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THE EFFECTS OF A STRUCTURED TEACHING PROGRAMME ON PARTOGRAPH AMONG MIDWIFERY STUDENTS

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ABSTRACT

Early detection of abnormal progress and prevention of prolonged labor can significantly improve the outcome of labor. World Health Organization (WHO) advocates the partograph as the single most effective tool for monitoring labour and reducing labour complications (Sterling & Bennett, 2013). Partograph is an inexpensive tool which can provide a continuous pictorial overview of labour and is essential to monitor the progress labor (Tayade & Jadhao, 2012). This research aim is to evaluate the effect of a structured partograph teaching programme among Midwifery students. This research is based on data obtained from the adapted questionnaire that indicate a significant increase in knowledge regarding partograph among nurses after structured teaching programme. The data was analyzed using descriptive and inferential statistic paired t-test and pearson test. The result of the study shows the structured teaching programme has significant effect on knowledge and practices with ($p < 0.05$). Midwives with good knowledge and practices must have capabilities to recognize any deviation from normal progression of labor and take an appropriate action which brings in the importance of partograph to improve maternal and neonatal outcome (Fraser & Cooper, 2008). It is hope that intervention studies that combined questionnaire, observational and interview are accessible for the future. Besides, a more effective approach to partograph training and implementation should be adapted to address gaps in the education and training of Midwifery students in using the partograph.

Keywords: Partograph, Structured Teaching Programme, Midwifery Students.

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1.0 INTRODUCTION

Partograph has been considered as one of the valuable tools in improvement of intra partum services worldwide (Rajani, 2007). According to Fraser and Cooper (2008), the early recognition of any deviation from normal progression of labour will enable the Midwives to take appropriate actions. This highlights the importance of partograph for improving maternal and neonatal outcomes. WHO advocates the partograph as the single most effective tool for monitoring labour and reducing labour complications (Sterling & Bennett, 2013). This study is carried out based on the needs identified from statistics, evidence based findings and through the researcher's observation and experiences. Through researcher's observation and experiences, several mistakes have been found to occur during plotting and charting in the partograph form for patients in active phase of labor. Inadequate supervision from the senior midwives in charge of labor ward can contribute to low and non-utilization of the partograph. By investigating the respondent's knowledge and practices on partograph, steps can be taken to stop harmful practices and complications while maintaining patient's safety.

Midwifery students need to be able to recognize variations so as to take early appropriate action if there were signs of hyper stimulation or prolonged labor. By investigating the respondent's knowledge and practices on partograph, steps can be taken to stop harmful practices and complications while maintaining patient's safety. Currently, no study has been conducted to find out Midwifery students' knowledge on partograph in Malaysia. This study was conducted to evaluate the effects of a structured teaching programmed on partograph among Midwifery students. While the specific objectives are to evaluate knowledge and practices of student Midwives on partograph pre and post teaching program, to determine the effectiveness of the structured teaching programme on partograph and to determine the association between demographic variables with the student's knowledge and practices.

The finding of the study will benefit nursing education, nursing practices, research and administration and last but not least the patient themselves. Alternative hypothesis of this study is the structured teaching programmed has significant effect on knowledge and practices on partograph among Midwifery students.

2.0 LITERATURE REVIEW

The partograph is a tool that has been recommended by WHO and other authorities in maternal health for routine monitoring of labour to provide early warning system. Fraser and Cooper (2008), defines the partograph as a tool used to monitor the woman in labour based on history taking and physical examination. This tool graphically represents key events in labour and assists the care giver to identify slow progress of labour, so that appropriate interventions can be made to prevent obstructed labour (Mathibe, 2009). In 1994, WHO recognized partograph as an effective tool for prevention of prolonged labour. The purposes of the partograph are to detect abnormal progress of labour as easily as possible, to prevent prolonged labour, to recognize cephalo-pelvic disproportion before obstructed labour, to assist in early decision on transfer, augmentation or termination of labour and to recognize maternal or fetal problems as early as possible. Tayade and Jadhao (2012), also conducted a study on knowledge and practices of partograph among health care personnel including nurses and Midwives. The structured questionnaire was given to the respondent and practice was monitored. The findings indicated that none of the nurses and Midwives had a satisfactory knowledge on partograph. Only 9.8% of them routinely employed partograph for labour management. They lack of expertise in charting and monitoring, in spite of qualification and experiences.

3.0 METHODOLOGY

The study was conducted in one of the government Nursing College, in Kedah. This project took 8 months to complete. The research design selected for this study was a quasi-experimental involving two groups of participants, the control and experimental groups. Participants in the experimental group received the structured teaching program on partograph, while participants assigned to the control group received the usual hands on teaching in the ward. The structured teaching program is face to face in the classroom using power point presentation for 2 hours teaching session on Partograph with the provision of the notes to the 40 respondents. The content of the teaching session is based on Advance Diploma in Midwifery curriculum by Ministry of Health Malaysia which is consists of definition, components of partograph which are mother's information, maternal conditions, fetal condition and progress of labour, recording on

partograph, interpretation of partograph finding and measures should be taken if there are any abnormality findings on partograph.

The researcher used a self-administered questionnaire for the respondents. The questionnaire was formatted into three sections which were Part A, Part B and Part C. Part A contains 5 questions on demographic data. Part B contains 30 MCQ items testing the Midwifery student's knowledge on partograph and Part C has 6 items, testing the Midwifery student's practices on partograph. The self-administered questionnaire was used in this study is adapted questionnaire from (Rajani, 2007). Each item has only one correct answer. Part B - it consists of 30 items with the total score 30. Criteria for scoring, correct answer will be awarded 1 score, incorrect answer will get zero. The number of correct answers is divided by the total of possible full score of 30 and they are multiplied by 100. The score 80 % and above was considered that the respondents have good knowledge and the score less than 80% would consider one to have poor knowledge. The researcher ranks the score 80% and above as acceptable level of knowledgeable, because Midwives should have excellent knowledge in partograph to meet patients safety during labor. Besides, the scoring is based on previous study done by Rajani (2007), which found that the level is significant for Midwifery students to achieve. Part C - Consists of 6 items. For the criteria for scoring, 1 mark will be given for one correct answer and zero for incorrect answer. The number of correct answers are divided by the total items (6) and then multiplied by 100.

The post-test 1 questionnaire was completed by the respondents from experimental group 1 day after the structured teaching program and a post - test 2 questionnaire was completed one month later. The respondents from the control group completed the questionnaire after agreeing to participate and post-test 1 was given immediately after the respondents read the notes on partograph. The questionnaire was distributed by the researcher to the students who consented to participate. A consent form was signed by Midwifery students who were willing to participate. The results of the study were analyzed using inferential and descriptive statistics.

3.0 RESULT

3.1 Descriptive Statistics

The descriptive results show the pre-test knowledge 30 (75%) of student's Midwives had good knowledge and only 5 (12.5%) had good practices for control group. Meanwhile, 40 (100%) respondents from experimental group have poor knowledge & practices pre-test. Although, 80 (100%) respondents from control and experimental group gained a good knowledge and practices post teaching programmed.

3.2 Paired Samples t-test

Table 1: Differences of pre and post - test knowledge for Control & Experimental group

	Mean	**SD**	**t value**	**P value**
Control group				
Pre - test	34.67	2.129	7.652	*0.001*
Post -test	31.92	1.022		
Experimental group			31.13	*0.001*
Pre - test	38.60	1.446		
Post -test	30.92	0.525		
+ Paired-Sample T-Test				

There was a statistically significant difference in increasing student's Midwives knowledge from pre to post - test for control and experimental group.

Table 2: Differences of pre and post - test practices for Control & Experimental group

	Mean	**SD**	**t value**	**P value**
Control group				
Pre - test	8.7	0.882	19.34	*0.001*
Post -test	6.0	0.002		
Experimental group			23.88	*0.001*
Pre - test	8.375	0.585		
Post -test	6.025	0.158		
+ Paired-Sample T-Test				

There was a statistically significant difference in increasing student's Midwives practices from pre to post - test for control and experimental group.

Table 3: Differences of knowledge & practices from post - test 1 to post - test 2 for Experimental group

	Mean	**SD**	**t value**	**P value**
Experimental group Post - test 1	6.025	0.158	1.000	*0.323*
Experimental group Post - test 2	6.000	0.000		
+ Paired-Sample T-Test				

There were no statistically significant differences in increasing student's Midwives knowledge and practices from post - test 1 to post - test 2 for experimental group.

Table 4: The effectiveness of a Structured Teaching Programmed

	Mean	**SD**	**t value**	**P value**
Control group				
Knowledge	66.60	2.447	142.96	*0.001*
Practices	14.70	0.882		
Experimental group post 1				
Knowledge	69.52	1.518	213.11	*0.001*
Practices	14.40	0.590		
Experimental group post 2				
Knowledge	69.52	1.518	264.51	*0.001*
Practices	6.000	0.000		
+ Paired-Sample T-Test				

There was a statistically significant difference in increasing student's Midwives knowledge & a practice following the structured teaching programmed with t value indicates a very strong relationship between knowledge and practices.

3.3 Pearson Correlation

Table 5: The association between demographic variables with the student's knowledge and practices for Control and Experimental group.

No	Demographic variables		Control group		Experimental group	
			knowledge	practices	knowledge	practices
1.	**Age**	r *p-value*	- 0.256 *0.055*	- 0.148 *0.018*	0.112 *0.024*	-0.061 *0.035*
2.	**Nursing qualification**	r *p-value*	- 0.327 *0.020*	- 0.067 *0.034*	0.119 *0.023*	0.024 *0.044*

3.	**Experiences as a Nurse**	r *p-value*	- 0.274 *0.043*	0.046 *0.038*	0.045 *0.039*	-0.030 *0.042*
4.	**Working experiences in Obstetric department**	r *p-value*	-0.046 *0.039*	0.092 *0.028*	-0.054 *0.036*	-0.053 *0.037*
5.	**Previous knowledge about partograph**	r *p-value*	-0.22 ***0.001***	-0.36 ***0.001***	-0.43 ***0.002***	-0.39 ***0.002***

There is a strong significant influenced between previous knowledge about partograph on student's Midwives knowledge & practices for both Control & Experimental group.

4.0 DISCUSSION

The researcher used descriptive and inferential statistics to evaluate the respondent's knowledge and practices. The inferential statistics results show that there a statistically significant different *(p = 0.001)* between pre and post-test knowledge and practices for both control and experimental group. This result was similar with the study done by Akhter et al. (2010), where the results showed significant improvement in both knowledge and skills following the workshop on labor and partograph. Finding also supported by Fernandes (2013), and Kumar and Ravindra (2014), their study result revealed that there was significant difference between the mean pre-test and post-test knowledge scores with *(p < 0.005).*

A paired samples t-test also referred to as repeated measures used to analyze the post-test 2 for experimental group and the results show no differences of knowledge and practices between post-test 1 and post-test 2. Finding also supported by Madden (2006), which done a quasi-experimental time series design to investigate the retention of CPR knowledge and skills by conducted a pre, post and re-test after teaching programme among nursing students. She found that a deterioration in both CPR knowledge and skills after 6 weeks teaching programme. However, student's knowledge and skills were improved over their immediately post-test scores.

The researcher found that the structured teaching programme on partograph is an effective strategy to increase respondent's knowledge and practices. There is a

statistically significant result with *(p=0.001)* and allowing the acceptance of the alternative hypothesis of this study. Increased knowledge in this tool has empowered the Midwives to be more proactive in their practices. It was supported with study findings on survey of the knowledge, attitude and practices on partograph among health care personnel by Dohbit, Leke & Foumane (2010), revealed that personnel who had a good knowledge also had a good practices and attitude towards the Partograph. This study also proved that there was significant association between student's Midwives knowledge and practices with previous knowledge about partograph.

5.0 CONCLUSION

In this study, a control and experimental group with quasi-experimental approach was adopted to evaluate the effect of a structured partograph teaching programmed among Midwifery students. A self-administered questionnaire was distributed to the 80 respondents who consented to participate in this study. The time frame of this study does not allow the researcher to conduct an observational tool to observe the practices in antenatal and labor ward. Besides, limited references and currently no study have been conducted in Malaysia. This study has succeeded in achieving its aims and objectives. Following the analysis, there was a statistically significant and acceptance of the alternative hypothesis of this study.

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