AJMAS
https://alqalam.utripoli.edu.ly/science/ eISSN 2707-7179

Article Type

The Commitment of Healthcare Workers to the WHO Infection Control Principles in Tripoli, Libya

Sana Masud*, Arij Mousa, Hamza Ghanaim, Nora Karim

Department of Public Health, Faculty of Medical Technology, University of Tripoli, Tripoli, Libya

ARTICLE INFO

Corresponding Email. *s.masud@uot.edu.ly*
***Received**: 22-01-2022 **Accepted**: 31-01-2022 **Published**: 01-02-2022*
***Keywords**: Infection Control, Health Care Workers, WHO Infection Control Principles.*

ABSTRACT

Background and objective. *It is well known that health facilities are the most common places for infection and the healthcare workers are a major reason to limit its spread. Thus, all health care workers should have adequate information about the proper infection control procedures. Therefore, this study was aimed to find out the extent of the commitment of workers in Libyan health facilities to fight infection.* ***Methods****. A descriptive study was collected from a specific sample using a questionnaire in which data were collected from various health facilities. The questionnaire was consisting of 45 questions. The study was done in 2020. The result was analyzed by using excel program.* ***Results****. The results showed that 67% of healthcare workers adhere to infection control principles, while 33% do not adhere to them. Most workers responded that the excuses discourage them from applying were lack of time, lack of oversight and punishment, and shortage of personal equipment.* ***Conclusion****. The study recommended providing educational and training programs for employees, providing them with the required knowledge and skills regarding their importance in the health facility, and providing the necessary capabilities for their support and commitment for infection control programs.*

Cite this article *Masud S, Mousa A, Ghanaim H, Karim N. The Commitment of Healthcare Workers to the WHO Infection Control Principles in Tripoli, Libya. Alq J Med App Sci. 2022;5(1):72-77.https://doi.org/10.5281/zenodo.5941689*

INTRODUCTION

Hospitals are naturally a gathering place for patients with the microbes that some of them carry. Many years of experience in various countries around the world have shown that Hospital-acquired infections (HAIs) occur in a serious way if hospital staffs do not take precautions to fight infections [1]. Infections obtained in hospitals are caused by health-care workers, hospital visitors, or staff, in addition to the fact that the hospital environment plays a key role in the transmission of microbes [1-2]. Therefore, all health-care workers must have sufficient information on the potential sources of infection [2]. Global studies confirm that hospital infections can lead to death as evidence of poor quality of health services [1]. The prevention of infection within the hospital setting has been a significant challenge for healthcare worldwide [3]. Therefore, to improve the control and prevention of infections in countries with limited resources, a multi-facet approach based on improving healthcare structures, increasing knowledge, effective guidelines, behavioral changes, attitude adjustment, better and efficient use of existing resources, as well as international cooperation is required [4].

Studies have shown that nursing awareness of infection control reduces infection rates, length of stay, adverse events and patient satisfaction [5]. Healthcare workers are at risk of infection through occupational exposure and hospital staff can also transmit infections to patients and other staff [2]. They must follow-up all infection control practices effectively to protect patients, service providers and communities [6]. These practices include: 1) Hand hygiene which considered as the most important factor to reduce the transmission of healthcare acquired infections in the healthcare system [7-8]. The care workers should wash their hands directly before and after touching the patient and move to another activity. Actually, the scientific evidence indicates that hands are the most means of transmission [9]. In contrast, hand washing is a simple procedure that can save the lives and it is the single most important factor in preventing the spread of pathogens in healthcare settings. The seven steps hand washing technique demonstrates how to ensure that all hands are cleaned [6]. Also, alcohol is also a practical solution to overcome microbes [9]. 2) The use of personal equipment to protect against risks and prevent transmission from patient to patient, these Personal Protective Equipment (PPE) must be adhered to and disposed of after every medical work to prevent recontamination. Therefore, proper education of PPE must be performed

through the health care environment for all healthcare providers and other employees who have the ability to be exposed to blood and body fluids [10]. For example; gloves should be worn when dealing with body fluids and patient secretions with changing gloves between contacts with different patients. In addition, to cleaning the hands before putting the gloves and immediately after removing them and disposing of them immediately after the completion of the activity for which they were used. Also, healthcare providers should use a suitable mask, cover the nose and mouth safely, and remove it properly after finishing. Masks cannot be used again and disposed of in the appropriate waste container and wash the hands after removal. Routine cleaning is necessary to ensure the hospital is a clean environment free from dirt and dust. Ninety percent of microorganisms are within the visible dirt and the purpose of the routine cleaning is to eliminate this dirt [1]. Sterilization of medical instruments plays an important role in prevention [10], and should be performed routinely [11].

Injection is one of the most important practices that transmit the infections and the elimination of unnecessary injections is the priority in the prevention of infection and should be administered safely, these practices are measures identified by scientific evidence or consensus of experts, so it is necessary to provide Syringe with sharps injury protection feature (SIP), Auto-disable syringes (AD), Syringe with re-use prevention feature (RUP) and any other type of injection equipment to health care facilities and with the necessary quantity of safety waste boxes[11].

Room ventilation plays an important role in reducing pollution and infections [2]. There is a need to consider sharps waste management and the potential environmental impact of the new devices [1]. All these practices save millions of lives and prevent disease in addition to significant cost savings [7]. and these practices must provide a quality-guaranteed supply at reasonable prices of engineered safety [10]. Hence, this research explores the commitment of healthcare workers to the infection control principles of the WHO and the reasons for their loose or neglect by using the questioner.

METHODS

Infections acquired in hospitals may be caused by healthcare workers, visitors, or non-clinical staff. So, the current aims to know the extent of their commitment to providing health care based on the practices and recommendations of the World Health Organization. The study was a descriptive by using a specific sample from health workers. The research data collected from various health centers in Libya through the questionnaire. Open ended questions were constructed to collect the data. This project was limited to some public and private health centers and hospitals in the Libyan capital, Tripoli. The questionnaire was collected from several public hospitals, which include; Tripoli University Hospital, Al-Khadra Hospital, and Al-Galaa Hospital, Burns and Cosmetic Hospital, as well as some private clinics (namely; the Al-Firdous Clinic, the Al-Fath Clinic, the Royal Clinic, and the Al-Jisr Clinic, in addition to the National Center for Disease Control, Kshlaf health facility, Ghout Al-Shaal Centre, and Industrial district facility) are situated in the Libyan capital, Tripoli, where there is the largest number of health staff in these healthcare facilities.

This sample was distributed from 2/10/2020 to 21/10/2020, with a total of 100 questionnaires collected from Health staff inside these health facilities that were mentioned. The questionnaire was in Arabic to make it easier for all health workers to understand. The data was analyzed by using excel program and figure and tables were displayed.

RESULTS AND DISCUSSION

Questionnaire consists of 44 questions which were distributed to one hundred health care providers in different health facilities. The result of the question 1 of the questionnaire, Are the seven steps for proper and continuous hand washing being followed? was 48% of the health providers said yes, whereas the answer of 11% were no. Besides, the percentage of health workers who said sometimes was 23%, while 18% chose frequently. From the result we noticed that 40% is considering low percentages regarding to the WHO recommendations. The WHO emphasized how hand hygiene is the best, most important, and effectiveness measure to prevent the spread of pathogens in healthcare facilities

Obtained results from the question 2 showed that the health staff wash their hands between each patient by 64%, this percentage is considered very small because in the absence of washing hands between a case and another, the prospect of transmission of the infection and the speed of its spread will be high [13]. (Figure 1).

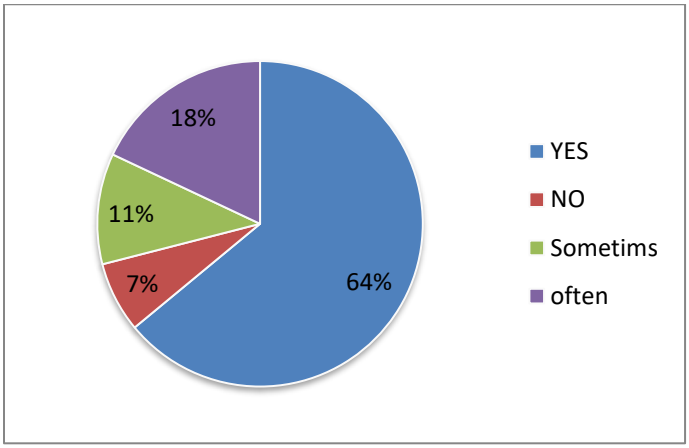

Figure 1: Do you wash your hands frequently between each patient?

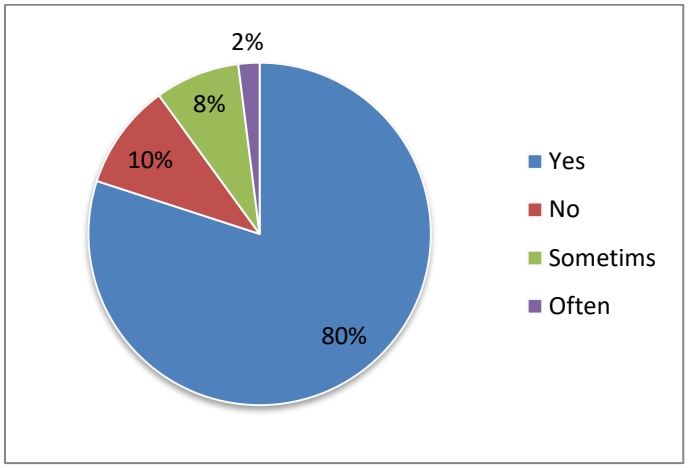

Figure 2. Hands washed immediately after doffing of gloves

The result above showed that 80% of the health staff followed this procedure they washed their hands after removing the gloves, 10% answered no, 8% sometimes and 2% often. This is a slightly weak percentage compared to the importance of this procedure, as contamination of the hands may happen while gloves are removed. Hand hygiene following glove removal ensures that the hands will not carry potentially infectious material that might have penetrated through unrecognized tears or that could contaminate the hands during glove removal [14].

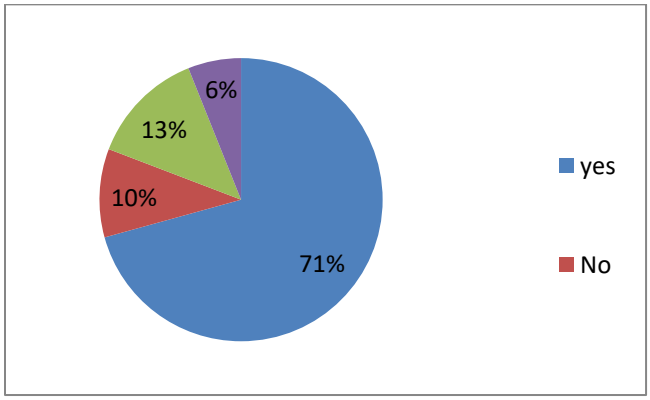

Figure 3. Cleaning process performed on tools before disinfection and sterilization

The results above showed that 71% of health care providers answered this question with yes, 10% answered no, 13% sometimes, and 6% often. This shows the importance of cleaning before disinfection and sterilization to remove dirt and anything that can be seen within the eye because sterilization and disinfection eliminates microbes only [10].

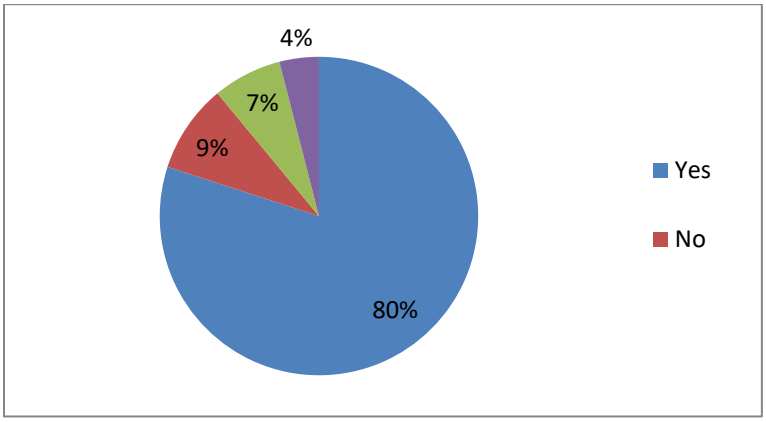

Figure 4. Disposed sharp objects properly

The study showed that 80% of health workers answered yes, sharps were disposed of correctly, 9% answered no, 7% answered sometimes, and 4% answered often. Correctly dispose of sharp tools to protect health workers and hygiene workers from the risks of infection transmission to tools, and establish and provide regulations and laws related to occupational health and safety to protect workers, preserve their health and enhance their ability to perform work. In 2010, the World Health Organization issued recommendations using best practices to reduce risks for both patients and health care workers using sharp guards and prompt removal of the syringe and needle used as a single unit in a sharp, puncture-resistant container [15].

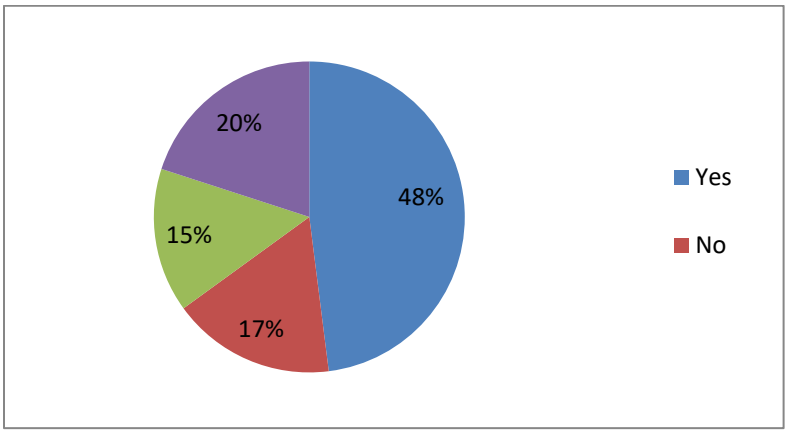

Figure 5. Applying proper and decent cleaning to all rooms

The results showed that 48% of health care providers answered this question with yes, 17% answered no, 15% sometimes and 20% often, considering the importance of cleaning the rooms to reduce the spread of infection within the facility, 48% is considered as a very small percentage compared to the importance of this procedure.

The research asked about the method of hand washing used in your department. The result showed that on the question showed 38% washing hands using regular soap, 20% washing hands using medicinal soap, and 42% using alcohol, as we mentioned earlier about the importance of hand washing, which is the simplest way to prevent microbes, and alcohol is one of the main, practical, and anti-microbial solution [7].

However , the results showed that the workers obligated to wear gloves before Corona were only 22% in the operations office, whereas, 46% observed in all departments, 10% in the care department, 3% in the sterilization department, 2% that is not required, 1% something else, 6% nothing of the above, and 10% don't know, as we mentioned in the previous question about the importance of wearing gloves for health care workers, prevention of infection in hospital, and

protection of society as a whole [1]. The data found from questionnaire declared that PPE was not sufficient, and this opposite to the fact after visiting the department.

The result obtained that health staff mistakes may lead to transmission of infection and most workers confirmed that acupuncture, failure to adhere to frequent hand washing, failure to wear safety equipment, and failure to adhere to proper cleaning and disinfection were the most common mistakes. While, others said unsafe disposal of medical waste, poor ventilation system, and failure to handle tools properly.

How is medical waste disposed of? Another important question in this study where, 30% answered in a public place, 11% said they bury, 5% said recycling, 22% said burning, 32% said modern technologies. On the other hand, 10% said that medical waste is disposed of inside the facility and 49% outside the facility, as we know that the environment plays an important role in fighting infection, but it indicates that waste is the biggest cause of infection transmission. The percentages indicate a high risk of infection transmission. Therefore, waste must be collected in a designated place following health instructions and disposed of based on the resources available in the center and approved by the Infection Control Unit in the Ministry of Health. The World Health Organization (WHO, 2002) recommended the follow-up of procedures related to the classification and treatment of various types of waste [1].

The study observed if there were a suitable clean source of water for human use. that study showed that 50% said yes, 14% said no, 14% sometimes, 9% often, 6% said “we are not sure”, and 7% said “we don't know”. Water and sanitation are necessary conditions for achieving quality of care and are particularly important in managing safe treatment. The state must provide basic services such as water, sanitation and hygiene in all health facilities. The WHO has also clarified that the facility is responsible for water quality once it enters the building [1].

Also, the researcher asked if food quality and hygiene controlled and maintained, the result showed that 34% of employees answered yes, 16% said no, 23% did not know, 11% said sometimes, 10% often, and 6% were not sure. The kitchen environment is a source of many health risks [1]. Taking care of the kitchen environment is one of the most important factors to reduce the transmission of infection through lunch for hospital workers because of their exposure for long periods to the food prepared in it, in addition to the exposure of patients to diarrhea and intestinal diseases while they are in the hospital due to their poor health condition.

In addition, an effective ventilation system used to limit the spread of microbes was asked to the participants, 44% answered no, 24% answered yes, 3% sometimes, 5% often, 14% said “we are not sure”, and 10 % said “we do not know”. This is a very small percentage of those who need a ventilation system in rooms because ventilation plays an important role in reducing pollution. The WHO recommended that patient rooms should be ventilated to reduce the spread of contamination [1].

CONCLUSION

The study concluded that most health facility workers in Libya do not have sufficient knowledge of infection control principles, and this is considered a threat to the society .Most workers answered that their excuses to do so were a lack of training, lack of supervision and punishment, and a lack of personal equipment. Therefore, workers' awareness and knowledge about the importance of infection control principles must be increased, health facilities must have training courses for workers on the foundations and methods of infection control, and provide the capabilities for the necessary tools and supplies to raise the efficiency of workers when some problems occur and work to solve it according to a known timetable. It is recommended to provide training programs for the health care personnel to the practices of infection control in a hospital. Improving employee's awareness by giving appropriate instructions to patients and visitors. Also, providing appropriate and sufficient quantities of the essential facilities and material to all health services places is worth.

Disclaimer

The article has not been previously presented or published, and is not part of a thesis project.

Conflict of Interest

There are no financial, personal, or professional conflicts of interest to declare.

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