confidence (6 items), clinical learning (9 items) and medical equipment (5 items). Data were analysed descriptively covering frequency, percentage, average (mean) and standard deviation (SD) on all the items in the components.

## **III. FINDINGS**

67 students had returned the questionnaire forms, giving a 74% response rate. Out of this figure, 42 (63%) are male students whereas 25 (37%) are female students. The descriptive analysis derived from the forms had been done, as to see the frequency, percentage, mean and standard deviation for every item in every component as established in **Table 1**.

### ***Students' Confidence***

In terms of students' confidence, 34 (50.8%; mean: 3.25; SD: 1.06) had stated A & SA as they were worried before undergoing the clinical training; 53 (79.1%; mean: 3.91; SD: 0.71) students stated that they A & SA on the fact that learning in college helps increase their confidence to undergo clinical training; 24 (35.8%; mean: 2.93; SD: 1.00) students marked A & SA on the fact that the practical training is sufficient; 50 (74.6%; mean: 3.84; SD: 0.91) students marked A & SA where lecturers help increase their confidence in undergoing clinical training; 20 (29.9%; mean: 2.88; SD: 1.04) students ticked at A & SA which is they find it difficult to adapt with the environment in the clinical placement; and 59 (88.1%; mean: 4.09; SD: 0.73) students chose to

say A & SA which is the fact that the clinical staff helps increase their confidence when undergoing clinical training.

### ***Clinical Learning***

In the aspect of clinical learning, 63 (94%; mean: 4.27; SD: 0.71) students had stated A & SA which is clinical exposure has helped them a great deal in applying the theory learned in college; 56 (83.6%; mean: 3.96; SD: 0.77) chose to mark A & SA whereby the staff has helped them a lot in clinical learning; 54 (80.6%; mean: 3.88; SD: 0.81) marked A & SA whereby the local preceptor (LP) has given a lot of guidance. Meanwhile, 49 (73.2%; mean: 4.09; SD: 1.10) students stated that they A & SA upon the fact that they used to work independently without the supervision of the LP; 36 (53.4%; mean: 3.52; SD: 1.25) students stated A & SA that the procedure carried out at the clinical placements differed so much from the procedure learned at their college; 43 (64.1%; mean: 3.63; SD: 1.32) students stated A & SA that they had had to do the procedures that they had never learned in college; 48 (71.7%; mean: 3.91; SD: 1.32) students answered A & SA that they had been asked to perform a procedure that falls outside the scope of their learning; 41 (61.2%; mean: 3.45; SD: 1.12) students stated A & SA whereby the opportunity to conduct the practice is limited because there are too many students, and finally 13 students (19.4%; mean: 2.45; SD: 1.03) students A & SA that the opportunity for them do the practice is limited as there are few cases/small number of patients.

### ***Medical Equipment***

In terms of the medical equipment, 51 (76.1%; mean: 3.91; SD: 0.92) students stated A& SA whereby the medical equipment used at the clinical placements is not the same as the ones used in college ; 57 (85.1%; mean: 4.16; SD: 0.86) students stated A & SA for the statement that the medical equipment used at the accommodations is more sophisticated than those used in college; 22 (32.9%; mean: 2.87; SD: 0.99) students chose A & SA where they find it difficult to use medical equipment at the accommodations; 28 (41.8%; mean: 3.13; SD: 1.03) students chose A & SA for the fact that the medical equipment used at the accommodations is sufficient; and 59 (88.1%; mean: 4.10; SD: 0.76) students also chose A & SA that the use of the equipment at the clinical placements can enhance their skills in performing a procedure.

## **IV. DISCUSSION**

The findings showed that the confidence level of the students before undergoing clinical practice was moderately by 50.8 percent only. This level is worrying, as it can leave an impact to the effectiveness of the clinical practice implementation. Such a confidence level can be associated with the low practical training exposure in college whereby only 35.8 percent of the students had stated that the practical training done in college had been enough for them. This assumption has been made, based on past studies which find that students' confidence can be improved if they have sufficient amount of exposure of practical training at the skill lab in college (Morgan, 2006). Other than that, the study outcome also supports the study done on the paramedical course in MOH where it is found that there is a lack of equipment used at the skill labs in the training institution of the MOH (Rotem, 2007). Thus, it is suggested that the management seeks to enhance the effectiveness of skill laboratory use by adding more allocation to buy the equipment so that the students will obtain sufficient practical training exposure before they undergo clinical practice at the accommodations in which they are assigned.

Other than that, 30 percent of the students admitted to have difficulty to adapt themselves to the clinical placements. They should be capable in adapting themselves to the changes in their clinic surroundings (Krusen, 2011). Nonetheless, the complex cultural difference may have contributed to their difficulty in adapting themselves to the changes and to the new environment. Active involvement of the clinical staff in the practice implementation should be able to boost students' confidence to undergo clinical practice in a more effective manner. This is because, clinical staff has been able to teach and guide the students how to perform a procedure accurately and at the same time, enhance the integration between theory and practice (Ferguson & Jinks, 1994). The finding shows that students perceived the role of the clinical staff including the local preceptor as high, where they have helped the students in their clinical learning- this is more than 70 percent.

Nonetheless, the study outcome is a little worrying in several aspects, namely: 'working alone, without the supervision'. More than 50 percent have the experience working alone without being supervised throughout the clinical practice. New students to the clinical training have been exposed to the mistakes they have done in

performing a procedure. Thus, they should be supervised by the clinical staff or LP while performing a procedure.

Other than that, there seems to be a gap between theory and practice in a few areas: 'the procedures at the clinical placements that are different from the ones I learn in college', 'perform a procedure that I have never learned in college' and 'doing procedures outside my scope of learning'. All the three aspects have higher percentage which exceeds 50 percent. Past studies found the existence of a gap between theory and practice which gives implication to student competency also treatment effectiveness given to patients (Rebecca et. al., 2009). To close the gap, lecturer should play an active role in the clinical learning so that both theory and practice can be integrated. Other than that, the lecturers involved in the clinical learning can give a useful input to the college administrators in relation to the gap and so that the stages of improvement can be done as soon as possible (Elizabeth & Robyn, 2005).

The study finding reveals there is the gap between the equipment used in the college with the equipment used at the clinical placements. This is evident, when more than 76 percent had stated that several equipment used in the clinical placements are different from the equipment they use in college, and more than 80 percent of the students stated that several equipment used in the clinical placements is more sophisticated than the ones they use in college. The finding supports the views which state that the advanced technology in medical equipment has brought about a big change to the use of medical equipment in hospital (Lazafame, 2006). However, the technological change necessitates high cost to purchase the latest equipment and this definitely leaves a financial stress on the college, as it has to buy the equipment too. Such a difference will certainly give a bad implication to student learning where they need to learn and get used to different equipment and more modern equipment at the accommodations. This is consistent with the study finding which shows that more than 30 percent of the students have difficulty using the latest clinical equipment.

## V. TABLES

**Table 1: The Analysis on Students' Perspective on the Clinical Practice Implementation (n=67)**

No	Component/Item	Response frequency, n (%)					Mean	SD
		SDA	DA	NS	A	SA		
<b>A Confidence</b>								
1.	I am worried before undergoing clinical training	4(6)	14(21)	15(23)	29(43)	5(7)	3.25	1.06
2.	Theory learning in college helps increase my confidence to undergo clinical training	-	3(5)	11(16)	42(63)	11(16)	3.91	0.71
3.	I feel that the practical training we do in college is sufficient	5(7)	20(30)	18(27)	23(34)	1(2)	2.93	1.01
4.	Lecturer helps increase my confidence to undergo clinical training	3(5)	1(2)	13(19)	37(55)	13(19)	3.84	0.91
5.	I find it difficult to adapt myself to the environment in the clinical placement.	4(6)	24(36)	19(28)	16(24)	4(6)	2.88	1.04
6.	The clinical staff has helped boost my confidence while undergoing the clinical training	1(2)	1(2)	6(9)	42(62)	17(25)	4.09	0.73
<b>B Clinical Learning</b>								
1.	Clinical exposure has helped me a lot in applying the theories I learned in college.	-	3(5)	1(2)	38(57)	25(37)	4.27	0.71
2.	Staff at the clinical placement has helped me a lot in my learning	-	5(7)	6(9)	43(64)	13(19)	3.96	0.77
3.	The Local Preceptor has guided and taught me a great deal	1(2)	4(6)	8(12)	43(64)	11(16)	3.88	0.81
4.	I used to work alone, without the supervision of the Local preceptor	1(2)	7(10)	10(15)	16(24)	33(50)	4.09	1.10
5.	I find that there are procedures at the clinical placements that are different from the ones I learn in college	4(6)	12(18)	15(22)	17(25)	19(28)	3.52	1.25
6.	I had once been instructed to perform a procedure that I have never learned in college	5(7)	13(20)	6(9)	21(31)	22(33)	3.63	1.32
7.	I was once instructed to do a procedure outside my scope of learning	6(9)	6(9)	7(10)	17(25)	31(46)	3.91	1.32
8.	My chance of doing the practice is limited because there are too many students.	2(3)	17(25)	7(10)	31(46)	10(15)	3.45	1.12

## *Students' Perspectives on Clinical Practice in Medical Assistant Education*

9	My chance of doing the practice is limited because there are few cases/small number of patients.	12(18)	27(40)	15(22)	12(18)	1(2)	2.45	1.03
<b>C Medical Equipment</b>								
1.	I find that there are several medical equipment used in the clinical placement are not the same as the ones used in the college.	1(2)	5(7)	10(15)	34(51)	17(25)	3.91	0.92
2.	I find that there are several equipment at the clinical placements are more sophisticated than the ones used in college	-	5(7)	5(7)	31(46)	26(39)	4.16	0.86
3.	I find it difficult to use the medical equipment at the clinical placements	3(5)	27(40)	15(22)	20(30)	2(3)	2.87	0.99
4.	The medical equipment used at the clinical placements is enough for me to perform clinical practice	4(6)	15(22)	20(30)	24(36)	4(6)	3.13	1.03
5.	The use of medical equipment at the clinical placements can improve my skills in performing any given procedure	-	4(6)	4(6)	40(60)	19(28)	4.10	0.76

**Note: SDA: Strongly Disagree, DA: Disagree, NS: Not Sure, A: Agree, SA: Strongly Agree.**

## VI. CONCLUSION

The study finding highlights the concern among the students who would be experiencing clinical practice for the first time. To reduce this, the college administrators must seek to enhance the effectiveness of theory teaching and optimize the use of skill lab in college. This enhances the students' knowledge and skills so that they are really prepared to undergo the clinical practice.

There is also evidence of a gap forming between theory and practice, especially in the aspects of procedure and equipment used in the clinical placements. Therefore, there is a need to reevaluate the DMA curriculum especially in terms of the content, procedure and equipment so that they are in line with the needs and progress of the medicine field today.

The study outcome should be able to provide some useful information to the college administrators and the Training Management Division, MOH in the aspect of the implementation of the DMA curriculum practice in particular, and the paramedical curriculum in general. The several aspects that have been discussed above should be given due attention as to enhance the effectiveness of the implementation of the clinical practice in the DMA curriculum.

## ACKNOWLEDGEMENTS

The Authors wish to thank to the Ministry of Health Malaysia, The Director of Medical Assistant College Seremban, who give permission to conduct this study. The Authors also would like to thank all the students for completing the survey questionnaire.

## REFERENCES

- [1]. Beck, D, & Srivastava, R. (1991). Perceived level and source of stress in baccalaureate nursing students. *Journal of Nursing Education*, 30(3):127-132.
- [2]. Bill, L., Louise, M. C. & Natalie, W. (2009). Factors effecting the education of pre-employment paramedic student during the clinical practicum. *Journal of Emergency Primary Health Care (JEPHC)*, Vol. 7, 4.
- [3]. Corlett, J., Palfreyman, J., Staines, H., & Humphreys, A. (2003). Factors influencing theoretical knowledge and practical skill acquisition in student nurses: an empirical experiment. *Nurse Education Today*. Vol. 23(3): 183-190.
- [4]. Elizabeth, M., & Robyn, A. 2005. Clinicl teachers in specialty practice settings: perception of their role within postgraduate nursing programs. *Learning in Health and Social Care*, 4(2):67-77.
- [5]. Evetts, J. (2003). The sociological analysis of professionalism: occupational change in the modern world. *International Sociology*, 18(2): 395-415.
- [6]. Ferguson, K. E., & Jinks, M. (1994). Integrating what is taught with what is practised in the nursing curriculum: a multi-dimensional model. *Journal of advanced nursing*, 20(4), 687-95.
- [7]. Good, M. (2003). Patient simulation for training basic and advanced clinical skills. *Medical Education*, 3714-21.
- [8]. Godefrooij, M. B., Diemers, A. D., & Scherpier, A. JJA. 2010. Students' perceptions about the transition to the clinical phase of a medical curriculum with preclinical patient contacts; a focus group study. *BMC Medical Education*, 10:28.
- [9]. Hart, G., & Rotem, A. (1994). The Best and the Worst: student experiences in clinical education. *The Australian Journal of Advanced Nursing*, 11(3):26-33.
- [10]. Krusen, N. (2011). The influence of environment on clinical practice: unspoken rules. *British Journal Of Occupational Therapy*, 74(12), 546-553.

- [11]. Landmark, B., Hansen, G., Bjones, I., & Bohler, A. 2003. Clinical supervision: Factors defined by nurse as influential upon the development of Competence and skills in supervision. *Journal of Clinical Nursing*, 12(6):834-41.
- [12]. Lazafame, R. J. (2006). Issues in the Acquisition, Development, and Use of Technology in Health Care. *Journal of the Society of Laparoendoscopic Surgeon* (2006)10: 401-408.
- [13]. Morgan, R. (2006). Using clinical skills laboratories to promote theory-practice integration during first practice placement: an Irish perspective. *Journal Clinical Nursing*. Feb; 15(2):155-61.
- [14]. Rebecca, M., Samantha, R., Brett, W. & Malcolm, B. (2009). An investigation of theory-practice gap in undergraduate paramedic education. *BMC Medical Education*. 9: 23.
- [15]. Rotem, A. (2007). *Assesment of Training Needs, Training Management Division, Ministry of Health Malaysia*. Consultants
- [16]. Assignment Report, World Health Organization, Western Pacific Region.
- [17]. Sidek Mohd Noah (2011). *Reka Bentuk Penyelidikan. Falsafah, Teori dan Praktis*. Serdang: Penerbitan Universiti Putra Malaysia.
- [18]. Sharif, F., & Masoumi, S. (2005). A qualitative study of nursing student experiences of clinical practice. *BMC Nursing*, 4(1), 6.
- [19]. Suzette, C. & Donna. M. (2005). A Model for Bridging the Gap from theory to practice to reality. *Nursing Administration Quarterly/April-June*. Vol 29, No2, pp 154-161.
- [20]. Training Management Division. (2008). *Medical Assistant Curriculum*. Kementerian Kesihatan Malaysia.

**First Author** – Nor Hayati Alwi (PhD), Senior Lecturer Faculty of Educational Studies University Putra Malaysia

**Second Author** – Tajularipin Sulaiman (PhD), Associate Professor Faculty of Educational Studies University Putra Malaysia

**Third Author** – Aminudin Hasan(PhD), Associate Professor Faculty of Educational Studies University Putra Malaysia

**Corresponding Author** – Alias Mahmud, (PhD Student) Faculty of Educational Studies University Putra Malaysia