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Practice of Infection Control Measures among the Pediatricians

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Abstract
Health care-associated infections (HAI) are associated with increase in morbidity and mortality. This Study is aimed to assess the awareness of practice of infection control among the health care professionals based on the NABH guidelines on Infection control practices. To assess the awareness in the practice of the infection control measures among the health care professionals. To compare the work experience of the pediatricians with the awareness in the practice of infection control. Descriptive cross-sectional study, conducted among 82 pediatricians. Data obtained and analysed through self-administered questionnaire on awareness of Practice of Infection control which contains 15 questions under 5 domains based on NABH standard guidelines for Infection control namely Hand hygiene, PPE, needle stick injury, Sterilization and disinfection, Biomedical waste management and the percentage of the scores in each domain are analysed. Then the work experience of the pediatricians are compared with the percentage of awareness in practice of Infection control. The over all scores on practices of infection control are less than 80% in all 5 domains of practice of Infection control such as hand hygiene, PPE, Needle stick injury, Sterilisation and disinfection and BWM. Hence, it is recommended to enforce the training in Infection control practices.

INTRODUCTION

Health care-associated infections (HAI) are associated with prolonged hospital stay, higher health care costs with increase in morbidity and mortality among the hospitalized patients and predisposes health care workers to increased risk of infection. The prevalence of HAI is 19% among hospitalized patients in the developing countries[1]. The NABH programme on Hospital Infection Control (HIC) aims at- Effective infection control programme, Reducing/eliminating infection risks to patients, visitors and providers of care, Measures and action taken to prevent or reduce the risk of Hospital Acquired Infection and plan to control outbreaks[2]. Infection Prevention Practices under NABH are Hand hygiene, Personal protective equipment (PPE), Prevention of needlestick injury and injury from other sharp items, pre-and post-exposure prophylaxis, Environmental cleaning, Patient care equipment cleaning, Linen and laundry management, Safe disposal of biomedical waste (BMW)[2]. This Study is aimed to assess the awareness of practice of infection control among the paediatricians based on the NABH guidelines on Infection control practices.

Objectives:

- To assess the awareness in the practice of the infection control measures among the pediatricians
- To compare the work experience of the pediatricians with the awareness in the practice of infection control.

MATERIALS AND METHODS

Descriptive cross-sectional study, conducted among 82 pediatricians attached to various nearby colleges. Informed consent and IEC were obtained prior to the administering questions. Data obtained through self-administered questionnaire sent through WhatsApp on awareness of Practice of Infection control and analysed. Questionnaire contains 15 questions under 5 domains based on NABH standard guidelines for Infection control namely Hand hygiene (5 questions), PPE (3 questions), needle stick injury, Sterilization and disinfection (3 questions), Biomedical waste management(3questions). 1 point for each correct response. 0 point each incorrect response. According to the percentage score in each domain, participants are divided into poor (<80%) and good score (>80%). Then work experience of the pediatricians are compared with the percentage of awareness in practice of Infection control.

RESULTS AND DISCUSSIONS

In this study among the 82 samples, 40 % are females and 60% are males.

Table 1: Questionnaire on practice of infection control and the percentage of correct responses

Infection control measures	Percentage
Alcohol based hand rub is the preferred method of hand hygiene, if hands are not visibly soiled	85.4
Most frequently missed area in hand washing technique are finger tips	78.0
Hand hygiene to be done after contact with patient surrounding	87.8
Hand rubbing to be done for	57.3
Hand washing to be done for	62.2
Sequence of wearing PPE	73.2
Sequence of removing PPE	57.3
Is it necessary to wear PPE before handling blood and body fluid spillage	74.4
Needle injury prevention	72.0
Large spills to be decontaminated with	35.4
Disinfection of equipment in contact with mucous membrane	62.2
High level disinfection is done for	58.5
Syringes are discarded into	64.6
Chemical liquids are discarded into	65.9
Antibiotic vials are discarded into	85.4

Table 2: Comparing the awareness of infection control measures among the healthcare professionals based on their years of service experience

Domains of Infection control measures	Years of experience		
	Less than 4 years	4 and above years	
	Median (Q1-Q3)		p-value
Hand hygiene	4 (3-5)	4 (3-5)	0.503
PPE	2 (1-3)	2 (2-3)	0.226
Needle injury prevention	1 (0-1)	1 (1-1)	0.141
Sterilization and Disinfection	1 (1-3)	1 (1-2)	0.144
Biomedical Waste Management (BWM)	2 (2-3)	2 (1-3)	0.327
Total Scores	10 (8.75-12)	10 (8-12)	0.531

In this study, in hand hygiene practices 74.14% of participants had a good score. In the practice of Personal protective equipment 68.3% had a good score. In prevention of needle stick injury 72% had a good score. In sterilisation and disinfection, 52% had a good score. In practice of biomedical waste management, 71.9% had a good score.

Work experience of >4 years present in 34% of the participants. Work experience of the participants is compared with the awareness in the practice of infection control.

The differences in practices on infection control among the participants with work experience more than 4 years and less than 4 years is not statistically significant with p value of 0.531. Hence work experience of the participants is not associated with a good knowledge of the participants on practice of Infection control.

In this study, among the 82 pediatricians, the overall scores on practices of infection control are less than 80 % in all 5 domains of practice of Infection control such as hand hygiene, PPE, Needle stick injury, Sterilisation and disinfection and BWM. Very low scores are more in the practice of personal protective equipment and sterilisation and disinfection. Hand hygiene compliance with alcohol hand rub can reduce the rate of nosocomial infection by 40%[3]. The large

proportion of Health Associated Infections are preventable[4] by good knowledge in the infection control practice. Hence, appropriate training on awareness of Infection control practices is mandatory for all the health care professionals[5].

CONCLUSIONS

In spite of the standard guidelines on Infection control measures are issued widely, level of the awareness on practiced of Infection control was suboptimal among the pediatricians participated in this study. Hence, it is recommended to enforce the training in Infection control practices for all the health care professionals.

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