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Quality Assessment of Immunization Services at Village Health and Nutrition Day (VHND) in the Rural Areas of Rajkot district, Gujarat, India

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Abstract

Immunization has been one of the most significant, cost-effective and stimulatory public health interventions. There is also increasing need to ensure that providers stick to service delivery protocols so as to achieve desired health outcomes. Therefore present study aimed at assessment of quality of immunization services. This was a cross-sectional study with multi-stage sampling method which was carried out in rural areas of Rajkot district. Total 14 Village Health and Nutrition Day (VHND) session sites were observed. Results showed the following: Almost all the essential instruments were available at all session sites. Date and time of reconstitution was written on all BCG (Bacille Calmette Guerin) and measles vaccine vials. Route of administration and site of administration were correct for all vaccines. Information regarding possible side effects was given to only 5% of mothers for DPT (Diphtheria, Pertussis, Tetanus) vaccine, 16% for BCG vaccine and none for measles vaccination. None of the mothers were given all four key messages. It may be concluded that quality of immunization services was good regarding the technique of immunization but lacking in communicating the four key messages after vaccination and giving information about possible side effects of vaccine to the mothers.

Introduction

Immunization has been one of the most significant, cost-effective and stimulatory public health interventions. About one-quarter, or 25%, of under-5 mortality is due to vaccine-preventable diseases.[1] In spite of lots of effort by government and other health agencies, approximately 10 million children and infants in India remain unimmunized which is highest number of such children in the world .[2]

The Village Health and Nutrition day (VHND) is to be organized once every month (preferably on Wednesday) at the AWC or any other suitable location. The package of services includes various maternal and child health services of which immunization is essential service to be provided to all children of village.[3] In Gujarat state, Village Health and Nutrition day (VHND) is known as "Mamta Day". It was realized that merely providing vaccine just to achieve targets without giving adequate attention to quality of immunization services doesn't guarantee a reduction in disease morbidity & mortality.[4] There is also increasing need to ensure that providers stick to service delivery protocols so as to achieve desired health outcomes. Therefore present study aimed at assessment of quality of immunization services.

Materials and Methods

This was a cross-sectional study. The study was done by multi-stage sampling method. The study was carried out in rural areas of Rajkot district covering Primary Health Centers (PHC) & Out Reach Services rendered under the Primary Health care. Rajkot district is comprised of seven blocks and from each block two PHCs were randomly selected. So total 14 VHND were observed. On Wednesday, VHND (Mamta day) was observed on the

basis of checklist prepared from the guideline of VHND. Availability and quality of immunization service was assessed. The study was carried out during August 2010 to May 2011. Total 70 children were observed for immunization service.

Results

Sessions were organized as per micro-plan at all VHNDs visited. Table 1 shows that out of 14 VHND visits, Medical Officer in Charge (MOIC) was present at 78% of VHNDs and out of them training for Routine Immunization was taken by 82%. Pre session meeting was organized at all places. Main pillar of VHND, Female Health Worker (FHW) was present at 92% of VHNDs and at one place session was carried out by Lady Supervisor. Trained dai and Volunteer from kishori shakti Yojana was present in only 8% of VHND. ICDS (Integrated Child Development Services) supervisor was present at two session site. Due list was prepared at 71% of session site.

Figure 1 shows that Community mobilization was seen at all sites and it was done by ASHA (Accredited Social Health Activist) and AWW (Anganwadi worker) at 92% of sites. Separate list of beneficiaries for community mobilization was available with only 28% of mobilisers. In 21% of sites, involvement of community volunteers was found. Figure 2 shows that Adult weighing scale, Blood Pressure measurement instrument, urine strip, pregnancy kit, Needle hub cutter, thermometer, all essential drugs required at VHND and Hemoglobin meter were available in working condition at all mamta sessions. Child weighing scale was present in 78% of session sites.

Vaccines were delivered by supervisor at 8 session sites, by FHW herself at 3 session sites, and by other PHC staff at 3 session sites. All vaccines and diluents were placed in zipper bag at 100% sites. Adequate quantity of AD (Auto Disabled) syringe and 5ml syringe were available at all 14 sites. Hub cutter was available at all sites but was not working at one site and syringes were not cut at 15% of sites. To assess the quality, immunization service provided to a total of 70 children from 14 visited session site was observed. Health worker had washed and sterilized her hands before giving immunization at all sites.

Table 2 shows that all the eligible children were given BCG vaccine with Tuberculin syringe. Out of due children for DPT vaccination, 96% were given DPT because parents refused. BCG and measles vaccines were reconstituted correctly. Date and time of reconstitution was written on all BCG and measles vaccine vials. Route of administration and site of administration were correct for all vaccines. Frozen DPT vaccine was not found at any session site. VVM (Vaccine Vial Monitor) was in stage I and II at all session sites. Information regarding possible side effects was given to only 5% of mothers for DPT, 16% for BCG and none for measles vaccination. This was much lower than the expected. Only 6% mothers were informed not to give any hot food till 2 hrs after OPV (Oral Polio Vaccine) vaccination. All 12 children were given vitamin A along with measles by special spoon in proper dose according to age. None of the mothers were explained the importance of Vitamin A. None of the mothers were given all four key messages. BMW (Bio-Medical Waste) bags are available at all session sites. Display for BMW segregation is present at only 35% session sites. BMW segregated properly at 85% of session sites.

Discussion

Sessions were organized at all VHND visited. Regular sessions as per micro-plan are crucial for trust of beneficiaries. MOIC was present at 78% of sessions in present study while Parmar et al[5] found the 0% presence of MOIC at session site. The presence of MOIC is crucial for on job training and on site correction for false

practices. FHW and ASHA/AWW were present at 92% sites. AWWs and ASHAs were local inhabitant of the village where session is conducted which ensures continuation of trust and effective mobilization. Parmar et al[5] had also found 100% presence of AWW, ASHA and FHW at all session sites. At 92% sites community mobilization was done by ASHA and AWW. They were completely aware of the beneficiaries in their village so chance of drop out decreases. Almost all the essential instruments were available at all Mamta sessions. Availability of instruments is the primary requirement for effective VHND. Regarding the technique of immunization (route and site of administration) Patel et al[4] also found almost similar findings while Parmar et al[5] found that 23% of FHWs still faced problem in immunization technique. In the present study, frozen DPT vaccine was not found at any session site and VVM was in stage I and II at all session sites. The findings were comparable with the study done by Shah et al[6]. In the present study none of the mothers were given all four key messages. Similarly Parmar et al[5] and Kotecha et al[7] were also observed that giving four important key messages after vaccination was lacking in majority of session sites while comparatively higher proportion (62%) was observed by Patel et al[4] in their study done in Anand district.

Conclusion

Sessions were organized as per micro-plan at all VHNDs visited and Female Health Workers were present in majority of the session sites. Availability of all vaccines and related logistics was satisfactory. All basic equipments were available at all session sites except child weighing scale. Immunization technique was correct at all session sites but giving information regarding possible side effects of vaccine to the mothers was lacking in majority of sites. And also none of the mothers were given all four key messages after vaccination. It requires proper supervision and on site correction.

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Table No 1: Presence of health providers at VHND (Mamta day) session (N=14)

Sr.No.	Staff for VHND	Total	No.	Percentage
1	Medical officer	14	11	78.57%
2	Female health worker (FHW)	14	13	92.86%
3	Anganwadi worker	14	12	85.71%
4	Anganwadi helper	14	11	78.57%
5	ASHA/Link worker	14	8	57.14%
6	Trained dai	14	1	7.14%
7	Volunteer from Kishori Shakti Yojana	14	1	7.14%
8	Multipurpose worker	14	9	64.29%
9	ICDS supervisor	14	2	14.2%

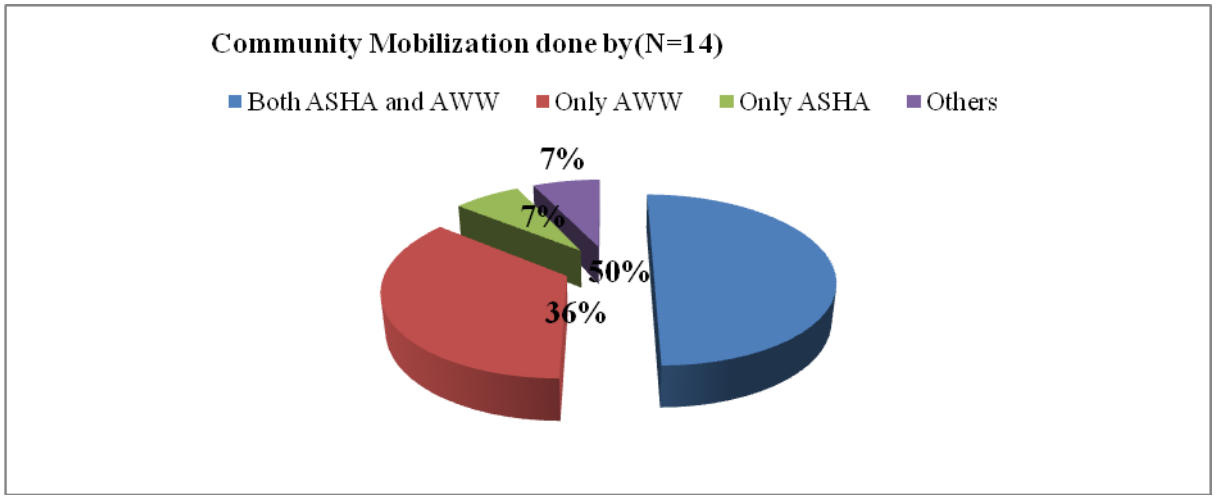

Figure 1- Community Mobilization of Beneficiaries

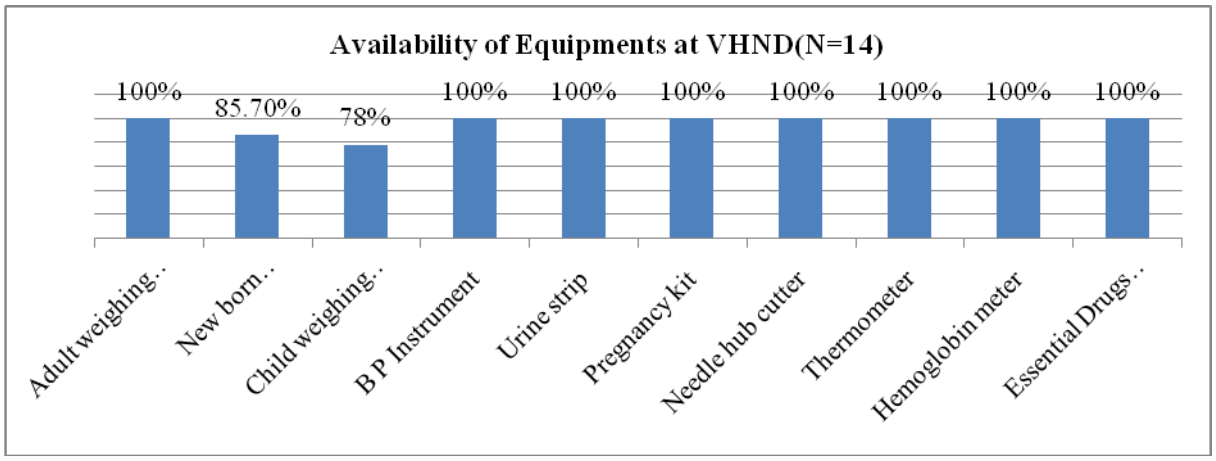

Figure 2: Availability of Equipments at VHND

Table 2: Quality assessment of immunization services

Sr. No.	Particular	No.	%
BCG vaccine (N=6)			
1	Tuberculin syringe for vaccination	6	100%
2	Date and time written on vial	6	100%
3	Reconstitution in normal saline	6	100%
4	Given intradermally at left shoulder	6	100%
5	Information given regarding possible side effects	1	16.67%
DPT vaccine (N=53)			
6	AD syringe for DPT	53	100%
7	Given IM in antero-lateral side of thigh	53	100%
8	Information given regarding possible side effects	3	5.66%
9	Prescribed PCM	0	0%
10	Frozen vaccine found	0	0%
OPV vaccine (N=55)			
11	VVM stage III/IV found(n=14)	0	0%
12	Vaccine in use beyond expiry date	0	0%
13	Information given regarding not to give hot food to child till two hrs	3	5.45%
Measles vaccine (N=12)			
14	Use of AD syringe for immunization	12	100%
15	Date and time written on vial(N=9)#	9	100%
16	Reconstituted in distilled water	12	100%
17	Given subcutaneously at right shoulder	12	100%
18	Information given regarding possible side effects	0	0%
Vitamin A(N=12)			
19	Importance of Vitamin A	0	0%
20	With special spoon with markings for dosage	12	100%
21	Vitamin A given as per required dose	12	100%