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A Study to Assess the Knowledge of Auxiliary Nurses and Midwives (ANMs) on Relevant Information Related to Antenatal Care to be Provided to Beneficiaries to Bring Positive Health Seeking Behavior

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Abstract

Introduction: Availing the health services under Reproductive and Child Health (RCH) by beneficiaries like pregnant women, infant, children and adolescents etc. is sign of positive health seeking behavior. This is possible if the beneficiaries are aware of significance of health services, providing this awareness is the key role of all the health workers. But in practice, opportunity for one to one health education are given low priority by busy health worker. Health education and giving information is critical for ensuring people participation in RCH care.

Objective: To assess the Knowledge of Auxiliary Nurses and Midwives (ANMs) on relevant information related to antenatal care to be provided to beneficiaries to bring positive health seeking behavior.

Methodology: Descriptive Survey research design to assess the Knowledge of Auxiliary Nurses and Midwives (ANMs) on relevant information related to antenatal care to be provided to beneficiaries to bring positive health seeking behavior among ANMs was used for present study. Structured questionnaire as an assessment tools consisting items on knowledge related to relevant information on Importance Of Early Registration, Regular ANC Visits, Importance Of TT Immunization, Diet & Rest During Pregnancy, Identification And Treatment Of Anemia, Identification And Recognition Of Warning Sign & Hi-Risk Pregnancy, Importance Of Institutional Delivery and Birth Preparedness during RCH care, was developed and got validated by 21 subject experts. Assessment of 94 ANMs selected from 16 health units of Delhi was done using validated tool,

Result And Conclusion : Findings shows that mean and mean percentage score in knowledge on relevant information related to antenatal care was below 50% of total score which indicate that ANMs had inadequate knowledge and there is a need to facilitate ANMs to refresh their knowledge time to time,

Discussion: Inconsistent to present study Kaushik LK(2012) results revealed that out of 218 HW-Fs, only 71.56% were able to enumerate at least 5 criteria of at-risk mothers. Only 40.37% & 60% HW-Fs performed HB estimation & urine investigation of mothers respectively. Only 27.98% knew at least 5 of the indications for referral of the mother in labour to higher centre.

Keywords: Knowledge, Auxiliary Nurses and Midwives (ANMs), Relevant information, Antenatal care.

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Background of the Study

Availing the health services under Reproductive and Child Health (RCH) by beneficiaries like pregnant women, infant, children and adolescents etc. is sign of positive health seeking behavior. This is possible if the beneficiaries are aware of significance of health services, providing this awareness is the key role of all the health workers. But in practice, opportunity for one to one health education are given low priority by busy health worker. Health education and giving information is critical for ensuring people participation in RCH care. **Cleland J.G (1988)¹**

World Health Organization, (2017)² recommended that within the continuum of reproductive health care, antenatal care (ANC) provides a platform for important healthcare functions, including health promotion, screening and diagnosis, and disease prevention. It has been established that, by implementing timely and appropriate evidence-based practices, ANC can save lives. Antenatal care is the care before birth" to promote the well-being of mother and fetus, and is essential to reduce maternal morbidity and mortality.

Bullough et al (2005)³, stated in the research paper on current strategies for the reduction of maternal mortality that Strategies aimed at promoting the health and reducing mortality of mothers antenatal care. A review of strategies adopted over the years to reduce maternal mortality since the safe motherhood initiative was launched in 1987.

Need of the Study

The ANMs were not able to perform midwifery properly as they lack experience of field practice. Lack of knowledge of the RCH programme and its components. The key recommendation was to develop an in-service programme (**Prakasamma, DM4 2005**).

The need to build Behaviour Change Communication planning for Health workers to provide quality RCH care. (**UNICEF 5 2009**)

Objective: To assess the Knowledge of Auxiliary Nurses and Midwives(ANMs) on relevant information related to antenatal care to be provided to beneficiaries to bring positive health seeking behavior

Methodology: Descriptive Survey research design to assess the Knowledge of Auxiliary Nurses and

Midwives(ANMs) on relevant information related to antenatal care among 94 study sample was used for present study. Structured questionnaire as an assessment tools consisting items on knowledge related to relevant information on **Importance Of Early Registration, Regular ANC Visits, Importance Of TT Immunization, Diet & Rest During Pregnancy, Identification And Treatment Of Anemia, Identification And Recognition Of Warning Sign &Hi-Risk Pregnancy, Importance Of Institutional Delivery and Birth Preparedness** during RCH care, was developed and got validated by 21 subject experts. Assessment of study sample selected from 16 health units of Delhi was done using validated tool, Setting for the research study was Maternal and child welfare (M&CW) centre and Maternity Homes of Municipal Corporation of Delhi (MCD).

Development of the questionnaire as assessment tools :

List of Tools Develop by the Researcher got validated by (twenty one) experts :

1. Structured Performa to assess background data of In service ANMs
2. Structured questionnaire as an assessment tools consisting items on on knowledge related to relevant information on **Importance Of Early Registration, Regular ANC Visits, Importance Of TT Immunization, Diet & Rest During Pregnancy, Identification And Treatment Of Anemia, Identification And Recognition Of Warning Sign &Hi-Risk Pregnancy, Importance Of Institutional Delivery and Birth Preparedness** during RCH care was developed and got validated by 21 subject experts

The major steps taken for the development of the questionnaire were:

- **Blue print for questionnaire.**
- **Item construction.**
- **Establishing validity. (from January 2016 to April 2016) (by 21 experts)**
- **Modification done as per suggestions of expert.**
- **Pre-testing of tools (June 2016.)**
- **Establishing reliability:** Reliability of the questionnaire was established using Kudar Recharadson (KR-20) formula and value 0,86

considered satisfactory for internal consistency of the tool

Description of questionnaire consisting 35 items with 45marks:

- **Translation of tools in Hindi and then English**

Table 1: Item Wise Distribution Of Structured Knowledge Questionnaire Items In Section-II

S.No.	Item. No	Content of section	Type of Question				
			T/F	MCQ	FIB	Total	Marks
C	Knowledge of relevant information on ANC care						
I.	1-5	Importance of early Registration and regular ANC Visits during pregnancy	-	4	1 with 4 fill in the blanks (Item 18)	5	8
II.	6-8	Importance of TT immunization during pregnancy	-	3	-	3	3
III.	9-12	Importance of Diet & rest during pregnancy	-	3	1	4	4
IV	13-23	Identification and treatment of Anemia	-	7	4	11	11
IV.	24-28	Identification Recognition of Warning Sign and Hi-Risk Pregnancy	-	4 (one with two and one with four correct answer) (Item no.39 & 43)	1 with 4 fill in the blanks (Item no.40)	5	12
V.	34-35	Importance of Institutional Delivery and Birth Preparedness	1	1	-	2	2
VI.	29-33	Bleeding during pregnancy /Abortions	-	2	3	5	5

Interpretation of score:

- Below -50%- Inadequate Knowledge
- 50%-64%- Moderate Knowledge
- 65%-74%- Adequate Knowledge
- 75% -100% -Good Knowledge

(DATA COLLECTION PROCEDURE)

- The written Informed Consent was taken from each study subjects.
- Information sheet containing brief information about the study was given to them
- Assessment of knowledge using validated questionnaire among ANM group was done by making them to sit separately in a big room at their respective setting.
- Duly filled questionnaire were collected back after 1 hour from ANM group.

Analysis and Interpretation: Major findings of study is presented in following sections:

Section-I Description of Characteristics of study sample groups:

- Majority of In-service ANMs (ANMs) 67 (71.3%) were from the age group of 40 years and above. 45(47.5%) ANMs were having 10th as minimum educational qualification and 51 (54.5%) ANMs were having professional experience of 20 years and above.
- Majority of ANMs 87(92.6) were having ANM diploma as professional qualification but 7(7.4%) of ANMs were having GNM diploma also. Majority of ANMs 74(78.72%) were trained from the institute situated in Haryana. Most of the ANMs 60(63.8%) were having 6-10 years experience of working as field worker.
- Majority of In-service ANMs 81 (86.2%) had not attended any course /In service education programme on BCC. 86(91.5%) of them plan health education sessions only not BCC sessions. 62 (66%) had conducted health education sessions on topic related to Antenatal care for antenatal women.

Section-II : Mean, Mean Percentage of Knowledge Scores of In-Service ANMs presented in table -2

Table 2: Mean, Mean Percentage of Knowledge Scores of In-Service ANMs (N=94)

Variable (Knowledge Area wise)	Total score	Mean	Mean %
Knowledge of relevant information on ANC care	45	13.12	32.49

Table 2 Findings shows that mean and mean percentage score in knowledge on relevant information related to antenatal care was below 50% of total score which indicate that ANM had inadequate knowledge and there is a need to facilitate ANMs to refresh their knowledge time to time,

Table 3: Frequency, Percentage for Correct Responses by ANMs on Knowledge Items Related to Importance of Early Registration and Regular ANC Visits Importance of TT Immunization Diet & Rest During Pregnancy for BCC (N=94)

S.No.	Item	f	%
1.	The correct time for registration visit is when woman suspects that she is pregnant	12	12.8
2.	Inform about potential danger sign its reporting in time is the major role of ANM to facilitate complication readiness behavior	25	26.6
3.	Apart from Hb and Sugar RH,BG,VDRL,HIV,HBSGare the other essential investigation which must be done for all the Antenatal mothers	0	0
4.	Every pregnant women should make 4 visits including registration	58	61.7
5.	Essential care provided to pregnant women at every visit for Antennal care at health centre	24	25.5
6.	T.T injection given to antenatal mother prevents Maternal and neonatal tetanus	76	80.9
7.	T.T to be given to all multi gravida pregnant women based on previous history	33	35.1
8.	Only one T.T injection to be given if the woman during a previous pregnancy was immunized with two doses of T.T within the past three years	74	78.7
9.	Minimum weight gain expected in a pregnant woman throughout pregnancy is 11 kg	52	55.31
10.	Antenatal mother should take rest of eight hours at night and another two hours during the day.	88	93.6
11.	The correct position advised to antenatal mother while taking rest is on their left lateral side	71	75.5
12.	The correct reason to avoid supine position	17	18.0

Interpretation of findings of Table -3 and related discussion as below:

(a) importance of early registration and regular ANC Visits during pregnancy: In pre-test only 12(12.8%) ANMSs knew the correct time for first visit for registration advised to antenatal mother. And none of the ANMs knew the other essential investigation which must be done for all the Antenatal mothers apart from Hb and sugar. However 58(61.7%) of them correctly responded that every pregnant woman should make 4 visits including registration for ANC

In contrast, a study from Radhika M (2016)⁶, was conducted in Rural PHCs & SCs of the Nellore District, Andhra Pradesh in the year 2016 on sample

size of 224 Multi-Purpose HW-F working in all the 37 PHCs and the SCs reported that 214(95.5%) had knowledge regarding the minimum no of Antenatal visits, 171(76.3%) were aware of the ideal time for 1stANC,110 (98.7%), knew about the tests done during pregnancy 188(83.9%) had knowledge, also Concluded that majority of the multipurpose health workers (F)have moderately adequate knowledge regarding Antenatal registration.

Findings are congruent with D, Acharya (2016) 7 study reported in the year 2016 which revealed that 57.7% (79/137) primary level health workers recalled the three major components of ANC i.e early registration, investigation and follow-up and concluded that knowledge of maternal and newborn

care (MNC) among the primary level health workers need to be improved with appropriate training and development programs.

(b) Information related to Importance of TT immunization during pregnancy.

In pre-test majority of ANMs 76(88.8%) were aware about the reason of giving T.T injection to antenatal mother . In reference to the doses of T.T to be given to all multi gravida pregnant women based on previous history only 33(35.1%) ANMs knew in pre-test and mostly 74(78.7%) ANMs knew that only one dose as early as possible to be given if the woman during a previous pregnancy was immunized with two doses of T.T within the past three years .In contrast to present study, Radhika M (2016)⁶ reported that 203 (90.6%) Multi-Purpose health worker female knew about time of 1st dose of TT,218 (97.3 %)and 210 (93%) had knowledge about the timing of 2nd dose of TT respectively . The study indicates that being a trained health professional they have a knowledge about T.T immunization.

(c) Information related to importance of Diet & rest during pregnancy

In pre-test majority of ANMs 88(93.6%) were having knowledge that Antenatal mother should take rest for eight hours at night and another two hours during the day. In reference to other items in pre-test 52(55.3%) ANMs had knowledge about minimum expected weight gain in a pregnant woman throughout pregnancy is 10-12 kg . And mostly 71(75.5%) ANMs knew about the correct position that women should

maintain to take rest but only 17(18%) ANMs knew its significance.

Inconsistent with present study Dhital,S.R et.al(2015)⁸ reported that only 18(67%) ANMs had knowledge about the advices for adequate rest.

Findings are congruent with D, Acharya(2016)⁷ which reported that 82.5 % ANMs had correct knowledge for diet and rest during pregnancy.

In support of present study findings, Mbuya MN(2013)⁹ revealed in the research study on Maternal knowledge on nutrition that maternal knowledge after nutrition behavior change communication is conditional on both health workers' knowledge and knowledge-sharing efficacy in rural Haiti.

Similar to present study Nandan D et al (2008-09)¹⁰ conducted a study for assessing birth preparedness and complication readiness in Rewa District of Madhya Pradesh and reported that Gap exists between knowledge and skills of health care providers(HCPs). Repeated practical reorientation training (at least once in a year) should be undertaken in standard procedures for diagnosis and management of complications to fill up the existing gap. Repeated capacity building workshops should be organized for ANM to enhance their capabilities for improving the efficiency of antenatal services

Similar to present study Dhital,S.R et.al(2015)⁸ revealed that the governmental policy, strategies, guidelines and protocols are not effectively applied at working level.

Table 4: Frequency, Percentage for Correct Responses by ANMs on Knowledge Items Related to Identification and Treatment of Anemia in Pre Test (N=282)

S.No.	Item	Pre-Test (n=94)	
		f	%
13	An ante natal mother is considered to be anemic if her Hb level below is below 11 g/dl.	24	25.5
14	For ANC mother under treatment for anemia the 2nd Hb estimation to be done after one month of IFA consumption	56	59.6
15	The symptoms of anemia	45	47.9
16	The common cause of anemia in pregnancy is Poor nutrition	57	60.6
17	The consequences of severe anemia if not treated is Increased risk of maternal death	75	79.8
18	The therapeutic dose of IFA needed to treat anemia in pregnancy is 200 tablets one BD daily	9	9.6
19	Antenatal mother should start taking folic acid from first trimester of pregnancy	94	100

S.No.	Item	Pre-Test (n=94)	
		f	%
20	Antenatal mother should start taking Iron tablet from Second trimester of pregnancy	94	100
21	The folic acid supplements in first trimester prevents congenital birth defects ?	30	31.9
22	Most common side effects of IFA tablets a antenatal mother may report Gastric problem	48	51.1
23	Taking the table after a meal overcome the side effects of indigestion by iron folic acid supplementation	34	36.2

Table 5: Frequency, Percentage for Correct Responses by ANMs on Knowledge Items Related to Identification and Recognition of Warning Sign and Hi-Risk Pregnancy, Importance of Institutional Delivery, Birth Preparedness, in Pre Test (N=282)

S.No.	Item	Pre-Test (n=94)	
		f	%
24	four symptoms for which an antenatal mother should report to FRU without delay:	1	1.1
25	four major warning signs which mother should observe for throughout pregnancy and report immediately:	27	27.1
26	the consequences if warning signs are ignored?	50	53.2
27	the sign and symptoms indicating Eclampsia :	13	13.8
28	two most common consequences of Eclampsia	4	4.3
29	the causes of vaginal bleeding before 20 weeks of pregnancy	20	20.4
30	Vaginal bleeding during pregnancy is called APH when it is :After 20 weeks	10	10.2
31	the best health seeking advice you give to mother having bleeding/Abortion:	98	100
32	Vaginal bleeding during pregnancy is called APH when it is :After 20 weeks	5	5.3
33	Written the best health seeking advice you give to mother having bleeding/Abortion:	45	47.9
34	the matter about deciding the place where pregnant women will deliver her baby be talked	57	60.6
35	Discuss benefits of hospital delivery and risks of home delivery with decision maker of family to provide supportive environment for antenatal mothers for hospital delivery:	47	50

Interpretation of Table 4 and 5 for the findings related to knowledge of ANMs for Information related to identification and treatment of Anemia, recognition of Warning Sign and High-Risk Pregnancy and bleeding during pregnancy /Abortions and related discussion is as below:

In present study during the pre-test only 24(25.5%) ANMs were having knowledge that “an ante natal mother is considered to be anemic if her Hb level is below 11 .Only 9(9.2%) ANMs knew the therapeutic dose for treating anemia in pregnancy and majority 75(79.8%) of the ANMs knew about the consequences of anemia if not treated. In pre-test only 1(1.2%) ANM Correctly responded for four symptoms for which an antenatal mother should report to FRU without delay however 27(27.1%) correctly

responded four major warning signs which mother should observe throughout pregnancy and report immediately. Only 4(4.1%) of the ANMs Correctly responded for two most common consequences of Eclampsia. 50(53.2%) of the ANMs correctly responded for the consequences if warning signs are ignored

Only 19(20.2%) ANMs Correctly responded for the cause of bleeding before 20wks of pregnancy and for meaning and causes of APH only 5(5.3%) and 32(34%) have responded correctly in pre-test . 45(47.9%) of the ANMs had knowledge of advice to be given to mother having bleeding/Abortion.

In response to pre-test none of the ANMs had written the role of ANM towards control of RTI/STI in the

community. Only 3(3.1%) ANMs correctly answered the two most common signs and symptoms a woman may report and 2(2.1%) Correctly responded the two most common signs and symptoms a man client may report .

Consistent with present study findings Agrawal M(2001)12 et. al reported that only during antenatal care 33.3% ANMs measured weight, 13.3% had referred pregnant women for Hb/urine/sugar/albumin. None of them (0.0%) asked history of complication, measured height, recorded the blood pressure or encouraged the client to ask for any question.

Inconsistent to present study Kaushik LK(2012)13 results revealed that out of 218 HW-Fs, only 71.56% were able to enumerate at least 5 criteria of at-risk mothers. Only 40.37% & 60% HW-Fs performed HB estimation & urine investigation of mothers respectively . Only 27.98% knew at least 5 of the indications for referral of the mother in labour to higher centre.

Inconsistent with present study Dhital,S.R et.al(2015)8 reported that 25(93%) ANMs had knowledge of three warning signs during pregnancy and it was conclude that the majority of ANMs had good knowledge on maternal and neonatal care

Findings of present study are congruent with D, Acharya (2016) 7 in which it was reported that 60.6% (80/137) primary level health workers did not recall the three danger signs of pregnancy .

Similar to present study Kyu Kyu Than et al (2017)14 revealed that among 262 auxiliary midwives (AMMs) participating in the study, only 8% of AMMs were able to identify at least 80% of 20 critical danger signs. It was concluded that low level of knowledge of critical danger signs and reported practices for safe childbirth identified suggest that an evaluation of the current AMM training and supervision programme needs to be revisited to ensure that existing practices, including recognition of danger signs, meet quality care standards before new interventions are introduced or new responsibilities given to ANMs.

Similar to present study Nandan D et al (2008-09)10 conducted a study for assessing birth preparedness and complication readiness in Rewa District of Madhya Pradesh and reported that Gap exists between knowledge and skills of health care providers(HCPs). Less than 50% of HCPs are competent in diagnosing and management

of complications. HCPs have adequate knowledge of ante natal care but they are not able to implement in real situation birth preparedness at community level .

Ramadurg U et. al (2016)15 assessed Community health workers' knowledge and management of pre-eclampsia in rural Karnataka State, and showed that, their basic knowledge and skills need to be strengthened to manage the hypertensive disorders of pregnancy more effectively in their communities.

Similar to present study Dhital, S.R et.al. (2015)8 revealed that the governmental policy, strategies, guidelines and protocols are not fully and effectively applied at working level.

Conclusion

It was concluded that ANMs had inadequate knowledge and there is a need to facilitate ANMs to refresh their knowledge time to time .

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