

Improving Public Institutional Deliveries: Skilled Birth Attendant training to AYUSH doctors in Gujarat

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Abstract:

Introduction : Public institutional deliveries have increased over last one decade. Still there is huge scope to improve it further. AYUSH (Ayurvedic, Unani, Homeopathy and Siddha) doctors are posted in most of PHCs (Primary Health Centers). These AYUSH doctors were trained for Skilled Birth Attendant (SBA) training. Present paper tries to understand impact of training 178 AYUSH for SBA on delivery conductance by AYUSH and its impact on institutional performance for delivery. **Method** : HMIS (Health Management and Information System) provides facility wise monthly details on institutional deliveries. Similarly, PMCC (Performance Monitoring and Control Centre) unit within health department collected information on delivery conducted by AYUSH doctors. In present study, we used data sets from April-June 2013 as baseline data set. Trainings were conducted from October 2013 to March 2014. End line data were collected from April-June 2014. **Results** : The delivery performance of AYUSH doctors improved from 9% before training to 69% after the training. There was a significant difference in the delivery conductance by AYUSH after training ($M=5.25$, $SD=9.20$) and before training ($(M=0.47$, $SD=2.03)$; $t(177) = 7.09$, $p = 0.000$.) Similarly, number of PHCs conducting any delivery increased from 27 before training to 127 after training. Functional Delivery Points also increased during this time point from 4 before training to 21 after training. **Conclusion** : Training AYUSH on SBA has been very useful in improving public health institutional deliveries. Further capacity building of AYUSH at other facilities should also be planned in order to further enhance performance. At the same time, efforts should be made to ensure timely recruitment and training of Medical Officers and Staff Nurses in these facilities to augment delivery conductance further in public health institutions.

Key words : Skilled Birth Attendants, AYUSH, Institutional Delivery

Introduction

Gujarat has come long way in improving maternal health. Maternal Mortality Ratio of Gujarat has reduced from 172 maternal deaths per one lakh live births in 2001-03^[1] to 112 maternal deaths per one lakh live births in 2011-13.^[2] Total 34% reduction in maternal mortality is observed in last one decade.

This reduction in Maternal Mortality Ratio (MMR) can be attributed to various factors such as increased institutional deliveries; Skilled Birth Attendant (SBA) assisted home deliveries, expanding service coverage in remote parts through government institutions as well as through Chiranjeevi Yojana doctors (Public Private

Partnership).^[3]

Institutional deliveries have increased from 52% in 2003-04^[4] to 89% in 2013.^[5] Furthermore, public institutional deliveries share has also increased from 13% to 35% in same period (HMIS Portal).

Problem Statement

However, Primary Health Centers (PHCs) of Gujarat are under utilized in delivery service provision. As per the Functional Delivery Point (FDP) criteria of Government of India^[6] of 10 deliveries per month per PHC, only 118 out of 1300 PHCs (9%) in Gujarat were conducting minimum expected number of deliveries.

Major bottlenecks in lower performance of PHCs were unavailability of MBBS medical officers and staff nurses round the clock. As per the approved manpower of PHCs, it is not possible to provide delivery services round the clock. Hence, many of these facilities were not functioning as per the standards.

To improve this situation Government of Gujarat took a decision to train AYUSH medical officers for conducting deliveries at PHCs. AYUSH (Ayurvedic, Unani, Homeopathy and Siddha) medical officers are placed at PHC level as contractual employee in National Health Mission (NHM). Nearly 800 PHCs have AYUSH medical officers posted full time.

Present paper mainly describes two aspects of mainstreaming of AYUSH. First part describes process involved in starting SBA training to AYUSH. Second part assesses performance of AYUSH doctors and facilities where they were posted, with regards to delivery performance pre and post training.

Process of mainstreaming of AYUSH

The concept of 'mainstreaming of AYUSH' reflected in 9th five year plan for first time.^[7] Similarly 'National Policy on Indian Systems of Medicine and Homeopathy (ISM & H), 2002'^[8] also stressed on integrating of ISM & H with allopathic and strengthening ISM & H services in public health system.

A detailed literature review was conducted to understand current situation of AYUSH mainstreaming in India.^[9, 10] Furthermore, current status of mainstreaming AYUSH in other states such as Maharashtra, Rajasthan and Odisha was also studied.^[11, 12]

Considering legal perspective and learning from other state it was decided to start training of AYUSH doctors on Skilled Birth Attendant (SBA) training to overcome acute shortage of trained manpower in modern systems of medicine.

Need assessment of Training and Curriculum Development

Training needs assessment was carried out to prioritize training and maximize impact on outcome.

PHC wise mapping of AYUSH doctors was carried out. Prioritization of Female AYUSH doctors and AYUSH from PHCs where MBBS medical officers are not present was done in order to maximize impact.

An expert committee of state directorate, State Institute of Health & Family Welfare, medical college representatives was created to guide on curriculum development for AYUSH training on SBA. Committee suggested using existing training module of SBA^[13] proposed by Government of India without any amendments. SBA training is very well planned training with enough emphasis on skill development through practical exposure. Other states have used similar curriculum for training of SBA and it was decided that the same can similarly be used for SBA training.

Evaluation of SBA training to AYUSH

Present study describes training of AYUSH conducted between October-2013 to March-14. Analysis was carried out with reference to improvement in performance of trained AYUSH as well as improvement in performance of facilities where these AYUSH doctors are placed. Further comparison was done of these PHCs with rest of the PHCs to observe any significant difference in performance improvement.

Method:

Total 178 AYUSH doctors were trained between October - 2013 to March - 14. Institutional Delivery Performance was measured for all AYUSH doctors trained during this period. Similarly Delivery performance of 174 Primary Health Centers, where these 178 AYUSH were posted, was also carried out.

Present analysis is carried out using two different data sets. Data on training and delivery performance of AYUSH doctors was collected by Performance Monitoring and Control Centre (PMCC). This centre is dedicated monitoring unit created in Health Department to continuously monitor implementation of various program at field level. Second Set of data was collected from HMIS to evaluate performance of respective facilities.

To compensate seasonal variation in delivery conductance, Delivery performance of facility and

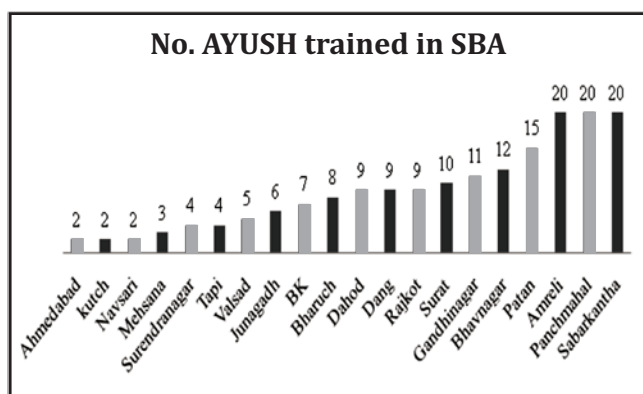
AYUSH during Apr-Jun 13 was considered as baseline. Similarly delivery performance during Apr-Jun 14 was considered as end line data.

Results :

Total 178 AYUSH doctors were trained in 6 batches over period of 6 months from October 2013 to March 2014. District wise breakup of training is as follows.

It is important to note that highest number of trainee were from High Priority Districts,^[14] where shortage of medical staff is further acute. Total 72 out of 178 (40%) trainee AYUSH doctors were from High Priority Districts. (Figure 1)

Figure 1: District wise SBA training status of AYUSH



Delivery performance of AYUSH

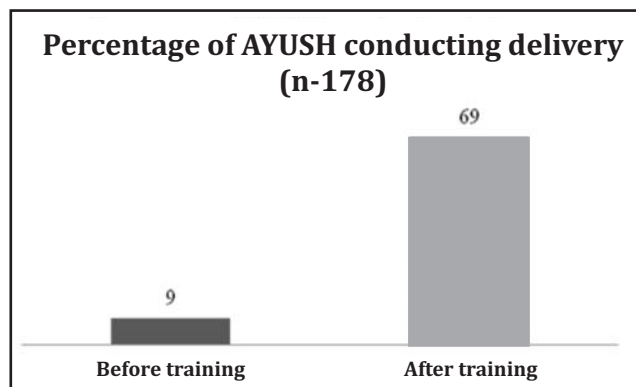
Any improvement in delivery conductance by AYUSH needs to be measured with following 2 indicators. No. of AYUSH doctors started conducting deliveries post training is the first indicator and improvement in delivery performance of respective Primary Health Centre. (Table 1)

Table 1: Delivery Performance of AYUSH doctors (April-June 13 vs April-June 14)

SN	Total No. of Deliveries conducted	Apr-June 2013 N (%)	Apr-June 2014 N (%)
1	0	162 (91%)	56 (31%)
2	1 to 4	8 (5%)	67 (38%)
3	5 to 9	6 (3%)	28 (16%)
4	10 or more	2 (1%)	27 (15%)

There is statistical significant improvement in delivery conductance by AYUSH post training.

Figure 2: Delivery Performance of AYUSH



There was sharp increase in delivery performance by AYUSH doctors following SBA training. Compared to 9% delivery conductance before training, 69% AYUSH started conducting delivery post training. (Figure 2)

To assess any significant change in conductance of delivery, paired t-test was performed to see improvement post training. (Table 2)

Table 2 : Change in conductance of delivery

	Mean	n	Std. Dev.	Std. Error Mean	t	df	Sig
After Training	5.25	178	9.20	0.69	7.09	177	0.000
Before Training	0.47	178	2.03	0.15			

There was a significant difference in the delivery performance by AYUSH after training (M=5.25, SD=9.20) and before training (M=0.47, SD=2.03); t(177)=7.09, p = 0.000.

Delivery Performance of Primary Health Centre

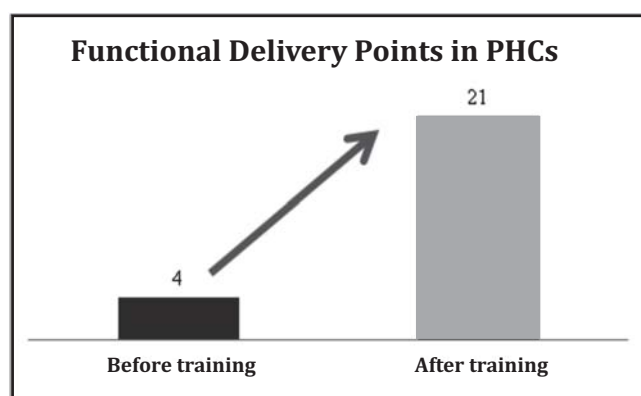
It is equally important to understand impact of training AYUSH doctors on delivery performance of respective Primary Health Centre. Following is performance of facility before training (April-June 13) and after training (April-June 14). 178 trained AYUSH doctors were posted at 174 facilities, so present facility analysis is for 174 facilities. (Table 3)

Table 3: Delivery Performance of 174 Facilities before and after SBA training to AYUSH

SN	Total No. of Deliveries conducted	Apr-June 2013 N(%)	Apr-June 2014 N(%)
1	0	147 (84%)	47 (27%)
2	1 to 4	14 (8%)	54 (31%)
3	5 to 9	5 (3%)	25 (14%)
4	10 or more	8 (5%)	48 (28%)

It is to be noted that number of Primary Health Centre conducting zero delivery has reduced from 147 to 47 meaning that 100 facilities started conducting delivery in one year time period.

Another important indicator for the performance of facility is Functional Delivery Point (FDP).^[15] Any Primary Health Centre conducting 30 deliveries in any quarter (average 10 deliveries per month) can be considered as Functional Delivery Point. Analysis was carried out to understand no. of PHCs, which has improved to become FDP during this one-year period. (Figure 3)

Figure 3: Improvement in performance of public health institutions

Paired t test was performed to assess any significant improvement in delivery performance of these PHCs. (Table 4)

Table 4: Delivery performance of these PHCs

	Mean	n	Std. Div.	Std. Error Mean	t	df	Sig
After Training	12.78	174	28.58	2.17	5.29	173	0.00
Before Training	2.46	174	12.36	0.937			

There was a significant difference in the delivery performance of facility after training ($M=12.78$, $SD=28.58$) and before training ($M=2.46$, $SD=12.36$); $t(173)=5.29$, $p=0.000$.

Discussion :

Task shifting is worldwide accepted strategy to overcome shortage of qualified trained medical professionals. Government of Gujarat has adopted this strategy in past by means of training MBBS doctors in CEmOC training (Comprehensive Emergency Obstetric Care) to perform C-Section operation and in LSAS training (Life Saving Anesthetic Skills) to provide anesthesia during C-Section operation.

Government of Gujarat adopted SBA training to AYUSH in October-2013. This strategy was further supported by Government of India notification in March-2014 based on ICMR study findings to permit SBA training to AYUSH medical officers.^[16] Government of India has extended further scope of work of AYUSH doctors in to entire gamut of activities under RMNCH+A including SBA training.^[17]

Training AYUSH medical officers for conducting deliveries has improved performance of AYUSH doctors as well as of facility where they were posted. Number of AYUSH doctors conducting delivery has increased from 12 to 122 after training. It is further to be noted that 69% AYUSH have started conducting deliveries post training.

Performance of Primary Health Centres has also improved. There were 147 facilities which were not conducting any delivery during April-June 2013. It has reduced to only 47 facilities in April-June 2014 meaning 100 Primary Health Centres started conducting delivery in facility. Similarly, Functional Delivery Points have also increased from 4 to 22.

These findings are very important from Health System Strengthening Perspectives. Gujarat faces shortage of MBBS medical officers at PHCs. Furthermore, presence of one medical officer is not sufficient to provide round the clock delivery services. Staff nurses are not part of PHC staff pattern and can only be availed from NRHM if facility is Functional Delivery Points. It is vicious cycle where

facility if not FDP does not have staff nurses which prevents facility to provide round the clock services reducing possibility of facility becoming FDP.

SBA training to AYUSH can break this vicious cycle. Nearly 900 PHCs have AYUSH medical officers. Furthermore, their retention at Primary Health Centres is also very good considering limited options available. In this situation, SBA training to AYUSH may help in reaching benchmark of 10 deliveries per month and recruiting Staff nurses under NHM to start round the clock services.

Limitations

Present paper analyses performance AYUSH doctors in conducting delivery along with performance of respective facilities where they are posted. It is to be noted there are multiple of interventions such as recruitment of human resources, infrastructure up gradation, training other staffs, continuous monitoring and Supportive Supervision etc. Hence, it is not possible to attribute improvement solely to the SBA training of AYUSH. Nevertheless, this training remains an important intervention by state government to improve maternal health services in PHCs. Data used in present study for assessing facility performance is from HMIS. HMIS is information provided by facilities and like self-declaration of performance of respective PHCs. However, these reports are continuously monitored at state level to improve accuracy of reporting and make available most authentic information.

Recommendations

Based on the findings of SBA training to AYUSH doctors in PHCs, following actions are recommended to further improve institutional deliveries in Primary Health Centers.

- SBA training to AYUSH doctors shall be provided to AYUSH doctors from all the facilities, which are planned to be prepared as Delivery Points.
- Quality assurance of training is very important especially in these trainings. SBA trained AYUSH medical officer shall undergo at least one week refresher training every 2 year in order to keep them updated with knowledge.

- Training AYUSH is temporary arrangement for delivery points while better options are made available. Hence state government continues to focus on recruiting adequate qualified human resources at every PHC in order to assure round the clock delivery services at Primary Health Centres.
- Further training AYUSH medical officers on different clinical and managerial protocols can improve service provision as well as monitoring at Primary Health Centres.

Conclusion :

SBA training to AYUSH medical officers have improved delivery conductance by AYUSH medical officers. Furthermore, it has helped in improving facility performance as well. All remaining AYUSH shall be trained for SBA on fast track basis to improve delivery service provision at Primary Health Centers. At the same time focus should be given to quality assurance as well as refresher training and newer avenues of clinical and managerial training to mainstream already existing large skilled workforce of AYUSH to improve Maternal and Child Health in Gujarat.

Declarations :

Funding : Nil

Conflict of interest : Nil

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