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Community Medicine

INJECTION SAFETY PRACTICES DURING IMMUNIZATION AMONGST PRIMARY HEALTH CARE PROVIDERS OF GUWAHATI CITY, ASSAM

Sthapana Sharma	Assistant Professor, Department of Community Medicine, Gauhati Medical College, Guwahati, Assam
A C Baishya	Professor and Head, Department of Community Medicine, Tezpur Medical College, Tezpur, Assam
Jutika Ojah	Professor, Department of Community Medicine, Gauhati Medical College, Guwahati, Assam
Pankaj Jyoti Barman*	Demonstrator, Department of Community Medicine, Gauhati Medical College, Guwahati, Assam.*Corresponding Author

ABSTRACT **Background-** Unsafe injection practices pose serious health risks to recipients, health workers and the general public. Injections are one of the most frequently used procedure during immunization. National Immunization services, although responsible for only 5-10% of all injections given, are particularly important because they deal with the infants and children who are generally in good health and when used syringes and needles are carelessly placed.

Objective- To assess the practice of primary health care providers regarding injection safety during immunization in urban area of Guwahati city, Assam.

Materials and Methods: The present facility based cross sectional study was carried out for a period of 6 months from July, 2017 to December, 2017 in different Government Health Institutions of primary and secondary level of Guwahati city of Kamrup (Metro) district, Assam. Data on injection safety practices were obtained from one GNM/ANM from each of the health institution. Interview and observation methods were used to obtain the information. The findings of the study were tabulated and presented as percentage.

Results: About 46.2% of the health care providers of MPHC washed hands with soap and water and wiped clean, while 25% of the health care provider of referral units and 11.8% from UPHC did so. All the health care providers from all the health facilities injected correct doses of vaccines in correct site. Overall, about 95.7% of the ANMs gave 4 key messages after vaccination. All the health care providers from all the health facilities used new cards and counterfoils for each beneficiary and immunization registers.

Conclusion: Injection safety should be ensured through a continuous supply of injection safety equipments such as AD syringes, reconstitution syringes, hub cutters etc. Provision of continuous education on injection safety to all health workers must be done.

KEYWORDS : Immunization, Health care providers, AD syringe.

INTRODUCTION:

The cardinal rule of health care is "first, do no harm"[1]. An injection is considered to be safe when it does no harm to the recipient and does not expose the health care worker to any risk[2]. This is achieved by administering an injection using a sterile device like syringe, needle etc, adopting sterile technique by a qualified and well trained health worker and discarding the used devices in a punctured proof container specially designed for appropriate disposal. Any breach in the process makes the injection unsafe[3]. Unsafe injection practices pose serious health risks to recipients, health workers and the general public. Injections are one of the most frequently used procedure during immunization. Nearly 12-16 billion injections are given annually across the world as per the WHO, out of which majority are not warranted but given by the providers indiscriminately[4]. National Immunization services, although responsible for only 5-10% of all injections given, are particularly important because they deal with the infants and children who are generally in good health and when used syringes and needles are carelessly placed. It is the children who are often the most likely to be exposed.

OBJECTIVE:

To assess the practice of primary health care providers regarding injection safety during immunization in urban area of Guwahati city, Assam.

MATERIALS AND METHODS:

The present facility based cross sectional study was carried out for a period of 6 months from July, 2017 to December, 2017 in different Government Health Institutions of primary and secondary level of Guwahati city of Kamrup (Metro) district, Assam. The Secondary Health Facilities included four First Referral Units which provides secondary care for Maternal and Child Health Services including immunization. The Primary Health Facilities included State Dispensary, Mini Primary Health Centre (MPHC), Urban Primary Health Centre (UPHC) and Sub Centre. Data on injection safety practices were obtained from one GNM/ANM from each of the health institution. Privacy and confidentiality of information is maintained in every step of the study and results are presented in aggregate form without individual identification. Assamese language was used to obtain the information using a predesigned and pretested semi structured schedule. Interview and observation methods were used to obtain the information. The findings of the study were tabulated and presented as percentage.

RESULTS:

Table 1 shows practices of health care providers during immunization session with the type of facility. About 46.2% of the health care providers of MPHC washed hands with soap and water and wiped clean, while 25% of the health care provider of referral units and 11.8% from UPHC did so. None of the health care providers from SC practiced washing of hands during immunization session. All the health care providers from all the health facilities reconstituted vaccines prior to vaccination, used correct diluents, wrote time of reconstitution on the vials and used reconstituted vaccines within 4 hours.

Table 2 shows injection safety practices of health care providers during immunization session with the type of facility. All the health care providers from all the health facilities used 0.1 ml AD syringes for BCG vaccination and 0.5 ml AD syringes for other vaccines, injected correct doses of vaccines in correct site through proper route after proper cleaning of injection site with water swab. However, needle touched with swab or fingers before injection by 46.2% health care providers of MPHC, 25% of referral units, 8.3% of SCs and 5.9% of UPHCs. Overall, about 95.7% of the ANMs gave 4 key messages after vaccination.

Table 3 shows practice of maintenance of records by health care providers with the type of facility. All the health care providers from all the health facilities used new cards and counterfoils for each beneficiary and immunization registers, MCH registers are available at session site. However, correct filling of registers are not seen in the UPHCs and Scs.

Table 1: Practices of health care providers during immunization session with the type of facility

Practice of health care providers during immunization session	Type of facility									
	Referral unit (n=4)		MPHC (n=13)		UPHC (n=17)		SC (n=12)		Total (N=46)	
	No.	%	No.	%	No.	%	No.	%	No.	%
Washing hands with soap and water and wiped clean	1	25	6	46.2	2	11.8	0	-	9	19.6
Vaccines reconstituted correctly prior to vaccination	4	100	13	100	17	100	12	100	46	100
Time of reconstitution written on vial	4	100	13	100	17	100	12	100	46	100
Correct diluents used	4	100	13	100	17	100	12	100	46	100
Reconstituted vaccine used within 4 hours	4	100	13	100	17	100	12	100	46	100

Table 2: Injection safety practices of health care providers during immunization session with the type of facility

Practice of health providers during immunization session	Type of facility									
	Referral unit (n=4)		MPHC (n=13)		UPHC (n=17)		SC (n=12)		Total (N=46)	
	No.	%	No.	%	No.	%	No.	%	No.	%
0.1 ml AD syringe for BCG vaccine used	4	100	13	100	17	100	12	100	46	100
0.5 ml AD syringe for other vaccines used	4	100	13	100	17	100	12	100	46	100
Correct injection site selected	4	100	13	100	17	100	12	100	46	100
Correct route used	4	100	13	100	17	100	12	100	46	100
Correct dose given	4	100	13	100	17	100	12	100	46	100
Injection site cleaned with water swab if dirty	4	100	13	100	17	100	12	100	46	100
Needles touched with swab or finger before injection	1	25	6	46.2	1	5.9	1	8.3	9	19.6
ANM gave 4 key messages after vaccination	4	100	13	100	16	94.1	11	91.7	44	95.7

Table 3: Practice of maintenance of records by health care providers with the type of facility

Practice of maintenance of records by health care providers	Type of facility									
	Referral unit (n=4)		MPHC (n=13)		UPHC (n=17)		SC (n=12)		Total (N=46)	
	No.	%	No.	%	No.	%	No.	%	No.	%
New card and counterfoils for each beneficiary	4	100	13	100	17	100	12	100	46	100
Counterfoils from previous sessions available at session site	4	100	13	100	15	88.2	8	66.7	40	87
Immunization register, MCH register are available at session site	4	100	13	100	17	100	12	100	46	100
Correct filling of registers done	4	100	13	100	16	94.1	11	91.7	44	95.7

DISCUSSION:

A safe injection is an injection that does not cause harm to the recipient, the provider or the community. Health workers should take necessary precautions to ensure that no person is potentially exposed to infection or accidental needle stick injuries. Guidelines for immunization also advocates simple ways to improve injection safety like keeping hands clean before giving injections by thorough washing and disinfecting hands and use sterile injection equipments every time. Prevention of contamination of vaccine and injection equipments can be done by preparing each injection in a designated clean area where contamination from blood or body fluid is less likely and washing the dirty injection site with clean water. As accurate, reliable and timely information is critical to the success of immunization, records like infant immunization card, MCH register, immunization register are generated and should be maintained at the sub centre and higher levels.

CONCLUSION:

Following unsafe injections during vaccination the recipients, health workers and the community are at the risk of contracting deadly diseases like Hepatitis B, Hepatitis C, HIV, parasitic, fungal, bacterial and other type of infections[1]. Therefore, injection safety should be ensured through a continuous supply of injection safety equipments such as AD syringes, reconstitution syringes, hub cutters etc. Provision of continuous education on injection safety to all health workers must be done. Distribution of available job aids to all health functionaries must be done to remind them of the best practices in the correct use of AD syringes and in simple ways to improve injection safety.

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