International Journal of Humanities and Social Sciences
p-ISSN: 1694-2620
e-ISSN: 1694-2639
Vol. 8, No. 2, pp. 1-14, ©IJHSS

The Sources of Knowledge on Essential Intrapartum and Newborn Care Protocol (EINC) and its Impact on the Extent of its Implementation in the Hospitals in Iligan City

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Abstract
The DOH embarked on Essential Intrapartum and Newborn Care (EINC) to address neonatal deaths in the country. This descriptive correlation study was made to find out the sources of knowledge on EINC to the extent of implementation of the EINC protocol in the three areas: labor and delivery rooms as well as Neonatal Intensive Care Unit (NICU) of hospitals in Iligan City. A sample of 62 staff nurses (86.5%) and midwives (14.5%) were purposively selected from two private hospitals and three public hospitals in Iligan City. A three-part structured questionnaire was utilized to carry out the rationale of the study. The results revealed that the staffs were generally applying the steps/procedures in the EINC protocol in their respective units. The staff's primary sources of knowledge on EINC were the trainings and seminars provided by the hospitals through its Nursing Service Offices, heads and colleagues. The study further revealed significant relationship between these sources of knowledge on EINC and the extent of its implementation in the delivery room and nursery room of the five hospitals in Iligan City. The findings underscore the need for healthcare institutions to strengthen their information drive on EINC which can result to its increased implementation which can in turn lead to the improvement of health care service in institutional deliveries. This may involve empowerment of staff and educating them on best practices and creating a monitoring and evaluation system.

Keywords: Essential intrapartum, newborn care, EINC knowledge, quantitative research, Philippines

Introduction

Childbirth is central event to human nature and one that has a great impact on the life of women and their families and over the years, remarkable progresses were made in the safety and comfort of human labor and birth but there is also an increase in maternal as well as neonatal mortality despite these progresses. Every year there are approximately 3.7 million neonatal deaths and 3.3 million stillbirths worldwide (Wardlaw et.al, 2012). The country is one of the 42 countries that account for 90% of under-five mortality worldwide. 82,000 Filipino children under five years old die every year. Thirty seven percent (37%) or 40,000 of them are newborn (United Nations Development Groups, 2012) The high mortality and morbidity rates in newborn are directly related to inappropriate hospital and community practices currently employed throughout the Philippines. Additionally, the current practices in hospitals fell below the recommended World Health Organization (WHO) standards and robbed the newborns of the natural protection offered by the basic recommended interventions (DOH, 2009).

In an attempt to provide quality maternal and newborn care, and to address neonatal deaths in the country, the Department of Health (DOH) embarked on Essential Intrapartum and Newborn Care (EINC). The unang yakap campaign is a government program aimed at improving newborn care and reducing neonatal death by half. This DOH initiative employs EINC protocol as its main strategy (Pena, 2010).

In this paper, the terms "EINC" and "Unang Yakap" will be used interchangeably. The newborn care package is a four step intervention to reduce newborn deaths. Four core steps were recommended in a time bound sequence which includes drying the baby, skin contact, cord clamping and keeping newborn and mother together for early initiation of breast feeding (DOH, 2009). According to Banzon (2013), Unang Yakap calls for the end of old, routine health-care practices that have been previously deemed "infallible" despite the absence of evidence. For the mother, routine enemas, restriction of food and drinks during labor, routine intravenous fluid insertion, perineal shaving and fundal pressure should be abandoned. For the newborn, routine suctioning upon birth, routine separation of mother and early bathing (less than six hours after birth) must be discontinued. Application of various substances to the umbilical cord and the practice of foot printing should be discouraged, which has no value for the baby. The recommended procedures during intrapartum includes maternal support by a companion during labor and delivery, freedom from movement and monitoring of progress during labor, as well as not including episiotomy as part of the routine of care and management of the third stage of childbirth (World Health Organization Protocol, 2012).

In the early stages, EINC protocol was adopted initially by 11 pilot hospitals in Central Luzon, Visayas and 2 hospitals in Mindanao (Chattoe-Brown et.al, 2012). Adventist Medical Center-Iligan, Dr. Uy Hospital Inc., Mercy Community Hospital and Gregorio T. Lluch Memorial Hospital were among the hospitals in Iligan City, which adopted the guidelines of EINC protocol subsequently. Accordingly, these hospitals have provided trainings and seminars on EINC to their staff to ensure that the EINC protocol is implemented correctly in their institutions.

Statement of the Problem

The birth of children in countries like the Philippines can be risky to both mother and child hence the need to shift to the EINC protocol. According to Banzon (2013) EINC is easily

implementable, be it the rural health unit, to lying-in clinic and even the hospital setting. Moreover, EINC is about health systems. It is a choreographed set of actions requiring team effort from health professionals—obstetricians, anesthesiologists and pediatricians alike, administrative/support staff of the birthing facility and the mother's family. Thus, failure to implement does not mean failure of one, but failure of the system (Banzon, 2013). This study was made to assess the implementation of the EINC protocol in the hospitals in Iligan City. Additionally, this study also explored the staff's sources of EINC knowledge, as well as the relationship between the extent of EINC implementation and the sources of EINC knowledge.

Research Design

This investigation employs a quantitative descriptive correlational design to answer the research questions. The descriptive design was used to describe the extent of EINC implementation and the sources of EINC knowledge among staff nurses and midwives in the hospitals of Iligan City. The correlation method of research was used to investigate the relationship between the extent of EINC implementation and the sources of EINC knowledge.

Significance

This study aimed to determine the extent of implementation of the EINC protocol and understand its application in the hospitals in Iligan City. Additionally, the results of this study may serve as basis for assessment, performance or feedback/evaluation tool of the extent of implementation of the EINC. It will also be a means to monitor staff in the delivery of quality care services in the delivery room and neonatal care units. Furthermore, the results of this study can be used for training, retraining and continuing education for hospital staff members as this may improve overall organizational performance. Lastly, the results of this study may result in less maternal and neonatal deaths and complications.

Method of Procedure

To determine the extent of EINC implementation and the sources of EINC knowledge, this study utilized a survey method with questionnaires. The structured researcher-developed questionnaire comprised 3 sections. Section A covered the demographic data of the respondents. Section B dealt with the respondents' sources of knowledge about EINC/ Protocol i.e. trainings and seminars conducted by the DOH, trainings and seminars conducted by the hospital (through the Nursing Service Office), echo-seminars given by heads and colleagues in the unit, doctors in the institution, downloadable videos or material sources from the internet, Instructors during student years, printed or written guidelines handed by immediate supervisor, graphic materials, and flyers or advertisements. Section C was adopted from the EINC step-by-step procedures as recommended by the DOH and was further subdivided into three sections: 1) Intrapartum care composed of seven statements answered by labor room midwives and nurses who were currently assigned in the said area; 2) Intrapartum care comprised of 18 statements answered by staff nurses and midwives assigned in the delivery room; and 3) The newborn care-sixteen- step protocol answered by respondents assigned in the NICU. In this part of the questionnaire, the respondents were asked to indicate the frequency of their implementation of each of the step in the DOH recommended EINC protocol. A preliminary step was done for item analysis and revision of questionnaires

For the purpose of selecting the setting of the study, five hospitals in Iligan City (2 private hospitals and three public hospitals) were selected as the locale and the delivery room (DR), labor room (LR), and neonatal intensive care unit (NICU) were the focus areas of the study.

These hospitals were purposefully selected since they were among the first implementors of EINC protocol in Iligan City. The respondents were staff nurses and midwives who were purposively chosen based on the following criteria: (1) He or she must be currently assigned in one of the areas of OB-ER, DR, or NICU; and (2) He or she must have been working in one of the aforementioned areas for at least six months after the implementation of the EINC protocol in their respective areas. The subsequent sample consisted of 53 nurses and 9 midwives who were working for not less than six months in one or more of the three areas of LR, DR, and NICU. The respondents were mostly female with a significant number of the respondents who were single, with ages ranging from 21 to 51 years old, earning a monthly income of less than PhP 10,000.00 with 1 to 5 year length of service.

Collection of Data

Prior to the actual conduct of the study, the researcher visited the different hospitals in Iligan City. A preliminary talk was conducted with the chief nurse of each hospital to explain the purpose as well as the possible benefits of the research to the hospitals under study. During this time, the researcher also requested for a list of the registered nurses and registered midwives assigned in the labor room, delivery room and neonatal intensive care unit with the corresponding length of service in their respective areas. The purpose of which was to determine the actual number of respondents. All registered nurses and registered midwives who had served for less than six months in the three areas of OB-ER, DR, and NICU were eliminated as potential respondents. Another visit was made again to formally deliver the permission letter to seek approval of the respondents' participation in the study. It was also an opportunity to get the respective schedules of the respondents to facilitate the easy gathering of data. The final and subsequent visits were made to invite the respondents to participate in the study. Among the 62 staff nurses and midwives who agreed to participate, all of them completed all the questionnaires (100% response rate). The data gathered were tallied, tabulated, and then subjected to statistical treatment.

Treatment of Data

The data was analyzed through the statistical package for the social sciences. A series of Cramer's V correlation was used to examine the association between the extent of EINC implementation and the sources of EINC knowledge. The alpha level was set at .05 for statistical significance.

Findings

Table 1. Frequency and Percentage Distribution, Respondents' Sources of Information on the EINC Protocol

Sources of Information	*f*	%
1. Trainings and seminars conducted by the Hospital (through the Nursing Service Office)	36	58.1
2. Doctors (Obstetricians, Pediatricians) serving in the institution	32	51.6
3. Echo-seminars given by heads or colleagues in the unit	31	50.0
4. Trainings and seminars conducted by the Department of Health	26	41.9

5. Printed or written guidelines handed by immediate supervisor	25	40.3
6. Graphic, flyers, advertisements	20	32.3
7. Downloadable videos or material sources from the internet	18	29.0
8. Instructors during student years	17	27.4

As to the respondents' sources of information regarding the EINC Protocol, Table 1 shows that when the eight possible sources of information on EINC Protocol are ranked, the following order is obtained: 1st - from trainings and seminars conducted by the hospital through the Nursing Service Office (58.1%); 2nd – from doctors serving in the institution (51.6%); 3rd – from echo-seminars given by the heads and colleagues in the unit (50.0%); 4th – from trainings and seminars conducted by the Department of Health (41.9%); 5th – from printed and graphic materials (40.3%); 6th – from graphics, flyers and advertisements (32.3%); 7th – from downloadable videos/material sources from the internet (29.0%); and 8th – from instructors during the respondents' student years (27.4%).

Based on the findings, it can be stated that most of the respondents get their information on the EINC protocol from the trainings and seminars conducted by their respective hospitals through the initiative of the Nursing Service Office. This finding suggests the need for hospitals to promote and facilitate seminars and trainings for their staff nurses and midwives on EINC Protocol. A study in Zambia (Manasayan, et.al, 2011) to study the cost effectiveness of the WHO EINC training of health care providers. The results of the study include a decrease in neonatal mortality rate from 11.5 per 1000 to 6.8 per 1000 live births after ENC training of the clinic midwives. The study concluded further that ENC training of clinic midwives who provide care in low-risk facilities is a low-cost intervention that can reduce early neonatal mortality in these settings. On the other hand, the data further shows that out of the 62 respondents, only 17 obtained their information on EINC from their instructors when they were still students. This finding is unexpected considering the fact that the EINC protocol was issued for implementation by DOH Secretary Enrique Duque on December 2009 (DOH, 2009) and was assumed to have been adopted for instruction in most nursing schools from the time it was issued for implementation by the Department of Health. The findings suggest a need for nursing schools to strengthen their instructions on the EINC/Unang Yakap Protocol.

Table 2. Frequency and Percentage Distribution, Extent of Implementation of EINC Protocol in Terms of Steps/Procedure for Intrapartum Care According to Labor Room Staff*

Steps/ Procedure Intrapartum Care	**5 Always**		**4 Often**		**3 Sometimes**		**2 Seldom**		**1 Never**		**Mean**	
	F	***%***	***f***	***%***	***f***	***%***	***f***	***%***	***F***	***%***	***V***	***I***
1. Assess client at the start of labor	29	85.3	2	5.9	3	8.8	0	0	0	0	4.8	A
2. Use partograph to monitor progress of labor	12	35.3	4	11.8	0	0	9	26.5	9	26.5	3.0	O
3. Wash hands before and after care of	30	88.2	4	11.8	0	0	0	0	0	0	4.9	A

	each client											
4.	Monitor progress of labor	29	85.3	2	5.9	3	8.8	0	0	0	0	4.8	A
5.	Allow fluids & light diet during labor	12	35.3	15	44.1	5	14.7	2	5.9	0	0	4.1	O
6.	Start IV only when necessary & if ordered by the attending physician	30	88.2	3	8.8	1	2.9	0	0	0	0	4.9	A
7.	Allow patient to have SO in the labor room to be present during labor	16	47.1	4	11.8	13	38.2	0	0	1	2.9	4.0	O
GRAND MEAN												**4.4**	**A**

Mean LEGEND:				
	Always (A)	4.3 – 5.0	v =	Value
	Often (O)	3.5 – 4.2	I =	Interpretation
	Sometimes (SO)	2.7 – 3.4		
	Seldom (SE)	1.9 – 2.6	*n=	34
	Never (N)	1.0 – 1.8		

The 34 respondents who were assigned in the Labor Room of the five hospitals under study were surveyed to determine the extent of their application of the seven steps/procedures for intrapartum care in the Labor Room. The findings indicates that generally the steps/procedures under intrapartum were 'always' applied by the respondents with a grand mean of 4.4. Four out of the seven steps/procedures under intrapartum care were 'always' applied while three steps were 'often' applied. Based on ranking, the procedures of '*washing hands before and after care of each client'* and '*starting IV only when necessary and if ordered by the attending physician'* were the mostly applied steps under intrapartum care in the Labor Room with a mean score of 4.9 for each of the procedures.

On the other hand, procedure of '*using partograph to monitor progress of labor'* was the least applied step under intrapartum care in the Labor Room with a mean score of 3.0. This finding is consistent with the findings of a study by Kaur, et. al. (2010), found out in his study that the use of partograph could be used to monitor the progress of labor. It was also found out in that study that the use of partograph with strict evaluation and recording is not feasible. However, EINC promotes the use of the old reliable partographs so that any trained birth attendant can track the progress of labor and refer complicated pregnancies as early as necessary. According to Banzon (2013), it is easily implementable, be it the rural health unit, to lying-in clinic and even the hospital setting.

It is also significant that thirteen respondents only 'sometimes' apply the procedure of '*allowing patient to have significant other in the labor room to be present during labor'* and only five respondents 'sometimes' '*allow fluids and light diet during labor'*. EINC desires continuous support for the expectant mother by ensuring that she has a companion while in labor and delivery and that she is able to move around easily (Banzon, 2013). Moreover, Abraham Maslow's Hierarchy of Needs states that people having satisfied a need moves on to satisfy another (McLeod, 2007). An expectant who is denied food and drink during labor will find her needs unfulfilled. The needs of the expectant mother have to be met as they are vital to her well-being, both physical and

emotional, and consequently to her process of giving birth. It can be traumatic for a woman to be left alone in the delivery room while she is being prepped, as she might feel unloved and abandoned. If an expectant mother's need are not met, her birth experiences can be unsatisfying and may lead to complications. Conversely, if her needs are satisfied, one outcome is that the birth experience can lead to self-actualization.

Table 3. Frequency and Percentage Distribution, Extent of Implementation of EINC Protocol in Terms of Steps/Procedure for Intrapartum Care According to Delivery Room Staff*

Steps/ Procedure Intrapartum Care	**5 Always**		**4 Often**		**3 Sometimes**		**2 Seldom**		**1 Never**		**Mean**	
	f	*%*	*F*	*%*	*f*	*%*	*f*	*%*	*F*	*%*	*v*	*I*
1. Allow patient to have SO to be present inside the delivery room	8	25.0	4	9.4	11	28.1	7	21.9	5	15.6	3.1	SO
2. Encourage the mother to void before lying on delivery table.	17	53.1	3	9.4	12	31.3	1	3.1	1	3.1	4.0	O
3. Permit mobility & position of choice during labor	12	37.5	15	43.8	3	6.3	2	6.3	3	6.3	4.0	O
4. Turn off aircon/electric fan when patient is in the delivery room	8	25.0	8	25.0	12	31.3	5	12.5	2	6.3	3.4	SO
5. Wash hands thoroughly before and after each care	31	96.9	1	3.1	0	0	0	0	0	0	5.0	A
6. Put on double glove if handling delivery & remove first glove before cutting the cord of infant	11	34.4	6	18.8	11	34.4	4	12.5	0	0	3.6	O
7. Assist patient into a comfortable position in the delivery table, as upright as possible.	19	59.4	9	28.1	2	6.3	2	6.3	0	0	4.3	A
8. Allow the mother to push as she wishes with contractions	21	65.6	6	18.8	1	3.1	0	0	4	12.5	4.3	A
9. Provide perennial support and controlled delivery of head	27	84.4	2	6.3	3	9.4	0	0	0	0	4.7	A
10. Limit practice of episiotomy only	21	65.6	4	12.5	6	18.8	1	3.1	0	0	4.3	A

	when necessary											
11.	No performance of fundal push	8	25.0	13	40.6	9	28.1	2	8.3	0	0	3.7	O
12.	Callout the time of birth & gender	30	93.8	2	6.3	0	0	0	0	0	0	5.0	A
13.	Place baby on the mother's abdomen.	29	90.6	3	9.4	0	0	0	0	0	0	4.9	A
14.	Administer 10 IU of Oxytocin IM within 1 minute after baby's birth	15	46.9	8	25.0	3	9.4	1	3.1	5	15.6	3.8	O
15.	Perform controlled traction when delivering placenta with counter traction on the uterus	24	75.0	5	15.6	2	6.3	0	0	1	3.1	4.5	A
16.	Massage the uterus after placental expulsion	26	81.3	3	9.4	3	9.4	0	0	0	0	4.7	A
17.	Examine and assess the lower vagina & perineum	27	84.4	3	9.4	3	9.4	0	0	0	0	4.8	A
18.	Monitor the mother & the baby immediately after the delivery of the placenta	28	87.5	4	12.5	0	0	0	0	0	0	4.9	A
					GRAND MEAN							**4.3**	**A**

Mean	*Always (A)*	*4.3 – 5.0*	*v =*	*Value*
LEGEND:	*Often (O)*	*3.5 – 4.2*	*I =*	*Interpretation*
	Sometimes (SO)	*2.7 – 3.4*		
	Seldom (SE)	*1.9 – 2.6*	**n=*	*35*
	Never (N)	*2.0 – 1.8*		

Table 3 shows the extent of the application of the steps/procedures for intrapartum care among the Delivery Room staff in the five hospitals under study. The findings indicates that generally, the steps/procedures under intrapartum were 'always' applied by the respondents in the care of the patients during the intrapartum period in the delivery room with a grand mean of 4.3. Eleven out of the eighteen steps/procedures under intrapartum care in the delivery room were 'always' applied while five steps were 'often' applied and two were 'sometimes' applied in the delivery room during the intrapartum period.

Based on ranking, the procedures of '*washing hands before and after care of each client* and '*calling out the time of birth and gender of the newborn'* were the mostly applied procedures under intrapartum care in the delivery room with a mean score of 5.0 for each of the procedures. The findings can be attributed to the fact that washing of hands before and after providing care to the patient is a universal practice among healthcare professionals in any healthcare setting and not limited to the

delivery rooms only to prevent the transmission of microorganisms and cross-contamination between and among patients. According to the World Health Organization, the most effective way to reduce cross infection is hand hygiene by health care workers (WHO, 2009). Additionally, the procedure of calling out the name and gender of the newborn although specific to the delivery room only is a procedure that is being practiced even before the implementation of the EINC Protocol.

On the other hand, the procedure of '*allowing patient to have significant other to be present inside the delivery room'* was the least applied procedure in the delivery room with a mean score of 3.1. This finding may attributed to the fact that in the Philippine setting family members were traditionally not allowed to enter in the labor room and delivery room on the premise that the woman in labor may simply adopt the sick role and take to bed. However, the central proposition of the Birth Territory theory is that when midwives and healthcare professionals endeavor to influence conditions to create an ideal environment and if significant others are there to provide maximum support labor will result in an increased likelihood that the woman will give birth under her own power, be more satisfied with the experience and adapt with ease in the post birth period to an entirely satisfying experience for the woman as there will be an increased likelihood for her to take control of her situation which is exactly what the Essential Intrapartum and Newborn Care (EINC) protocol intends to accomplish.

Table 4. Frequency and Percentage Distribution, Extent of Implementation of EINC Protocol in terms of Steps/Procedure of Newborn Care According to NICU Staff*

Steps/ Procedure Newborn Care	5 Always		4 Often		3 Sometimes		2 Seldom		1 Never		Mean	
	f	*%*	*F*	*%*	*f*	*%*	*f*	*%*	*F*	*%*	*V*	*I*
1. Thorough drying of baby for 30 seconds	33	100	0	0	0	0	0	0	0	0	5.0	A
2. Assess breathing of baby & perform resuscitation when needed	31	93.9	1	3.0	1	3.0	0	0	0	0	4.9	A
3. Place the baby on mother's abdomen for skin-to-skin contact	27	81.8	4	12.1	2	6.1	0	0	0	0	4.8	A
4. Place baby in prone position to drain secretions	27	81.8	6	18.2	0	0	0	0	0	0	4.8	A
5. Clamp the cord using plastic sterile clamp 2 cm from the base	32	97.0	1	3.0	0	0	0	0	0	0	4.9	A
6. Clamp using forceps 3 cm from the plastic clamp	32	97.0	1	3.0	0	0	0	0	0	0	4.9	A
7. Cut the cord 2-3 minutes after the delivery of the baby or when cord pulsation stops	28	84.8	4	12.1	1	3.0	0	0	0	0	4.8	A
8. Discard the wet	32	97.0	1	3.0	0	0	0	0	0	0	4.9	A

	cloth use to dry baby											
9.	Wrap the mother & baby with linen	23	69.7	7	21.2	3	9.1	0	0	0	0	4.6	A
10.	Put bonnet on baby's head	22	66.7	8	24.2	2	6.1	1	3.0	0	0	4.6	A
11.	Apply name tag on baby's ankle	31	93.9	1	3.0	1	3.0	0	0	0	0	4.9	A
12.	Initiate early breast feeding	21	63.6	11	33.3	1	3.0	0	0	0	0	4.6	A
13.	Monitor both baby and mother	30	90.9	3	9.1	0	0	0	0	0	0	4.9	A
14.	After 60mins of skin-to-skin contact and adequate latching on, do eye care, PE, weigh, measure, inject Vitamin K, Hepa B vaccine, BCG	29	87.9	3	9.1	1	3.0	0	0	0	0	4.9	A
15.	Non separation of baby from mother.	29	87.9	3	9.1	1	3.0	0	0	0	0	4.0	O
16.	Transport both mother and baby to room together.	11	33.3	11	33.3	5	15.2	4	12.1	2	6.1	3.8	O
GRAND MEAN												**4.7**	**A**

Mean LEGEND:	***Always (A)***	***4.3 – 5.0***	***v =***	***Value***
	Often (O)	*3.5 – 4.2*	*I =*	*Interpretation*
	Sometimes (SO)	*2.7 – 3.4*		
	Seldom (SE)	*1.9 – 2.6*	**n=*	*33*
	Never (N)	*3.0 – 1.8*		

The 33 respondents who were assigned in the Neonatal Intensive Care Unit (NICU) were surveyed to determine the extent of their application of the 16 steps/procedures for newborn care in the nursery room. The findings indicate that generally the steps/procedures for newborn care were 'always' applied by the respondents in NICU. These findings can be attributed to the fact that 25 out of the 62 respondents were assigned in NICU (40.3%) and other 8 respondents (12.9%) were rotated in the three areas including NICU. It can be inferred that more staff are available to provide care to the newborns. Based on ranking, the procedure of '*thorough drying of the baby for 30 seconds'* was the mostly applied procedure with a mean score of 5.0. This finding signifies that the respondents recognize the importance of drying the baby immediately after birth because the infant is extremely vulnerable to heat loss because his/her body surface area is great in relation to his/her weight and he/she has relatively little subcutaneous weight. Heat loss after delivery is increased by the cool delivery room and the infant's wet skin (Banzon, 2013).

On the other hand, the findings also shows that the respondents did not 'always' apply one of the important mandates of EINC Protocol which is the non-separation of the newborn from the mother, not even in the nursery (Banzon, 2013). Aside from the fact that the baby must remain in skin-to-skin contact so that breast-feeding can begin immediately and skin-to-skin contact

provides additional warmth to the newborn, the non-separation of the mother and newborn is essential to the development of attachment between mother and baby. According to Bowlby's Attachment Theory (1991), attachment between mother and baby had an evolutionary component; it aids in survival. He stated that "the propensity to make strong emotional bonds to particular individuals is a basic component of human nature".

Table 5: Cramer's V, Respondents' Sources of Knowledge and the Extent of Implementation of EINC Protocol in Area of Assignment

Tested Variables Sources of EINC Knowledge by Area of Assignment		Cramer's V Value	Computed p – Value	Interpretation
Trainings and seminars conducted by the DOH	LRIC	.235	.391	NS
	DRIC	.184	.551	NS
	NRNC	.295	.090	NS
Trainings and seminars conducted by the Hospital (through the Nursing Service Office)	LRIC	.214	.458	NS
	DRIC	**.421**	**.045**	***Significant**
	NRNC	**.420**	**.016**	***Significant**
Echo-seminar given by the head and colleague in the unit	LRIC	.220	.439	NS
	DRIC	**.487**	**.016**	***Significant**
	NRNC	.372	.101	NS
Doctors (Obstetricians, Pediatricians) in the institution	LRIC	.325	.166	NS
	DRIC	.359	.105	NS
	NRNC	.416	.057	NS
Instructors during student years	LRIC	.122	.776	NS
	DRIC	.248	.340	NS
	NRNC	.088	.614	NS
Downloadable videos or material sources from the internet	LRIC	.170	.613	NS
	DRIC	**.429**	**.040**	***Significant**
	NRNC	.105	.547	NS
Print materials or written guidelines handed by immediate supervisor	LRIC	.235	.391	NS
	DRIC	.173	.593	NS
	NRNC	.385	.087	NS
Graphic, flyers, advertisements materials	LRIC	.103	.835	NS
	DRIC	.319	.168	NS
	NRNC	.354	.127	NS

NS – not significant ($p \geq 0.05$)
** Cramer's V is significant ($p \leq .05$ level)*
LRIC – Labor Room Intrapartum Care
DRIC – Delivery Room Intrapartum Care
NRNC – Nursery Room Newborn Care

Several sources of knowledge on Essential Intrapartum Newborn Care (EINC) and the extent of EINC implementation were analyzed per area of assignment i.e. Labor Room Intrapartum Care (LRIC), Delivery Room Intrapartum Care (DRIC); and Nursery Room Newborn Care (NRNC) using Cramer's V Value which was appropriate for the independent variables with nominal choices. The results show that none of the variables pertaining to the respondents' sources of knowledge on EINC protocol have significant relationship with the extent of implementation of labor room EINC protocol. This means that the implementation of the said protocol in the labor room is not in any way influenced by the respondents' sources of knowledge on such and it does not matter where the respondents obtained their information on EINC protocol.

Additionally, the data revealed that echo-seminars given by heads and colleagues in the unit and downloadable videos or material sources from the internet have significant relationship with the extent of implementation of EINC protocol only in the delivery room while trainings and seminars conducted by the hospital through the nursing service office have been found to have significant relationship with the extent of implementation of EINC protocol both in the delivery room and nursery room.

As sources of information, trainings and seminars conducted by the hospital through the nursing service office and echo-seminars given by heads and colleagues in the unit, were highly correlated with the extent of implementation of EINC protocol in the delivery room and nursery room. This could be explained by the fact that 58.1% of the respondents indicated that their primary source of information on EINC protocol was the trainings and seminars conducted by the hospital through the nursing service office while 50% of the respondents indicated echo-seminars given by heads and colleagues in the unit as their primary source of information on the EINC protocol. This finding suggests the need for hospitals to promote and facilitate seminars and trainings for their staff nurses and midwives on EINC Protocol.

On the other hand, downloadable videos or material sources from the internet on EINC protocol is significantly correlated with EINC implementation in the delivery room only but did not reveal a significant association with EINC implementation in the labor room and nursery room may be explained by the prevalence of downloadable videos on the internet which focuses more on the steps related to the process of actual delivery. Furthermore, many of the steps in the EINC protocol pertaining to the care of newborn are already being done by midwives in the delivery room such as placing the baby on mother's abdomen for skin-to-skin contact, placing the baby in prone position to drain secretions, clamping the cord using plastic sterile clamp 2 cm from the base, clamping the cord using forceps 3 cm from the plastic clamp, and cutting the cord 2-3 minutes after the delivery of the baby or when cord pulsation stops.

Recognizing the sources of EINC knowledge that have an impact on the extent of its implementation should be regarded as a key element to strengthening the level of EINC implementation in health care institutions.

Conclusions and Implications of the Study

This study provided useful information on the sources of EINC knowledge that could have an impact to the extent of its implementation in health care institutions, be it the rural health unit, lying-in clinic and even the hospital setting. In line with the foregoing findings, the following conclusions have been reached: The staff were generally applying the steps/procedures in the EINC protocol in their respective units/areas however, each of them were on different extent. The staff's primary sources of knowledge on EINC were the trainings and seminars provided by the hospitals through its Nursing Service Offices, heads and colleagues. These sources of knowledge on EINC in turn have an impact on the extent of its implementation in the hospitals in Iligan City.

To assure prime optimization of the care of women and newborns, there is a need for a shift to the procedures in the new EINC protocol. The findings underscore the need for healthcare institutions to strengthen their information drive on EINC which can result to its increased implementation which can in turn lead to an improved class of healthcare delivery by health workers. This may necessarily require the synergy of healthcare workers worldwide, and the empowerment of staff through means such as education and the raising of awareness on best practices and areas of improvement, discussing potential pitfalls in practicing the protocol, as

well as introducing it by means of focus group trainings, and establishing mechanisms for monitoring and evaluation.

Although it has provided important information on the sources of EINC knowledge that could influence the extent of its implementation, this study has a number of limitations. Firstly, the study relied on respondents' self-reported data, which is prone to bias. Second, the research method did not include a qualitative component which could have strengthened the study by providing reasons why some things are not done the way they should be done. Another limitation of this study is the sample size. There is no previous statistical correlation of the sample size to any similar study that could have validated the findings as definitive of the state of EINC protocol implementation in private and public hospitals.

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