

IMPACT OF AN EDUCATION TRAINING PROGRAM UPON NURSE-MIDWIVES PRACTICES CONCERNING PREPARATION OF WOMEN FOR LABOR ⁺

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Abstract:

The aim of this study is to identify the impact of training program application on nurse- midwife practice concerning preparation of women to the labor .

A quasi-experimental design conducted on non-probability (purposive) sample of (52) nurse- midwives was selected during period from 3th August to 10th November 2011.. The study is conducted in four hospitals of Ministry of Health (Baghdad health directorate in Al-Karhk and Al-Risafa) sector. The questionnaire form was designed and contained (3) parts which included demographic data, knowledge concerning practice during mother preparation for labor, practice checklist. Content validity and reliability of the questionnaire determined through a panel of experts, a pilot study, descriptive and inferential statistics are used to analyze the data.

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 knowledge and practices of nurse-midwives regarding prepare the women to 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 instructional program with high statistical significant .

The study recommended that establishment of clinical practice standards according to the WHO, development of continuing education programs, establish a baccalaureate degree program in midwifery .

اثر برنامج تثقيفي تدريبي على ممارسات الممرضات - القابلات فيما يتعلق بتحضير المرأة للولادة

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⁺Received on 3/7/2012 , Accepted on 29/5/2013 .

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المستخلص:

يهدف البحث الى معرفة اثر برنامج تعليمي تدريبي يطبق على الممرضات القابلات فيما يتعلق بتحضير المرأة للولادة دراسة شبه تجريبية, تم اختيار عينة غير احتمالية (عمدية) لاثنتان وخمسين قابله-ممرضه للفترة من 3 اب إلى 10 تشرين الاول /2011 وتم إجراء الدراسة في اربع مستشفيات لوزارة الصحة (دائرة صحة بغداد الكرخ والرصافة). صممت الاستمارة الاستبائية من (3) محاور تشمل الخصائص الديموغرافية و معارف الممرضات القابلات فيما يتعلق بتحضير الام للولادة ومحور الممارسات, و تم تحديد صدق المحتوى وثبات الاستمارة الاستبائية من خلال عينه من الخبراء و الدراسة الاستطلاعية واستخدام الإحصاء الوصفي والاستنتاجي في تحليل البيانات . تشير نتائج الدراسة إن أعلى نسبة (4402%) من أفراد عينة الدراسة تتراوح أعمارهن بين 30 - 39 سنة ومتخرجات من اعدادية القبالة وان(4203%) لديهن 1-10سنة خبره في مهنة القبالة .هناك انخفاض ووسط في متوسط معلوماتهم وممارساتهن فيما يتعلق بتحضير المرأة للولادة في الاختبار القبلي وقيم(جزئي) بينما هناك ارتفاع في متوسط معلوماتهن وممارساتهن بعد تطبيق البرنامج وبدلاله اجصائيه عاليه اتوصي الدراسة باستحداث مقياس عملي وفق معايير منظمة الصحة العالمية , تطوير برنامج التعليم المستمر , استحداث برنامج لدرجة البكلوريوس .

Introduction:

The fifth Millennium Development Goal (MDG-5) calls for reducing the maternal mortality ratio (MMR) by three quarters between 1990 and 2015 (United Nations Development Programme 2008) [1] . 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. The socio- economic and political situation moreover greatly influences availability of services. Conflict affected populations, for example, are extremely vulnerable and often void of care due to internal displacement, also of health professionals [3]

For a number of reasons many countries lack the human resources needed to deliver essential health interventions, including limited production capacity, emigration of health workers, poor mix of skills and demographic imbalances. It is increasingly recognized that the effective mobilization of the health workforce is the single most important obstacle to improving the performance of health systems and achieving key health objectives, particularly in low- and middle-income countries. In addition, most countries – developed and developing – face significant public financing constraints for health service provision at a time when levels of public demand and expectation are rising [4] .

Of all health statistics, those for maternal mortality show the greatest disparity between developing and developed countries: more than 99% of maternal deaths occur in poor countries, where women run a lifetime risk of dying from a pregnancy-related complication about 250-fold higher than women in developed countries [5] .

Aim of this study: is to identify the impact of training education program applied on nurse-midwife practice concerning prepares the women for labor. Examine the relationship between their knowledge regarding practices and some Demographic information's.

Methodology:

A quasi-experimental design was carried out throughout the present study with the application of a pre-test and posts –test for their knowledge regarding the practices through preparation of mother for labor and pre -test and post -test checklist for their practices observation during preparation of mother for labor.

Non-probability (purposive) sample consists of (52) nurse- midwife. The sample pre tested, Educational training program implemented then post test. 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 – Risafa 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 program, as well as throughout review of related literatures and previous studies. The questionnaire form was designed consisted of three parts which included nurse- midwives demographic data, (19) 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 (15) 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 preparation for pregnant woman in the delivery room. Each nurse midwives observed five times, (4-5) times considered as always (doing the practice correctly), (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 selected from Al-Elwia maternity teaching hospital in al-Russafa 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 safe delivery. To evaluate the validity of the questionnaire form, the researchers presented it to

thirteen experts in different fields. Reliability of the questionnaire was determined through the use of Pretest and Posttest approach, with an interval of about three weeks, for the determination of interval consistency of nurse-midwife knowledge and practice regarding safe delivery. $R = 0.97$ and for practices, $R = 0.76$ which are statistically acceptable.

The statistical procedures include: Descriptive statistic (frequency, mean, percentage, relative sufficient and graph) and inferential statistic (z test) approach have been used to analytic data.

Results :

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

	Groups	Freq.	Percent
Age Groups	< 20	3	5.8
	20 – 29	5	9.6
	30 – 39	23	44.2
	40 – 49	18	34.6
	>50	3	5.8
Education Levels	Nursing school	3	5.8
	Secondary	7	13.5
	Midwifery	39	75.5
	Nursing institution	1	1.9
	College	2	3.8
Job titles	Nurse	6	11.5
	Nurse midwives	11	21.2
	Midwives	35	67.3
Years of work	< 5	23	44.2
	5 – 14	13	25.0
	15 – 24	16	30.8
Years of experience	1 – 10	22	42.3
	11 – 20	14	26.9
	21 – 30	16	30.8
No. of training course	1 – 5	27	51.9
	6 – 10	15	28.8
	11 >	10	19.2
Place of work	Hospital	43	82.7
	Hospital and House	2	3.8
	Government and Private	7	13.5
No. of delivery in Month	1 – 10	7	13.5
	11 – 20	8	15.4
	21 – 30	21	40.4
	31 >	16	30.8
Time of work	Morning	29	55.8
	Evening	2	3.8
	Both	21	40.4

Table (1) shows that the highest percentage (44.2%) of them were in age group of 30-39 years, and the highest percentage 75% were graduated from midwifery school, while 67.3%

of them their were midwives 44.2% of them had less than 5 years of work, while 42.3% of them had 1-10 years of work experience in midwifery, 51.9% of them had 1-5 training courses and (82.7%)work in hospital, 40.4%of them had attended between 21-30 deliveries in a month, and 55.8% of them worked in the morning shift.

Table (2) Mean, Standard deviation, Relative sufficiency and comparison significant Related to Knowledge of Nurse –Midwives Concerning Practice in Pre-Post Periods Regarding Prepare the Mother for Labor.

Items	Questions Related to Knowledge of Nurse –Midwives concerning practice	No.	Pre test				Post test				Z Statistic	Asymp . P-value
			M.	S.D.	R.S. %	Ass.	M.	S.D.	R.S. %	Ass.		
Prepare the mother for Labor	1. prepare the instruments	52	0.94	0.61	47.0	Failure	2.00	0.00	100	Pass	-6.108	0.00
	2. Prepare the surgery set	52	0.58	0.91	29.0	Failure	1.88	0.47	94	Pass	-5.831	0.00
	3. Respect the women	52	0.88	1.00	44.0	Failure	2.00	0.00	100	Pass	-5.385	0.00
	4. Explain the procedure to women	52	0.88	1.00	44.0	Failure	2.00	0.00	100	Pass	-5.385	0.00
	5. Give Psychological support	52	0.69	0.96	34.5	Failure	1.81	0.60	90.5	Pass	-5.209	0.00
	6. Take women agreements	52	0.96	1.01	48.0	Failure	1.92	0.39	96.0	Pass	-4.642	0.00
	7. Privacy	52	0.58	0.91	29.0	Failure	1.85	0.54	92.5	Pass	-5.425	0.00
	8. Importance of women agreements	52	1.08	1.01	54.0	Failure	1.92	0.39	96.0	Pass	-4.491	0.00
	9. Women bath	52	0.69	0.96	34.5	Failure	1.69	0.73	84.5	Pass	-4.747	0.00
	10. Perineum shaving	52	0.65	0.95	32.5	Failure	1.85	0.54	92.5	Pass	-5.096	0.00
	11. Use a septic lotion for perineum	52	0.81	0.99	40.5	Failure	1.88	0.47	94.0	Pass	-5.112	0.00
	12. Clean with water and soap	52	1.27	0.97	63.5	Partial	1.88	0.47	94.0	Pass	-3.578	0.00
	13 .Encourage mother to empty bladder	52	1.04	1.01	52.0	Partial	1.65	0.76	82.5	Pass	-3.266	0.00
	14 .Use catheter to empty bladder	52	0.38	0.80	19.0	Failure	1.88	0.47	94.0	Pass	-6.091	0.00
	15 .Check vital signs	52	0.27	0.69	13.5	Failure	1.69	0.73	84.5	Pass	-5.925	0.00
	16 .Check blood group and RH	52	0.96	1.01	48.0	Failure	1.85	0.54	92.5	Pass	-4.271	0.00
	17 .Check previous scar	52	1.12	1.00	56.0	Partial	1.69	0.73	84.5	Pass	-3.273	0.00
	18 .Give solid food	52	1.15	1.00	57.5	Partial	1.85	0.54	92.5	Pass	-3.838	0.00
	19. Give soft food	52	1.37	0.49	68.5	Partial	1.48	0.64	74.0	Partial	-1.134	0.25

Failure : (0 – 49) ; Partial : (50 – 74) ; Pass (75 – 100)

Negative answer.

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

Regarding knowledge concerning prepare the mother for labor , the table shows that there were low Means in most items related to knowledge of nurse-midwives in pre-test with low relative sufficiency and most of them assessed as (Failure) except in items (12 , 13,17,18,19) assessed as partial .While there were high mean scores in all items, and assessed Pass in post test after the implementation of the instructional program with high statistical significant except in item(19) assessed as partial.

Table (3): Mean, Standard deviation, Relative sufficiency and comparison significant Related to Practice checklist for Prepare Mother for Labor

Items	Items Related to Practice Checklist	No .	Pre test				Post test				Z Statistic	Asymp .P-value
			M.	S.D.	R.S. %	Ass.	M.	S.D.	R.S. %	Ass.		
Prepare the mother for Labor	Prepare trolley ,blanket ,	52	1.52	0.50	50.7	Failure	2.29	0.46	76.3	Pass	-5.47	0.00
	Prepare Sonecat	52	1.23	0.51	41.0	Failure	2.23	0.43	74.3	Pass	-6.26	0.00
	Prepare episiotomy set	52	1.85	0.67	61.7	Failure	2.50	0.50	83.3	Pass	-4.18	0.00
	Prepare instrument for cutting the cord	52	2.10	0.50	70.0	Pass	2.81	0.40	93.7	Pass	-5.50	0.00
	Prepare catheter to empty bladder	52	1.29	0.57	43.0	Failure	2.50	0.50	83.3	Pass	-5.89	0.00
	Prepare Placenta dish	52	1.12	0.32	37.7	Failure	2.83	0.38	94.3	Pass	-5.93	0.00
	Room temperature	52	1.37	0.71	45.7	Failure	3.00	0.00	100	Pass	-6.41	0.00
	Respect mother	52	1.56	0.57	52.0	Failure	2.50	0.50	83.3	Pass	-5.34	0.00
	Encourage women to ask and listening for her	52	1.21	0.41	40.3	Failure	2.50	0.50	83.3	Pass	-6.10	0.00
	Tell mother what to do before procedure	52	1.21	0.41	40.3	Failure	2.50	0.50	83.3	Pass	-6.10	0.00
	Direct the mother how to push	52	1.54	0.67	51.3	Failure	2.71	0.46	90.3	Pass	-5.99	0.00
	Allow mother to take position	52	1.19	0.40	39.7	Failure	2.50	0.50	83.3	Pass	-6.16	0.00
	Keep mother privacy	52	1.75	0.79	58.3	Failure	2.50	0.50	83.3	Pass	-4.43	0.00
	Cover mother's leg	52	1.02	0.14	34.0	Failure	2.00	0.00	66.7	Pass	-7.14	0.00
	Change cloth	52	1.33	0.65	44.3	Failure	2.35	0.79	78.3	Pass	-5.48	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 table shows that there were low Means in most of nurse-midwives practices regarding prepare the instruments and mother for labor in pre-test with low relative sufficiency and most of them assessed as (Failure) except in (prepare instrument for cutting the cord)practice. While there were high mean scores in all practices, and assessed (Pass) in posttest after the implementation of the instructional program with high statistical significance in all practices.

Table (4): Improvement percents for the study group of Main Domains Related to Knowledge in Pre-Post Periods.

Main Domains	Period	No.	M.	Std. Dev.	R.S.%	Ass.	Imp. %
Prepare the mother for Labor	Pre	52	0.84	0.28	41.90	Under	50.25
	Post	52	1.84	0.19	92.16	Upper	

Cutoff Point : (R.S. % = 50.00%) ; Imp. : Improvement = $((M_{post} - M_{pre}) / (2)) \square 100\%$

The findings of this table indicate that the knowledge of nurse-midwives improve by different periods for overall domains after the implementation of instructional program. The highest percentage (50.25%) of nurse-midwives improved their knowledge concerning prepare the mother for labor from under cut of point to uppercut of point.

Table (5): Improvement percent for the study group of Main Domains Related to Practice checklist in Pre-Post Periods

Main Domains	Period	No.	M.	Std. Dev.	R.S.%	Ass.	Imp. %
Prepare the mother for labor	Pre	52	1.351	0.35	45.03	Under	54.69
	Post	52	2.445	0.14	81.49	Upper	

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

This table shows that practices of nurse-midwives practices improvement by different periods for overall domains after the implementation of instructional program.(54.69%) improvement concerning practice of preparing the woman for labor .

Table (6): Relationship between Socio.-demographic Characteristics and changes Knowledge and Practices (Pre-Post periods)

Dem. Var.'s	Overall Assessment Related (O.A.R.) to:			
	Knowledge		Practice checklist	
	Contingency Coefficient	P-value	Contingency Coefficient	P-value
Age Groups	0.25	0.47	0.17	0.80
Educational Level	0.34	0.13	0.27	0.38
Job Title	0.37	0.01 ☐	0.18	0.47
Years of Work	0.29	0.01 ☐	0.19	0.34
Experience in midwifery	0.29	0.07	0.19	0.34
Training course	0.31	0.05 ☐	0.31	0.05 ☐
Area of work	0.09	0.79	0.11	0.71
No. Of Deliveries	0.35	0.06	0.33	0.08
Time of work	0.13	0.62	0.12	0.56

☐ high significant

☐ Significant

This table shows that the Nurse-midwives (Knowledge and Practices) had no relationship with their socio-demographic characteristics in the overall assessments in multiple periods, except in (Job title and years of work) was significant in relation with their knowledge

Discussion:

The study result indicated that the highest percentage (44.2%) of the mother that age range between (30-39) years. 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] .

Regarding education level the study found that the highest percentage (75%) graduated from midwifery school. 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 [6] .

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 in Baghdad reported that (28%) of them were employed for (1-10) years while (32%) of them spent between (1-5) years of experience in midwifery [7] . 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[7] [8].

Hussain indicate that 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) [9] .

The study results show that 82.7 of nurse-midwives work in governmental hospital only. While only 13.5% practicing in private hospital. This result agrees with Al-Ammari found in her study that the highest percentage (90%) of nurse-midwives practicing their profession at public hospital [7] .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 location of the hospital 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 [10]

Regarding knowledge concerning prepare the mother for labor the study results shows that there were low mean of scores in most items related to knowledge of nurse-midwives in pre-test with(low) relative sufficiency and most of them assessed as (Failure)except in{Encourage mother to empty bladder .Check previous scar . Give solid food. While there were high mean scores in all items, and assessed Pass in post test after the implementation of the instructional program with high statistical significant except in give soft food assessed as partial.

While Regarding practice in preparing instrument there were low mean of scores in most items of nurse-midwives practice regarding preparation of instrument in pre-test with low relative sufficiency and most of them assessed as (Failure) except in (prepare instrument for cutting the cord. While there were high mean scores in all items, and assessed (Pass) in posttest after the implementation of the instructional program with high statistical significance in all items.

This result in agreement with study done by Alammari (2008) which found that low mean of score (of practices regarding the preparations for the mother (psychological and physical preparation during labor) such as maintain the dignity of the pregnant throughout labor, give emotional support, give information as mother need encourage the mother to urinate frequently [7] .

The findings indicate that the assessment of nurse-midwives knowledge improve by different periods for overall domains after the implementation of instructional program. The highest percentage (50.25%) of nurse-midwives improved their knowledge concerning prepare mother for labor and (54.69%) improvement concerning practices during prepare the women. Simbar et al (2009) in a study (Assessment of quality of midwifery care in labor wards of selected Kordestan Medical Science university hospitals) found that midwifery care was provided in different stages of labor, The lowest scores related to the domains of "emotional support", "hand wash" and assessment of vital signs" [11] .

The correlation reported that the improvement of the Nurse-midwives knowledge and practices) had no relationship with their socio-demographical characteristics in the overall assessments of knowledge and practices program in multiple periods, except in (Job title, years of work) was significant. Farrell found: A total of 31 nurse and 36 midwives were included in the study and control towns respectively. There were no differences regarding the age, level of training and experience between the 2 groups. The mean percentages obtained in the pre-tests did not differ between the study and control towns. The post tests showed a significant ($p=0,0000$) improvement of 35,8% in the study town and no change in the control towns [12]. Walker et al, found that there was a statistical relationship between the nurse who work in the hospital for a long period & their experience in hospital & improvement in the skill&knowledge[13].

Regarding Nurse- Midwives age, the study was not in agreement with the result of the study conducted by AL- Shkrawe which stated that, the younger Nurse- Midwives have more practices than the older ones may be the younger still have the knowledge and practice because they new gradated and they don't do the malpractice. [14] And was consistent with Durham who stated that older nurses had better performance than younger probably due to their orientation and the benefits that may gain out of their employment for long period of experience[15] .

Sanadin & others who indicated that the youngest ages of nurse- Midwives where found to gain improvement in the knowledge more than the older ones [16] Also Mamb stated that the youngest ages were found with most knowledge because they are recently qualified and the knowledge of high risk factors is relatively fresh to apply practices and to give care in proper way to the woman during stages of labor [17] .

AL- Shkrawe in her study stated that the Nurse- midwives practices are unsatisfactory due to poor knowledge and skill, techniques or unavailability of resources and facilities required, lack of services and training courses to improve their knowledge and skill [14] present study shows that the nurse-midwives have good knowledge, but they have inadequate practice performance , also due to lack of continuing education and training courses, lack of supervision on their performance, lack of resources availability.

Conclusion :

In accordance with the results of this study the researcher can conclude the following:

The highest percentage of the study sample were in age group of 30-39 years and midwifery school graduate .

There were low and moderate Means in most items related to the knowledge and practices of nurse-midwives regarding prepare the women to labor in pre-test While there were high mean scores in all items after the implementation of the instructional program with high statistical significant .

The assessment of nurse-midwives knowledge and practices improved by different periods for overall domains after the implementation of instructional program.

Recommendations:

The study recommends that advanced certification for midwifery need to be developed. Recertification (certificate maintenance) program need to be developed. Development, and administration of continuing education programs,

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