

Evaluation of antenatal services at Family welfare Centre under RMNCH+A Programme in Delhi

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ABSTRACT

Background: According to WHO, 536,000 women die every year in the world from causes relating to pregnancy, childbirth, or postpartum. Ninety nine percent of these deaths occur in the developing countries. Primary health centres (in densely populated areas and in urban slums are also referred to as family welfare centres, since they provide the whole continuum of care, from birth through adolescent and delivery and thereafter. **Aim:** To evaluate the antenatal services under Reproductive, Maternal, Newborn, Child plus Adolescent (RMNCHA) programme at a family welfare centre located in Central Delhi, India. We have proposed an action plan that will help in evaluating and improving these services. **Methodology:** The study included health providers of antenatal services and the beneficiaries. With a response rate of 90% from a sample of 218, 203 consenting antenatal women (beneficiaries) visiting the centre for ANC check-up under RMNCH + A programme and PMSMA were included. For quantitative component, a pre-designed, pre-tested semi-structured screening questionnaire were administered to the beneficiaries and healthcare providers to evaluate the antenatal services under RMNCH + A programme at the family welfare centre. **Results:** Qualitative and quantitative analysis was done separately. Only 43% of ANC women said health workers visited them at home during pregnancy and very few could tell about importance of lab investigations. Almost all (97%) knew about key messages given by health workers. Nearly all participants considered that the screening process was smooth. The waiting time and time to undergo varied from 4 to 6 min.

Keywords: ANM, antenatal care, family welfare centre, health care workers, LHV

Introduction

According to WHO, more than 5 lakhs women die yearly in the world because of causes related to pregnancy, childbirth, or postpartum. Developing countries constitute 99% of these deaths.^[1,2] The Sustainable Development Goal targets to reduce this ratio to 70 by 2030 in the world.^[3-6]

In India, the health care system stands on the pillars of sub-centres [SC], primary health centres [PHC], community

health centres [CHC], sub-district hospitals and district hospitals.^[7] PHCs in densely populated areas and in urban slums are also referred to as family welfare centres, since they provide the whole continuum of care, from birth through adolescent and delivery and thereafter.^[8,9] The current study is an attempt to evaluate the antenatal services under RMNCHA programme [Reproductive, Maternal, Newborn, Child plus Adolescent] at one such family welfare centre located in Central Delhi, India.

The theoretical framework to improve ANC services has been given by Thaddeus and Maine (1994) and it refers to socioeconomic/cultural factors, accessibility to facility, and availability of quality of care as the crucial factors behind maternal morbidity and mortality.^[10] According to Hamal M, *et al.*^[11] the structural factors [economic status, caste, gender,

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religion, education, culture] influence the intermediary factors [place of residence, maternal age at childbirth, parity and women's exposure to mass media, and maternal health messages] that contributed to the use of maternal health services by the public. In 2016, WHO gave an ANC monitoring framework. This framework builds on a conceptual framework for quality ANC and a scoping review of ANC indicators.^[12]

We have proposed an action plan that will help in evaluating and improving the maternal and child health services at Family Welfare Centres across the nation.

Methodology

This was a mix method study conducted in a Family Welfare Centre (F.W.C), located in Central Delhi at a distance of about 8 km from a government run tertiary level hospital. The population catered by the centre 35,054 with 4,872 eligible couples with 1,357 children falling in the age group of 1 month to 5 years according to the centre annular survey. The study included health providers of antenatal services [doctors and field workers] at the centre and catering population of the centre including those coming to centres during ANC days and those who were present during outreach sessions. 24 healthcare providers including 4 (M.O) Medical Officers, 9 ANMs (Auxillary Nurse Midwives), 2 LHV's (Lady Health Visitors), 2 LT (Lab Technicians), 1 HIV counsellor, and 6 administrative staff were included in the study. With a response rate of 90% from a sample of 218, 203 consenting antenatal women (beneficiaries) visiting the centre for ANC check-up under RMNCH + A programme and PMSMA were included. For quantitative component, a pre-designed screening questionnaire was administered to the beneficiaries and healthcare providers to evaluate the antenatal services under RMNCH+A programme. The questionnaire was divided into two parts: Part A included Screening procedure for Identifiers and sociodemographic details), Part B included questions regarding ANC services and their level of satisfaction. Data was collected through direct self-observation of antenatal clinics, communication skills of service providers, obstetric history, examination and counselling about antenatal care, immunization and distribution of [Iron and Folic acid] IFA tablets. Analysis of data like monthly report, service registers, attendance records of the staff, records of supply and indent of IFA tablets, calcium and tetanus toxoid were done to find out the performance of the centre. Interviews were conducted using a predesigned schedule to the beneficiaries and their care givers. Data were taken in the field also during outreach sessions. SPSS version 12 was used for data analysis. Data was analyzed and expressed as proportions. For qualitative component Key informants, interview were conducted with ANMs, medical officer, and other service providers and perceived relevance and acceptability of the ANC services among antenatal women was explored through one-to-one interview with antenatal women and healthcare providers. A broad open-ended interview guide was used. Field notes from observations during data collection were made. A total of 15 one-to-one interviews were conducted (10 with patients and 5 with health providers). Thirty minutes was the average duration for the interviews taken.

Permission for this academic project was taken from National Institute of Health and Family Welfare. The ethics committee approval was obtained and letter of approval is dated 09 January 2017.

Observations and Results

F.W.C registers around 70 antenatal women (beneficiaries) monthly. The mean age of the beneficiaries was found to be 25.2 [range 19--38] among the total 203 respondents. Almost one-fourth of the women were illiterate or just literate (26.1%), whereas only 13.8% of the individual had education level senior secondary and above. More than onethird of the study individuals were working (34%), some were maids and few were working as daily wage workers. More than half 57% of the study subjects belonged to middle socioeconomic status while 34% belonged to lower class. Only 8.9% of the study subjects belonged to upper socioeconomic class. It was found that 24 Healthcare providers were posted at F.W.C (Family Welfare Centre) including 4 (M.O) Medical Officers, 9 ANMs (Auxillary Nurse Midwives), 2 LHV's (Lady Health Visitors), 2 LT (Lab Technicians) 1 HIV counsellor, and 6 administrative staff.

In quantitative analysis

The beneficiaries at the family welfare centre were also questioned to know their perception about service providers at the centre and the services there [Table 1].

All of the respondents on their ANC visit were having their ANC cards with them. Ninety percent of the respondents were aware about the importance of ANC services like why ANC check-up is important and how does it help them. Only 43% of them said health workers visited them at home during pregnancy and very few could tell about importance of lab investigations. Almost all (97%) knew about key messages given by health workers which included warning signs in pregnancy and daily pregnancy care.

On enquiring about reasons for incomplete ANC visits, majority stated migration [57%] as the cause. Around 10.6% of them stated that they were unaware about due date of next visit. [Table 2].

On enquiring the ANC females about who encouraged them to get their pregnancy registered, only around 14% and 7.9% named ANM and AWW, respectively. One-third of them got self-motivated to register at health facility and 40% were influenced by family or neighbors [Table 3].

All the health personnel working for the centre were questioned to know their knowledge about ANC care. [Table 4]

Around 73% of ANM knew about mandatory 4 ANC visits, 93% of them knew about importance of tetanus immunization, 83--86% of them could tell about adequate weight gain in pregnancy, important lab tests for ANC and PMSMA scheme. On asking LHV's about antenatal care, all two of them could

tell about purpose and mandatory ANC visits, importance and registration and incentives under PMSMA scheme. Knowledge about side effects of calcium and IFA tablets and incentives and registration under JSY was lacking among both, ANMs and LHV's. Doctors were able to answer most of the questions correctly [Tables 5-7].

Qualitative

From the field notes, 12 codes identified, and they were grouped into three main themes:

1) Positive experiences, 2) Negative experiences, 3) challenges in execution as perceived by health providers.

Positive experiences of antenatal women

Nearly all participants considered that the screening process was smooth. The waiting time and time to undergo varied from 4 to 6 min. Patients commented that the questions asked to them were

Table 1: Knowledge about ANC services among beneficiaries

Observations	n	%
ANC Card Present	203	100
Knew About The Importance Of ANC Services	183	90.1
Referred By ASHA/ANM/AWW/Doctors Without Having Knowledge About Importance Of ANC Services	79	38.9
Knowledge W.R.T Place And Timings For Outreach Sessions For Antenatal Check Up	168	82.7
Key Messages Given By Health Workers	197	97
Do Health workers Visit House For Providing Information About Warning Signs Of Pregnancy And Next Due ANC Visit	87	42.8
Knew The Importance Of Consumption Of Iron/Calcium/ Folic Acid Tablets And Tetanus Immunization	108	53.2
Importance Of Tetanus Immunization	71	34.9
Knew Importance Of Lab Investigations	87	42.8
Satisfied With Services Provided By The Centre	180	88.8
Knew Services Provided By PMSMA	128	63.1

Table 2: Distribution of reasons for incomplete ANC visits among study subjects

Reasons	Number (n=47)	Percentage
Migration	27	57.4
Out Of Area	9	19.2
Unaware About Due Dates Of Next Visit	5	10.6
Ignorant About Mandatory Regular ANC Check Up	6	12.8
Total	47	100

Table 3: Distribution of subjects according to advice for ANC registration

Person advised	Number n=203	Percentage
ANM	28	13.8
AWW	16	7.9
Doctor	8	3.9
Self	70	34.5
Neighbours/Family Members	81	39.9
Total	203	100

easily understandable. One patient commented "Its good to know healthcare providers are educating us about the care during the antenatal period, it is very useful. ... "Another interviewer said, "we are getting it free information here what is the harm? Nothing is free nowadays so its pleasing." The positive outlook of staff involved, and the effective communication skills were conveyed as important elements of the screening process. Except for one participant, interviewees found the screening contented and their privacy secure.

Negative experiences of antenatal women

There were several demoralizing factors that led to some negative experiences by patients. Waiting time and out of pocket expenditure for blood sugar testing were some major issues. The most of test from private laboratory varies from Rs 80 to Rs 150. "I cannot go.....there are long queues.....I don't have stamina...", one participant stated. Some participants who were referred to physicians cited long waiting time at the hospital as a constraining visit. Additionally, they had to have an OPD (out-patient department) slip which meant lining up for another queue.

The overall reaction of the participants to disclosure of high-risk status was that of concern and rejection. The extent of distress was voiced by one of the participants as "I do not know what to do now. I got pregnant at young age and now high BP...it feels horrible....now I will have to take another pill. "Another stated "my sugar levels have always been normal; how can it be high now....I don't agree, the lab report is wrong". The need for counseling and patient support arose as an essential component of such a screening procedure.

Challenges in execution according to health providers

Participants had mixed feeling regarding perceived workload after implementation of the unified antenatal services of RMNCH+A and PMSMA "...with daily regime my work has increased....An additional person should be selected for additional work" one of them remarked. Health providers also express their concern regarding inadequacy of their knowledge and skills.

One of the health providers took a particular gender issue related to anthropometric measurements; "Since I am male, I cannot measure [waist circumference] for females. I should not be posted here."

Shortage of glucometers at the F.W.C was informed, because of which the patients got their blood sugar done from somewhere else. One health provider stated, "I do not think my center has fully functional equipment like BP apparatus, glucometer, and measuring tape. For DM screening, I ask patients to get their blood sugar test done from outside." This point appeared as the most negative experience from the patients' point of view. Health providers also pointed out saying, "My time gets wasted in preparing so many weekly, monthly, quarterly reports in different formats to be sent at various levels in the MCD and NHM," as there is a lack of standardized formats.

Discussion

The current study was conducted in government run Family Welfare Centre to evaluate the antenatal services. Antenatal, intra

Table 4: Knowledge About ANC Services Among Health Personnel [ANM (n=9), LHV (n=2) and medical officers (n=4)]

Observations	ANM n=9 (%)	LHV n=2 (%)	Doctors n=4 (%)
Purpose Of ANC Check Up	9 (100)	2 (100)	4 (100)
Mandatory ANC Check Up	7 (73.6)	2 (100)	4 (100)
Importance/Dosage/Advice For IFA Supplementation	6 (63.4)	1 (50)	3 (75)
Importance/Dosage/Advice For Calcium Supplementation	6 (67.2)	1 (50)	3 (75)
Problems/Side-effects With Calcium/IFA Supplementation	5 (53.4)	0 (0)	4 (100)
Weight gain In Pregnancy Entirely/Triemster Wise	8 (83.3)	1 (50)	4 (100)
Importance/Schedule Of TT Immunization	8 (93.6)	1 (50)	4 (100)
Importance Of Lab Investigations For Screening Of Diseases	8 (86.6)	1 (50)	4 (100)
Importance/Incentives/Advantages Of JSY	5 (54.8)	1 (50)	2 (50)
Importance/Incentives/Advantages Of PMSMA	6 (64.7)	2 (100)	2 (50)
Knew About Registration Under JSY	5 (57.4)	1 (50)	3 (75)
Knew About Registration Under PMSMA	8 (86.4)	2 (100)	3 (75)
IEC/BCC Activities For Implementation Of PMSMA	5 (60.4)	0 (0)	3 (75)

Table 5: Distribution Of Subjects According To Advice For ANC Registration

Person Advised	Number n=203	Percentage
ANM	28	13.8
AWW	16	7.9
Doctor	8	3.9
Self	70	34.5
Neighbours/Family Members	81	39.9
Total	203	100

Results Based On The Observations Of ANC Facilities

natal and post natal care are being provided by medical officers, ANMs, and LHVs.^[13] In the recent facility survey by Govt. of India, adequate equipment was available in 54% of the PHCs, supplies in 69%, and adequate staff was present in 26% of the PHCs. Paramedical staff trained in MCH was present in 33% of the PHCs. There were major gaps in facilities to provide emergency obstetrics care at the CHCs and FRUs.^[14] The Government's own reviews point out the need to focus more attention on making the system more outcome-oriented and responsive to patient's needs, like courteous behavior by staff and explanation of diagnosis, etc., to patients—these do not appear to be addressed, and have emerged as one of the major reasons for non-utilization of public facilities.^[15] A study in Mumbai's informal settlements found that poor perceptions of public facilities combined with concern for a positive experience of care and health outcomes often caused residents to utilize tertiary hospitals or private sector facilities.^[16]

In our study, knowledge about side effects of calcium and IFA tablets and incentives and registration under JSY was lacking, although health workers had good knowledge of PMSMA scheme. One reason for more awareness about PMSMA compared to JSY could be that more information is being circulated via posters, television advertisements, and through public health people about PMSMA then JSY, it being a newly launched programme. In Nigerian study on ANC conditional cash transfer [similar to JSY in India], local health system structures played a more prominent role in disseminating information to the women, being mostly informed via the health facility. (34.2%), Village health worker (21.1%) and Ward development committee (9.1%).^[17]

In a study setting similar to ours in Delhi, Laxmi *et al.* did ANC knowledge scoring on ANM and found it to be below average.^[18] The overall findings of Kaushik LK, *et al.* were similar to present study that counselling competencies were not up to the mark in a substantial proportion of HW-F.^[19] Another reason could be time constraints for examinations because of high patient load, or due to overreliance on lab investigations.^[20] In our study, we found ANMs had better knowledge about ANC than their supervisors, LHV. A study from northern Karnataka, India also found that ANMs were more confident and knowledgeable than staff nurses or LHVs to manage routine antenatal care and to identify complications.^[20,21]

In a developing country like ours where several government schemes like JSY and PMSMA are running, people of middle and lower socioeconomic status generally prefer government facility over private to avail these schemes. In an analysis by Butcher S, *et al.*^[21] comparison have been done in antenatal attendance in various developing countries including India and have found that government run facilities get 50--80% of antenatal load. In the current study, only 13.8% of the beneficiaries had education level senior secondary level and above. In a regression model on ANC attendance in India by Paul S, *et al.*^[22] the states with higher average literacy had lesser abstinence from ANC care. This can explain to some extent why in our study only 34% pregnant women knew about care given during pregnancy including tetanus immunization. In the same study by Paul S, *et al.*^[22] they have found that wealth of people don't play a significant factor in seeking ANC care. In our study, only 8% of the beneficiaries were from higher socioeconomic status.

In the current study, more than half of the women quoted migration as the reason for incomplete ANC visits. Government of India has introduced HMIS [Health management information system] for tracking such migrating population. We found less percentage of women who were advised for ANC registration by grass root level health workers. Butcher S, *et al.*^[21] also quoted 35% of ANC women would consult a local health worker in India. In a study similar to ours in Nigeria, 5 mechanisms were proposed to motivate ANC health care workers, (1) feeling

Table 6: Investigators And Records Based Observations In Family Welfare Centre

Observations	Yes/No
Physical Infrastructure	
OPD Consultation Room	Yes
Registration Counter	Yes
Emergency Room	Yes
OT	No
Labour Room	Yes
Laboratory (9 am-3 pm)	Yes
Pharmacy (9 am-3 pm)	Yes
ICTC	Yes
24×7 Ambulance Services	No
Communication Facility	Yes
Drinking Water Facility	Yes
Toilet Facility	Yes
Human Resources	
MOIC	Yes
Public Health Specialist	No
Public Health Nurse	No
Obstetrician and Gynaecologist	No
Pediatrician	Yes
Anesthetist	No
Staff Nurses	Yes
Pharmacist	Yes
Lab Technician	Yes
ANM	Yes
LHV	Yes
Clerks	Yes
SafaiKaramchari	Yes
Services Provided	
ANC Services	Yes
Management Of RTI/STI Services	Yes
Immunization	Yes
Family Planning Services	Yes
Emergency Services	No
Inpatient Services	Yes
PNC Services	Yes
Child Care	Yes
Referral Services	Yes
ICTC Services	Yes
Lab Investigations	Yes
Logistics and Inventory	
Adequate Stock Of Medicines, Gloves, Instruments	No
Biomedical Waste Management Color Coded Bins Present	Yes
Mother And Child Tracking Register	Yes
Alternate Power Supply System	Yes
Vehicle For Outreach Sessions	No
Stock Register	Yes
Registers For Family Planting, Anc Registers, Rch Registers	Yes
Data Entry Operator	Yes
HIV Counsellor	Yes

supported, (2) feeling comfortable with work environment, (3) feeling valued, (4) morale and confidence to perform tasks and (5) companionship.^[23]

Our study has much strength. We interviewed and also observed the staff while providing services. Strength is that very few

Table 7: Investigators And Records Based Observations

Observations	Numbers
Rooms In The Centre	7
Labour Tables In Labour Room	3
Outreach Sessions (ANC, PNC, Immunization, Family Planning) In A Week	2
Health Personal In Each Outreach Session	7
Pregnancy Care Health Talks In A Month	6

studies have been done in such MCH centres to evaluate their infrastructure and ANC services. We suspect social desirability bias and possibility of shifting the blame to others or the system. This is a limitation of our research.

Problems Identified In Implementation Of Programme Includes:

- Lack Of Blood Bank Facility:** Emergency Obstetric Care Cannot Be Provided Due To Lack Of Blood Bank Facility
- Inadequate Skilled Staff and infrastructure:** It is due to inadequate skilled staff (obstetrician, gynecologist, and anesthetist, etc.), lack of operation theatre. it hampers the emergency care services and operative services.
- Part-Time and outdated laboratory Facilities:** Lab facilities and pharmacy facilities are available only between 9 am to 3 pm which as per mandate should be available 24 h. The instruments and lab proceedings are conducted through old methods, for example, Sahli's haemoglobinometer.
- Quality of ANC Services:** No premature deliveries and still births are reported because high risk cases are not being managed and referred at an early stage.
- No Emergency Plans:** To combat emergency situations like natural disaster or massive power failure and fire. No emergency plans are laid down.
- Lack Of BCC Activities:** IEC activities are satisfactory and therefore beneficiaries are aware about the ANC Services but they don't consider them important to bring them into practice.
- Lack Of Actual Consumption Of IFA/Calcium Supplementation By The Beneficiaries:** It was found that almost 50% of the beneficiaries take the supplements but throw them in dustbin while returning home as medicine consumption is not acceptable as observed on various occasions by the investigator.
- Inadequate Services for Gynaecological Problems:** No dedicated management of RTI/STI is done as RTI/STI 7 color coded kits are not available and blanket treatment are given for all problems.
- Improper Functioning Of New Born Care Facilities:** NICU services are inadequate due to lack of newborn critical care equipments.
- Lack Of Disposables:** Disposable gloves, autodialysable syringes, Ryles tube and catheters were found inadequate.
- Lack Of Dedicated Vehicle For Emergency Transport-** 24 × 7 ambulance services dedicated for the centre should be allotted for prompt referral services.

Table 8: SWOT Analysis of the Organization

MAJOR STRENGTHS: Established Centre With Good Rapport Among The Population In Campus Facility For The Staff Promotes Research Early Detection Of Complications During Pregnancy Therefore Maternal And Fetal Outcomes Are Successful.	MAJOR WEAKNESSES: Weak Infrastructure (Manpower and Material) Lack Of Internet Facilities Lack Of Manpower For Emergency Obstetric Care Lack Of Coordination Among Staff Members.
MAJOR OPPORTUNITIES Close Association With The North DMC Medical College Open For Research Activitie	MAJOR THREATS Lack Of Political Will Lack Of Financial Resources

Domains	Objectives	Objective Verified Indicators	Means of Verifications
Goals	To Improve The Knowledge Of The Staff	To Improve 50% Knowledge Of The Staff At The End Of The Session.	Pre And Post Test
Purposes	To Attend Training Sessions By The Staff	At least 50% Attendees	Daily Attendance
Outputs	To Arrange Training Session	Arrange One Training Session At least Twice A Month	Necessary Records Maintained
Inputs	Training Rooms/Venue	Booking Of Training Rooms And Venues In Advance	Documents Regarding Booking Etc.

Action plan

On the basis of above results and discussion, we could formulate following action plan to improve the MCH services at such MCH centres.

- Follow-up of migrant belts to ensure proper coverage of ANC services.
- Regular SWOT analysis should be done to ensure the strengths, weaknesses, opportunities, and threats and take action appropriately [Table 8].

Log frame analysis of the proposed interventions

- It Can Be Followed Up By Strategies Like Gantt Charts Etc

Summary and Conclusion

This was a mixed method study done among ANC providers and the ANC patients. By doing situational analysis of the family Welfare Centre, Kamla Nehru Centre, many problems were highlighted like insufficient knowledge among staff and their inadequate trainings. These can be overcome by administrative decisions such as providing proper ANC and by regular training of the staff. Using management techniques like log frame work and Gantt chart the programme indicators can be improved.

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Conflicts of interest

There are no conflicts of interest.

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