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## Evaluation of the effectiveness of infection control application in health centers in Mecca

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### Abstract

The aim of this study is to find out the seriousness or continuation of the application of infection control standards in health centers, and the seriousness of the application of health center workers even after the health centers obtained a certificate of accreditation of quality standards in health facilities (CBAHI) for more than 6 years. The questionnaire was distributed electronically through social media, and for you to prevent crowding to avoid spreading the Coronavirus, as it has not ended yet, as 1000 questionnaires were distributed and only 800 questionnaires were answered.

**Keywords:** infection control, effectiveness, healthcare centers

### 1. Introduction

Infection control indicate the arranging for the prevention of nosocomial contagion or infections linked with the provision of healthcare services. Such procedures and measures are practical (rather than academically specialized) sub-measures of pathology. Hence, it is part of the healthcare infrastructure (although small is known about it, and down is backup for it). the case of infection control heads the agent linked with the expansion of infection within healthcare settings (whether from one patient to another patient, from patients to hospital crew, or vice versa from staff to patients, or among organs of the same staff), including prevention (whether through hygienic measures for hand hygiene/hand washing, cleaning/disinfection/sterilization, vaccination, and surveillance), as well as actions to control/investigate the spread of suspected infection within a health care delivery area (infection oversight and outbreaks), as well as administration (county outbreaks of infection). Hence the title commonly used within the field of health care here is "infection surveillance and protection. The aseptic method is the main complex of all infested medical procedures. Like, infection control sizes are often more active when put globally due to the expansion of undiagnosed infections. Freelance studies by Ignaz Semmelweis in 1847 in Vienna and Sir Oliver Wendell Holmes in 1843 in Boston discovered a bind between the hand hygiene of healthcare workers and the expansion of hospital-borne diseases <sup>[4]</sup>. This made the Centers for Disease Control and Prevention expound in a report that it is "a well-documented case that the most serious measure to block the spread of pathogens or pathogens is impacted hand washing <sup>[5]</sup>. Hence, hand washing has become a compulsory step in most healthcare facilities and is demand many states and local regulations <sup>[6]</sup>. The drying operation is one of the most significant parts of the hand hygiene process.

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In November 2008, a non-peer-reviewed study was [7] attituded at a European Textile Symposium by the University of Westminster in London, which contrast bacterial rates after using a paper towel, hot air hand dryer, and modern air jet hand dryer [8]. Where the study detected that among these three methods, only paper towels decreased the total number of bacteria on the hand, as it is more efficient with the use of "air drying". The sterilization operation's goal is to kill the microorganisms, in addition to that, it explains the highest level of the microbial killing process which produce it possible. Hence sterilizers may be heat only, steam, or running chemicals. The influence of the sterilizer (such as a "sealed" steam conductor) is specified by three methods. First: the mechanical indicators and scales on the machine itself referred to the proper operation of the machine. Second: Temperature-sensitive index or strip on sterilization trap that modified color may indicate appropriate averages of heat or vapor. And third, (most important), is biological testing and screening, in which a chemically unwilling microorganism (mostly the endospore of bacteria (endospores)) is chosen as a standard challenge. Disinfection is indicated by the use of runner chemicals on the face and at room temperature with the aim of killing microorganisms and pathogens. Here we remind that sanitization is less influential than sterilization because it does not kill bacterial pathogens as an outcome it does not kill bacterial spores [9]. Personal protective equipment (PPE) contains special clothing or supply that a worker dress to keep against any dangers. The hazard in healthcare facilities is exposure to blood, saliva, or other bodily fluids or airborne particles that may be carrying infectious factors including hepatitis C, HIV, or other pathogens transmitted through blood or bodily fluids. Here, PPE blocks contact with infectious materials by making a barrier or buffer between the infectious substance (reason for infection) and the exposed healthcare worker [10]. Examples of personal protective equipment contain medical gloves, gowns, hoods, shoe covers, face masks, respirators, goggles, surgical masks, and a respirator [11]. Practitioners may have a diversity of educational practiced, as some start their careers as nurses, others begin their lives as medical technologists (especially in the field of medical microbiology), and others may be physicians (usual specialists in the part of infectious illness). Then the following professional organizations supply specialized training courses in the field of infection control and health care for epidemics. Physicians wishing to work in the field of epidemic control often express themselves as infection control practitioners in the case of an infectious illness togetherness [12]. Most of the health centers in the Kingdom have applied comprehensive quality standards in order to provide health services to the population and residents, and among these health centers in the city of Mecca, where these standards have been applied, including infection control standards in health facilities, and they have obtained the certificate of the Saudi Center for Accreditation of Health Institutions(CBAHI) (a non-governmental and non-governmental institution (established in 2001) [13].

## 2. Material and Methods

This study was launched in (the city of Mecca in the kingdom of Saudi Arabia), and began writing the research and then writing the questionnaire in March 2022, and the

study ended with data collection in July 2022. The researcher used the descriptive analytical approach that uses a quantitative or qualitative description of the social phenomenon, and (Evaluation of the effectiveness of infection control application in health centers in Mecca). This type of study is characterized by analysis, reason, objectivity, and reality, as it is concerned with individuals and societies, as it studies the variables and their effects on the health of the individual, society, and consumer, the spread of diseases and their relationship to demographic variables such as age, gender, nationality, and marital status. Status, occupation [1], and use of the Office Group 2010 histogram for Excel to rank the results by dragging them on the statistical software [2].

## 3. Results and Discussion

A questionnaire is a significant and helpful tool for collecting a huge amount of data However, researchers were not able to personally interview participants on the online survey, due to social distancing regulations at the time to block infection between participants and examiners and vice versa (not coronavirus participation completely disappearing from society). He only answered the questionnaire electronically, because the questionnaire contains twelve questions, all of which were closed. The online approach has also been used to generate valid samples in similar studies in Saudi Arabia and elsewhere [3]. For the first question, it was about Do you have knowledge of infection control standards in health centers. The staff's answer was 100% yes. The second question was about whether the health center has clear standards for infection control. 95% of the workers answered yes and 5% answered no. The third question is about whether the workers of all categories apply infection control standards in the health center. 80% of them answered yes, while 20% answered no. The fourth question was whether all workers of all categories in the health center were trained to apply infection control standards. 95% answered yes, while 5% said no. The fifth question was whether all workers of all categories in the health center were trained on proper hand washing methods. 95% of the employees in health centers, while 5% said no, With regard to the sixth question about whether all workers of all categories in the health center were trained on how to sterilize hands? We find that 95% answered yes and 5% answered no. The seventh question was whether all workers of all categories in the health center were trained on how to wear and take off masks and gloves correctly and properly. 90% of them answered yes, while 10% said no. The eighth question is, have all the workers (technicians) in the health center been trained on how to sterilize and disinfect the tools used in the clinics? 85% answered yes, while 15% said no. The ninth question is, is there an infection control coordinator in the health center responsible for guiding, instructing, and enrolling technicians in infection control training courses? 95% answered yes and 5% said no, the tenth question about Does the health center has tools for spilled materials on the floor to be used in case of infection. 94.7% answered yes and 5.3% answered no. The eleventh question is whether the health center has a special room for medical waste. 90% answered yes, and 10% b answered no. The twelfth question is: Does the health center have special containers in which sharp tools such as needles and glass are placed? They all answered 100%. (Table no.1)

**Table 1:** The extent to which health center staff are keen to apply infection control standards

Questions	Yes	No
Do you have knowledge of infection control standards in health centers?	100%	0%
Whether the health center has clear standards for infection control	95%	5%
Whether the workers of all categories apply infection control standards in the health center	80%	20%
Whether all workers of all categories in the health center were trained to apply infection control standards	95%	5%
Whether all workers of all categories in the health center were trained on proper hand-washing methods	95%	5%
Whether all workers of all categories in the health center were trained on proper hand-washing methods	95%	5%
Whether all workers of all categories in the health center were trained on how to wear and take off masks and gloves correctly and properly	90%	10%
Have all the workers (technicians) in the health center been trained on how to sterilize and disinfect the tools used in the clinics	85%	15%
Is there an infection control coordinator in the health center responsible for guiding, instructing, and enrolling technicians in infection control training courses	95%	5%
Does the health center have tools for spilled materials on the floor to be used in case of infection?	94.7%	5.3%
Whether the health center has a special room for medical waste.	90%	10%
Does the health center have special containers in which sharp tools such as needles and glass are placed?	100%	0%

#### 4. Conclusion

The state preserved them in order to provide high-quality health services to citizens and residents. The Ministry of Health urged health centers to obtain a certificate of accreditation standards for health facilities. Therefore, it was necessary for them to apply all standards, including infection control standards. Through this study, we find the following results: The level of staff in the health centers has risen and their knowledge and awareness of the application of infection control standards has become much more than before. There is a study called (assessment of knowledge and practices Infection control standards at the health level Care workers in primary health care level in the city of Mecca, Saudi Arabia. Published in the European Journal of Molecular and Clinical Medicine (EJMCM) in 2019, it was reported that there is a gap between actual and required knowledge and practices of healthcare providers. Studies have shown the need Providing a comprehensive training program to ensure compliance with infection control measures by health care workers, at that time, while the perception and awareness of employees has now developed through the training courses they received, which led to an improvement in their knowledge, and their health centers obtained the certificate of comprehensive quality standards for the accreditation of health facilities (CBAHI)<sup>[14]</sup>.

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