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Assessment of the Level of Attentiveness towards Policies of Infection Control among Medical Staff' at King Abdul-Aziz University Hospital, Makkha-Saudi Arabia

Manal Amer [1], Dr. Khalid Amro Mohammad F.Sindi[2], Dr. Alqurasi Enad Ajlan [3]

[1]Assistant Professor, Cairo University, Al-Farabi College Jeddah,

[2]General Practitioner, King Abdul-Aziz University Hospital, Makkah

[3]Medical Intern, Om Alqora Medical University, Makkah

Abstract: ***Background: Awareness about policies and procedures of infection control require to be strongly esteemed by all the health care providers, despite the fact that decisive staff expansion in the anticipation and spread communicable diseases. Objective: To assess the level of attentiveness towards policies among medical staff at the King Abdul-Aziz University-Saudi Arabia. Method: A cross-sectional survey was conducted at King Abdul Aziz University Hospital, Saudi Arabia. A 28item self-administered questionnaire was provided to 100 medical staff in the research setting based on their area of their medical specialties to assess their level of attentiveness towards policies among medical staff at the King Abdul-Aziz University Hospital, Makkha-Saudi Arabia. Results: Approximately more two third (78.0%) of the respondents were had a high level of attentiveness' towards the policies of communicable diseases with statistically significantly difference. While, less than one third of the participants (20.0%) were not attentiveness' towards the policies of infection control. Conclusions: The current study results revealed that there were a high levels of attentiveness' towards the policies of communicable diseases among medical staff within the study setting.***

Keywords: Attentiveness; Awareness; Value & Communicable Diseases

1. Introduction

Standard safety measures are inevitable to decrease the risk of spread of blood borne and other pathogens from both predictable and unrecognized sources. They are the basic level of infection control precautions which are to be utilized , as a lowest amount, in the care of all patients. (Siegel et al., 2007).According to National Communicable Disease Center, universal precautions is designed to prevent the transmission of blood borne diseases such hepatitis B, and other blood borne pathogens when first aid or health care is provided. (Taneja, 2010).

Entire Precautions were initially developed in 1987 by the Centers for Disease Control and Prevention in the United States and in 1989 by the Bureau of Communicable Disease Epidemiology in Canada. The safety measures include explicit recommendations for use of personnel protective equipments when contact with blood or body secretions containing blood is anticipated. (Al-Saigul, Fontaine, Haddad, 2002).Health care staff is at risk of acquiring infection through professional exposure to infectious diseases. The minority studies have reported on surgeons' adherence towards universal precautions and reported be deficient in of adequate practices in relation to compliance towards the personnel protective equipments. (Wacawik, siorowski & Inglot, (2003) & Wilczyn, et al., (2005).

Contact to particular health hazards are expected to manipulate definite hazard for all the health care providers. All the health care personnel in particular the medical staff who are working in surgical units and Operation Theater are more required to have a cause of a better understanding in adherence with PPE usage which is noteworthy as it provides an assessment of the efficacy of accessible preventative strategies. This could then assist to recognize the precautionary variables which are likely to improve the compliance and decrease the risk of infection transmission. Then, it is possible to integrate these anticipatory approaches into the strategies of health care surroundings. (Jawaid, Iqbal & Shahbaz, 2009).

Universal precaution is the only approach so that all these infections could be prevented. Inadequate experience of surgeons in performing invasive procedures, they are at particular risk of exposure to blood-borne pathogens (Chopra, et al., 2008). Surgeons' should have reasonable knowledge and performance in relation to adherence to personnel protective equipments. Additionally, Elliott et al. (2005), reported that dedicated training must be conducted before a surgeons caring for any patient procedure particularly the ones concerning sharp devices. Physicians' compliance towards the personnel protective equipments has been reported to be with little level. (Colodner , et al .,2003 & Taneja, 2010) .

Hazards caused by non adherence to universal precautions by the health care providers, statistics reported by the Central Register of Occupational Diseases in Poland indicates that among 314 new cases of occupational diseases

in HCWs in 2005, HBV and HCV represented 42.6% of all cases.9 Despite the substantial reduction in HBV infection since vaccination was introduced in 1989, the incidence of HCV hepatitis in Poland is still on the increase in this occupational group. (Janjua, et al., 2007).

Policies of Universal precaution enhance consciousness education has not been prominent among health care workers especially the category of surgeons, particularly in developing countries. To the greatest of our understanding, the attentiveness of medical staff in relation to knowledge and awareness about policies of infection control. Consequently, conducted this study to assess their level of attentiveness towards policies of infection control among medical staff at the King Abdul-Aziz University-Saudi Arabia.

2. Participants and Methods

This study was conducted in November, 2015 at the University Hospital of the King Abdul-Aziz University hospital (KAUH), Makkha. The study was granted ethical approval by the King Abdul-Aziz University Hospital Committee.

King Abdul-Aziz university hospital is the major teaching hospital, with approximately 450 beds. It provides services in community health, surgery, obstetrics and gynecology, pediatrics, psychiatry and general services. The number of sample size was 100 medical staff was recruited for the study. The participants were selected from the Departments of Surgery, Intensive Care, and O.R at KAUH. After signing an informed written consent form, the questionnaire was given to each participant. Before administration of the questionnaire, the purpose of the study was explained to each respondent and confidentiality of the information guaranteed.

The research was carried out by one of the authors who were appropriately trained in administering the informed consent and the self-report questionnaire to the participants. In this cross-sectional study, a structured questionnaire prepared by the authors, was administered to the participants. A 28-item self-administered structured questionnaire about knowledge and awareness of universal precautions in the health care system was devised de novo and tested. It included a full range of response options, designed to identify the practitioner's level of to assess their level of attentiveness towards policies among medical staff in the selected setting. Prior to distribution of the questionnaire, a pilot study was done on a selective group of health care workers who were asked to fill out the questionnaire and return it back with their remarks and criticism. Minor changes were then made to the final tool.

The preliminary part of the questionnaire consisted of demographic information such as occupation, age, gender, and the marital status. The second part of the questionnaire comprised of questions regarding their level of attentiveness towards universal precautions. This part also assessed awareness of policies regarding universal precautions. It took approximately 15 minutes to complete each appraisal.

The level of attentiveness towards the policies universal precautions by examining questions about: use of protective equipments' such as gloves and gown, mask and protective goggles. A score of "1" was assigned for a correct answer and "0" for an incorrect answer. A health care worker who obtained a total score of "5" was considered "very attentive;" "4 or 3" "somewhat attentive;" and "1 or 0" "not attentive."The data were coded and analyzed by SPSS® for Windows® ver. 12.0. Strict confidentiality was maintained. All the data were stored in computers at a secured location, with access provided only to the researchers involved in the study. The χ^2 test was used to test association between categorical variables. A p value <0.05 (two-tailed) was considered statistically significant differences.

3. Results

Table 1: Demographic characteristics of the studied sample

Variable	N (%)
Gender	
Female	50 (50.0%)
Male	50 (50.0%)
Marital status	
Married	40 (40.0%)
Single	53 (53.0%)
Divorced/Separated	4 (4.0%)
Other	3 (3.0%)
Age group (yrs)	
26–39	76 (76.0%)
40–54	24 (24.0%)
Attentiveness towards Policies of Communicable Diseases	
Not Attentive	20 (20.0%)
Somewhat Attentive	2 (2.0%)
Very Attentive	78 (78.0%)*

This study showed that attentive towards policies of infection control among some medical staff working at the KAU was variable. The majority (78.0%) of the medical staff had a high level of attentiveness towards policies of infection control .On the other hand (20.0%) of the medical staff had a low level of attentiveness towards policies of infection control.

4. Discussion

All the selected health care workers fully completed the questionnaire, giving a response rate of 100%. Table 1 presents demographic information on the studied sample. The sample consisted of 100 respondents—50% females, 40% married, and 24% more than 40 years old. Forty (20%) respondents have spent between 6 and 10 years in their current occupation, 119 (59.5%) less than six years and 22 (11%) at least 20 years. The mean±SD number of years of service for the studied health care workers was 6.8±7.0 years. Seventy eight (78.0%) of the medical staff reported no attentive towards policies of infection control was showing highly statistically diferences (p<0.0001).

The level of attentive towards policies of infection control was showed significantly associated with many variables (Table 1). The longer a health care worker was employed to the health care sector, the more likely that his or her level of awareness of universal precautions increased. Most of the respondents (92.9%) employed in the health care sector for 16 years and over-reported higher levels of awareness of universal precautions than those who served for a shorter period. Conversely, more respondents (39.5%) who served for less than five years were not attentive towards policies of infection control.

This study showed that attentive towards policies of infection control among some medical staff working at the KAU was variable. The majority (78.0%) of the medical staff had a high level of attentiveness towards policies of infection control .On the other hand (20.0%) of the medical staff had a low level of attentiveness towards policies of infection control. The adequate knowledge of universal precautions among medical doctors may reflect the fact that universal precautions have been incorporated in the medical student curriculum at the King Abdul-Aziz University Hospital, and in on-the-job training protocols at the KAU. The low awareness and understanding of universal precautions among porters may be attributed to the absence of this information during introductory training courses and orientation program. Furthermore, the deficient knowledge base among some of the health care workers may be due to a lack of investment in staff training or to limited understanding of medical staff.

It is very important that health care workers have good understanding about the risk of blood-borne pathogens at work place and about the preventive measures for reducing risk. In this study, the majorities of the respondents were very knowledgeable of the harmful effects of bloodborne pathogens and identified HIV as a potential harm followed by hepatitis and bacterial infections. In this study, health care workers employed in the health sector for longer periods were more aware of universal precautions compared with those who served for shorter periods. Training and education have been found to be of paramount importance to developing awareness among health care workers, as well as improving adherence to high-quality clinical practice.29,30 The greater awareness of universal precautions among health care workers employed for a longer period at the KAU may reflect their participation in a greater number of training and educational sessions on universal precautions which not only encouraged safer work practices but also improved concordance with policies and procedures of infection control.

Protective barriers reduce the risk of exposure of the health care worker's skin or mucous membranes to potentially infectious materials. Protective barriers reduce the risk of exposure to blood and other body fluids to which universal precautions apply. Examples of protective barriers include gloves, gowns, masks, and protective eyewear. Just over one half of the respondents indicated that they were provided with protective equipment most times. Furthermore, more nurses were provided with protective equipment than medical technologists and medical doctors. Interestingly, more respondents who were aware of universal precautions reported being provided with protective equipment more often than those who were somewhat or not aware. This study results congruent with the research data carried out by Sadoh, et al,2010, who reported that less than two-thirds of health care workers claimed that they always used personal protective equipment such as aprons, gowns and gloves, during surgeries and while conducting deliveries. According to Jawaid, et al, among medical doctors working in a tertiary care hospital in Pakistan, compliance for hand washing was 86%, for wearing gloves was 79%, masks 46%, eye goggles 25% and for using gowns/plastic aprons was 45%.35 However, there is sometimes a high rate of non-compliance among health care workers and this may be due to a lack of understanding among health care workers of how to properly use protective barriers.23 Furthermore, non-compliance among medical doctors and nurses are associated with insufficient knowledge, workload, forgetfulness, workplace safety and the insight that colleagues also failed to track.

This study showed that there was high level of attentiveness towards policies of infection control within the study setting. These findings suggest that training of health care workers to maintain and enhance their knowledge about bloodborne pathogens and universal precautions could improve their use of universal precautions. Regular training should include the universal precautions, initial biohazard handling, safety policies, safety activities, safety equipment and materials, continuing monitoring and prospective spotlight of medical personnel.

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