

# **Work Related Hazards Facing Health Care Team in the Operating Rooms**

*Thesis*

*Submitted for Partial Fulfillment of the Requirement  
of Master Degree in Nursing Administration*

*By*

**Mona Sobhy Ahmed Ahmed**

Bsc-Nursing - Ain Shams University

**Faculty of Nursing  
Ain Shams University**

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*Supervisors*

**Prof. Dr. Samia M. Abd Allah Adam**

*Professor & Head of Nursing Administration Department  
Faculty of Nursing - Ain Shams University*

**Assist. Prof. Rabab Mahmoud Hassan**

*Assistant Professor of Nursing Administration  
Faculty of Nursing - Ain Shams University*

**Faculty of Nursing  
Ain Shams University  
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وَأَنْزَلَ اللَّهُ عَلَيْكَ  
الْكِتَابَ وَالْحِكْمَةَ  
وَعَلَّمَكَ مَا لَمْ تَكُنْ  
تَعْلَمُ وَكَانَ فَضْلُ  
اللَّهِ عَلَيْكَ عَظِيمًا

صدق الله العظيم

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To  
My parents, Sisters, Brothers  
And my Friends  
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Love, care, support, and encouragement  
That allowed me to  
Accomplish this study  
Words can never expressed my gratitude

With my deep thanks

✍️ Mona Sobhy Ahmed

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## List of Abbreviations

<i>Abb.</i>	<i>Meaning</i>
<b>OR .....</b>	Operating Room
<b>PPE .....</b>	Personnel Protective Equipment
<b>AHA.....</b>	American Hospital Association
<b>AAOHN.....</b>	American Association Of occupational Health Nurses
<b>ANA.....</b>	American Nurses Association
<b>NIOSH.....</b>	National Institute for Occupational Safety and Health
<b>AORN.....</b>	Association of Operating Room Nurses
<b>CDC.....</b>	Centers for Disease Control and Prevention
<b>HCWs.....</b>	Health care workers
<b>CCOHS.....</b>	Canadian Centre for Occupational Health and Safety
<b>JCAHO .....</b>	Join Commission on Accreditation of Healthcare Organization
<b>WHO .....</b>	World Health Organization
<b>ENT .....</b>	Ear, Nose and Throat



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## **Work Related Hazards Facing Health Care Team in the Operating Rooms**

### **ABSTRACT**

**Background:** The operating room (OR) environment is surrounded by many hazards that include biological, chemical, physical, ergonomic, and psychological hazards. These potential hazards might endanger the safety of both patients and OR team. However, these hazards can be preventable when identified and correctly deal with. **Aim of the study:** The study aimed to determine work related hazards facing health care team in the operating rooms at El Demerdash University Hospital. **Methods:** Descriptive study, the study was conducted at six different specialty at ten operating rooms, the study subjects were (120) participants were classified into four groups, (30) nurses (scrub and circulating nurse, (31) surgeons, (29) anesthesiologists, and (30) workers. **Tools:** Three tools were used to collect data pertinent to the study. Self-administered questionnaire sheet, observation checklist for environmental safety and administrative data, and observation checklist for assessing OR team compliance to safety measures during surgeries. **The Results:** The result revealed deficiency regarding the OR environment and OR personnel safe practices application. Also OR personnel had poor compliance with the OR attire, all health care team were exposed to the fifth types of work hazards include biological, chemical, physical, ergonomic, and psychological hazards with different percentage while nurses and surgeons exposed to psychological hazards 100% also anesthesiologists exposed to biological hazard with 100% followed by workers 96.7%. **Conclusion:** The study concluded that, there is possible risk for exposure to biological hazards more than other types of hazards for OR personnel working in the study setting. **Recommendation:** continues monitoring and evaluating all aspect of safety within the OR including environment as well as the personnel performance, following specific important OR aseptic practice that indicate the need for establishing OR written policies and procedures that has to be available to OR personnel, reviewed annually, and adhere with.

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**Key words:** work hazards, health care team; operating room.

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# Introduction

Work is considered a basic of one's life experience. Every type of work brings with it risks and health hazards. The nature of work environment of nurses and other healthcare personnel work is a potential source of many types of hazards or risks, which might consequently lead to health problems (*American Association Of occupational Health Nurses (AAOHN), 2012*).

Hazard can be defined as the exposure to a variety of substances that cause grave and mortal diseases over long period of time. The exposure to these hazards occur as result of an unsafe system of work, lack of clear policies, poor working practices, vaguely defined responsibilities and inadequate communication (*Young & Meyers, 2010*).

The hospital environment is a source of possible work hazards, the operating rooms (OR) presents an environment that is potentially hazardous to both the patient and the personnel who working in. The hospital potential hazards are increasing in the OR because of the danger inherent in surgery and the technically sophisticated equipment and procedures used (*Cole, 2010*). Prolonged contact of OR personnel to open surgical site, frequent manipulation of sharp instrument, and the presence of relatively large quantity of blood create a hazardous work environment and place them always at potential risk (*Beyea, 2011*).

Potential hazards in the OR can be physical, chemical, and biological. Injuries associated with these hazards can affect all body system & it can lead to death. Injuries can be caused by using faulty equipment or using equipment improperly, by exposing oneself or other toxic or irritating agents or by contacting harmful agents. Equipment safety, electrical safety, chemical safety, radiation safety, client transport and positioning, and continuous asepsis are very important in the operating room for patients and OR personnel safety (*Atkinson & Fortunato, 2012*).

Hazards associated with practices are pending patients and OR personnel to risk. As each one can have an impact on the other, both are equally important. Patients entering the OR are relatively helpless and cannot protect themselves during surgery and anesthesia that require the OR personnel to be always alert. Patients are at risk for infection; impaired skin integrity; altered body tissue; fluid volume deficit; and injuries related to positioning, chemical, electrical, and physical hazards (*Harkness & Dincher, 2010*).

Several measures can be taken to reduce exposure to work-related hazards. Engineering control strategies, while are designed to modify or eliminate the exposure source include the provision of safer needle-stick devices and needle disposal containers and designing spaced place with well efficiency ventilation (*National Institute for Occupational Safety and Health (NIOSH), 2012*).