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**Short Communication**

# Data Validation of Vitamin A supplementation under RCH programme among poor performing blocks of Surat district.

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**Abstract**

Introduction: Effective systems for monitoring progress and outcomes are critical for all programme implementation. Community, District and National levels require appropriate information for decision-making. Information systems on coverage of interventions can serve as a powerful evidence-based tool for programming.

Objective: The study was planned to assess the availability, accessibility, utilization and effective utilization for Vitamin A Supplementation services of Reproductive Child Health programme among poor performing blocks of Surat district and to analyze the plausible causes of major bottlenecks for effective coverage.

Methods: Cross Sectional study with unit 10 PHCs and from each PHC two sub centre villages were selected randomly in Surat district.

Results: Vitamin A availability at studied PHCs was 79.6%. Accessibility of Vitamin A during monthly Immunization session was 96.4%. Vitamin A coverage at individual PHC was 111.3%. Adjusted utilization of Vitamin A was 93.4%.

Key Words: Data Validation, Immunization

## Introduction

Under RCH-II programme, the Government of Gujarat (GOG) is making every effort to improve the quality of health services in rural areas. Therefore, it becomes essential to understand the current status by evaluating important components of Reproductive Child Health activities. It is with this background, this exercise was carried out to assess the status of Reproductive Child Health programme among poor performing blocks of Surat district.

This study was carried out to strengthen the RCH activities by validating records of PHC. The tool for validation used in this study was based on John Hopkins monitoring steps – Availability, Accessibility, Utilization, Adequate Coverage and Effective Coverage; incorporating the BDCS strategy (Border District Cluster Strategy).[1] Surat district is currently having 9 talukas after its separation from district Tapi. It has having an area of 4326.97 sq km with the highest population density in Gujarat as per 2011 census. The population of whole Surat district is 60,79,231 as per 2011 census provisional data which constitutes 10 percent of the state population and it also shows highest percentage decadal variation (42.19) in Gujarat according to census 2011 provisional data. Sex ratio of Surat district decline from 810 in 2001 to 788 in 2011 census.[2] The literacy rate (population age 7+ years) of the district is 86.65 percent (91.05 percent males and 81.02 percent females). [2] Surat district is at advantageous position compared to the state in terms of literacy as well as the extent of urbanization.

## Methodology:

The study was planned in the poor performing blocks of Surat District as per the 2010 RCH Programme Report of Surat District. So Poor performing 2 blocks of Surat district were selected for this study on the basis of Immunization Coverage of less than 70%. Validation activity was done in seven poor performing PHCs of Bardoli (6

PHCs) and Mangrol (4 PHCs) block of Surat district.

**Sample Size:** 10 PHCs and from each PHC two sub center villages were selected randomly from Bardoli and Mangrol block of Surat District.

**(a) Data Collecting Teams**: Each PHC was visited by a team of 4 Members (Assistant Professor as team leader and three faculties /resident doctors) from the department of Community Medicine, GMC, Surat. Two members validated the PHC data while the other members covered the Sub centre for data validation and collection. Thus, one unit was covered in one day. The field investigators were trained for collection of quality data and adherence to the uniform guidelines for data collection.

**(b) Data Collection**: Total five teams were formed and they validated one PHC per day. So total 2 days field work was carried out (10 PHCs). Standard prescribed format (Modified Johns Hopkins) was used for data collection. Sub centre and PHC villages will be surveyed for data validation. Team picked adequate numbers of beneficiaries (at least 3) for each of the intervention to be verified. Thus, exercise was carried out in 10 PHCs, 20 Sub Centre villages and 60 beneficiaries for each intervention.

**(c) Study Tool**: Modified Johns Hopkins Module was used for data collection separately at PHC, Sub centre and Village level[1].

**(d) Data Analysis**: Reference period for data collection was decided from 1st March 2010 to 28th February 2011. Data once collected was entered and analyzed in MS Excel as per guidelines of Modified John Hopkins criteria.

**Results:**

This validation exercise was carried out in poor performing 10 PHCs (Primary Health Centre) of two blocks of Surat district to strengthen RCH activities. The data was collected for the reference period 1st March 2010 to 28th February 2011. The following indicators of Surat district were used throughout in this exercise.

Birth Rate: 16.83 per 1000 live births[3]

Infant Mortality Rate: 16.08 per 1000 live birth[3]

Proportion of home deliveries by untrained birth attendant: 0.45 (Factor)[3]

For Vitamin A supplementation, the target population taken was estimated number of under 3 children who survived till the age of 9 months.

**1. Availability**

Since Vitamin A 1st and 2nd doses are linked with immunization, the availability was considered as percentage of weeks Vitamin A was available in adequate quantity during the reference period. This method would take care of availability even where 2 – 5 doses are given in 6 monthly campaign mode.

Availability was calculated for individual PHC by calculating periodicity (in weeks) and adequacy of Vitamin A quantity in ml. The lowest value was considered. District estimates for availability were calculated by doing average of PHC figures. Thus, the availability for Vitamin A supplements for the district obtained was 79.6%.

**2. Accessibility**

This is defined as the geographical reach of the services for practical purpose. At some point of time one need to start looking at socio-economic consideration of access to services. According to National UIP guidelines, every village should have a monthly immunization session. During this

study, for assessment of accessibility three categories of inhibitions (including hamlets) were included in the numerator.

**Category-a:** Inhibition with more than 1000 population having at least one monthly immunization session.

**Category-b:** Inhibition with less than 1000 population and within 1 mile distance from monthly immunization site.

**Category-c:** Inhibition with less than 1000 population but more than 1 mile away from monthly immunization site having at least quarterly immunization session or four session in succession during the period of easy accessibility.

District estimate for accessibility was calculated by doing average of figures of individual Sub centers in percentage. The value obtained in this exercise was 96.4% for the Surat district.

**3. Utilization**

The utilization of service, i.e. vitamin A1 was taken as the utilization. Since vitamin A1 is given with measles, less than 1-year population, which is one third of the target population, was taken as the denominator for utilization.

Adjusted utilization for district was calculated in 3 steps.

1) First Vitamin A1 coverage at individual PHC was averaged. It was 111.3%.

2) Then, Correction factor was calculated in two stages from validation at Sub Centres. First, by validation of entries reported in form-6 for number of children received Vitamin A1 from their registers at Sub Centre and secondly by validation of actual service received in the field. Thus the value of correction factor during this exercise obtained was 0.84.

3) Finally, the averaged Vitamin A1 coverage was multiplied by correction factor to get adjusted utilization for district. The adjusted Utilization for Surat district calculated was 93.4%.

Discussion:

Availability of Vitamin A was calculated separately and it was 79.6%. Data validation of Surat district report 2006 reported the availability for Vitamin A supplements for the district was 64.9 %.[4]

Accessibility estimates by this study was 96.4% as calculated by doing average of figures of individual Sub centres. Previous data validation of Surat District estimated 97.5% accessibility by doing average of figures of individual Sub centres[4] .

Vitamin A coverage at individual PHC was 111.3%. After calculation of coverage factor 1.0, the adjusted Vitamin A coverage was 93.4% in this study. Previous data validation of Surat District reported Vitamin A coverage of 115.1% and with correction factor of 0.85 the adjusted Vitamin A coverage of 98.1%[4]. MICS 2006[5] of Surat District reported Vitamin A coverage of 68.2% and MICS 2011[6] of Surat District 61.8%.

This study find out the adjusted coverage for district was calculated by multiplying correction factor for quality, which was 0.84 and adjusted adequate coverage which was 93.4%. Previous data validation of Surat District reported the adjusted adequate coverage of 98.1%[4] So, validation of data with the Modified John Hopkins methodology leads to find out the adjusted utilization of various RCH indicators.

**Limitation of Study:**

Surat district indicators like CBR, IMR and Proportion of home deliveries were used as baseline data for calculation of availability, accessibility, utilization and adequate coverage of Vitamin A supplementation for poor performing blocks of Surat district which may not be same for poor performing blocks of Surat district.

Recommendations:

1. During this exercise, client satisfaction was very high among those who have received service. It

reflects that wherever the services are being provided, there was no problem regarding client satisfaction.

2. At some PHCs, the records regarding supply of vitamin A did not match with the number of beneficiaries of vitamin A solution; no. of beneficiaries surpassed the supply. On further enquiry, it was found that vitamin A was supplied directly at the site by BHO during campaign and its entry was not made in the PHC register. To solve this problem, each entry must be made in the register of the vitamin A supplied at the site during six monthly campaigns.

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