

Impact of an Education Training program upon Nurse-Midwives Practices Concerning First Stage of Labor.

Eman Abdel-Razak Jaber, M.Sc. Academic Nurse Specialist. Baghdad Health Directorate, Ministry of Health

Rabea M. Ali, Ph.D Assistant Professor, Maternal and Child Health Nursing Department, College of Nursing, University of Baghdad

الخلاصة

الولادة بواسطة مولده ماهره (ممرضه- قابله) تعتبر كمؤشر باتجاه التقدم في تقليل نسبة وفيات الامهات عالميا(الهدف الخامس من الالفه الانمانيه).
الهدف: تهدف الدراسة التعرف على اثر برنامج تعليمي تدريبي يطبق على الممرضات القابلات فيما يتعلق بالعايه خلال الدور الاول من الولاده
المنهجية: دراسة شبه تجريبية، تم اختيار عينة غير احتمالية (عمدية) لاثنتان وخمسين قابله-ممرضه خلال الفترة من 3 اب إلى 10 تشرين الاول 2011/ . وتم إجراء الدراسة في وزارة الصحة (دائرة صحة بغداد الكرخ والرصافة) في اربع مستشفيات . تكونت الاستمارة الاستبائية من (3) أجزاء تشمل الخصائص الديموغرافية فيما يتعلق بالعايه خلال الدور الاول من الولاده وقائمة الممارسات، وتم تحديد صدق المحتوى وثبات الاستمارة الاستبائية من خلال دراسة استطلاعية واستخدام تحليل الإحصاء الوصفي والاستنتاجي في تحليل البيانات. **النتائج:** تشير نتائج الدراسة إن أعلى نسبة (44.2%) من أفراد عينة الدراسة تتراوح أعمارهن بين (30 - 39 سنة) ومتخرجات من اعدادية القبالة وان (42.3%) لديهن (1-10)سنة خبره في مهنة القبالة و متوسطات ضعيفه ومتوسطه في معلوماتهن وممارساتهن فيما يتعلق بالعايه خلال الدور الاول في الاختبار القبلي بينما هناك ارتفاع في متوسط وممارساتهن بعد تطبيق البرنامج وبدلاله احصائيه عاليه(هناك علاقة ذات دلالة احصائية بين معارف القابلات –الممرضات في العايه خلال الدور الاول وعنوانهن الوظيفي .وسنوات العمل والدورات التدريبية **التوصيات:** توصي الدراسة باستحداث مقياس عملي وفق معايير منظمة الصحة العالميه، تطوير برنامج التعليم المستمر ، استحداث برنامج لدرجة البكلوريوس في القبالة

Abstract:

Background: Delivery by a skilled birth attendant (nurse - midwives) as an indicator of progress towards reducing maternal mortality worldwide (the fifth Millennium Development Goal) **Aim:** The aim of this study is to identify the impact of training education program applied on nurse-midwife practice concerning care during first stage of labor in labor room. **Method:** A quasi-experimental design conducted on non-probability (purposive) sample of fifty two nurse- midwives selected during period from 3th August to 10th November 2011. The study is conducted at the four hospital of Ministry of Health (Baghdad health directorate in Al-Karhk and Al-Risafa) sector. The questionnaire form is consisted of three parts which included demographic data, knowledge concerning practice during First stage of labor, practice checklist. Content validity and reliability of the questionnaire determined through a pilot study, descriptive and inferential statistics are used to analyze the data. **Results:** Results of the study showed that the highest percentage (44.2%) were in age group of 30-39 years, midwifery school graduate and(42.3%)of them had 1-10 years of work experience in midwifery. There were low and moderate means in most items related to the practices of nurse-midwives regarding first stage of labor in pre-test and assessed as (partial) while there were high mean scores in all items, and assessed Pass in posttest after the implementation of the training education program with high statistical significant. **Conclusion:** The study found there were low and moderate means in most items related to the practices of nurse-midwives regarding the care during first stage of labor in pre-test and while there were high mean scores in all items, and assessed Pass in posttest after the implementation of the training education program with high statistical significant. **Recommendation:** establishment of clinical practice

standards according to the WHO, development of continuing education programs, establishes a baccalaureate degree program in midwifery.

Key words: Nurse- Midwives, program, practice, childbirth

INTRODUCTION

The fifth Millennium Development Goal (MDG-5) calls for reducing the maternal mortality ratio (MMR) by three quarters between 1990 and 2015. Ensuring that all women give birth with a skilled attendant is now seen as one of the key strategies to reduce maternal mortality. A skilled attendance strategy implies not only the presence of health professionals with midwifery skills but also the enabling environment they need in order to perform capably, including access to higher levels of obstetric care in case of complications requiring surgery or blood transfusions. In practice however, the term skilled attendant often denotes a health professional (doctor, nurse or midwife), without any specification of skills or the environment in which he or she operates.⁽¹⁾ It is essential when discussing maternal health care services, in particular in low and middle-income countries, to establish why there is a shortage of skilled attendants, and how the shortage is distributed within the population. It is a fact that maternal and perinatal mortality and morbidity is higher among the more vulnerable population and that these often reside in rural areas where services are scarce. In order to provide recommendations that will target the most vulnerable group of women, and thus be able to reduce maternal mortality, it is crucial to explore the distribution of services within a country.⁽²⁾ There are critical factors, which need to be considered when discussing how to provide skilled care for all women and newborns in a country, and the conditions will obviously vary extensively from country to country depending on factors such as the geographical diversity, the existing health professionals currently providing maternal health care services, the organization and structure of the health care system, specific needs identified in the maternal population and the reporting and monitoring system.⁽³⁾ The Eastern Mediterranean Region Office (EMRO), World Health Organization (WHO) in 2000 at a Global Advisory Group meeting on Nursing and Midwifery identified a number of challenges being faced by governments and providers in this region for midwifery and nursing services. An increasing demand for midwifery education and services parallels the incremental population growth, the imperative to provide evidence-based practice, quality improvement of clinical practice and more formalized systems of midwifery and nursing

regulation⁽⁵⁾ The first stage of labor begins with the beginning of uterine contractions and ends when the cervix has reached full dilatation. One of the women needs when they arrive at a birthing center, is to be reassured that everything is going well. For a woman who has been unable to manage pain by breathing exercises, pain relief may be her priority need. first stage of labor (Cervical Completion, Dilation, and Effacement) begins with regular and rhythmic true labor contractions and ends with complete effacement (100%) and dilation of the cervix (10 cm) .⁽⁸⁾

METHODOLOGY:

A quasi-experimental design (One group pretest-posttest design) was carried out throughout the present study with the application of a pre-test and post –test for their knowledge regarding the practices through first stage of labor and pre -test and post -test checklist for their practices observation during first stage of labor (two weeks).

Non-probability (purposive) subjects consists of (52 nurse- midwife) .The sample exposed to pretest, Educational training program (individually), post test posttest. The criteria of this sample were nurse- midwife who work in delivery room (42 nurse- midwife) which represent (19.2%) of the target population in Al-Elwia maternity teaching hospital (23%) Ibn Albalidy maternity and pediatric hospital (38.4%) Fatema Al-Zahra maternity and pediatric hospital in Al - Russafa sector; (10 nurse midwife) which represent (19.2%) of the target population from Al – karkh maternity Hospital in Al-Karkh sector. The educational training program was designed and based on the finding that were obtained from the initial assessment of nurse midwife knowledge and practices which was used to construct the educational training program, as well as throughout review of related literatures and previous studies/The questionnaire form is consisted of three parts which included nurse- midwives demographic data, (27) item related to their knowledge regarding safe delivery practices .The response option were scored (0) wrong answer and. (1) for semi correct answer (2) correct answer with a cut of point =1, and (12) item Checklist practices. Checklist used by the researcher for five times observations. An instrument was constructed through the use of (3) level type Likert scale to assess the nurse-midwives practices in their management for pregnant woman in the delivery room throughout all care during First stage for labor. Each nurse midwives observed five times, (4-5) times considered as always, (1-3) considered as sometimes, and (zero) as never, the rating score for the instrument

was (3) for always, (2) for sometimes, and (1) for never, with a cut of point =2. A pilot study included ten nurse- midwives obtained from Al-Elwia maternity teaching hospital in al-Russia during the period from 10th July 2011 to the 28th July 2011 to determine the reliability of the study and testing information about nurse-midwives knowledge regarding First stage for labor. To evaluate the validity of the questionnaire form, the researchers presented it to thirteen experts in various fields. Reliability of the questionnaire was determined through the use of test and retests approach, with an interval of about three weeks, for the determination of interval consistency of nurse-midwife knowledge and practice regarding First stage R = 0 .76 for practices, which are statistically acceptable.

The statistical procedures includes: Descriptive statistic (frequency, mean, percentage, relative sufficiency, and graph) and inferential statistic (chi-square) approach have been used

RESULTS:

Table (1): Distribution of demographic characteristics of the study sample

	Study Groups	Percent	Freq.	C.S. P-value
Age Groups	< 20	5.8	3	$\chi^2 = 34.2$ P=0.00
	29-20	9.6	5	
	39-30	44.2	23	
	49-40	34.6	13	
	50 >	5.8	3	
Education Levels	Nursing school	5.8	3	$\chi^2 = 100.3$ P=0.00
	Firstary	13.5	7	
	Midwifery	75.5	39	
	Nursing institution	1.9	1	
	College	3.8	2	
Job titles	Nurse	11.5	6	$\chi^2 = 27.7$ P=0.00
	Nurse midwives	21.2	11	

	Midwives	67.3	35	
Years of work	< 5	44.2	23	$\chi^2 = 3.0$ P=0.21
	14-5	25.0	13	
	24-15	30.8	16	
Years of experience	10-1	42.3	22	$\chi^2 = 2.0$ P=0.36
	20-11	26.9	14	
	30-21	30.8	16	
No. of training course	5-1	51.9	27	$\chi^2 = 8.8$ P=0.01
	10-6	28.8	15	
	11 >	19.2	10	
Place of work	Hospital	82.7	43	$\chi^2 = 57.7$ P=0.00
	Hospital and House	3.8	2	
	Government and Private	13.5	7	
No. of delivery in Month	10-1	13.5	7	$\chi^2 = 10.3$ P=0.00
	20-11	15.4	8	
	30-21	40.4	21	
	31 >	30.8	16	
Time of work	Morning	55.8	29	$\chi^2 = 22.2$ P=0.00
	Evening	3.8	2	
	Both	40.4	21	

P= level of probability; χ^2 . = Chi-square

This table demonstrates that the highest percentage of the study sample (44.2%) were in age group of 30-39 years, (75%)were midwifery school graduate, while (67.3%) of them there job title were midwives (44.2%) of them had less than 5 years of work experience, while (42.3%)of them had 1-10 years of work experience in midwifery, and (51.9%) of them had 1-5 training courses and (82.7%) work in hospital, and 40.4%of them had attended between 21-30 deliveries in a month, (55.8%, $\chi^2 = 22.2$) of them worked in the morning shift.

Table (2): Mean, Standard deviation, Relative sufficiency and comparison significant for the study group of Questions Related to Practice checklist Regarding Practices during First Stage of Labor.

Items	Questions Related to Practice checklist	No	Pre Period				Post Period				Z Statistic	Asymp P-value
			M.	S.D.	R.S. %	Ass.	M.	S.D.	R.S. %	Ass.		
Practices during the First Stage	Observe fluid	52	1.17	0.38	39.0	Failure	2.94	0.24	98.0	Pass	-6.66	0.00
	Measure contraction	52	1.13	0.34	37.7	Failure	2.54	0.50	84.7	Pass	-6.35	0.00
	Measure fetal heart	52	1.42	0.57	47.3	Failure	2.65	0.48	88.3	Pass	-6.04	0.00
	Check vital signs	52	1.10	0.30	36.7	Failure	2.00	0.71	66.7	Pass	-5.48	0.00
	Vaginal examination in aseptic technique	52	1.65	0.62	55.0	Failure	3.00	0.00	100	Pass	-6.23	0.00
	Using partograph	52	1.00	0.00	33.3	Failure	1.15	0.36	38.3	Failure	-2.83	0.00
	Stay with mother	52	1.52	0.67	50.7	Failure	2.98	0.14	99.3	Pass	-6.19	0.00
	Check bladder	52	1.25	0.52	41.7	Failure	3.00	0.00	100	Pass	-6.62	0.00
	Encourage women to take bath	52	1.04	0.19	34.7	Failure	1.00	0.00	33.3	Failure	-1.41	0.15
	Encourage women to take suitable position	52	1.06	0.22	35.3	Failure	2.50	0.50	83.3	Pass	-6.10	0.00
	Encourage women to drink fluid	52	1.23	0.43	41.0	Failure	2.50	0.50	83.3	Pass	-6.23	0.00
	Encourage women to use breathing technique	52	1.35	0.59	45.0	Failure	2.77	0.43	92.3	Pass	-6.12	0.00

Failure: (33.33 – 66.66) ; Pass (66.67 – 100)

No=Number; M= Mean; S.D.= Standard Deviations ; R.S.=Relative Sufficiency ; P-value= Level of Probability

The study analysis presented low means regarding practices during the first stage in all nurse-midwives practices in pre-test with low relative sufficiency and all of them assessed as (Failure). While there were high mean scores in most practices, and assessed (Pass) in posttest after the implementation of the educational training program with high statistical significant except in(using partograph and encourage women to take bath)assessed (Failure),with high statistical significance in all practices except in (encourage the women to take bath).

Table (3): Mean, Standard deviation, Relative sufficiency and Improvement percent) for the study group of Main Domains Related to Practice checklist in Pre-Post Periods

Main Domains	Perio	No	M.	Std. Dev.	R.S.	Ass.	Imp. %
During First Stage	Pre	52	1.26	0.27	42.02	Under	57.97
	Post	52	2.42	0.13	80.6	Upper	

Cutoff Point =2: R.S. (33.33 – 66.66) ; (66.67 – 100) ; Imp. : Improvement = ((M_{post} - M_{pre})/(2))*100

No. = Number of sample; M= Mean; S.D.= Standard Deviations ; R.S.=Relative Sufficiency

This table shows scoring of the assessment of nurse-midwives practices improvement by different periods for First Stage after the implementation of educational training program. (57.97) improvement concerning practice during First stage of labor

DISCUSSION:

The study result shows that the highest percentage (44.2%) were in age group of (30-39) years and there are high significant differences in between groups ($\chi^2= 34.2$ P=0.000). This result consisted with study conducted by Collins et al who reported that the majority of midwives were aged between 25 and 39 years⁽⁷⁾, and WHO reported that the age of midwives will take a minimum of 25 years in some places, to have skilled care at all birth⁽³⁾ Chunyi et al in china reported that all participants were aged between 24 and 32 years⁽⁸⁾

Regarding education level the study found that the highest percentage (75%) (39) ($\chi^2= 100.3$ P=0.000) graduated from midwifery school and there are high significant differences between groups, the sample who work in delivery room were mostly midwifery school graduates. WHO assisted the educational level of midwives through the definition of midwives as a “person who, having been regularly admitted to a midwifery educational programmed, duly recognized in the country in which it is located, has successfully completed the prescribed course of studies in midwifery and has acquired the requisite qualifications to be registered and/or legally licensed to practice midwifery⁽¹⁾ Styles et al stated that the education of a skilled birth attendant should be of good quality at both pre-service and in-service levels with a system for supportive supervision.⁽⁹⁾ The result in current study shows that the highest

percentage (75%) their job title were midwives and there are high significant differences between groups. Most of the samples were graduated from midwifery Firstary school, and they are permanent registered midwives according to the policies of Ministry of Health (MOH) in Iraq.

Regarding years of work (44.2%) of them were working for less than (5) years and (42.3%) of them having (1-10) years of experiences in midwifery. Al-Ammari reported that (28%) of them were employed for (1-10) years while (32%) of them spent between (1-5) years of experience in midwifery, and Collins et al reported in their study that the sample were midwives who having (10) or more years of experience as a midwives. ⁽⁷⁾⁽¹⁰⁾ Regarding training course in midwifery the highest percentage (51.9 %) participated in training course ranging between (1-5)courses this result are in agreement with study of Al-Ammari who reported that (60.4%) of nurse-midwives sample having 1-5 courses. This result is consistent with study conducted by Bij De Vaate et al which concluded that the initial training of the midwives involved a six-week course from a national curriculum on the management of uncomplicated labor and the prevention, detection and response to obstetric complications.⁽¹⁰⁾⁽¹¹⁾ Hussain the instruction of Ministry of Health in Iraq (1988) reported that licenses of Midwives must be renewed annually after passing training course for one month (two weeks in the hospital and two weeks in primary health care centers).⁽¹²⁾ The study results shows that (82.7) of nurse-midwives work in governmental hospital only. While only ((13.5%) practicing in private hospital. This result agrees with result found in Al-Ammari in her study that the highest percentage (90%) of nurse-midwives practicing their profession at public hospital⁽¹⁰⁾. Fako et al found in study done in Botswana that the most common type of health facility in which nurse-midwives were based was a maternity ward (46.8 %).⁽¹³⁾ The result of the study also revealed that the highest percentage (40.4%) of the nurse-midwives attending (21-30) delivery in month,(30.8%)attending(>31) deliveries.

This percentage differs from hospital to another according to the hospital center and the population covered by the hospital and bed number of these hospital and the competencies of obstetricians and nurse-midwives in these hospital.

The highest percentage (55.8%) of study sample work in the morning shift while (40.4%) of them working in morning and evening shift and only (3.8%) working in the evening shift. Chunyi et al in china reported in their study that the midwives providing continuity of care did not have fixed working hours and all participants had experience of working continuously for 16 hours or so and they described their feelings of fatigue and lack of sleep when being with women⁽⁸⁾

Regarding knowledge during the first stage the study analysis related to knowledge of nurse-midwives presented low mean of scores in pre-test with low relative sufficiency and assessed as (Failure) in (Phases of first stage 0.71, 35.5), Cervical dilatation(0.98, 49.0), Transition phase (0.92, 46.0), Check contraction(0.90, 45.0), Check vital signs (0.67, 33.5), Normal fetal heart(0.69, 34.5), Limiting women mobilization(0.92, 46.0), Increase P.V during rupture membrane (0.88, 44.0), Meconium with amniotic fluid(0.00, 0.0), Amount of urine(0.00, 0.0), Using partograph (0.00), Colour of amniotic fluid (0.00, 0.0), Documented in partograph(0.00, 0.0) and partial in other .while there were high mean scores in all items, and assessed (Pass) in posttest after the implementation of the educational training program with high statistical significant (0.000) except in (Normal fetal heart(1.38, 69.0), Increase P.V. during rupture membrane(1.15, 57.5) and (Failure) Documentation in partograph (2.00, 100) as negative answer. The study analysis presented low mean of scores regarding practices during the First Stage in all item of nurse-midwives practice in pre-test with low relative sufficiency and all of them assessed as (Failure). While there were high mean scores in most items, and assessed (Pass) in posttest after the implementation of the educational training program with high statistical significant except in (using partograph (1.15, 38.3), encourage women to take bath (1.00, 33.3) are not significant.

This result is agree with Almuktar found that all items of knowledge regarding the use of partograph having low mean score in pre and post-test⁽¹⁴⁾.

Muia P et al stated that the partograph was reportedly used by over (80 %) of health care providers though facility differentials. The proportion of health care providers using the partograph during labor was 53.8 % in clinics and 71.4 % in health centers which percentage were lower than reported by health care providers in public health units in monitoring the progress of labor⁽¹⁵⁾.

The researcher found the delay in implementation of the partograph due to policy of some hospital that the doctor must do it in spite of WHO recommendation the nurse midwives work in delivery room and some midwives don't like to do it so give bath to mother is not in the facility of the hospital.

Muia P et al in study conducted (2001) found that hourly fetal heart rate observations in labor are the norm and not half -hourly. Significant facility differentials were observed in recorded monitoring of blood pressure in labor⁽¹⁵⁾.

CONCLUSION:

The study found there were low and moderate means in most items related to the practices of nurse-midwives regarding the care during first stage of labor in pre-test and while there were high mean scores in all items, and assessed Pass in posttest after the implementation of the training education program with high statistical significant.

RECOMMENDATIONS:

1. The study recommends that establishment of clinical practice standards for the first stage of labor according to the WHO.
2. Development of continuing education programs,
3. Establishes a baccalaureate degree program in midwifery.

REFERENCE:

- 1-World Health Organization (WHO): **Prevention of Postpartum Hemorrhage study, west jawa, Indonesia.** Geneva (2004).Retrieved 5-11-2010. Available at <http://www.jhpiego.org/resources/pubs/mnh/pphjavastudy> .
- 2- De Bernis L, Sherratt D, AbouZahr C,and Lerberghe W:**Skilled attendants for pregnancy, childbirth and postnatal care. World Health Organization,** Geneva, Switzerland: 2011.
- 3-World Health Organization WHO: **Integrated Management of Pregnancy and Childbirth Pregnancy, Childbirth, Postpartum and Newborn Care: A guide for essential practice. Geneva(2006).**retrieved 18/3/2011 from <http://www.who.int/>
- 4-World Health Organization. (WHO): **Models and tools for health workforce planning and projections.** (2010) (Human Resources for Health Observer, 3)
- 5- Federal Department of Nursing, MOH, UAE (2008) **Scope of Practice for the Midwife Scope of Practice for the Midwife.** Abu Dhabi: Jan 23 2008.
- 6- WHO, UNICEF, UNFPA and The World Bank (2008):**Trends in maternal mortality: 1990 to 2008.WHO Library Cataloguing- in-Publication Data**
- 7- Collins T, Fereday J, Fereday J and Oster C: An evaluation of the satisfaction of midwives' working in midwifery group practice **Midwifery J** August 2010; 26 (4): p 435-441.
- 8-Chunyi Gu, Zheng Z, Yan Ding RN: Chinese midwives' experience of providing continuity of care to laboring women. **Midwifery** 2011; 27(2) :p 243-249 Available online 22 August 2009.
- 9- Styles M, Cheyne H, Cheyne R: **Midwives' Intrapartum Decision Making** MPhil Thesis, University of Stirling (2008).

- 10- Al-Ammari, :**Assessment of Nurse-Midwives Knowledge and Practice Concerning Perinatal Care throughout stages of labor**, MSC.Thesis, College of Nursing/University of Baghdad, 2008, pp:64,70,74,95,102.
- 11- Bij de vaate A, Coleman R, Manneh H and Walraven G. Knowledge Attitude and Practices of Trained Traditional birth attendant in the Gambia in the prevention, recognition, and Management of postpartum Hemorrhage. **Midwifery journal**. 2002; 18: 3-11.
- 12- Husain AK. **Situation of midwifery in Iraq**. Ministry of Health, Iraq.2004:2-10.
- 13- Fako T, Forcheh N, Ncube E: Prospects of safe motherhood in Botswana: midwifery training and nurses' ability to complete the Botswana obstetric record **Social Science & Medicine**. March 2004; 58 (6): p 1109-1120.
- 14-Al- Muktar, S.: Effectiveness of an educational program regarding partograph on Nurse-Midwives knowledge & practices at delivery room in Mousel city, college of nursing / University of Baghdad, 2005. P:78-80
- 15-Muia P, Dlamin, D and Khumalo, P.A **reproductive Health need Assessment**: A report Finding from the kingdom of National Program Officer WHO, Swaziland Reproductive Health Program Manager, Ministry of Health and Social Welfare, Swaziland. August 2001.