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Pre-service and in-service education and training for maternal and newborn care providers in low- and middle-income countries

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Supplementary Table 1. Pre-Service Education Interventions (N=7)

First author, publication date	Study Design	Country	Trainees	Intervention	Theoretical Basis of Intervention	Level of Evidence
Studies providing data regarding pre service degree programmes as a whole						
Moores 2016	Cross-sectional study	Papua New Guinea	Midwives educated over the 4 year period (2012-2015) representing half of all midwives in Papua New Guinea (N=394)	<p><i>Course award.</i> Post-nursing Bachelor of Midwifery degree.</p> <p><i>Duration.</i> 12 months</p> <p><i>Curriculum.</i> 60% practical component.</p> <p>One month rural placement.</p> <p>EmOC Course included.</p> <p><i>Facilitators.</i> Eight international clinical midwifery educators appointed to work with national midwifery educators to build capacity in teaching.</p> <p><i>Resources.</i> Clinical simulation resources.</p>	Competency based programme underpinned by a new curriculum framework	Observational Descriptive Cross-sectional study – level 4b

Sharma 2015	Cross-sectional study	Gujarat Northwest India	Final-year students from pre-service education programmes (N=633)	<p><i>Course award.</i> Diploma or Bachelor's Degree in Midwifery.</p> <p><i>Duration.</i> 3.5 or 4 years depending on award. The time allotted to midwifery in both programmes is 11-19%.</p> <p><i>Curriculum.</i> Not described</p> <p><i>Facilitators.</i> Not described</p> <p><i>Resources.</i> Not described</p>	Not described	Observational Descriptive Cross-sectional study – level 4b
Yigzaw 2015	Cross-sectional study	Ethiopia	Graduating students from 25 public training institutions who completed basic midwifery skills education in Ethiopia in 2013 (N=484)	<p><i>Course Award.</i> Three types of midwifery education programme were compared: direct entry midwifery diploma TVET programme; accelerated midwifery diploma training programme for diploma-level nurses; which is competency based curriculum;</p> <p>University Midwifery Degree</p> <p><i>Duration.</i> TVET Diploma is 3 years, Accelerated TVET programme is 1 year, and University programme is 4 years.</p> <p><i>Curriculum.</i> Both TVET programmes were competency based curricula and</p>	TVET was competency based programmes University was subject based programme	Observational Descriptive Cross-sectional study – level 4b

				<p>the University programme had a subject-based curriculum.</p> <p><i>Facilitators.</i> Not described</p> <p><i>Resources.</i> Not described</p>		
Zainullah 2014	Cross-sectional study	Afghanistan	An assessment of a sample of midwifery school graduates (N=138)	<p><i>Course Award.</i> Actual award not detailed. Paper compared two types of pre-service midwifery education programs:</p> <p>Institutes of Health Sciences schools recruited 12th grade graduates who had passed a national University Entry exam and placed them in hospitals;</p> <p>CME schools recruited 9th-12th grade graduates nominated by community leaders and assessed by a selection committee and placed them in rural clinics.</p> <p><i>Duration.</i> Both programmes conducted at an intensified pace of 24 months (N.B. the CME programme was originally 18 months as it did not take a</p>	Competency based programme	<p>Observational Descriptive</p> <p>Cross-sectional study – level 4b</p>

				<p>3 month winter break but this was extended to 24 months following preliminary evaluation results).</p> <p><i>Curriculum.</i> Both programs adhered to international standards by requiring that graduates must achieve the ICM core competencies.</p> <p><i>Facilitators.</i> Not described</p> <p><i>Resources.</i> Not described</p>		
Study providing data about one specific component of a pre service education programme						
Agrawal 2016	Repeat cross-sectional	India	<p>Trainee midwives from 2 general nurse midwife training schools.</p> <p>Comprised of a pre-intervention cohort (N=83) and post-</p>	<p><i>Duration.</i> 72 hour virtual classroom training package.</p> <p><i>Curriculum.</i> Developed by Jhpiego and based on national curricula for nursing and midwifery Students. Incorporated evidence-based techniques such as case-based learning, clinical simulations, demonstrations, practice, and feedback.</p> <p>Package focused on building midwifery knowledge and clinical skills of</p>	Not described	<p>Observational Descriptive</p> <p>Cross-sectional study – level 4b</p>

			<p>intervention cohort (N=92)</p> <p>students in antenatal (17 hours), intra-partum and immediate post-partum (27 hours), postnatal care (6 hours), neonatal care (8 hours), family planning (4 hours) and others (10 hours).</p> <p><i>Facilitators.</i> Teachers and students from remote areas connected with experts from urban settings through live streaming.</p> <p><i>Resources.</i> Simulation models.</p>			
Balasubramaniam 2017	Repeat cross-sectional	India	<p>Trainee midwives from 2 general nurse midwife training schools.</p> <p>Comprised of a pre-intervention cohort (N=85)</p>	<p>This is the same intervention as Agrawal et al. (2016). It has been repeated and evaluated in a subsequent cohort of students.</p>	<p>Not described</p>	<p>Observational Descriptive</p> <p>Cross-sectional study – level 4b</p>

			and post-intervention cohort (N=51)			
Tyer-Viola 2012	Quasi-experimental controlled study	Zambia	Midwifery Students (N=34)	<p><i>Duration.</i> Not described.</p> <p><i>Curriculum.</i> Intervention students worked through two simulated scenarios (evaluation of pregnancy and labour). Intervention students and control students all received standard teaching which was a lecture and case review.</p> <p><i>Facilitators.</i> University faculty.</p> <p><i>Resources.</i> Simulation models.</p>	Described as the theoretical model of novice to expert.	Quasi-experimental prospectively controlled study – level 2c

Notes: EmOC = Emergency Obstetric Care; TVET = Technical and Vocational Education Training Programme; CME = Community Midwifery Education; ICM = International

Confederation of Midwives

Supplementary Table 2. Characteristics of In-Service Education Interventions (N=10)

Study	Study Design	Country	Trainees	Intervention	Theoretical Basis of Intervention	Level of Evidence
Akin-Otiko 2013	One group pre- and post- intervention test	Nigeria (Kaduna State)	Midwives at first level maternal and child care facilities (N=15)	<p><i>Course focus.</i> IPCC</p> <p><i>Duration.</i> 3 days and 3 follow-up visits</p> <p><i>Curriculum.</i> Capacity building approach to empowering midwives for result-oriented client education and friendly service at first level of midwifery practice.</p> <p><i>Facilitator.</i> Not described.</p> <p><i>Resources.</i> Not described</p>	Behaviour Change Theoretical Framework	Quasi-experimental pre- and post-test without a control group – level 2d
Ameh 2012	One group pre- and post- intervention test	Somalia	Health care professionals which included nurses, midwives, midwifery tutors, obstetricians, medical officers, medical interns, and final-year medical	<p><i>Course focus.</i> Life Saving Skills - EmOC&NC Course.</p> <p><i>Duration.</i> 4 days</p> <p><i>Curriculum.</i> Direct causes of maternal death, signal</p>	Not described	Quasi-experimental pre- and post-test without a control group – level 2d

			and midwifery students in private or public settings (N=222). Traditional Birth Attendants were excluded.	functions of EmOC, and competencies of skilled birth attendants <i>Facilitators.</i> Not described. <i>Resources.</i> Participants provided with a training manual and CD-ROM of guidelines and videos Healthcare facilities received adult and newborn resuscitation bags and masks, posters in Somali on maternal and newborn resuscitation, eclampsia treatment, and management of obstetric haemorrhage.		
Ameh 2016	One group pre- and post- intervention test	7 sub-Saharan Africa countries (Ghana, Kenya, Malawi,	Healthcare providers working in maternity wards (N=5,939).	<i>Course focus.</i> 'skills and drills' training in emergency obstetric and newborn care (EmOC&NC) <i>Duration.</i> 3-5 days	Described as being based on the principles of adult learning	Quasi-experimental pre- and post-test without a control group – level 2d

		Nigeria, Sierra Leone, Tanzania, Zimbabwe) and 2 Asian countries (Bangladesh, Pakistan).		<p><i>Curriculum.</i> Competency based programme using a Standardised EMOc training package. Training involves short lectures (15%), simulation (40%), role play and workshops (30%), mentoring (5%), monitoring and evaluation (10%).</p> <p><i>Facilitators.</i> Multidisciplinary approach for students and facilitators.</p> <p>Facilitators had participated in Training of Trainers.</p> <p><i>Resources.</i> Not described.</p>		
Andreatta 2011	One group pre- and post- intervention test	Ghana	Nurse–midwifery students (N = 22), practicing nurse–midwives (N = 89) and traditional birth attendants (N = 14).	<p><i>Course focus.</i> Post-partum haemorrhage.</p> <p><i>Duration.</i> 2 days.</p> <p><i>Curriculum.</i> A simulator with objective performance feedback was used. A culture</p>	Not described	Quasi-experimental pre- and post-test without a control group – level 2d

				<p>specific pedagogy was implemented using group work, games and written materials.</p> <p><i>Facilitators.</i> Where necessary a clinical trained translator helped facilitate</p> <p><i>Resources.</i> For traditional birth attendants songs, dance and image-only materials were added.</p>		
Bookman 2010	One group pre- and post- intervention test	Ghana	Labour ward midwives (N=14)	<p><i>Course focus.</i> Neonatal resuscitation.</p> <p><i>Duration.</i> 3 hour session.</p> <p><i>Curriculum.</i> Didactic session based on the American Academy of Paediatrics Neonatal Resuscitation Handbook and extensive hands-on teaching in basic resuscitation techniques.</p>	Not described	Quasi-experimental pre- and post-test without a control group – level 2d

				<p><i>Facilitators.</i> Certified instructors from the USA.</p> <p><i>Resources.</i> Not described.</p>		
Cavicchiolo 2017	One group pre- and post- intervention test	Mozambique	Midwives in an urban hospital (N=16)	<p><i>Course focus.</i> Neonatal resuscitation.</p> <p><i>Duration.</i> 1 day.</p> <p><i>Curriculum.</i> Lectures, skill stations and practical scenarios</p> <p><i>Facilitators.</i> Not described.</p> <p><i>Resources.</i> Not described.</p>	Not described	Quasi-experimental pre- and post-test without a control group – level 2d
Faucher 2016	One group pre- and post- intervention test	India	31 nurse midwives (N=31)	<p><i>Course focus.</i> Delayed Cord Clamping.</p> <p><i>Duration.</i> Not described.</p> <p><i>Curriculum.</i> Involved a lecture and simulation, whereby audit and feedback using a simulation model of learning for performance assessment were added to promote the uptake of the new behaviour</p>	<p>Knowledge to Action Translational Framework guided the development and implementation of the workshop which aimed to build capacity.</p>	Quasi-experimental pre- and post-test without a control group – level 2d

				<p><i>Facilitators.</i> Not described.</p> <p><i>Resources.</i> Not described.</p>		
Mirkuzie 2014	One group pre- and post- intervention test	Ethiopia	Midwives (N=61) and nurses (N=21)	<p><i>Course focus.</i> Basic EmOC</p> <p><i>Duration.</i> 18 days</p> <p><i>Curriculum.</i> 8 days of classroom sessions with demonstrations, videos, case studies and role play. Then 10 days of skills training using demonstrations and clinical sessions.</p> <p><i>Facilitators.</i> Delivered by Ethiopian Midwifery Association under close supervision of project team who appear to be from Norway.</p> <p><i>Resources.</i> Low technology simulation.</p>	Described as a mastery learning approach.	Quasi-experimental pre- and post-test without a control group – level 2d

Ojemeni 2017	Case study	Tanzania	Nurses and midwives from two hospitals who served in administration and leadership roles and also still practiced on wards (N=19).	<p><i>Course focus.</i> Mentoring and preceptorship.</p> <p><i>Duration.</i> 1 week.</p> <p><i>Curriculum.</i> A weeklong training course was developed based upon a needs assessment and tailored to each hospitals' specific needs.</p> <p>Clinical case studies underpinned curriculum.</p> <p>Included different methods of delivery: teach back, small group work, demonstrations, role play and simulation.</p> <p><i>Facilitators.</i> Designed and facilitated by international nursing and midwifery education specialists.</p> <p><i>Resources.</i> Low technology simulation.</p>	Not described	Observational Descriptive Case study – level 4d
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Satishchandra 2009	One group pre- and post- intervention test	India	Traditional Birth Attendants (N=50). 20 of the participants had received formal training prior to undertaking the intervention.	<p><i>Course focus.</i> Safe delivery and newborn care including breastfeeding.</p> <p><i>Duration.</i> 2 days teaching with follow-up visits over 5 months.</p> <p><i>Curriculum.</i> Lectures, demonstrations and interactive sessions.</p> <p><i>Facilitators.</i> Obstetricians, paediatricians and public health specialists from the nearest medical college.</p> <p><i>Resources.</i> Flipcharts, video clippings and models.</p>	Not described	Quasi-experimental pre- and post-test without a control group – level 2d
Shrestha 2013	One group pre- and post- intervention test	Nepal	Nurses working in maternity units in Kathmandu (N=30)	<p><i>Course focus.</i> Newborn care.</p> <p><i>Duration.</i> 1 hour.</p> <p><i>Curriculum.</i> Discussion and guidance for self-directed learning.</p> <p><i>Facilitators.</i> Not described.</p>	Curriculum underpinned by the transtheoretical model of behaviour change	Quasi-experimental pre- and post-test without a control group – level 2d

				<p><i>Resources.</i> Self-directed learning with reading materials on essential care for every baby</p>		
Woods 2015	<p>Non-randomised controlled experimental design (NB colleagues of participants receiving the CME programme were also assessed)</p>	Cambodia	<p>Midwives (N=47) and doctors involved in labour and delivery in 33 hospitals (N=210).</p>	<p><i>Course focus.</i> Maternal and newborn care.</p> <p><i>Duration.</i> 3 x 1 day modules with follow-up support visits.</p> <p><i>Curriculum.</i> Skills-based CE program. Each CSP module consisted of a 1-day practice session, focusing on three maternal and newborn interventions. This included group discussion and simulation around different cases.</p> <p>Followed by support visits to participating hospitals to monitor skill use, answer</p>	Not described	<p>Quasi-experimental prospectively controlled study – level 2c</p>

				<p>questions and run another simulation.</p> <p>Modules covered eclampsia, PPH, family planning, labour monitoring, NR, breech delivery, infection control, PROM, pre-term bleeding and alternative birth positions</p> <p><i>Facilitators.</i> International and local facilitators ran sessions.</p> <p><i>Resources.</i> Low technology simulators.</p>		
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Notes: IPCC = Interpersonal Communication and Counselling; CE = Continuing Education; EmOC&NC = Emergency Obstetric and Newborn Care; CSP = clinical skills practice, TBA =

Traditional Birth Attendant

Supplementary Table 3. Results of Pre-Service Education Interventions (N=7)

First Author, Publication Year	Participation (L1)	Self-assessment of skills (L2)	Knowledge (L2)	Skills Assessment (L2)	Behaviour Change (L3)	Benefits to women (L4)	Change in organisational practice (L4)
Moores, 2016	88% felt theoretical component of course prepared them for practice. 81% felt practical component of course prepared them for practice.	90-97% believed they could perform ICM basic skills independently. 65%-97% believed they could perform ICM advanced skills independently although up to 40% felt they required supervision with some skills (e.g. breech birth, pre-eclampsia management, external cephalic version). >50% felt they required more training in family planning	Not measured	Not measured	Not measured	Not measured	Not measured

Sharma 2015		<p>Antepartum care: 40% of below 50th percentile for confidence</p> <p>Intrapartum care: 41-49% below 50th percentile for confidence for different aspects of care</p> <p>Postpartum care: 46-47% below 50th percentile for confidence for different aspects of care</p> <p>Newborn care: 43-50% below 50th percentile for confidence for different aspects of care</p>	Not measured	Not measured	Not measured	Not measured	
Yigzaw 2015	University students were significantly less satisfied with the learning environment than	Not measured	Not measured	Summary score of average performance across all stations = 51.8% % of students having summary score equal or greater than the	Not measured	Not measured	

	<p>TVET students ($p < 0.001$).</p> <p>55.5%-79.8% of students responded positively to the items on classroom resources and learning.</p> <p>33.6%-52.9% of students responded positively to the items on skills lab resources and learning.</p> <p>28.6%-54.6% of students responded positively to the items on clinical</p>			<p>national passing standard of 60% = 31.6%</p> <p>University students scored significantly higher than TVET in the following:</p> <p>Vacuum assisted delivery (40.9% vs 34.5%, $p = 0.016$);</p> <p>manual vacuum aspiration (37.4% vs 29.9%, $p = 0.007$);</p> <p>partograph interpretation (58.4% vs 38.4%, $p < 0.001$);</p> <p>family planning (71.9% vs 64.9%, $p = 0.014$) and</p> <p>integrated management of childhood illness (45.2% vs 39.7%, $p = 0.024$).</p> <p>TVET students scored significantly higher than University students in the following:</p>			
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	resources and learning.			<p>Assisting normal delivery (70.9% vs 55.3%, $p = 0.073$); active management of 3rd stage of labour (71.7% vs 64.1%, $p < 0.001$); and newborn resuscitation (55.2% vs 44.8%, $p = 0.001$).</p> <p>There were no significant differences between University and TVET students in the following: antenatal history taking (46.0% vs 43.8%, $p = 0.579$); and postpartum counselling (61.0% vs 64.5%, $p = 0.092$).</p>			
Zainullah 2014	Not measured	Not measured	Not measured	<p>There was no significant difference between CME and IHS students in overall competency score (63.2% vs 57.3%, $p = 0.098$).</p>	Not measured	Not measured	

				<p>CME students scored significant higher than IHS students in shock management (38.2% vs 24.6%, $p = 0.003$); manual vacuum aspiration (60.9% vs 38.9%, $p < 0.001$).</p> <p>There were no significant differences between CME and IHS students in manual removal of placenta (80.6% vs 81.4%, $p = 0.844$); newborn resuscitation (77.2% vs 73.8%, $p = 0.485$); pre-eclampsia/ eclampsia management (63.5% vs 60.8%, $p = 0.668$); and partograph use (58.7% vs 62.0%, $p = 0.525$).</p> <p>Mean cost per graduated midwife = USD\$10, 784.</p>			
<p>Study providing data about one specific component of a pre service education programme</p>							

Agrawal 2016	Not measured	Not measured	Not measured	<p>Mean total OSCE score differed significantly between the significantly pre-test cohort (21.3/76) and post-test cohort (62.0/76; $p < 0.001$).</p> <p>The % of students defined as competent (i.e. score > 75%) increased significantly from 0 at pre-test to 77.2% at post-test ($p < 0.001$). Skills assessed included: management of 2nd stage of labour, active management of 3rd stage of labour, essential newborn care, newborn resuscitation, partograph completion and infection prevention.</p>	Not measured	Not measured	
Balasubramaniam 2018	Not measured	Not measured	Not measured	<p>Mean total OSCE score differed significantly between the pre-test cohort (24.52/76) and</p>	Not measured	Not measured	

				<p>post-test cohort (57.09/76; $p < 0.001$).</p> <p>The % of students defined as competent (i.e. score > 75%) increased significantly from 0 in the pre-test cohort to 55% in the post-test cohort ($p < 0.001$).</p> <p>Skills assessed included: management of 2nd stage of labour, active management of 3rd stage of labour, essential newborn care, newborn resuscitation, partograph completion and infection prevention</p>			
Tyer-Viola 2012	Significant difference in satisfaction with learning scores between intervention students		No significant difference in knowledge of course content (details not specified) between				

	(M=57.47/70) versus control students (M=52.88/70, p = 0.03).		the control group (14.12/39) and the intervention group (14.41/39).				
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Notes: ICM = International Confederation of Midwives; TVET = Technical and Vocation Education and Training Programme; CME = Community Midwifery Education; OSCE = Objective Structured Clinical Examination.

Supplementary Table 4. Results of In-Service Education Interventions (N=12)

First Author, Publication Year	Participation (L1)	Self-assessment of skills (L2)	Knowledge (L2)	Skills Assessment (L2)	Behaviour Change (L3)	Benefits to women (L4)	Change in organisational practice (L4)
Ameh 2012	Mean score for all lectures was 8.9/10 Mean score for breakout sessions was 8.9/10	Not measured	Significant mean increase in knowledge from pre-test (57.6%) to post-test (64.2%; $p < 0.001$)	Significant increase in skills assessment score from test (4.5/10) to post-test (8.2/10; $p < 0.001$)	Not measured with quantitative data	Not measured	Increase in provision expected signal functions to 100% from 43% in basic facilities and 56% in comprehensive facilities
Ameh 2016	Not measured	Not measured	Median score increased from 70% pre-test to 80% post-test	Median score increased from 51.9% at pre-test to 82.5% at post-test	Not measured	Not measured	Not measured
Andreatta 2011	Mean score for skill acquisition was 4.59/5	Not measured	Not measured	Significant improvement in bimanual uterine compression from	Measured for a sub-set of 10 participants who reported 425 births during a 9	Measured for a sub-set of 10 participants who reporter	Not measured

	<p>Mean score for skill practice/ mastery was 4.4/5</p> <p>Mean score for learning value was 4.56/5</p> <p>Mean score for teaching value was 4.5/5</p>			<p>pre-test (50.25%) to post-test (75.26%; $p = 0.000$)</p>	<p>month follow-up with 13 instances of PPH. Bimanual uterine compression was used to manage these.</p>	<p>maternal mortality in the 13 instances of PPH.</p>	
<p>Bookman 2010</p>	<p>Not measured</p>	<p>Not measured</p>	<p>Average knowledge test score increased significantly from pre-test (56%) to post-test (71%, $p < 0.001$). This was retained at 9-12 months (79%, $p = 0.68$).</p>	<p>Practical evaluation scores increased significantly from pre-test (56%) to post-test (81%, $p < 0.001$). This was retained at 9-12 months (85%, $p = 0.18$).</p>	<p>Not measured</p>	<p>Not measured</p>	<p>Not measured</p>

Cavichchiolo 2017	Not measured	81% rated NR performance as good	75% of midwives demonstrated good knowledge on NR. 75% of midwives did not believe NR could change the baby's fate.	Video recordings showed midwives clearly remained below standards in terms of time and execution	Not measured	Not measured	Not measured
Faucher 2016	Not measured	Not measured	Significant increase in knowledge from a mean score of 3.5/7 at pre-test to 5.5/7 at immediate post-test to 5.3/7 at 10 month follow-up ($P <$ 0.001).	Not measured	Sub-set were followed at 10 months (N=15) and a decrease in immediate cord clamping was reported from 9.7% at pre-test to 0 at post- test. Waiting 3 minutes before clamping increased from 0 at pre-test to 80% at post-test.	Not measured	Not measured

					Data were available for 98/107 births in the follow-up period. DCC for 3 minutes was performed in 53% of cases and for 2 minutes in 27.6% of cases.		
Mirkuzie 2014	89% of participants rated the training was appropriate for their work. 95% of participants reported that training updated		Mean pre-test score not reported but using item data calculated to be 66.5%. Post-course mean knowledge score was 83.5%. 6 month follow-up mean score was not significantly different from post-test (80.2%, 95%CI 0.6, 5.7).				

	<p>knowledge and skills.</p> <p>32.9% of participants rated training facilities as unsatisfactory.</p>						
Ojemeni 2017	Not measured	<p>Details not reported but it is stated that at baseline participant reported they were very confident in their clinical skills and ability to provide care for pregnant women and newborns.</p>	<p>57% of participants demonstrated proficiency on the concepts of mentorship and supervision at 6 months follow-up</p>	Not measured	Not reported	Not measured	Not measured

<p>Satishchandra 2009</p>			<p>Results divided into TBAs who had previous training and TBAs with no previous training. The number of untrained TBAs with correct responses increased significantly from pre-test to post-test and 5 month follow-up for all items on newborn care except immediate newborn care. Trained TBAs had significantly higher baseline scores and only had a significant increase in the item related to correct breastfeeding practices at post-test and follow-up.</p>		<p>The number of untrained TBAs practising correct newborn care increased significantly from pre-test to follow-up for all items except recording birthweight. Trained TBAs had significantly higher baseline scores so a significant improvement was only reported for one item (advice on immunisation). Provision of advice on breastfeeding increased significantly for trained and untrained TBAs.</p>	<p>Reduction in still births, perinatal deaths and neonatal deaths among the deliveries conducted by the TBAs. Stillbirths fell from 4 to 1, Perinatal deaths fell from 11 to 3 and neonatal deaths fell from 10 to 2. This finding was significant for perinatal and neonatal death (p < 0.005).</p>	
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Shrestha 2013	Not measured	Not measured	<p>Knowledge assessed was immediate neonatal care; infection management; temperature control and breastfeeding. Scores remained low although there was a significant increase from pre-test (2.27/15) to immediate post-test (3.54/15; $p = 0.000$) and 1 month post-test 3.47/15; $p = 0.000$). This decreased at 3 month post-test to 2.91/15; $p = 0.000$.</p>	<p>Skills assessed were immediate neonatal care; infection management; temperature control and breastfeeding. Scores remained low although there was a significant increase from pre-test (2.02/20) to immediate post-test (3.26/20; $p = 0.000$) and 1 month post-test 3.06/20; $p = 0.000$). This decreased at 3 month post-test to 2.50/20; $p = 0.000$.</p>	Not measured	Not measured	Not measured
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Woods 2015	Not measured	Not measured	Not measured	<p>NR: The control group had a significantly mean lower score (17.00/45) than intervention (31.22/45; $p < 0.001$) and colleagues of intervention participants (27.75/45; $p < 0.001$).</p> <p>Magnesium sulphate dilution: The control group had a significantly mean lower score (8.47/17) than intervention (11.01/17; $p < 0.001$)</p>	Not measured	Not measured	Not measured
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				<p>and colleagues of intervention participants (11.08/17; $p=0.004$).</p> <p>Aortic Compression: The control group had a significantly mean lower score (4.33/17) than the intervention (13.87/17; $p<0.001$) and colleagues of intervention participants (9.43/17; $p=0.026$)</p>			
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Notes: MCHW = Maternal and Child Health Workers; PPH = post-partum haemorrhage; TBAs = Traditional Birth Attendant