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Assessment of Child Health Services during Mamta Divas (Health and Nutrition Day): Insights from the Urban Health Centres of Ahmedabad, Gujarat - A Cross-Sectional Study

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ABSTRACT

Background: Maternal and infant mortality rates in India are impacted by limited access to healthcare services. So, the current study was conducted to evaluate the effectiveness of the child health service delivery during the Mamta divas at Urban health centres of Ahmedabad district.

Aims/Objectives: 1) To assess the planning components including availability of logistics/vaccines/other supplies during Mamta divas sessions. 2) To evaluate the process and extent of child health services implemented during Mamta Divas sessions.

Methodology: A cross sectional study was conducted at the seven Urban primary health care settings (including slum and non-slum areas) for duration of 18 months. Total 42 Mamta sessions were evaluated using a preformed semi-structured Questionnaire comprising information about planning components, logistics and maternal health services.

Results: The study revealed that child health services followed the micro-plan consistently, focusing primarily on child registration, weight assessment, immunization, and filling out Mamta cards. However, 32% of outreach sessions were conducted in poorly defined areas. Lacunae were noted in height/length measurements, which were conducted in only 50% of cases, and the absence of growth chart plotting. Additionally, two-thirds of the sessions failed to identify different grades of malnutrition. Moreover, the four key post-vaccination messages were communicated to beneficiaries in only half of the Mamta sessions.

Conclusions: Therefore, the process evaluation of Mamta Divas will serve as a tool to advocate for ways to improve services and highlight strengths and flaws.

Keywords: Process evaluation, Urban primary health centres, Mamta divas, Child health services

INTRODUCTION

MCH (Maternal and Child Health) is defined as “promotive, preventive, curative and rehabilitative health care for mother and child”. They are the priority groups in any community, comprising of approximately 71.14% of the population of developing countries.[1]

The determinants of maternal and child health care services are multifaceted. While India has made significant strides towards its Sustainable Development Goals, it continues

to fall behind on various maternal and child health (MCH) metrics.

Although the global number of new-borns deaths declined from 5 million in 1990 to 2.4 million in 2019, children face the greatest risk of death in their first 28 days. In 2019, 47% of all under-5 deaths occurred in the new born period with about one third dying on the day of birth and close to three quarters dying within the first week of life. A child dies within 28 days of birth due to conditions and diseases associated with inadequate quality medical care at birth or inadequate medical treatment immediately following birth and in the first days of life.[2]

India ranks 131th among 180 countries with respect to child survival.[3] It has an Infant mortality rate (IMR) of 28 per 1000 live births with an Under five mortality rate (U5MR) of 32 per 1000 live births.[4]Gujarat has an IMR of 23 per 1000 live births and U5MR of 24 per 1000 live births as per the SRS 2020 report while the infant mortality is higher in the state for teenage pregnancies- 45 per 1000 live births.

Almost three fourth of districts in India ,70% or more children aged 12-23 months are fully immunized against childhood diseases (NFHS-5)[5]. Around 5.88 million children were immunized against Measles and 5.77 million against diphtheria, pertussis and tetanus. While out of 3.77 million children having received 1st dose of Vitamin A, only 2.18 million received the recommended 9 doses.[6]

Around 76% of the children with diarrhoea are being taken to a health facility or health provider and out of them only less than 50% of them have received the continued feeding and oral rehydration therapy. Around 67.1% of the children aged 6 to 59 months are anaemic (<11g/dl).[5]

Under the ambit of RMNCH+A, one such strategy being implemented in various parts of India including Gujarat is the ‘Mamta Abhiyan’, a single stop for preventive, promotive and basic curative care. One of the components of Mamta Abhiyan is Mamta Divas. On Mamta Day, particular attention is directed towards child health services, especially immunization and growth monitoring. In urban settings, these services are delivered not only at Urban health centres but also through outreach efforts, typically held at an Anganwadi centre situated in a slum or semi-slum area of the city.[7]

Among the three categories of Avedis Donabedian’s[8] measures of the quality of health care (structure, process, and outcomes) have historically drawn the greatest attention in the form of government surveys of health facilities and record keeping. The process components of health care service delivery determine whether or not resources can be effectively used to provide beneficiaries with high-quality treatment or to assess the calibre of the health care delivery process.

Thus, the present study is a process evaluation, being conducted with the objective to evaluate the utilization of child health services among under 5 years children and identify the factors influencing their utilization. An evaluation during implementation of services will serve as a tool to advocate for ways to improve or expand processes and point out strengths and flaws. There is also the need to identify barriers in the execution of the programmes in the region. In this context, process evaluation of health and nutrition day programme (Mamta divas) was conducted in the urban health centres of Ahmedabad.

MATERIALS & METHODS

A cross sectional study was conducted at the UHCs distributed among the seven zones of Ahmedabad, for the duration of 18 months.

There are 81 urban health centres among the 7 zones of Ahmedabad city (11 UPHC in central zone, 6 UPHC in south west zone, 7 UPHC in north west zone, 15 UPHC in west zone, 13 UPHC in east zone, 14 UPHC in north zone, 15 UPHC in south zone)[9]. In this current study, seven urban health centres, one from each of the zones were randomly selected for study.

Each of the selected seven UPHC was visited six times; two visits to the facility-based sessions and the rest four visits to different

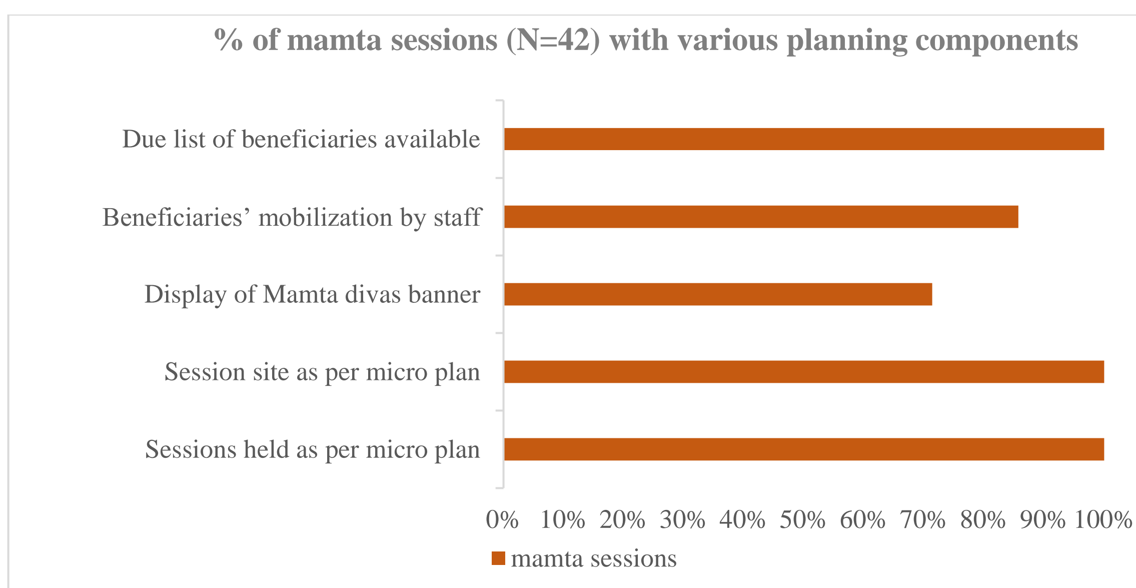
outreach sessions of Mamta divas in both slums and non-slums areas. Total 42 Mamta sessions were evaluated using a preformed semi-structured Questionnaire comprising information about planning components, logistics and child health services.

The data was then analysed for numerous variables and cross tabulation was prepared using M.S. Excel and open Epi online application. For convenience of data analysis, scoring of the variables were done. They were scored as 1 and 0 for services provided at the Mamta sessions and services not carried out at the sessions respectively.

RESULTS

Detailed analysis of the information collected through the direct observation of the 42 sessions of 'Mamta divas (facility based plus the outreach sessions) in both slum and non-slum areas of Ahmedabad was carried out.

Out of total 42 Mamta divas sessions, 100% of them were conducted in accordance with the micro plan at all the selected UHCs and in all the sessions, due list of beneficiaries was available beforehand. Mamta divas banner was displayed in 71% of the sessions visited (Graph 1)



Graph 1: Planning component of Mamta Diwas sessions at selected UHCs.

Out of 28 outreach sessions, 12 (43%) were held at Anganwadi centers, 7 (25%) in chali/slums, 5 (17.8%) in community gardens or parking areas, and 4 (14.2%) at temple premises. Most sessions (86%) saw beneficiary mobilization by USHA or AWW. However, many sessions faced challenges due to being held in poorly constructed, undefined areas, complicating efforts for community health workers and affecting beneficiary mobilization, particularly in extreme weather. Nutritional supplements were mostly available at Anganwadi centres, with Zinc tablets at 88% of sessions, but only 57% provided ICDS nutritional supplements. The infantometer was present in 50% of sessions, Shakir's tape in 48%, and IMNCI/growth charts in 45% of the sessions.

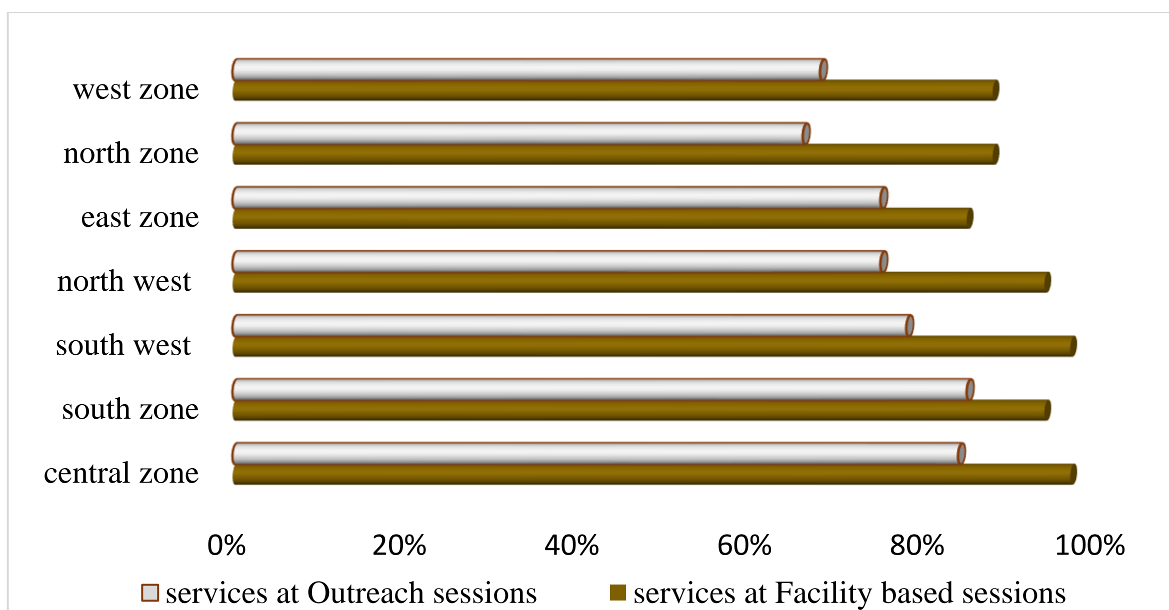
Table 1: Child health service provisions during the Mamta sessions

UPHC	Central zone	South zone	South west zone	North west zone	East zone	North zone	West zone
Registration of child with history taking	100%	100%	100%	100%	100%	100%	100%
Measurement of weight of all children <5 years	100%	100%	100%	83.6%	100%	83.3%	66.6%
Measurement of Height	50%	50%	33.3%	33.3%	16.6%	16.6%	33.3%
Filling of blank Mamta card	100%	100%	100%	100%	100%	100%	100%

Plotting of growth chart	33.3%	Not done	16.6%	Not done	Not done	Not done	Not done
Hand hygiene before vaccinating child	100%	100%	100%	100%	100%	66.6%	100%
Time and date of reconstitution of vaccine written on vaccine vial	100%	100%	100%	100%	100%	100%	100%
VVM stage checking before vaccinating child	100%	100%	100%	100%	100%	100%	100%
Vaccines given in correct dose and route	100%	100%	100%	100%	100%	100%	100%
Syringes being cut with hub cutter immediately after use	100%	83.3%	100%	100%	100%	100%	100%
Vaccines carrier kept closed during vaccination	100%	100%	100%	100%	100%	100%	100%
Waste disposal as per BMW guidelines	100%	100%	100%	83.6%	100%	100%	66.6%
Maintaining AEFI registers	100%	100%	100%	100%	100%	100%	100%
Beneficiaries asked to wait for at least 30 minutes following Vaccinations	33.3%	83.3%	33.3%	33.3%	16.6%	Not done	Not done
Four Key messages relayed at end of vaccinations	66.6%	66.6%	66.6%	33.3%	50%	50%	50%
Mothers explained about grades of malnutrition of their children	100%	100%	83.3%	66.6%	16.6%	33.3%	50%
Use of zipper bag for vaccines /diluents in vaccine carrier	100%	100%	100%	100%	100%	100%	100%

Lacunae were noted in height/length measurements, which were conducted in only 50% of cases, and the absence of growth chart plotting. Additionally, two-thirds of the sessions failed to identify different grades of malnutrition. Moreover, the four key post-vaccination messages were communicated to beneficiaries in only half of the Mamta sessions.

In comparison to facility-based sessions, significantly less services were provided during outreach sessions in terms of child health services. The central and south zone UPHC provided the majority of the child health services at outreach Mamta divas (85%) with the outreach sessions hosted at north zone UPHC providing the comparatively lesser services (66 percent). (Graph 2).



Graph 2: % of Child health services covered at facility and outreach Mamta sessions

Table 2 depicts that after scoring the 42 Mamta divas sessions held at zone wise selected UPHC for child health services, it was found that the mean score for service delivery was maximum for south zone UPHC (15.5 ± 1.3) and minimum for north zone UPHC (12.5 ± 2).

Table 2: Score of child health services for Mamta Divas at every UPHC

UPHC / Child health service scores	Central zone	South zone	South west zone	North west zone	East Zone	North Zone	West Zone
Mean score ± SD	15.5 ± 1.3	15± 1.5	14.3± 2	13.8 ± 2.3	13.3 ± 1.5	12.5± 2	15 ± 1.5
Median Score	15.5	16	14	14.5	13	12	16
Variance	1.9	2.4	3.4	5.3	2.2	4.7	2.4
Minimum	14	13	12	11	12	10	13
Maximum	17	16	17	16	16	15	16

DISCUSSION

Our research has focused on the process evaluation of the child health care services provided by "Mamta divas," or health and nutrition day, one of the cornerstones of the Mamta Abhiyan.

Regarding the planning component, our study shows that 100% of the Mamta divas sessions were conducted as per the micro-plan. The IEC banner/poster was displayed in 71% of the sessions. A study carried out in Nagpur by Banerjee et al.[10] describes that only 78.5% of sessions were held as per the plan on scheduled date due to ANM unavailability. Also in this study, IEC materials were displayed in 78.5% of sessions, all of which were held at AWC. None of the banners were displayed at sessions held at settings other than AWC.

A Study by Kotecha et al.[11] reveals that the growth charts were present in only 26.7% of sessions and hub cutter in 93% of Mamta sessions in urban slums of Bhavnagar. All the vaccines under UIP with their viability maintained, were present at 100% of the sessions. However, a study in Surat by Gandhi et al.[12], BCG vaccine was present in 95% of sessions and a study by Patel T et al.[13] reported that 98.8% of sessions had VVM of vials in stage I or II. A study done in Madhya Pradesh by Panika RK et al.[14], it was observed that BCG was available in 55.5% and IPV in 75% sessions.

In all the sessions, registration of child with history taking was done and blank Mamta card was filled and issued to newly enrolled beneficiaries. Similar findings were drawn from studies by Banerjee et al. and Mehta et al.[10][15]

Weight measurement was done in 90.4% of sessions but height measurement was carried out in only 47.6% of sessions. A mixed method study conducted[16] at urban health and nutrition days in central India between 2019-20 revealed a contrasting picture where that weighing of children was done in 26 % of sessions while height measurement was done in 20% of sessions.

Growth chart plotting however remained absent in 93% of the Mamta sessions in urban areas. In 64.2% of Mamta sessions sites, mothers were explained about the low birth-weight babies and signs of malnutrition in order to facilitate early detection and management. Similar picture was found in a cross-sectional study in Surat corporation[12] areas during the year 2012-13 where growth monitoring was done in 60% of Mamta sessions and mothers were explained about the grades of malnutrition in 11.5% of sessions.

Register for AEFI was maintained in all the sessions but in just 28.5% sessions beneficiaries were asked to wait for at least 30 minutes post vaccination in order to detect any possible anaphylaxis/AEFI. The four key messages which need to be relayed at the end of vaccination were provided by ANM in only 54.7% of session sites. In a study by Mehta et al. [15], it was observed that in only half of the sessions visited, beneficiaries were asked to wait for 30 minutes following vaccination and all four key messages were relayed to the caregivers in just 26.3% of sessions. A similar finding was also observed by Rajkumari et al. in Hyderabad and Parmar et al. in Gujarat.[17,18]

The aforementioned areas of concern necessitate prompt attention and corrective action by assuring the availability of drugs and equipment as well as continuous supervision and monitoring of all sessions.

LIMITATIONS

Moreover, the study and the results are related to an urban area, so it might not be a good representative for rural areas. Also, this study involved participants attending government urban health systems; those attending private health sectors were not included in this study. So, the result cannot be generalized.

CONCLUSION

The Mamta Divas, a Health and Nutrition Day initiative, offers various health care services to communities, focusing on child well-being. Our study assessed child health services during urban health and nutrition days (UHNDs), noting consistent delivery by Urban Primary Health Centres (UPHCs). All sessions should be regularly supervised and monitored, and supportive supervision by Health and ICDS supervisors needs to be strengthened. Intersectoral coordination between community health workers and Urban Local Body and ICDS staff. Making efficient use of already-existing resources and providing accurate information and counselling the subjects will help us raise awareness, which will then boost the use of MCH services.

Declarations

Ethical approval: *Approved*

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Conflict of interest: *No*

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