

Use of ADDIED Model to Develop Self Learning Material on Behavior Change Communication (BCC) related to Reproductive and Child Health Care and Assess its Effectiveness on Knowledge of Auxiliary Nurse and Midwives (ANMs) Regarding BCC for Antenatal Care

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Abstract

Introduction: As per WHO Every year an estimated 2,87,000 women die worldwide from complications related to pregnancy. Behavior Change Communication (BCC) is one of the most cost effective ways of targeting the issues of maternal health . There is a need to sensitize the in service ANMs regarding the benefits of adopting a systematic BCC intervention.

Objective: 1: To develop self learning material on BCC for RCH care

2: To assess effectiveness of Self learning material (SLM)on knowledge of ANMs regarding BCC for Antenatal care

Method: Study was based on ADDIE Model to develop instructional material. Researcher developed SLM with learning objective to describe the process of Behaviour Change Communication and related role of ANMs, to acquire knowledge about relevant information about selected ANC issues, plan and conduct BCC sessions for the selected ANC issues. Structured questionnaire was developed by the researcher consisting items on knowledge of BCC and information related to antenatal period for early registration, Importance of TT immunization, Diet and Rest, Identification and treatment of Anemia, Hi-Risk Pregnancy, Importance of Institutional Delivery , Identification and treatment of RTI/STI. One group pretest post-test time series design was used to assess the retention of knowledge among 94 study sample after reading the SLM up to three months.

Result: Majority of In-service ANMs (ISAs) 67 (71.3%) were from the age group of 40 years and above and had not attended any course /In service education programme on BCC. Finding shows that SLM was significantly effective to enhance the pre-test mean knowledge score from 32.78 to 78 .61 and 70.16 (p<.001).

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Conclusion: SLM was effective to improve the knowledge of In-service ANMs on BCC and relevant information related essential health care practices during antenatal period

Key Words: Behavior Change Communication (BCC) Self learning material(SLM). Antenatal care(ANC)

Background of the study

Behavior Change Communication (BCC) is one of the most cost effective ways of targeting the issues of MCH. It is the planned and strategic usage of communication to strengthen health seeking behaviors through health literacy, can be either focused at the community or individual level.

Global Situation :Maternal, Neonatal and childhood mortality

Every year an estimated 2,87,000 women die worldwide from complications related to pregnancy, child birth or the postnatal period. 99% of these deaths occurs within the most disadvantaged population group living in the poorest countries of the world. (WHO¹ 2012)

Indian scenario: Maternal, Neonatal and childhood mortality

Reduction in MMR has been the national priority since first five year plan till the 12th Five year plan. (MOHFW statistic report² 2015)

In reproductive and child health (RCH) program Behaviour change communication (BCC) have specific role to play for bringing desirable behaviour changes in health practices of people as Neonatal and childhood mortality are preventable and once detected, they are treatable.

Strategies to reduce Maternal, Neonatal and Childhood Mortality

Many important MCH issues related to ANC; such as educating women regarding skilled attendance at birth, exclusive breastfeeding for six months, child immunization, emergency obstetric care when necessary and post-natal care (PNC) for mothers and

babies.

BCC is needed to promote positive health practices for maternal and newborn health, and to discourage harmful practices. Village level interpersonal communication and community mobilization, are however the major forms of BCC which lead to changed behaviour (Operational Guidelines on Maternal and Newborn Health by GOF³2010).

BCC strategy requirement as mentioned by GOI on Maternal and New Born Health include :

- Knowledge of the determinants of key behaviours
- Audience segmentation and the choice of appropriate message, medium and communicator to reach mothers, their families and community influencers.
- Measures to monitor and evaluate effectiveness of the BCC components.

Need of the Study

In the results of follow up study conducted by Sarkar R ⁴,70 % ANMs expressed that they do not carry out post-natal visits as they do not get adequate experience during training. Majority (90%) of in service ANMs do not coordinate their activities with local community as they do not get adequate experience in coordinating their activities with local community leaders during training period.

Reasons affected to meet the client's needs for MCH :

- Absence of supportive supervision,
- Lack of training in inter-personal communication,

- Lack of motivation to work among health workers in urban /rural areas ,together with difficult to access reproductive and child health services,
- Poor quality of services (National Health Policy⁵, 2000) .

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, DM⁶2005**).

Clarity on BCC, its distinction from traditional IEC and the right approach to BCC is not evident in the planning, implementation and monitoring of BCC” . The need to build BCC planning capacity exists ,not only in one region where the study was conducted , but in other parts of the country too. Health workers role at each stage of behavior change needs to be identified and explained to health workers to provide quality RCH care. (**UNICEF ⁷2007**)

Objective: 1: : To develop self learning material on BCC for RCH care

2: To assess effectiveness of Self learning material on knowledge of ANM

regarding BCC for Antenatal care

Method :

Research Approach: The research approach used for present study was quantitative research approach evaluative in nature.

Research Design

Keeping the objectives in mind the Pre experimental research design was selected for present study .To assess the retention of knowledge among

study sample after reading the SLM up to three months , researcher used **one group pretest post-test time series design** .

Variables under Study

- **Independent variable:** Self-Learning Material on Behaviour Change Communication related to Selected Reproductive and Child Health issues introduced to In-Service ANMs.

- **Dependent variable :** Knowledge(K)scores of In-service ANMs Before and after reading the SLM on BCC related to antenatal care.

Setting for the research study groups:

For In-service ANMs group the setting was Maternal and child welfare (M&CW) centre and Maternity Homes of Municipal Corporation of Delhi (MCD) .

Population for the research study groups:

For In-service ANMs group: Total population In-service ANMs in Municipal Corporation of Delhi-800 and accessible population was all the ANMs working in selected health units.

Calculated sample size and sampling technique:

Sample Size calculation :The sample size was calculated by using power analysis it was 91 **Expecting that the minimum gain of 15% in scores.** **Multistage** random sampling technique was adopted for selecting the health unit.**Total enumeration technique** to select In-service ANMs from randomly selected health units.Total ISA participated in the study-94.

Criteria for Selecting Sample- ANMs working in selected M.C.D Health unit - ANMs willing to

participate in study - ANMs available at setting on the day of assessment.

Development of the Self Learning Material. (SLM) as Intervention and knowledge questionnaire to assess its effect

The major steps followed by the researcher in the development of the S.L.M and assessing its effect was based on ADDIE Model⁸

Analysis : Along with review of research and non-research literature ,to support the need of present study for In-service ANMs a questionnaire was developed also got validated for identifying the ANC issues and for collecting base line information about awareness related to BCC for ANC care among in-service ANMs(20) and views of their supervisors (10PHNs and 10Doctors) .

Findings of the analysis shows that majority of In-service ANMs were aware of correct meaning of health seeking behvious related to ANC. They were aware of dropout cases but in relation to immunization only. They were aware of how to identify drop outs for immunization but not for ANC care .Planning and conducting BCC sessions for drop out cases was also not practiced .

In-service ANMs expressed that there is need to include updated relevant information related to selected topics on ANC in reference to BCC There was (100%) agreement of all the experts that self learning material on BCC for ANC will be useful among In-service ANMs for creating awareness.

DESIGN : Development of a criteria checklist for content outline of units of SLM and got it validated by 9 experts .

DEVELOPMENT: Development of structure of

units based on validated design. And Development of criteria checklist, for evaluation of SLM. Preparation of the first draft of the S.L.M. **Content validation of the S.L.M.** by twenty one experts with the help of criteria checklist developed for evaluation of SLM. Modification and preparation of the second draft of the S.L.M. **Pre-testing of the S.L.M was done in** August 2016. Preparation of the final draft of the S.L.M was ready in December 2016 .**Translated the validated S.L.M** in Hindi and then back to English.

General objective of Self learning material.

- Describe the process of communication
- Acquire various qualities of an effective communicator.
- Discuss the process of Behaviour Change.
- Explain process of Behaviour Change Communication and related role of ANM
- Acquire knowledge about various components of RCH and relevant information about selected ANC issues.
- Describe various approaches and methods for Behaviour Change Communication(BCC)
- Plan and conduct BCC sessions for the selected ANC issues.

Units of the self learning material.

The SLM included three units:

Unit – 1 Introduction to Behavior Change Communication(BCC)

Unit – 2 Behavior Change Communication : Approaches and methods

Unit – 3 BCC guidelines for selected ANC

issues it described the steps to plan a BCC session in the community and one model BCC plan is presented in the unit.

Development of Data Collection 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 to assess knowledge of ANMs on BCC for Antenatal care .

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 Kuder Richardson (KR-20) formula and value 0,86 considered satisfactory for internal consistency of the tool
- ✓ **Translation of KAP tools in Hindi and then English**

Description of questionnaire :

Structured Questionnaire to assess knowledge of ANM on BCC for antenatal care consisting 49 items on knowledge of BCC and relevant

information related to health care practices during antenatal period like early registration, Importance of TT immunization, Diet and Rest, Identification and treatment of Anemia, Hi-Risk Pregnancy, Identification of PIH, Convulsions/Eclampsia and bleeding, Importance of Institutional Delivery and Birth Preparedness, Identification and treatment of RTI/STI.(Total score-85)

IMPLEMENTATION: (DATA COLLECTION PROCEDURE)

- The written Informed Consent was taken from each study subjects of ISA
- Information sheet containing brief information about the study was given to them
- Pre –Test Assessment for Knowledge using pre-tested knowledge questionnaire among ISA group was done by making them to sit separately in a big room at their respective setting.
- Duly filled knowledge questionnaire were collected back after 2 hour from ISA group.
- Intervention as Self learning material was introduced by the researcher using group approach: 4-6 study subjects in one ISA group. (As per their availability at each health unit)
- Discussion based on the content of SLM with each group of ISAs for 60-90 minutes .
- (Unit-1-30-50 minutes,Unit-2 -15-20 minutes,Unit-3 -15-20 minutes)
- The study subjects were later requested to read the content as per their own pace and time for the period of one month.
- Self reported log-book was provided to note

reading status for each unit.

- Weekly reminder calls to ISA group was done by researcher.

Evaluation :

Post test assessments was taken after one month and then after three months from the day of intervention introduced to study subjects of ISA group at their respective setting .

SLM was collected back after post test -1.

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 (ISAs) 67 (71.3%) were from the age group of 40 years and above. 45(47.5%) ISAs were having 10th as minimum educational qualification and 51 (54.5%) ISAs

were having professional experience of 20 years and above .

- Majority of ISAs 87(92.6) were having ANM diploma as professional qualification but 7(7.4%) of ISAs were having GNM diploma also. Majority of ISAs 74(78.72%) were trained from the institute situated in Haryana. Most of the ISAs 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 :Comparison of Mean knowledge Scores of ISAs in Pre-test and post test-I and II is presented in table -1 and 2

Table -1: Mean ,Standard Deviation and ANOVA for knowledge Scores of In –Service ANMs In Pre -Test And Post Test I And II

Knowledge	n	Mean±SD	p-value.
Pre –test	94	32.78 ±3.775	. p<.001*
Post-test(30)	94	78.61 ±5.245	
Post-test(90)	94	70.16±4.285	

* Significant at 0.05 level

Table -1 shows comparison of pre-test, post-test-I and post-test-II mean knowledge scores using ANOVA With significant p value data signifies that

the SLM was effective in increasing the knowledge scores.. It is interpreted that the mean knowledge scores had significantly increased after reading the SLM.

Table-2: Area-Wise Mean, Mean Percentage And Mean Percentage Gain In Knowledge Scores Among In-Service ANMs From Pre Test To Post Test-I And Post Test -II

N-94

S. No	Variable (Knowledge Area wise)	marks	Mean	Mean %	Mean % gain	P value
I	Knowledge of BCC	Pre-test	13.66	40.17	56.59	<.001*
		Post-test-I	32.90	96.76		
Pre-test		13.66	40.17	47.5	<.001*	
Post-test-II		29.81	87.67			
		Post-test-I	32.90	96.76	9.09	<.001*
		Post-test-II	29.81	87.67		
Ii	Knowledge of relevant information on ANC care.	Pre-test	19.12	37.49	52.13	<.001*
		Post-test-I	45.71	89.62		
		Pre-test	19.12	37.49	59.7	<.001*
		Post-test-II	40.35	79.11		

* Significant at 0.05 level

Data in table -2 shows mean and mean percentage scores of ISAs in Pre-test and post test-I and II .

Findings in the table reveals that mean and mean percentage scores of post test –I and Post test-II are higher than pre-test scores for knowledge of BCC and

Knowledge of relevant information on ANC care.

Tukey’s post hoc analysis for multiple comparison of total mean knowledge scores revealed that knowledge scores had increased in post test-I and II after reading the SLM.

Minimum percentage gain of 47.5% from pre-test to post test-II in areas of knowledge of BCC and where the mean percentage gain is more than 50% for Knowledge of relevant information on ANC care .It is interpreted that for the knowledge on BCC and knowledge of relevant information related to issues of during ANC had increased after reading the SLM among ISA.

Conclusion

□ It was concluded that SLM was effective to improve the knowledge of ISAs on Behaviour Change Communication and Knowledge of relevant information for Antenatal care related to Importance of early Registration and regular ANC Visits during pregnancy. importance of TT immunization during pregnancy, Knowledge Diet & rest during pregnancy . identification and treatment of aneamia, warning sign and High-risk pregnancy , importance of Institutional Delivery and Birth Preparedness .knowledge of Bleeding during pregnancy /Abortions ‘Identification and treatment of RTI/STI

Discussion

In present study there was lack of knowledge regarding BCC for ANC care components among In-service ANMs .

Similar to present study findings **Haruna et al⁹. (2010)** reported that midwives in Tokyo expressed their lack of expertise in behaviour change communication (BCC).

In congruence to the findings of present study it was revealed by **Novick¹⁰**,that target people for MCH care desired comprehensive and relevant information to clear their doubts, and enable them take informed decisions similarly, the women in study of **Bridgit Omowumi¹¹ et.al** mentioned issues about which they

wanted more information.

The overall findings of **Kaushik LK¹²** were similar to present study that counseling skills were lacking in a substantial proportion of HW-F which indicates a need to train them in these aspect, for improving ANC services in peripheral and rural set-up where these HW-F are the main functionaries to deliver care.

Ethical clearance-

1. The study was approved by the research Unit of Indira Gandhi National Open University (IGNOU),Delhi. Research problem and objectives were approved by the Doctoral committee of School of health sciences IGNOU. Prior permission was obtained from management of all the selected health units covered in the study.

2. **Source of funding-** Self

3. **Conflict of Interest -** nil

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