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Original Article

An Approach to Monitor and Initiate Community Led Actions for Antenatal Care in Rural India – A Pilot Study

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Abstract:
Background and Objective: Utilization of antenatal care in rural India is far from universal. It requires monitoring and identification of specific needs at field level for timely corrective actions. To pilot test the triangulation of rapid quantitative (Lot Quality Assurance Sampling) and qualitative (Focus Group Discussion) monitoring tools for ensuring antenatal care in a community based program. **Methods:** The present study was undertaken in surrounding 23 villages of Kasturba Rural Health Training Centre (KRHTC), Anji, which is also a field practice area of Mahatma Gandhi Institute of Medical Sciences (MGIMS), Sewagram. The monthly monitoring and action system of the study was based on the rapid quantitative monitoring tool (Lot Quality Assurance Sampling, LQAS)to find out poor performing supervision areas and overall antenatal service coverage and the qualitative methods (Focus group discussions (FGDs), and free listing) for exploring ongoing operational constraints in the processes for timely decision making at program and community level. A trained program supervisor paid house visit to 95 randomly selected pregnant women from 5 supervision areas by using pre-designed and pre-tested questionnaire. For poor performing indicators, semi structured FGDs and free listing exercise were undertaken to identify unmet service needs and reasons for its poor performance. **Results:** Registration of pregnancy within 12 weeks improved from 22.8% to 29.6%. The consumption of 100 or more IFA tablets during pregnancy significantly improved from 6.3% to 17.3%. There was significant improvement in awareness among pregnant women regarding danger signs and symptoms during pregnancy. Over three months period, the overall antenatal registration improved from 253 (67%) to 327 (86.7%). **Conclusion:** The present field based monitoring and action approach constructively identified the reasons for failures and directed specific collective actions to achieve the targets.
Key Words: LQAS, Focus group discussion, Monitoring, Antenatal care, Community action

Introduction:

Antenatal care (ANC) constitutes screening for health and socioeconomic conditions by skilled providers to detect complications related to pregnancy, providing therapeutic interventions known to be effective; and educating pregnant women about planning for safe birth, emergencies during pregnancy and raises their awareness about the need for care during delivery.[1] However, in rural settings of India, due to poverty, illiteracy and late enrollment with service provider, uptake of these services is far from universal even in settings where they are widely available.[2] Thus, it requires monitoring and identifying specific needs at field level for timely corrective actions. The experiences with classical monitoring and evaluation approach where the information is collected at peripheral level and analyzed at the central level of organization are not good as data quality is often poor, time consuming and often does not lead to corrective actions.[3] The present study pilot tested triangulation of rapid quantitative (Lot Quality Assurance Sampling) and qualitative (Focus Group Discussion) monitoring tools for timely and locally relevant information for decision making and facilitating participatory community actions for ensuring antenatal care in a community based program.

Materials and Methods:

The present study was undertaken under USAID/Aga Khan Foundation sponsored 'Community Led Initiatives for Child Survival (CLICS) Program in 23 villages of Kasturba Rural Health Training Centre (KRHTC), Anji, which is also a field practice area of Mahatma Gandhi Institute of Medical Sciences (MGIMS), Sewagram. About 60 percent of district population lives in rural area with 80 percent literacy.[4] The total population of study area was 31,482 with crude birth rate of 16 per thousand live births. In Wardha district, only 26.1% pregnant women received full Antenatal care i.e. 3 antenatal check ups, 100 tablets of Iron and Folic Acid (IFA) and 2 doses of Tetanus Toxoid (TT) immunizations.[5] The present study was carried out from June 2007 to August 2007.

CLICS program aimed to sensitize and empower community to plan and act upon their priority health problems. Under social mobilization phase of program various community based organizations (CBOs) like women's self help groups; *Kishori Panchayat* (forum of adolescent girls) and *Kisan Vikas Manch* (Farmers' club) were formed in all villages. Village Coordination Committee (VCC), a representative committee of above mentioned CBOs was formed in each village. VCCs were endorsed by village *Gram-panchayat* (local self government) for implementation and monitoring health care delivery at village level. VCCs raised village health fund for health activities. The capacity of the VCC members to take decisions and to develop their village health plan was built during their monthly village based meetings. The program selected CLICS *doot* (female village health worker) per 1000 population who was supervised by VCC. In each village, a monthly comprehensive maternal and child health services and health education sessions were delivered under the *Bal Suraksha Diwas* (Child health day) celebration through a team of social worker, Auxiliary Nurse Midwife (ANM), CLICS *doot* and representatives of Village Coordination Committee. Considering poor performance of basic antenatal indicators in rural Wardha district, the pilot testing of monitoring and action system in the present study focused on performance of these indicators.

Rapid monitoring and community based action system:

The monthly monitoring and action system of the study was based on the rapid quantitative monitoring tool (Lot Quality Assurance Sampling, LQAS)[6] to find out poor performing supervision areas and overall antenatal service coverage and the qualitative methods (Focus group discussions (FGDs), and free listing)[7,8] for exploring ongoing operational constraints in the processes for timely decision making at program and community level. The monitoring system was developed as a flexible, field friendly tool for participatory self review and non threatening learning and action process for field staff.

The study area was divided into five supervision areas having approximate 6000 population. A trained program supervisor paid house visit to 95 randomly selected pregnant women, 19 from each supervision area and interviewed them by using pre-designed and pre-tested questionnaire. The weighted averages of concise set of indicators were monitored for three consecutive months. For poor performing indicators and supervision areas, semi structured FGDs and free listing exercise were conducted with women, VCC members and key program staff to identify unmet service needs and reasons for its poor performance. The numbers of FGDs were decided by saturation point i.e. where it stopped yielding any new information. The triangulation of quantitative and qualitative information was done to ensure feedback for specific needs assessment, health education and directing VCCs efforts to support and take initiatives for improving poor performing indicators of antenatal care. The information on monthly performance of antenatal care indicators was shared in village based VCC meetings and program staff meetings. The quantitative and qualitative data was entered and analyzed using the Epi Info 6.04 (Centre for Disease Control and Prevention, Atlanta, Georgia, USA) and Anthropac 4.98.1/X software package[9] respectively.

Results

One fourth of the pregnant mothers were below poverty level and about 80 percent were educated up to secondary and higher secondary. More than 40% women had health insurance (Table 1).

Table 1: Performance monitoring of antenatal care indicators by LQAS method			
Socio-demographic characteristics of study population	**June 2007, N=95**	**July 2007, N=95**	**August 2007, N=95**
Mean age in yrs ± SD	23.1 ± 3.7	22.8 ± 3.1	22.3 ± 2.8
Socio-economic status			
Below poverty level	24 (24.9)	23 (23.7)	27 (29.6)
Above poverty level	71 (75.1)	72 (76.3)	68 (69.4)
Education			
Illiterate	7 (7.4)	5 (5.3)	8 (9.3)
Primary & Middle school	7 (7.3)	12 (12.8)	10 (9.6)
Secondary & Higher secondary	79 (83.2)	75 (78.8)	75 (78.6)
Graduate & above	2 (2.1)	3 (3.1)	2 (2.5)
Health insured	39 (41.5)	41 (43.2)	45 (48.8)
Figures in parenthesis are percentages			

In the beginning, only 22.8% pregnant women were registered within 12 weeks of pregnancy. As found in free listing exercise, the major reasons for not reporting pregnancy (with descending Smith's S value) were fear of black magic leading to abortion, not sure about pregnancy status, fear of abortion and shyness. The seasonal calendar exercise with three feasibly selected below poverty level pregnant mothers explored that they kept working in farm till nine months of pregnancy to meet financial needs of their family and found no time to attend health facility. The consumption of Iron & Folic Acid (IFA) tablets was poor due to poor supply and follow up counseling. Overall, the recognition of maternal danger signs and symptoms were poor. To overcome these problems, the VCC members and field staff of program together worked out solutions by using free list exercise; which emphasized women's need based health education in self help groups and at the '*Bal Suraksha Diwas'*. The health education was focused on myths against early registration, recognition of danger signs and symptoms and need of rest during pregnancy. In response, VCCs ensured regular home visits by CLICS *doot* and made urine pregnancy test kits and IFA tablets available at village level from village health fund.

Noteworthy, registration of pregnancy within 12 weeks slightly improved from 22.8% to 29.6%. (p=0.322) and pregnant mothers reporting farm work as their current occupation, declined from 42.4% to 31.4% (p=0.132). However, this difference was not significant. The consumption of 100 or more IFA tablets during pregnancy improved significantly from 6.3% to 17.3% (p=0.023). There was significant improvement in awareness among pregnant women regarding danger signs and symptoms during pregnancy (p=0.001). (Table 2) As derived from program's routine management information system, over the period of three months, the overall antenatal registration improved from 253 (67%) to 327 (86.7%) as compared with the expected number of pregnant women in the area.

Table 2: Antenatal care and knowledge of danger signs				
Indicators	**June 2007, N=95**	**July 2007, N=95**	**August 2007, N=95**	**p value**
Registration of pregnancy				
Within 12 weeks	21 (22.8)	23 (24.2)	28 (29.6)	0.322
Ante Natal Care				
> 3 ANC check ups	65 (90.2)	65 (86.6)	58 (86.2)	0.364
Consumption of more than 50 IFA	35 (47.7)	39 (50.3)	43 (67.7)	0.005
Consumption of ≥ 100 IFA	5 (6.3)	9 (11.3)	11 (17.3)	0.023
Received TT immunization	71 (99.0)	73 (97.4)	65 (98.0)	1.000
Knowledge about danger signs during pregnancy*				
Severe anemia	7 (7.8)	25 (27.1)	29 (29.4)	0.001
High blood pressure	7 (7.8)	32 (33.9)	29 (29.4)	0.001
Convulsion during pregnancy	16 (18.0)	31 (34.4)	36 (38.6)	0.001
Bleeding per vagina	13 (14.5)	44 (48.4)	42 (45.5)	0.001
Edema feet	55 (58.1)	53 (57.6)	56 (58.6)	0.882
* Multiple response questions; Figures in parenthesis are percentages				

Discussion:

The Government of India, under National Rural Health Mission has established Village Health, Nutrition and Sanitation Committee (VHNSC) at village level. The VHNSC has been envisaged to prepare health plan after carrying out health needs assessment and implement and monitor monthly health activities at village level in coordination with government health care providers.[10] In the present study, the participatory monitoring approach provided effective, flexible

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and rapid tool for timely self assessment and need based community actions at primary health care level. It ensured non-threatening and transparent supervision of field staff. The adopted monitoring indicators had tangible benefits which in turn provided feedback for sensitization and capacity building of local VCC members on specific health needs. The qualitative and quantitative information bridged the gaps in information needs. It ensured coordination and dialogue between field staff and village people to address unmet needs of poor performing antenatal indicators. Salewicz has also suggested similar requirement of conditions for monitoring tools in strategic management and development process.[11]

Conventionally, the system of monitoring and evaluation is perceived as donor driven policing function, which is often preoccupied with requirement of 'success stories'.[11] The rigid vertical monitoring systems lack the culture of learning and there is poor emphasis on indigenous knowledge building in project staff which is crucial for identification of intervention strategies. In the present study, the participatory methods were used as complementary to LQAS method for exploring and understanding indigenous concerns and reasons for poor performing antenatal indicators. Khandait et al[12] and Simpson et al[13] found that illiteracy, low socio-economic status, high parity and distance of health centre as the responsible factors for late pregnancy registration among rural Indian women. However, the major two reasons explored in the present study for poor early registration were fear of black magic leading to abortion and not being sure about pregnancy state. The participatory intervention slowly improved early pregnancy registration, along with relatively better uptake of antenatal care and health education on danger signs during pregnancy. In order to develop sense of accountability and ownership, the field staff and VCC members were involved in decision making and implementation of the desired intervention processes.

The choice of monitoring tools and methods for the present study was crucial. It was based on better known monitoring tools which undertook a focused and rapid quantitative and qualitative assessment. This was required to direct the effective planning and collective actions. There is a growing emphasis that LQAS method which has been successfully used for immunization and growth monitoring should now be mainstreamed for monitoring primary health care programs in developing countries.[14,15] LQAS coverage estimates tend to be more precise than estimates obtained using cluster-sampling techniques. Bhattacharya et al have found that participatory monitoring and evaluation approach is a useful tool to improve reproductive health program performance as it was learning based and empowered the target community.[16] Noteworthy, National Rural Health Mission (NRHM), also envisioned use of FGDs at Primary Health Centre level under framework of suggested community based monitoring and planning.[17] In the present study, the logical sequence of LQAS and participatory methods provided double loop learning, where it was necessary to review and restructure activities related to poor performing indicators. The failure to deliver timely feedback to field workers and community members may lead to poor achievement of targets.

To summarize, the present field based monitoring and action approach constructively identified the reasons for failures and directed specific collective actions to achieve targets of time bound community based CLICS program. Considering similar organizational and management framework under NRHM, similar approach may be adopted in monitoring and initiating community led actions to improve the performance. The approach proposed in the present small scale research needs to be further tested at a larger scale before it's up-scaling as a best practice for monitoring and evaluation.

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References:

1. World Health Organization (WHO). WHO antenatal care randomized trial: manual for the implementation of the new model. Geneva, World Health Organization, 2002.
2. Chandhiok N, Dhillon BS, Kambo I, Saxena NC. Determinants of antenatal care utilization in rural area of India: A cross sectional study from 28 districts (An ICMR task force study). *J Obstet Gynecol India* 2006 Jan-Feb;56(1):47-52.
3. Koot J. Monitoring and evaluation for NGOs in health and AIDS programmes. [Online]. [Cited 2007 November 12]. Available from: http://www.phc-amsterdam.nl/artikelen/monitoring_and_evaluation_for_ngos_in_health_aids_programmes_JK.pdf?PHPSES
4. Registrar General of India. Census of India 2001 [Cited 2007 November 12]. Available from URL: http://www.censusindia.net/data/mah.pdf.
5. District Level Household Survey for Reproductive and Child Health Project: International Institute for Population Sciences (IIPS), Mumbai and Centre for Operations Research and Training (CORT), Vadodara, Gujrat. 2002.

6. Valadez JJ, Weiss W, Leburg C, DavisR, Editors. A participant's manual for base line surveys and regular monitoring. [Online]. 2001. [cited 2007 November 12]. Available from: www.coregroup.org/tools/LQAS_Participant_Manual_L.pdf
7. Dawson S, Manderson L, Tallo VL. The focus group manual: Methods for social research in disease. Boston: International Nutrition Foundation for Developing Countries (INFDC). 1993.
8. Hudelson PM. Qualitative research for health programmes. Geneva: World Health Organization;1994.
9. Borgatti S. Anthropac 4.0. Natik MA: Analytic Technologies; 1998.
10. National Rural Health Mission. Monthly village health nutrition day: Guidelines for AWWs/ANMs/PRIs. February 2007. [Cited on 2007 November 12]. Available from URL: mohfw.nic.in/NRHM/Documents/VHND_Guidelines.pdf
11. Gupta R, Sohani GG, Dhamankar M, editors. Monitoring and evaluation for strategic management and organizational development. Proceedings of an International workshop held at MDMTC;1997 Feb 17-18; Pune, India, 1997.
12. Khandait DK, Koram MR. Factors associated with late booking for antenatal care among rural women. J Obstet Gynecol India 2001 Mar-Apr;51(2):31-33.
13. Simpson H, Walker G. Why do pregnant women attend antenatal care? Br Med J: 281, 104,1980.
14. Stewart JC, Schroeder DG, Marsh, DR Allhasane S, Kone D. Assessing a computerized routine health information system in Mali using LQAS. Health Policy and Planning. 2001;16(3):248-255.
15. Valadez JJ, Brown LD, Vargas WV, Morley D. Using Lot Quality Assurance Sampling to Assess Measurements for growth monitoring in developing country's Primary Health Care System. *Int. J. Epidemiol* 1996;25(2):381-387.
16. Bhattacharya S, Verma K, Agarwal N, Hague J, Sengupta S, Narayan R, Ray S. Participatory monitoring and evaluation: a key to improve sexual health programme performance. *Int Conf AIDS.* 1998;12:1177-8.
17. National Rural Health Mission. Community based monitoring of health services under NRHM. [Online]. [Cited 2007 November 12]. Available from: http://mohfw.nic.in/NRHM/adv_grp.htm#section2