

AN ASSESSMENT OF INJECTION PRACTICES IN URBAN HEALTH CENTRES OF SURAT CITY: ARE THE HEALTH CARE WORKERS SAFE?

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ABSTRACT

Background: Healthcare workers in developing countries inconsistently practice universal precautions and are commonly exposed to blood in the course of their work via needle-stick injuries and direct contact.

Aims and Objective: The present study was carried out to provide comprehensive data from assessment of injection practices in a Surat city with an overall aim to compare the differences between knowledge and practices among health care providers.

Methodology: Qualitative study design, consisted of assessing the knowledge of staff nurses and observation during injection procedure, took place over a 2 month period during June-July 2011 in 20 health centres of Surat Municipal Corporation area. A semi-structured questionnaire regarding their views and experiences related to injection practices, awareness about the different diseases spread by faulty injection technique and disposal of biomedical waste was asked.

Results: The total of 40 staff nurses was involved in the study. All of them knew that gloves should be wore during injection procedure but only 14 (35 %) were actually wearing it. Only 6 (15 %) of participants knew that gloves should be wore for both personal and patient safety. Around 65 % of the participants felt that needle should not be recapped after giving injection but 50 % were actually found to be recapping it. The percentage of needle stick injury among nurses came to be 65 %. Around 90 %, 80 % and 30 % of the participants feels that hospital staff can acquire HIV/AIDS, Hepatitis B and Hepatitis C infection respectively but 10 (25 %) don't know anything about how this disease can contract to the health staff.

Conclusion: There was a great disparity between knowledge and practice of health care workers regarding injection practices. Efforts are needed to be done in this regard for the benefit of both health care worker and patients.

Keywords: Injection practices, staff nurse, needle stick injuries, knowledge, practice

INTRODUCTION

Unsafe injection practices, including the re-use of unsterile needles and syringes, are commonplace in developing country health settings, and contribute substantially to the global burden of blood-borne viral disease.¹ In 1999, the World Health Organization (WHO)

established the Safe Injection Global Network (SIGN), which advocates a range of interventions for the promotion of injection safety which includes organizations such as UNICEF, UNAIDS and USAID, governments and NGOs.² Healthcare workers in developing countries inconsistently practice universal

precautions and are commonly exposed to blood in the course of their work via needle-stick injuries, splash incidents and direct contact.³ Protecting healthcare workers from occupational infection with blood-borne viruses has a range of potential benefits, including safer injection practices for patients.¹ According to the World Health Organization (WHO), an estimated 16,000 hepatitis C, 66,000 hepatitis B and 200–5000 HIV infections each year are caused by occupational exposure to blood. More than 90% of these infections are occurring in developing countries, and most are preventable.⁴

The present study was carried out to provide comprehensive data from assessment of injection practices in a large metropolitan city encompassing varied socio-cultural scenarios with an overall aim of initiating an informed debate among various stakeholders and to an eventual formulation of locally relevant injection safety policy.

METHODOLOGY

Study design

Qualitative study design, consisted of assessing the knowledge of staff nurses and observation during injection procedure, took place over a 2 month period from June 2011 and July 2011 in 20 Urban health centres of Surat Municipal Corporation area. There were total of 36 health centres working in the city providing primary health care facility to the people. Among these 12 are working as a Maternity Home and U.H.C (Urban Health Centre) providing both primary health care and Antenatal-Maternal care.

The whole Surat city is divided into 7 zones for administrative and health set-up. Minimum 50 % of health centres were selected from each zone so as to make suitable representative of all the health centres of the city. One maternity home from each zone was deliberately selected as it was considered as higher centre providing emergency obstetric care together with primary health care. The selection of UHC was done by using lottery method. Fifty percent of the UHCs were selected from each zone so as to make suitable representation from all zones of the Surat city.

Data collection

Injection practices are very common in all the health centres and maternity home of the Surat

city. The data collection method comprises of two components.

First component was observational in which the field researcher observed the complete injection technique starting from patients entering to the injection room to patient leaving the injection room. The researcher was given primary training of how ideal injection practice should commence and were given both theoretical and practical knowledge about the safe injection practice. Maximum patients were tried to be observed as possible so that final data comes to be as near to the reality as possible. Notes were not taken during the observation so as it was felt that this may cause staff unnecessary anxiety.

The total of 40 staff nurses participated in semi-structured in depth interviews regarding their views and experiences related to injection safety, awareness about the different diseases spread by faulty injection technique and risk to hospital staff associated with faulty injection technique. After observing the injection session, staff nurse who was involved in the injection procedure was interviewed. The interviews were conducted in private room using pretested questionnaire. The questionnaire was based on the research objective, a review of literature and the direction of discussion with the participants.

After complete formulation of methodology and research questionnaire, pilot testing was conducted in 2 randomly selected urban health centres of the city. After collecting the data both on observational and interview component, further literature review was conducted and appropriate and suitable changes were made to the questionnaire.

Data cleaning and analysis

Data entry was done in double to minimize the errors as far as possible. If any doubt was encountered, it was decipher by again contacting the respective health centre. Data cleaning and data analysis was done with the help of statistician. Analysis was done using epi-info software.

RESULTS

The total of 40 staff nurses who were involved in the injection practices at the health centres was interviewed. All of them were co-operative throughout the study. Almost 80 % of the staff nurses were having more than 9 years of experience of working at health centres.

All of the staff nurses (100 %) were of the opinion that gloves should be worn during the injection procedure but only 14 (35 %) were actually wearing the gloves during the injection procedure. When we inquired about reason for wearing gloves, 24 (60 %) of the participants replied that they use gloves for personal safety against infection and needle prick injuries, whereas 10 (25 %) use gloves only for patient's safety and only 6 (15 %) use gloves for both personal and patients safety against infection possibilities. It shows that only 6 (15 %) of the participants knew that gloves should be worn for both patients and personal safety. It was observed that 32 (80 %) of the participants use spirit swab both before and after the injection procedure.

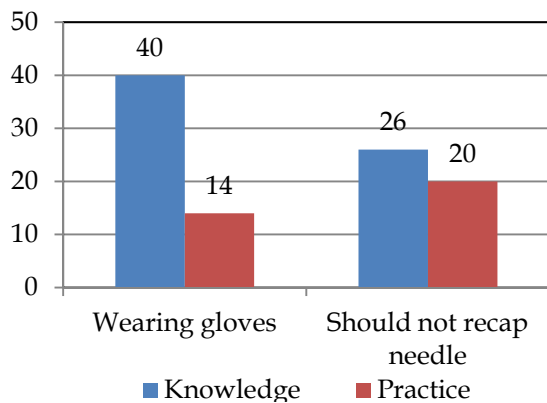


Figure 1: Disparity between knowledge and practice (n= 40)

Around 26 (65 %) of the participants said that needle should not be recapped after injection procedure but 20 (50 %) of the nurses were found to be recapping the needle after injection by using both the hands during observation section of the study. This greatly increases the chances of having needle stick injury to the health care workers.

Table 1: Results of Observation (n=40)

Observation	YES (%)	NO (%)
Wearing gloves	14 (35)	26 (65)
Checked expiry date of drug at the time of giving injection	16 (40)	24 (60)
Any advised given after injection	4 (10)	36 (90)
Recapped needle after injection	20 (50)	20 (50)
If recapped, by single hand technique	2 (10)	18 (90)
Syringe needle destroyed by hub cutter soon after injection	22 (55)	18 (45)
Disinfection of the needle and syringe before discarding them	26 (65)	14 (35)

At least one incidence of needle stick injury was found among 26 (65 %) of the participants in their service as a staff nurse. Around 20 (50 %) of the participants have at least one needle stick injury within past one year and among these 8 (20 %) of the participants have more than one needle stick injury. It came out that only 14 (35 %) of the participants know the exact measures to be taken after needle stick injury.

It was found that 30 (75 %) of the participants disposed syringe in red bag after using NaHOCl. Around 90 %, 80 % and 30 % of the participants feel that hospital staff can acquire HIV/AIDS, Hepatitis B and Hepatitis C infection respectively. Around 16 (40 %) of the participants feel that it can be transmitted by blood contact and 14 (35 %) feels that it can be transmitted by needle stick injuries while 10 (25 %) don't know anything about how this disease can contract to the health staff.

For HIV-AIDS, 36 (90 %) participants feel that it can be acquired by blood contact and needle stick injuries to the health care staff. As far as hepatitis C is concern, only 12 (30 %) of the participants feel that it can be transmitted through blood contact and needle stick injuries while 28 (70 %) are unaware about the ways of transmission of hepatitis C. Around 35 % of the participants know properly about post exposure prophylaxis (PEP) while 60 % of health centres have PEP available at their health centres.

DISCUSSION

Around 65 % participant were of the opinion that needle should not be recapped but 50 % were found to be recapping it. Among these, 95 % of the participants use two-hand technique during recapping of needle which tremendously increases chances of injury.⁵

Jagger et al also found that recapping the needle is the dangerous practice and is the commonest cause of occupational infection with Blood Borne Viruses.⁶ Other studies have also condemned the practice of recapping needles and offered remedial measures⁷⁻⁹

Only 30 % of the participant knows that HCV can be transmitted through blood borne route, which is a very serious concern. The average rate of occurrence of sero-conversion after accidental percutaneous exposure from an HCV-positive source is 1.8% (range, 0%-7%).¹⁰

Giving an injection safely is considered to be a fundamental nursing activity. Informed healthcare workers are in a better position to lead community education regarding safe injection practices. Organizational commitment to injection and healthcare worker safety is also essential, as even well-informed, well-intentioned healthcare workers cannot practice safely unless the environment in which they are working makes it possible for them to do so.

CONCLUSION

There was a great disparity between knowledge and practice of health care workers regarding injection practices. Healthcare workers also lack the knowledge about the transmission of diseases to them by faulty injection practices. Efforts are needed to be done in this regard for the benefit of both health care worker and patients.

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This article has been awarded first prize in Paper Oral Presentation category in the Joint Annual Conference of Indian Association of Preventive and Social Medicine - Gujarat Chapter (19th) & Indian Public Health Association - Gujarat Chapter (1st), organized by the Indian Institute of Public Health - Gandhinagar held on 17th March 2012 at Ahmedabad.