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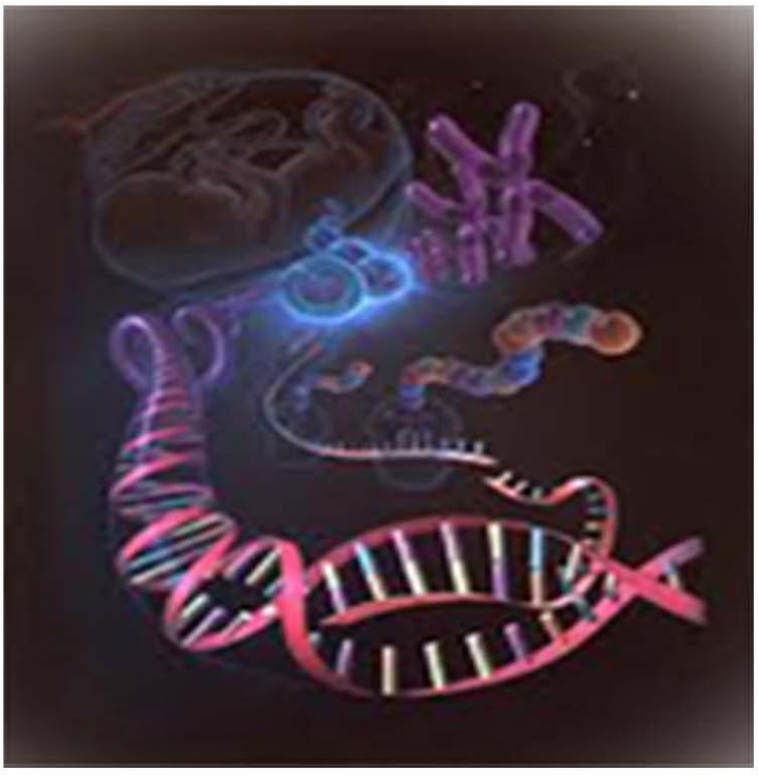

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Research Paper

SESSION SITES MONITORING OF ROUTINE IMMUNIZATION PROGRAM IN BIJAPUR DISTRICT

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Background and Aim: The success of immunization program in field depends on the availability of appropriate logistics and proper training of health workers. This study was undertaken to focus on inspecting actual logistics availability, vaccination techniques and safety issues at Routine Immunization (RI) session sites of Bijapur District. Methodology: A cross-sectional study was done using a structured questionnaire. Data was collected from 46 RI session sites of Bijapur District. Results: It was observed from study that AD syringe availability was adequate. Functional Hub Cutter was available in 29 (63.1%), Red and Black bag in 25 (54.4%) and Vitamin A solution in 26 (56.5%) session sites. Availability of vaccines was satisfactory except for Hepatitis B 44(95.7%) and Japanese Encephalitis 33 (71.7%). Vaccine storage conditions were appropriate except in 2 session sites were OPV vaccine was in Stage III VVM. The time of reconstitution was noted in 41 (89.1%) session sites. Only in 26 (56.5%) sessions ANM were cutting the Syringe with Hub Cutter immediately after use and in 35 (76.1%) session sites all the four key messages were given to parents. Conclusion: The present study observed satisfactory immunization session organization in terms of logistics, cold chain maintenance and injection techniques.

Keywords: Cold chain, Logistics, Immunization, Session site, Vaccine

INTRODUCTION

Immunization is indisputably one of the most cost effective public health interventions available (Ehreth, 2003). The vaccination of children at right age can avert many childhood illness their by reducing mortality and morbidity. World Health Organization launched the Expanded Program on Immunization (EPI) in 1974 with the intention to prevent seven of the most serious diseases in children (World Health Organization, 1998). The Government of India launched EPI in 1978 with objective of reducing mortality and morbidity from vaccine preventable diseases of childhood (Park, 2009). The coverage and quality of routine immunization program still a hitch in developing countries like India. There are many reports indicating rising incidence of cases of disease and adverse events following immunization

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among vaccinated persons due to low potency of administered vaccines (Ateudjieu *et a*l., 2013).

The success of immunization program in field depends on the availability of appropriate logistics and proper training of health workers. These have impact on not only in improving the coverage and reducing dropouts but also in improving the quality of vaccination. This study was undertaken to focus on inspecting actual logistics availability, vaccination techniques and safety issues at Routine Immunization (RI) session sites of Primary Health Centres (PHC) of Bijapur District.

MATERIALS AND METHODS

This study was conducted as part of project on Strengthening Routine Immunization Program. The authors of study worked as RI Monitors for Bijapur District. This was a cross sectional study conducted in Bijapur district between September 2011 to March 2013. A total of 46 session sites of PHCs were visited by authors. Data was collected as per the questionnaire prepared by WHO/ Government of India (2009) and analyzed using percentages and proportions.

RESULTS AND DISCUSSION

It was observed from the study that 44 (95.7%) session sites had 0.1 ml AD syringe, where as all the session sites had 0.5 ml AD syringe. Functional hub cutter was available in 29 (63.1%) session sites. Pandit NB 6 in his study reported more than 19% of annual needle stick injuries among service providers. The use of AD syringe and hub cutter to cut the needles will reduce the needle stick injuries. Only 25 (54.4%) session sites had Red and Black bag indicating neglect towards proper disposal of biomedical waste. It was observed that only 26 (56.5%) session sites had Vitamin A solution (Table 1). This reflects a missed opportunity by health system to provide Vitamin A prophylaxis to children when they come for immunization. The reason for non availability was inadequate supply.

This study showed that Due list of beneficiaries was maintained by 30 (65.2%) session sites where as Tushar Patel *et al*. (2011) study in rural areas of Gujarat observed that 54.5% Auxiliary Nurse Midwife (ANM) had maintained Due list. The due list is vital in tracking the beneficiaries

Table 1: Logistics Available at Session Site n=46

S. No.	Logistics		Yes	No
1.	AutoDisable syringe	0.1 ml	44(95.7%)	2(4.3%)
		0.5 ml	46(100%)	0
2.	Blank RI Card		33(71.7%)	13(28.3%)
3.	Red and Black bag		25(54.4%)	21(45.6%)
4.	Vitamin A Solution		26(56.5%)	20(43.5%)
5.	Due list of Beneficiaries		30(65.2%)	16(34.8%)
6.	Functional Hub Cutter		29(63.1%)	17(36.9%)
7.	Paracetamol tablets		45(97.8%)	1(2.2%)

Table 2: Vaccines/Diluents Available at Session Site n=46			
S. No.	Vaccine	Yes	No
1.	BCG	45(97.8%)	1(2.2%)
2.	OPV	45(97.8%)	1(2.2%)
3.	DPT	46(100%)	0
4.	Measles	46(100%)	0
5.	TT	46(100%)	0
6.	Hep B	44(95.7%)	2(4.3%)
7.	Japanese Encephalitis	33(71.7%)	13(28.3%)

Table 3: Vaccines Storage Condition n=46			
S. No.	Vaccine Condition	Yes	No
1.	Vaccine placed in Zipper bag in vaccine carrier having 4 ice packs	44(95.7%)	2(4.3%)
2.	Vaccine in Stage I&II VVM	44(95.7%)	2(4.3%)
3.	Vaccines Vials with VVM	46(100%)	0

Table 4: Injection Technique/Safety Issues n=46			
S. No.	Injection Technique / Safety Issues	Yes	No
1.	Adequate quantity of reconstitution syringe available	43(93.5%)	3(6.5%)
2.	Time of Reconstitution written for reconstituted vaccines	41(89.1%)	5(10.9%)
3.	AD syringe used for injection	46(100%)	0
4.	Correct site of DPT injection	44(95.7%)	2(4.3%)
5.	ANM were NOT touching any part of needle	45(97.8%)	1(2.2%)
6.	Syringe being cut with Hub Cutter immediately after use	26(56.5%)	20(43.5%)
7.	Four key messages given to parents	35(76.1%)	11(23.9%)

due for vaccination for the current session. It is prepared in advance before the day of immunization. If any child does not turn up for the session the health worker can mobilize the same.

DPT, Measles and TT vaccines were available in all the 46 (100%) session sites where as BCG and OPV vaccines were available in 45 (97.8%) session sites. Hepatitis B vaccines were on hand in 44 (95.7%) where as Japanese Encephalitis vaccine was available only in 33 (71.7%) session sites (Table 2). The main reason for inadequate Hep B and JE was irregular supply.

Tushar Patel *et al.* (2011) reported that only 50% of session sites had all the vaccines along

with diluents. The explanation given was that BCG vaccine which was given only once in a month to avoid wastage.

In 44 (95.7%) session sites Vaccines were placed in Zipper bag. The Vaccine Vial Monitor (VVM) showed that 44 (95.7%) of vaccines were in usable condition (Stage I and II VVM). It was observed that only in 2 session sites OPV vaccine was in Stage III VVM. All the 46 (100%) session sites had vaccine vials with VVM labels intact (Table 3).

Similar observations were made by Tushar Patel *et al.* (2011) that in 98.8% of sessions Cold chain issues like VVM for polio vaccine were satisfactory. Goel *et al.* (2008) study in Chandigarh in 2006 noticed that in 95% sessions Vaccine vials were kept in polythene bags and in 99% of session sites vaccine were in VVM in stage I and II.

It is crucial to place vaccine vials in plastic zipper bag to avoid spoiling of VVM label by direct contact with ice pack. The VVM is an indicator of potency of vaccine.

Adequate quantities of reconstitution (5 ml disposable) syringes were available in 43 (93.5%) session sites. It is recommended to use separate syringe for each reconstitution vaccine vial. The time of reconstitution was written on reconstituted vaccines in 41(89.1%) session sites. In all the sessions ANM were using AD syringe for injection (though in 2 sessions ANM had not brought 0.1 ml AD syringe from PHC they purchased locally). In 45 (97.8%) sessions ANM were *NOT* touching any part of needle during injection procedure. In 44 (95.7%) immunization sessions ANM were giving DPT injection at correct site. In 2(4.3%) sessions DPT was given at buttocks as the ANM were afraid of giving injection at Anterolateral part of mid thigh. Only in 26 (56.5%) sessions ANM were cutting the syringe with Hub Cutter immediately after use and in 35 (76.1%) session sites all the four key messages were given to parents (Table 4).

Tushar Patel *et al.*(2011) observed that time of reconstitution was written on vial in 61.4%, use of separate syringe and needle for each injection in 100%, correct selection of Injection site and route in 95.4% , and ANM was giving all 4 key messages after vaccination in 62.5% of session sites.

The writing reconstitution time is important for prevention of toxic shock syndrome followed by measles vaccine. The four key messages given by ANM to parents regarding vaccine given, minor side effects, next due date and keeping the immunization card safely are important in reducing the dropouts.

CONCLUSION

The present study observed satisfactory immunization session organization in terms of logistics, cold chain maintenance and injection techniques as reported also in other studies .There is a scope for improvement in maintaining the due list, use of hub cutters, proper waste disposal. The immunization session offer a chance to provide Vitamin A solution. The importance of recording the time of reconstitution needs to be stressed. Dropouts can be reduced by giving all the four key messages to parents.

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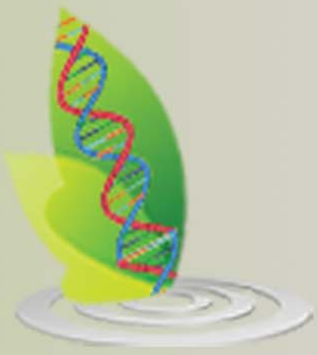

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