International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Index Copernicus Value (2016): 79.57 | Impact Factor (2015): 6.391

Measurement for the Level of Receptiveness toward Universal Precautions among Medical Staff of Family Medicine Staff & Emergency Department, Saudi Arabia

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Abstract: ***Background: The responsible health authority of Saudi Arabia developed regional program to support hospitals in reducing the risk of health-care-associated or noso-comial infections. More information on infection control programme can be found in the document "Prevention of hospital-acquired infections". In the absence of any effective treatment and vaccine, health authorities resorted to basic public health measures. Rapid case detection, immediate isolation, contact tracing and good infection precautions were instituted to prevent further infection. Objective: To measure for the level of receptiveness toward universal precautions among medical staff of family medicine and emergency department -Saudi Arabia. Method: A cross-sectional survey was conducted sing a self-administered questionnaire was provided to a total of 240 participants which constitute a 120 medical staff of family medicine & 120 emergency department in the research setting based on their area of their specialties to measure their level of receptiveness toward universal precautions. Results: The current study findings Showed that majority of the participants were showed a high Level of adherence towards Provision of protective equipments (97.16%) ** which represent highly significance differences (P<0.0001). The findings as well exposed that (83.33%) of the participants were showed a high Level of receptiveness' towards level o awareness in relation to universal precaution which represent significance differences (P<0.01). Conversely, the study results reflected that (78.33%) of the participants had lowest level of knowledge towards universal precaution. Moreover the study domino effect revealed that (87.5%) were showed that there was a high level concerning the adequacy in relation to the provision of protective equipments which represent highly significance differences (P<0.0001). Pertaining to the assessment for the level of awareness towards level of awareness towards universal precaution (83.33%) * which represent significance differences (P<0.01). Conclusions: The current study results revealed that there were high levels of receptiveness among surgeons' medical staff of family medicine and emergency department within the study setting.***

Keywords: Medical Staff of Family Medicine, Medical Staff Emergency Department; Receptiveness Provisions of Protective Equipments & Universal precautions

1. Introduction

An infection control committee provides a forum for multidisciplinary input and cooperation, and information sharing. This committee should include wide representation from relevant departments: e.g. management, physicians, other health care workers, clinical microbiology, pharmacy, sterilizing service, and maintenance, housekeeping and training services. The committee must have a reporting relationship directly to either administration or the medical staff to promote program visibility and effectiveness .Spire, (2014).

According to National Communicable Disease Center, these teams or individuals have a scientific and technical support role, e.g. surveillance and research, developing and assessing policies and practical supervision, evaluation of material and products, the overseeing of sterilization and disinfection, ensuring the sound management of medical waste and the implementation of training program Health care providers should also support and participate in research and assessment program at the national and internationally developed in 1987 by the Centers for Disease Control and Pr evention by the Bureau of Communicable Epidemiology. The Precautions include specific recommendations for use of personnel protective equipments (Beltrami, 2000).

Janjua, et al., (2007) , mentioned that health care workers in particular surgeons' are at risk of acquiring infection through professional exposure to infectious diseases. The minority studies have reported on surgeons' adherence towards universal precautions and reported lack of adequate practices in relation to compliance towards the personnel protective equipments. Exposure to particular health hazards are expected to influence definite high-risk for all the health care providers. All the health care workers especially the medical staff who are working in surgical units and Operation Theater are more required to have a reason of a better understanding in adherence with PPE usage which is significant as it provides an assessment of the efficacy of accessible preventative strategies. This could then assist to recognize the preventive variables which are likely to improve the compliance and decrease the risk of infection transmission. Then, it is possible to integrate these preventative approaches into the strategies of health care setting.

According to Palenick, (2000) ,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. Surgeons' should have reasonable knowledge and performance in relation to adherence to

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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 low rate.

Risks 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. (Wilczyn, et al., (2005).

Entire precaution of infection control consciousness education has not been prominent among health care workers especially the category of surgeons, particularly in developing countries. To the best of our knowledge, the awareness and standardized practices with universal precautions among surgeons. Therefore, conducted this study to measure for the level of receptiveness toward universal precautions among medical staff of family medicine and emergency department -Saudi Arabia.

2. Participants and Methods

A cross-sectional survey was conducted sing a self-administered questionnaire was provided to 120 medical staff of family medicine & 120 emergency department in the research setting based on their area of their specialties to measure their level of receptiveness toward universal precautions . 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 assured.

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 health care workers. In this cross-sectional study, a structured questionnaire prepared by the authors, was administered to the participants. 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 knowledge and awareness towards universal precautions 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 comments and criticism. Minor changes were then made to the final instrument.

The initial 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 receptiveness **toward** of universal precautions. This part also assessed awareness of policies regarding universal precautions, availability of protective equipments and measures how they value the use of protective equipments. It took approximately 15 minutes to complete each questionnaire.

The participants' results concerning the assessment of the levels of receptiveness towards universal precaution, there were three levels for answers high level, medium level and high level. The level of knowledge towards universal precautions by examining questions about: use of protective barriers such as gloves and gown, mask and protective goggles.

The personal protective equipments required by the health care worker include N95 mask, surgical mask, paper mask, protective goggles, gowns, gloves, and hair cover, among other equipments. These vary depending on the duty performed by the health care provider. If less than half of the personal protective equipment identified by the particular health care worker was provided, then provision was considered "inadequate." If more than half of the protective equipment identified by the participants was provided, then provision was considered "adequate."

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

3. Results

Table 1: Percentage of the levels of Receptiveness toward Universal Precautions among Medical Staff of Family Medicine and Emergency Department -Saudi Arabia

levels of Receptiveness toward Universal Precautions	Low level	Medium Level	High Level
Adherence towards Protective equipments	40 (16.66.3%)	12 (5.0%)	188 (78.33%) *
Knowledge of universal precaution	33 (13.75%)	17 (7.08%)	190 (87.5%) *
Provision of protective equipments	18 (7.5.0%)	12 (5.0%)	210 (97.16%) **
Level of awareness towards universal precaution	17 (7.08%)	23 (9.58%)	200 (83.33%) *
Significantly different: **p<0.0001; *p<0.01			

Table 1: Concerning the findings o measurements for the Percentage of the levels of Receptiveness toward Universal Precautions among Medical Staff of Family Medicine and Emergency Department -Saudi Arabia.

Showed that majority of the participants were showed a high Level of adherence towards Provision of protective equipments (97.16%) ** which represent highly significance differences (P<0.0001). The findings as well exposed that (83.33%) of the participants were showed a high Level of

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receptiveness' towards level o awareness in relation to universal precaution which represent significance differences (P<0.01). Conversely, the study results reflected that (78.33%) of the participants had lowest level of knowledge towards universal precaution. Moreover the study domino effect revealed that (87.5%) were showed that there was a high level concerning the adequacy in relation to the provision of protective equipments which represent highly significance differences (P<0.0001). Pertaining to the assessment for the level of awareness towards level of awareness towards universal precaution (83.33%) * which represent significance differences (P<0.01).

4. Discussion

Showed that majority of the participants were showed a high Level of adherence towards Provision of protective equipments (97.16%) ** which represent highly significance differences (P<0.0001). The findings as well exposed that (83.33%) of the participants were showed a high Level of receptiveness' towards level o awareness in relation to universal precaution which represent significance differences (P<0.01). Conversely, the study results reflected that (78.33%) of the participants had lowest level of knowledge towards universal precaution. Moreover the study domino effect revealed that (87.5%) were showed that there was a high level concerning the adequacy in relation to the provision of protective equipments which represent highly significance differences (P<0.0001). Pertaining to the assessment for the level of awareness towards level of awareness towards universal precaution (83.33%) * which represent significance differences (P<0.01). This results consistent with the study results carried out by Uemura, et al, (2002) who reported that more than two third of his study sample had a high level of compliance in relation to protective equipments.

Additionally, these study results is congruent with the study findings of Garner (2012), which revealed that , reported frequent use of protective gears such as gloves, eyewear, masks and aprons. More women than men reported using protective gears most times with significantly more nurses reported frequent use followed by medical technologists and medical doctors. Although , this study results is incongruent with the study results of According to Shahbaz , et al., (2010) , who reported that among medical doctors working in a tertiary care hospital in Pakistan, compliance for hand washing was (76%), for wearing gloves was (72%, masks 72%, eye goggles 74%) and for using gowns/plastic aprons was (64%.).

Nevertheless, 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. Although, according to Spire (2014), who found that the use of personal protective equipment was somewhat favorable, the concern among most of the health care workers, particularly the porters, was that the provision of protective gears was inadequate which will interfere with the health care providers to provide personal protective equipment and the appropriate training for the correct use. Furthermore, improvement in safety equipment is needed to better protect health care workers from exposure to blood-borne pathogens.

Furthermore the study results revealed that majority of the participants (78.7%)** were showed that there was a high level concerning the adequacy in relation to the provision of protective equipments which represent highly significance differences (P<0.0001).According the standards , policies & procedures of infection control , recommendations for protection against viral hepatitis ,(1985), and the recommendations for preventing transmission of infection with human T-lymphotropic virus type III/ lymphadenopathy-associated virus in the workplace, (2002), it was stated that availability of supplies and awareness programs for these standard precautions are among the main rules and regulations for better compliance.

The findings also revealed that more than half of the participants were showed a high Level of knowledge towards universal precaution (57.0%)* which represent significance differences (P<0.001). On the other hand, the study results reflected that around third of the participants (88.2%) had low level of knowledge towards universal precautions. These results congruent with the study results carried out by Pruss, Rapiti & Hutin (2005), who concluded that respondents who were had a high level of knowledge towards universal precautions. As well as the current study finding is congruent the study results carried out by Olowu, Oluaje, Kehinde (2001) who assessed the level of Knowledge and practice of universal precautions among final year medical and dental students in the University College of Ibadan. Dokita , their study results showed that 48% had never worn gloves, (76.9%)wore gloves for "most of the time" to "always," 75.9% had never used aprons in procedures where there was risk of blood or other body fluid splash and 59.3% always recapped the needle after use.

Concerning the assessment for the level of awareness towards universal precautions the current study results showed that majority of the participants were showed a high level of awareness towards universal precautions (86.0%) ** which represent highly significance differences (P<0.0001). These results congruent with the study results carried out by Beltrami (2000) and the study done by Wang, Chen & Liu (2010), who concluded that respondents who were had a high level of awareness towards universal precautions. Furthermore, theses study results consistent with the findings reported by Orji (2002), who concluded that non-compliance among medical doctors and nurses are associated with insufficient knowledge, workload, forgetfulness, workplace safety and the insight that colleagues also failed to follow.

5. Summary

The current study results present, concerning the findings o measurements for the Percentage of the levels of Receptiveness toward Universal Precautions among Medical Staff of Family Medicine and Emergency Department -Saudi Arabia. Showed that majority of the participants were showed a high Level of adherence towards Provision of

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protective equipments which represent highly significance differences. The findings as well exposed that of the participants were showed a high Level of receptiveness' towards level o awareness in relation to universal precaution which represent significance differences. Conversely, the study results reflected that of the participants had lowest level of knowledge towards universal precaution. Moreover the study domino effect revealed that there was a high level concerning the adequacy in relation to the provision of protective equipments which represent highly significance differences.

6. Acknowledgements

Appreciation is hereby all the participants engaged in the study.

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