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Attentiveness towards Decontamination Mechanism among Ophthalmic Physician at Selected Ophthalmic Clinics, Saudi Arabia

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Abstract: ***Objectives: The aim of the study was to assess the level of attentiveness towards the decontamination mechanism among Ophthalmologist at selected ophthalmic Clinics, Saudi Arabia. Background: Health care providers' attentiveness about decontamination mechanism is one of the essential principles of decontamination mechanism. It is among the leading causes of death; although it must be cost effective, but achievable even with the limited resources for decontamination mechanism programs in healthcare setting. Methodology: A cross-sectional research design was conducted at selected ophthalmic Clinics, Saudi Arabia. Different settings were selected from cluster sampling followed by stratified random sampling. The self-administered anonymous questionnaire was administered to 120 participants of ophthalmic physicians. The level of staff attentiveness concerning the decontamination mechanism was measured by an observational checklist. Results: The results of the current study revealed that , the majority of them were male (61.67%),most of them had less than 2 years of experience (34.16%) , followed by (28.33%) had more than 20 years of experiences , while the minority had (15.83%)years of experience. Moreover, the majority of them (77.5%) had a previous training on decontamination mechanism. In addition, there was a high level of availability of the manual policy & procedure for the manual of infection control (64.28%). Concerning the results of attentiveness score levels of the ophthalmic physicians' towards the decontamination mechanism within the study settings was revealed that , the majority of the ophthalmic staff has a high level of knowledge standards precaution (86.66%)*. Although there was a partial level of staff attentiveness towards the knowledge about how to deal with contaminated instruments & materials (78.33%). However, the data showed that , the majority of the ophthalmic physicians had a high level of attentiveness towards the knowledge about decontamination techniques' (84.16%)*. Conclusion: Standards of decontamination mechanism had an optimum level of ophthalmic physicians' within the selected setting, although the data reported for the staff practices was better than the reported attentiveness. Further studies required to be carried out to identify the other variables affecting the staff adherence towards their compliance with standards of decontamination mechanism. As well as staff development programs is required to be utilized to maintain & enhance the staff performance.***

Keywords: Decontamination Mechanism, Attentiveness, Practices, Standards

1. Introduction

Even though, a nosocomial infection is a worldwide health problem but it can be prevented in a lot of healthcare settings by the high level of the staff performance towards the implementation for the standards of universal precaution which based on their awareness' with the decontamination mechanism. Health care providers awareness toward decontamination mechanism consider as one of the valuable variable of maintaining the standards, policies & procedures of universal precaution. Zhan & Miller, (2003).

According to Burke, (2003), adherence to principles' of avoiding occurrence of decontamination is a vital basic within the practicing scope for the ophthalmic physicians'. It is cost effective and achievable even if the available resources within the health care setting are limited. Within the dominion of safety within the healthcare arena, standardized level of awareness towards decontamination mechanism have the most substantial impact of the performance of the healthcare providers.

Alvarado , (2001) & Lynch, Jackson, Preston, Soule, (2002), mentioned that , postoperative sepsis, postoperative wound dehiscence, and infection are common surgical complication of ophthalmic operation due to medical care were the three indicators associated with the highest costs in terms of the length of stay, charges and mortality. With a minimal level of training and studies suggesting a suboptimal screening pattern, is the amount of education and awareness concerning diabetic eye disease at issue? A survey of Canadian family physicians showed that while 80% were aware of the screening guidelines for Type II diabetes, only 44% knew that diabetic women who become pregnant should be screened in the first trimester for retinopathy. As well as , only one third of the physicians knew that diabetic macular edema can present without visual symptoms.

The operational decontamination of re-usable surgical utensils and clinical devices used in direct contact with tissues is crucial in decreasing the hazard of transferring microorganisms and other impurities which powerfulness lead to infection and other harmful reaction. Medical Devices are all the products, except drugs, used within health care settings for diagnosis, anticipation, monitoring and treatment of patients with different health problems. The list is enormous, extending from tonometer's and slit lamps, and through surgical apparatuses to hospital equipment's including furniture. This document will concentrate on products which are particularly important to specific for a field of ophthalmology. (4)

All the Healthcare providers including medical, paramedical and supportive staff as housekeeping, and maintenance personnel, who work in health care settings are at risk of acquaintance to serious, potentially life threats infection.

The principles of infection prevention and control are the mandatory to be carried out by all the staff working in health care facilities. Most of the technical proficiency and references for decontamination mechanism have been developed in republics with well-developed healthcare organizations. Extensive time was consumed in these countries in the preparation of specialists in decontamination mechanism. Haley, Culver, White, Morgan, Emori, Munn &Hooton TM. (2005).

Rogers, (2007), conclude that, inappropriately, the standardized decontamination mechanism not carried out on the required level by some of health care providers and other staff which need for extensive observation & monitoring to maintain the effective practicing of this mechanism which consider as an essential component of efforts to improve the quality of healthcare. Maintaining the standards of decontamination mechanism is the responsibility of all the staff responsible for providing healthcare. All the health care staff must work cooperatively to reduce the risk of contamination among patients and the staff which will therefore leads to cause infection.

Hand hygiene is consequently the most significant measure to prevent the transmission of destructive germs and inhibit healthcare-associated infections. All the healthcare workers, caregivers, and supportive workers involved in direct or indirect patient care needs to be responsible about hand hygiene and should be able to practice it in effective and efficient manner.(Adebimpe, Asekun , Bamidele, Abodunrin & Olowu (2011). The current research study was carried out aiming at assessing the level of attentiveness towards the decontamination mechanism among Ophthalmologist at selected ophthalmic Clinics, Saudi Arabia.

2. Methodology

A cross-sectional study was conducted for 120 ophthalmic physicians, to evaluate their level of attentiveness, the attitude, and practices towards the decontamination mechanism. 14 ophthalmic clinics and inpatients wards from 81 different health care setting were selected by cluster sampling followed by stratified random sampling. The sample included 120 ophthalmic physicians. Moreover, after oral consent was obtained from them. Data were collected through a predesigned self-administered questionnaire that assessed their level of attentiveness towards the decontamination mechanism related to the following items: basic principles and facts about HAIs, hand hygiene, and the use of personal protective equipment, environmental cleaning, waste disposal, sterilization of instruments. Also, data were collected through an observation checklist that assessed the basic attentiveness towards the decontamination in healthcare settings concerned with waste disposal, sharp handling and disposal, handling and disposal of linen, and precautions with regard to surrounding environment. A pilot study was reviewed by a group of jury from ophthalmic & infection control field to evaluate the reliability and the internal validity & reliability of the questionnaire.

The total attentiveness score was 15.8 ± 3.01: 13-19 was considered moderate, greater than 19 was High and less than 13 was low.

The total practice score was 6.5 ± 1.2: 5-8 was considered moderate, greater than 8 was high, and less than 5 was low.

The total attitude score was 3.03 ± 0.22: greater than 3 were considered positive and less than 3 was negative.

The checklist percentage score was obtained by adding the total number of answers present and dividing it by the total number of questions answered including all present, partial, and absent answers multiplied by 100. The percentage score allocates the level of compliance categories as follows: high compliance 85% or above, partial compliance 76-84% and low compliance 75% or below.

3. Statistical Analysis

The data and answers were collected and analyzed using the Statistical Package for the Social Sciences (SPSS software version 20). Qualitative data were expressed as n (%). Quantitative data were expressed as mean and SD.

4. Results

Table 1: General Characteristics of the Ophthalmic Physicians' at the selected setting

Parameters	N (120) (n %)
Age	34.03 ± 9.04
Sex: Male	74 (61.67%)
B. Female	46 (38.33%)
Years of Experience: Above 20 Years of Experience	34 (28.33%)
11: 19 Years of Experience	26 (21.66%)
2: 8 Years of Experience	19 (15.83%
Less than 2 years of Experience	41 (34.16%)
Previous Training on Decontamination Mechanism: Yes:	93 (77.5%)
No:	27 (22.5%)
Availability of Manual Policy & Procedure for Infection Control within the Selected Setting (Total of 14): Present :	9 (64.28%)
Absent:	5 (35.71%)

The total number of respondents was 120, the majority of them were male (61.67%),most of them had less than 2 years of experience (34.16%) , followed by (28.33%) had more than 20 years of experiences , while the minority had (15.83%)years of experience. Moreover, the majority of them (77.5%) had a previous training on decontamination mechanism. In addition, there was a high level of availability of the manual policy & procedure for the manual of infection control (64.28%).

Table 2: Attentiveness score levels of the Ophthalmic Physicians' towards the Decontamination Mechanism within the Study Settings

Parameters of Level of Attentiveness towards Decontamination Mechanism	No (%)
Definition of Infection Control: Correct Definition	109 (90.93%)*
Incorrect Definition	11 (9.16%)
Knowledge about Standards Precaution : A. High Level of Knowledge	104 (86.66%)*
B.Moderate Level of Knowledge	14 (11.66%)
C.Low Level of Knowledge	2 (1.66%)
Knowledge about Diseases transmitted by dealing with the Patients with Ophthalmic disorders: A.High Level of Knowledge	98 (81.66%)*
B.Moderate Level of Knowledge	13 (10.83%)
C.Low Level of Knowledge	9 (7.5%)
Knowledge about how to deal with Contaminated Instruments & Materials: A. A.High Level of Knowledge	94 (78.33%)
B.Moderate Level of Knowledge	20 (16.66%)
C.Low Level of Knowledge	6 (5.0%)
Knowledge about how to deal with Disposable Objects & Materials: A.High Level of Knowledge	97 (80.83%)*
B.Moderate Level of Knowledge	13 (10.83%)
B.Low Level of Knowledge	10 (8.33%)
Knowledge about Hand Washing: A. High Level of Knowledge	101(84.16%)*
B.Moderate Level of Knowledge	11 (9.16%)
C.Low Level of Knowledge	8 (6.66%)
Knowledge about Decontamination Techniques' : A.High Level of Knowledge:	101 (84.16%)*
B.Moderate Level of Knowledge	17 (14.16%)
C.Low Level of Knowledge	2 (1.66%)

Table 2 data of attentiveness score levels of the ophthalmic physicians' towards the decontamination mechanism within the study settings was revealed that , the majority of the ophthalmic staff has a high level of knowledge concerning the definition of infection control (90.93%)*. Moreover. The results showed that the majority of the ophthalmic physicians' had a high level of knowledge about standards precaution (86.66%)*. Concerning the knowledge about diseases transmitted by dealing with the patients with ophthalmic disorders , the results showed that , the majority of the studied sample had a high level of knowledge about knowledge about diseases transmitted by dealing with the patients with ophthalmic disorders (81.66%)*. Although there was a partial level of staff attentiveness towards the knowledge about how to deal with contaminated instruments & materials (78.33%). However, the data revealed that the ophthalmic physicians' had a high level of attentiveness about the knowledge about how to deal with disposable objects & materials (80.83%)*. On the other hand the study results revealed that , the majority of staff had a high level of attentiveness about knowledge about hand washing (84.16%)*.Finally, the data showed that , the majority of the ophthalmic physicians had a high level of attentiveness towards the knowledge about decontamination techniques' (84.16%)*.

5. Discussion

This study was a cross-sectional survey conducted to assess the scores of the attentiveness level for a total number of 120 ophthalmic physicians' within the selected study setting .t is informal to generally assume that health workers by virtue of their proximity to the health facility should have satisfactory level of attentiveness about infectious diseases , standards precaution and decontamination mechanism.

The total number of respondents was 120, the majority of them were male (61.67%),most of them had less than 2 years of experience (34.16%) , followed by (28.33%) had more than 20 years of experiences , while the minority had (15.83%)years of experience. Moreover, the majority of them (77.5%) had a previous training on decontamination mechanism. In addition, there was a high level of availability of the manual policy & procedure for the manual of infection control (64.28%).

In the present study, regarding sources of attentiveness about decontamination mechanism, the data revealed that , data of attentiveness score levels of the ophthalmic physicians' towards the decontamination mechanism within the study settings was revealed that , the majority of the ophthalmic staff has a high level of knowledge concerning the definition of infection control (90.93%)*. Moreover. The results showed that the majority of the ophthalmic physicians' had a high level of knowledge about standards precaution (86.66%)*. Concerning the knowledge about diseases transmitted by dealing with the patients with ophthalmic disorders , the results showed that , the majority of the studied sample had a high level of knowledge about knowledge about diseases transmitted by dealing with the patients with ophthalmic disorders (81.66%)*. Although there was a partial level of staff attentiveness towards the knowledge about how to deal with contaminated instruments & materials (78.33%). However, the data revealed that the ophthalmic physicians' had a high level of attentiveness about the knowledge about how to deal with disposable objects & materials (80.83%)*. On the other hand the study results revealed that , the majority of staff had a high level of attentiveness about knowledge about hand washing (84.16%)*.Finally, the data showed that , the majority of the ophthalmic physicians had a high level of attentiveness towards the knowledge about decontamination techniques' (84.16%)*.

The current study results is congruent with the research carried out by Zhan & Miller (2003), who concluded that there was a high level of ophthalmic physicians' awareness towards the adherence of decontamination mechanism. However, there was a low costs associated with 280 patient safety indicators which was assessed within the study findings.

Moreover, the present research results is consistent with the results of the study carried out by Michael , et al., (2014),who, mentioned that , there was Ninety-seven PCPs completed the assessment. Participants had a mean total score of 5.9 out of 8 possible (73.8%). Questions regarding

screening, clinical findings, and prevention were answered correctly by 81% or more of the respondents. However, questions regarding risk factors and complications were answered correctly by less than 35% of the respondents. In addition, it was found that there is no difference in scores was found based on the type of residency training received or the number of years in practice.

On the other hand , the current study results is incongruent with the research report carried out by Scottish Executive Health Department Working Group, (2001), which found that , there was The review found no evidence of a senior manager having specific responsibility for the range of decontamination processes which took place in the healthcare organization visited. There were a variety of organizational arrangements for managers of CDUs. The review found that managers of clinical departments with LDUs were often unclear as to their responsibilities with regard to the decontamination processes. All hospitals reviewed had an Infection Control Committee (ICC). There was no committee structures found for infection control in primary care. In all but one hospital, ICCs had representation from Estates Departments. In all hospital sites, the roles and responsibilities of the various staff involved in infection control were documented. Only 1 of 10 Primary Care sites had the roles and responsibilities of personnel defined and documented.

6. Conclusion & Recommendations

The current research study was aims to assess the level of attentiveness towards the decontamination mechanism among Ophthalmologist at selected ophthalmic Clinics, Saudi Arabia. The results of the current study revealed that , the majority of them were male (61.67%),most of them had less than 2 years of experience (34.16%) , followed by (28.33%) had more than 20 years of experiences , while the minority had (15.83%)years of experience. Moreover, the majority of them (77.5%) had a previous training on decontamination mechanism. In addition, there was a high level of availability of the manual policy & procedure for the manual of infection control (64.28%). Concerning the results of attentiveness score levels of the ophthalmic physicians' towards the decontamination mechanism within the study settings was revealed that , the majority of the ophthalmic staff has a high level of knowledge standards precaution (86.66%)*. Although there was a partial level of staff attentiveness towards the knowledge about how to deal with contaminated instruments & materials (78.33%). However, the data showed that , the majority of the ophthalmic physicians had a high level of attentiveness towards the knowledge about decontamination techniques' (84.16%)*.Continuous training programs for the medical and the paramedical staff must be regularly conducted to develop and refresh their attentiveness about attentiveness towards the decontamination. The attitude of healthcare providers towards attentiveness towards the decontamination is influenced directly or indirectly by their practice, and so testing their attitude can give red flags to improve training programs. Patient safety programs must be conducted in all healthcare settings and be monitored by a quality committee.

7. Acknowledgments

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8. Conflicts of interest

There are no conflicts of interest.

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