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A study on abortion care services in different tiers of rural health care in Malda district of West Bengal, India

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ABSTRACT

Objective: To assess comprehensive abortion care (CAC) services uptake and barriers to it in selected representative units of the three tier health care in the district of Malda in West Bengal, India.

Methods: We conducted community-based, concurrent, parallel mixed methods study. Quantitative assessment of knowledge of primary health care workers on CAC and appropriate infrastructure assessment was done. Qualitative methods were used to identify themes affecting uptake of quality care among stakeholders.

Results: A total of 48 staff nurses and 133 auxiliary nurses and midwives were included in the study. About half of nurses (of total 48) who were second tier health care provider and two thirds (of total 133) of first tier health care provider had incorrect knowledge about legality of abortion. Only 40% mothers seeking abortion were accompanied to subcentre by primary health care worker. At the third tier health care site, physicians insisted on necessity of refresher training. Suboptimal uptake of available CAC services was due to lack of enabling environment. Lack of updated training across health care workers was observed.

Conclusions: Health care providers at the community level were unaware of facilities available for mothers seeking abortion. Higher level health care providers were unsure of specific knowledge about legal permissibility and sterilization of apparatus for abortion. At the highest level, more training on medical methods of abortion was required. The problems identified are amenable to correction, and some administrative and service-related provision on appropriate measures may lead to immediate success.

KEYWORDS: Abortion care uptake; Tiers of service primary health care; Perception; Service uptake

1. Introduction

Indices required for evaluating achievements on optimum maternal and child health care have been developed encompassing those for

comprehensive abortion care (CAC) as well. Many women who survive clandestine abortion procedures often suffer from chronic, debilitating health outcomes that have a bearing on the health of those women in future[1]. Moreover, not all abortion and related complications get reported.

An estimate indicates that 15.6 million abortions (14.1-17.3) occurred in India in 2015[2]. The abortion rate was 47.0 abortions (42.2–52.1) per 1000 women aged 15–49 years. Abortions occurred for one thirds of all pregnancies, and nearly half of all pregnancies were unintended. This reflects a staggering unmet need for family planning. There is a need for expansion of accessible family planning methods as well scope for escalating reach and quality of

Key Points

Question: What are the factors affecting service provision and uptake of comprehensive abortion care in different tiers of rural health care in a district in West Bengal India?

Findings: Suboptimal uptake of available comprehensive abortion care services was due to lack of enabling environment, and knowledge gap about legality and procedural issues. Refresher training on technicalities and newer methods of comprehensive abortion care was a need.

Meaning: Problems identified are amenable to correction, some are administrative and service related, which on appropriate measure can reflect immediate success.

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abortion care services. In studying pregnancy outcome as a primary health care mandate in India, it was seen by Rajashekhar *et al*[3] that 35% of pregnancies are unintended. Most of these figures resort to abortions which are often off the record and may lead to eventual maternal mortality.

About 8% of maternal death are due to early pregnancy losses and its associated complications. It has been seen that unsafe abortion continues to be a reason behind maternal mortality, especially in rural areas. Moreover, not all abortion and related complications get reported. Realizing this, a substantial amount of time and resource have been devoted to develop and provide CAC services *via* reproductive maternal child health plus adolescent's programme (RMNCHA+) and other vehicles.

The RMNCHA+ has provision for addressing the unmet needs for early pregnancy losses[4]. In addition to guideline for safe termination of early pregnancies, there are also multiple training programmes aimed for health care workers at different levels. This has been initiated by Government of India following legalization of abortion care services in 1971 by Medical Termination of Pregnancy Act. Many more addition and reconsideration were made both legally as well as in service provision from time to time.

The objectives of this study were to find out the prevalent knowledge quotient and practise among stake holders of CAC along with assessment of adequacy of infrastructure. Further barriers of optimal uptake of services along with scope of improvement were looked into in the 3 tiers that is first, second and highest level of health care in an administrative unit.

2. Methods

2.1. Study design

The study was conducted in the district of Malda in the state of West Bengal. Among 8 blocks, study was done in 3 tiers of 2 such blocks. The tier system consists of baseline or first contact by frontline health care workers. The second tier consists of community health centre with better facilities like provision for abortion with minor operation theatre. The final tier has specialist care with optimum care support.

This was a community-based study with qualitative and quantitative components. The two threads were run concurrently with findings from both arms analysed separately and presented. An integrated single inference was derived from findings of both the threads and was compiled.

2.2. Settings

The study was conducted over 1 month from January 2018 to February 2018 in the district of Malda West Bengal over 2 randomly selected blocks among 8 administrative health blocks. Study

included representation from grassroots or first tier that is Health Wellness Clinic, followed by Community Health Centre at block level that being second tier. The uppermost tier consists of rural hospital upwards larger hospitals.

2.3. Participants

Quantitative component included the facility level observation and record review of infrastructure and human resource for CAC services. Structured information on relevant domains of knowledge and practice regarding CAC uptake and provision was captured among frontline health care providers at first tier namely auxiliary nurse and midwives (ANM) who are the first contact persons. The other tiers were staff nurses from selected health care facility at tier 2 and tier 3.

Randomly selected health care facility at tier one was first taken with enrolment of all consenting first line health care worker. All the ANM working the selected health care block at tier one were included reaching a figure of 133.

Following the first selection of the administrative unit at tier 1, the hierarchy was followed with next step being second tier of facility and its service provider relevant to this study namely staff nurse. Similar to tier 1, all the staff nurses were included to a figure of 48. It may be stated that for referral of patients (for complication, more specific treatment), this hierarchy is followed as higher up the level/ tier the facilities are better equipped with respect to equipment and manpower.

Qualitative component involved: development of a grounded theory based on transcripts derived from group interview, focus group discussion, and in-depth one on one interview among various stakeholders at each tier up to administrative office.

2.4. Study size

In Malda district, 2 community blocks were randomly chosen, for the study for quantitative and qualitative part of study. Data were collected from effective sample size of 133 ANM (representing tier 1) and 48 staff nurses (representing tier 2 and 3), which was a total enumeration of the nursing care staff and frontline worker tier specific of the selected unit of health care. Of the qualitative part, focused group discussion was conducted in the selected tier 1 health care facility. In-depth interview of medical officer was at tier 2 and 3 and administrative official at district medical administrative headquarters.

2.5. Data source

For the quantitative arm observation checklist for equipment, waste disposal, sterilization, space for counselling, subsequent family planning availability of signage and educative material on display were checked. Further usage of government-sponsored vehicles in the last quarter for usage of abortion care was checked.

Structured self-administered questionnaire were given to 133 ANM (first tier of health care) and a separate set to 48 staff nurses of second tier of healthcare. The structured self-administered valid survey questionnaire relevant to study objective was used to assess knowledge, attitude and practice of different domains of CAC among first-line health care worker (tier 1) and staff nurse (tier 2 & 3).

Qualitative component involved 4 focus group discussion among service recipients, *i.e.* women in reproductive age group (aged 19 to 51 years) living in the villages selected for activity. Group interview was conducted among ANM of tier 1, in 4 settings (age group ranged from 26-57 years). Other participants were administrative officials ($n=2$) and doctors ($n=4$) for understanding operational feasibility and administrative components. There procedures were conducted till data saturation was observed.

2.6. Data analysis

The quantitative information from questionnaire was analyzed in Microsoft excel. The checklist analysis was done. Information rich data from 4 focus group discussion, group interview, 4 in-depth interviews were transcribed and examined in depth. Transcripts were coded by single coder, themed and analyzed to formulate a grounded theory.

2.7. Ethics statement

This study was given ethical clearance from Ethical Committee and IRB of Malda Medical College (No. Memo no p/mld-mc/02; dated 17 July, 2021).

3. Results

3.1. Analysis of information from ANM (tier 1 health care worker)

The first-tier ANM should have a proper knowledge as to the subjects in her area who require abortion, should encourage to have an institutionalized/safe at-home procedure and provide information on types of procedures available as per duration of pregnancy. The opportunity of an informed choice regarding abortion is provided by the ANM to pregnant women seeking abortion. Knowledge was assessed in these domains for ANM.

Table 1 shows demographic and training data about 133 ANM and 48 staff nurses. Among ANM, 37% were less than 30 years old, and 46% had work experience less than 10 years. Among staff nurse who qualify after longer training, 23% were less than 30 years old, and 52% had less than 10 years of work experience. There were 546 mothers (as declared by ANM) requesting abortion care, of which 40% were accompanied by frontline health care worker to health care facility.

Table 1. Demographic and training data about the study participants.

Parameters	ANM ($n=133$)	Staff nurse ($n=48$)
Age, years, $n(\%)$		
<30	49 (37.0)	11 (23.0)
≥ 30	84 (63.0)	37 (77.0)
Work experience, years, $n(\%)$		
<10	61 (46.0)	25 (52.0)
≥ 10	72 (54.0)	23 (48.0)
Marital status, $n(\%)$		
Married	97 (73.0)	33 (69.0)
Other (single, widow, divorced)	36 (27.0)	15 (31.0)
Receiving training in the last 2 years on CAC, $n(\%)$		
Yes	41 (31.0)	Not applicable
No	92 (69.0)	
Receiving material on CAC, $n(\%)$		
Yes	41 (31.0)	Not applicable
No	92 (69.0)	
Accompanying mother to health care facility for CAC, %		
Yes	54.0	Not designated worker
No	46.0	

ANM: auxiliary nurse and midwives; CAC: comprehensive abortion care.

Table 2. Knowledge and practice regarding abortion among 133 auxiliary nurse and midwives based on training received or not on comprehensive abortion care in the last 2 years.

Parameters	No receiving training ($n=92$)	Receiving training ($n=41$)	P value
Able to calculate foetal age correctly, $n(\%)$	24 (26.0)	18 (44.0)	0.04
Knowing correct method for abortion as per gestational age, $n(\%)$	20 (22.0)	19 (46.0)	<0.01
Accompanying mother to seeking abortion to health care facility, $n(\%)$	29 (32.0)	16 (39.0)	0.40

Auxiliary nurse and midwives (ANM) who received any training were better informed but did not reflect in practice of accompanying mother to health care facility. *Chi square* test is used.

Among the 133 ANM, 32% (42/133) knew correctly how to calculate age of foetus and 29% (39/133) knew the permissible type of abortion as per age of fetus. Thirty-one percent (41/133) had received a training and educative material on CAC in the last 2 years. Despite there being a provision of vehicular support and regulation for a frontline health care worker to accompany mother to health care facility for abortion, only 40% mother were accompanied as per records in the last calendar year with 54% of ANM actually accompanying. Training improved knowledge component; however, practice to accompany mother to health care facility for abortion was not well associated with training (Table 2).

According to first-level or first-contact health care providers, a lack of confidentiality followed by delays in services was the main reason why mothers did not seek CAC at public health care facilities.

3.2. Analysis of information from staff nurse of tier 2 and 3

Table 3 shows that assessment results of knowledge about CAC

Table 3. Knowledge and practice of staff nurses about abortion care services (n=48).

Domains of question	Items enquired	%
Knowledge on date calculation with respect to comprehensive abortion care	Calculation of gestation age of foetus correctly from the last menstrual period.	50.0
	Correct knowledge about gestation till which legally abortion can be done.	36.0
	Correct knowledge about time before which conception can occur following abortion.	15.0
Sterilization	Disposal of abortus incorrect information.	15.0
	Correct method of sterilization of manual vacuum aspiration.	21.0
	Correct knowledge regarding use of anaesthetic.	86.0
Experience in conducting/assisting abortion	Never assisted in any procedure.	45.0
	HIV HBsAg screening not done stated by records.	40.0
	Provision of Fe folic acid for mothers undergoing abortion stated correctly by participants.	90.0
Administrative issue	Involvement in documentation and recording.	87.0
	Correct knowledge about Janani Sishu Suraksha Karyakram (JSSK) settlement of mother undergoing abortion.	45.0

among staff nurses at second and third tier. The second and third tier provides the option and place for CAC. The staff nurses are the ones responsible to oversee the process with support from available doctor. Their knowledge on legitimacy and procedural issue of CAC was ascertained.

Among the 48 staff nurses, 50% could calculate gestation period correctly if date of the last menstrual period was provided with 36% providing age of foetus for legally permissible abortion. While 86% had correct knowledge about use of anesthetic agent during procedure of abortion, only 21% knew correctly to sterilize manual vacuum aspirator. Fifteen percent knew how to dispose abortus correctly. Regarding experience in conducting/assisting abortion, 45% never assisted in any procedure. Additionally, 40% of cases screening for bloodborne disease like hepatitis and HIV were not done. However, anemia prevention knowledge was good with 90% staff nurses, providing Fe and folic acid to mothers undergoing abortions despite government having placed measures to aid and facilitate abortion which is Janani Sishu Suraksha Karyakram (JSSK), which is a benefit package targeted for mothers. These incentivized settlements were known to 45% of the staff nurse. Knowledge and practice of documentation and record keeping pertaining to abortion care was 87%.

3.3. Assessment of infrastructure and facility for CAC at tier 2 and 3

Infrastructure and facility for CAC was observed at second and third tier. Facility for privacy, for counselling was not present, medical abortion drugs unavailable. Form C which is the consent form required by the mothers prior to abortion was not filled in most cases; also, those which were filled were not dated or signed. The supplied form was English and no vernacular version was seen. Record keeping was inaccurate with cases admitted for abortion being admitted as “bleeding per vagina” instead of spontaneous, inevitable, incomplete abortion to avoid paper work.

Educative material was inadequate and information was unclear from those on display. No signage material for handout purpose

was seen. JSSK (public support program) usage was not clarified anywhere. Post abortion counselling and family planning support was not documented.

3.4. Assessment of qualitative component of study

Five themes emerged from the qualitative analysis at the level of service recipient, tier one and two of health care provider, medical and administrative official (Table 4). The first theme was preference of private sector for faster and more confidential service as felt by service recipients. Lack of knowledge about procedural as well as administrative issue emerged as second and third theme. The necessity of refresher training for medical officers was the fourth theme. Finally, administrative issue like failure to comply with paperwork from the administrator’s end was the fifth theme.

Integrated findings from both threads were: suboptimal uptake of services, lack of information about legitimacy of abortion, underutilization of public facilities for ultrasonography, and non-utilization of vehicular support known as Nichayjan (public free transport for expectant mothers as well as mothers seeking abortion). There was a lack of information on newer methods of abortion, particularly manual vacuum aspiration and other medical methods. Also, instrument sterilization and screening for transmittable disease was inadequate. Avoidance of paperwork as administrative issues was also documented.

4. Discussion

The Indian New-born Action Plan states that every pregnancy should be wanted for the child to survive to ensure an single digit neonatal mortality rate by 2030[5]. Undesired pregnancies contribute to negligent maternal as well as fatal neonatal outcome. The Sexual and Reproductive Health and Right (SHRH) report from 2021 shows that even though 47 out of 1000 women in the age of 15 to 45 undergo abortion, those seeking abortion due to financial reasons or by personal choice do not find an enabling environment[6]. Undesired

Table 4. Results of qualitative analysis of comprehensive abortion care among stakeholders (health care worker, mothers attending health care centers, doctors and administrative officials).

Codes generated	Level of generation	Themes identified
Stigma Lack of information on available services Easy availability of abortion services albeit with out of pocket expenditure Avoidance of government sectors due to lengthy procedural issues <i>“a sadhu visits the weekly mela where abortion can be done instantly without waiting”</i> ; mela are village fairs	Service recipient level	Preference of private sector for faster service
Lack of knowledge about protocol Lack of knowledge about requirement of service recipient Fear about paperwork Lack of knowledge about incentive offered by government <i>“medicine from local pharmacy are easily available, mothers go there”</i>	Level of first contact service providers	Information on abortion care services inadequate among frontline care provider
Incorrect knowledge about transmissible disease Avoidance of paper work Lack of clarity about sterilization Failure to advice subordinate as well as service recipient Attempt a fixed day service to ensure competent person is present on the said day <i>“abortion requires more forms we just write bleeding PV”</i>	Staff nurse	Lack of correct procedural knowledge, avoidance of paper work
Usage of mixed methods of misoprostol aide’s surgical evacuation Referral to higher centres in case of pregnancy over 12 weeks <i>“refresher training on medical methods are required”</i>	Medical officer	Refresher course not conducted regularly
Paper work mismatch with reported delivery varying widely from antenatal care listing Registration of health unit enabling them to conduct abortion not at par with requirement	Administrative officials	Administrative loopholes exploited

pregnancy coupled with lack of an enabling environment contribute towards non uptake of quality CAC services at primary health care level.

This study shows the main factors governing lack of service uptake, and points out the specific factors labelled as “lack of enabling environment”. Stigma and lack of faith in public health sectors from the beneficiary perspective was seen by statements in group discussions. Mothers often approach medical helps outside the established system such as quacks/pharmacist/religious leaders/ or attempting abortion process at home primarily due to lack of confidentiality and stigmatization. Such stigmatization was also seen by Banerjee and Anderson[7] while examining complications following abortion. Stillman *et al*[8] in her work also refers to lack of continuous approachable service causing women to resort to illegal practitioners and drug prescribers with deleterious effect. Bowser *et al*[9] reported evidence of non-consulted, non confidential, non dignified, and discriminatory behaviour to be a main hindrance in uptake of CAC. Swedish International Cooperation Agency conducted a similar situation analysis on CAC in two districts of Rajasthan (another state in India) with conclusions to encourage research on community-level abortion stigma, exploration of roles of midlevel health care providers in CAC provision[10].

Awareness generation about legality and service provision is necessary was felt by the researcher. Lahariya *et al*[11] in his report while working in India states that awareness generation among difficult to reach population did show an improvement in family

planning service knowledge. Such initiatives can be beneficial in helping women gain information on available service as well as mitigate stigma associated with abortion.

Findings from this study shows health care workers having poor knowledge quotient, about CAC services, suboptimal utilization of resources like Nichayjan (which is a free vehicular support provided by Government of India to mothers), absence of adequate signage irregular refresher training and faulty administrative paperwork. Similar picture was seen by Rutayisire *et al*[12], while Kayalu[13] found a better picture knowledge quotient wise. Primary health care provider with good knowledge can deliver better service, which has been stated in various studies[14]. This has been considered in Guidelines released in 2023 by Government of India[15]. Information of structural requirements, signage necessity, activity of each tier of health care facility and worker have been delineated along with sample copy of forms required for legal aspects of CAC. The present guidelines by National Health Mission specifically provide guidelines for consent, right of an institute to admit case for abortion as well as provision for data from public sector health facility level to be updated *via* health management information system. Emphasis has been given for proper signage to increase awareness.

Adequate training of primary care provider was felt need from the study. Presence of untrained professionals contributing to poor service uptake was observed by Kumar *et al*[16]. Training of manpower caused a significant change in complications following abortion improvement in uterus evacuation skill and infection

control in Nepal[17]. Lack of regular training was reflected as poor knowledge quotient in sterilization, prevention against transmissible disease as well as faulty prescription of medical methods of abortions. The theme of inadequacy of legal, procedural as well as prescribing knowledge among different tiers of health care providers was also seen by by Srivastava *et al*[18] who identified similar problems advocating promptness in training, information sharing and positive interpersonal behaviour.

In studying pregnancy outcome as a primary health care mandate, it was seen by Rajashekhar *et al*'s study[3] that 35% of pregnancies are unintended. This gives a fair picture of the outcome of such unintended pregnancies, resorting to abortion legal illegal safe or unsafe. The overburdened public health systems are sometimes unable to face challenges in providing universal and timely access to medical services as observed by Khan *et al*[19]. Decentralizing and easing the bottle neck of administrative control for approval of private/public health care facility can legalize abortion at many more sites.

In studying sexual behaviour of women during pregnancy, Mansouri *et al*[20] states that the role of education and sexual counselling is undeniable. The mothers seeking abortion care may just be the right candidate to appreciate such counselling, and thus should be considered as an essential part of abortion care package. Domains of improvement of the current scenario can be focused as awareness generation, increased service utilization, and implementation of developed protocol[21]. Ascertaining continuity of care and assured provision of promised services can better service.

Echoing most of the findings in this study, Shekhar *et al*[22] in such an analysis indicates usage of age-old techniques for abortion, contraception as a precondition for abortion along with legal irregularities with respect to consent for abortion. Indications for refresher training for modern abortion care methods, a free environment to make informed choice by the mother seeking abortion remain a pertinent requirement.

Medical officers issued a necessity for refresher training, particularly for medical methods of abortions. Karna *et al* states that, medical abortion provisions are available in India; however, regular in-service training of providers on medical abortion is required along with community engagement[23].

In a systemic review by Lord[24] on quality of abortion care services, a meagre 21 articles were recorded suggesting inadequate research and publication. In a scoping review done by Filippi *et al*[25] and on policies on abortion care services till 2018, they came to conclusion that there is a need of standardization. Large number indicators, many specific to one source only and with similar concepts measured in a multitude of ways, suggest the need for standardisation of indicators and concept of abortion care. Attention should be given to social geopolitical scenario specific to regions while formulating such policies. Such relevant abortion care indicators have been developed by Pearson *et al*[26] for low

and middle income countries. However, the requirement for finer tuned guideline specific for country like India is essential. While service provision continues to be upscaled, a relevant and country appropriate indicator set may be developed along with quality assurance.

This study has some limitations. This study was done in limited tiers and in only rural settings; larger study involving more health care centres along with urban setting could have given a more elaborate picture. Administrative roadblock reflected only local issues and a more horizontal spread of interview administrative officials could have provided insight. No procedures were observed, neither was a time motion picture studied. A more in-depth study may be required to formulate corrective policies and training program.

In conclusion, CAC services in the sampled health care facilities of district of Malda provided a mixed picture. Noteworthy is that the problems identified are amenable to correction, some are administrative and service related, which on appropriate measure can reflect immediate success. Information and training-based problems can be rectified, but shall require a longer time to reflect in service delivery. Emphasis on role of first contact health care workers, effective well researched guideline on usage of medical management of abortion of the women with the comfort of the premises of her home needs to be worked on for future development.

Conflict of interest statement

The authors declare no conflicts of interest to disclose.

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Authors' contributions

Concept and design were performed by Debjani Sengupta and Pramit Ghosh; data collection was carried out by Debjani Sengupta; data handling was done by Debjani Sengupta; analysis was made by Pramit Ghosh; manuscript preparation was performed by Debjani Sengupta and Pramit Ghosh.

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