

Compliance of Food Handlers with the Food Safety Standards

Thesis

*Submitted for Partial Fulfillment for Requirements of
Master Degree in **Community Health Nursing***

By

Suzan Mohamed Hamdy Ibrahim Ali

B.Sc. Nursing (1996)

Faculty of nursing Zagazeg University

Quality specialist in Quality Department

Nasser Institute Hospital

**Faculty of Nursing
Ain Shams University
2019**

Compliance of Food Handlers with the Food Safety Standards

Thesis

*Submitted for Partial Fulfillment for Requirements of
Master Degree in **Community Health Nursing***

Under Supervision of

Prof. Dr. Magda Abd El-Sattar Ahmed

Professor of Community Health Nursing

Faculty of Nursing, Ain Shams University

Dr. Mervat Mohamed Hassan

Lecturer in Community Health Nursing Department

Faculty of Nursing, Ain Shams University.

Faculty of Nursing

Ain Shams University

2019



Acknowledgement

First and foremost, I will feel always gratitude to **Allah**, The most kind and most merciful.

I would like to express my sincere thanks and deepest appreciation to **Prof. Dr. Magda Abd El-sattar Ahmed**, Professor of Community Health Nursing Department, Faculty of Nursing, Ain Shams University, for her continuous meticulous supervision, prudent guidance, support and unlimited help throughout this work.

I would like to express my deep thanks and appreciation to **Dr. Mervat Mohamed Hassan**, Lecturer of Community Health Nursing Department, Faculty of Nursing, Ain Shams University, for her guidance, fruitful comments and efforts to complete this work.

Finally, I could never forget to offer my special thanks to **Dr, Hany Rashed**, Manager of Nasser Institute Hospital, **Dr, Mohamed Kamal Quality consultant** for their support and guidance and special thanks for **all workers** who participated in this work for their cooperation which was of great value to accomplish this study.

Suzan Mohamed Hamdy





 My sincere tribute and gratitude to my **Father** and **Mother** who encourages & helped me a lot in completing this work.

 Particular gratitude goes to my **Brothers, Sister** and **all my Family** who paved my way through their tolerance and devotion.

List of Contents

<i>Subject</i>	<i>Page No.</i>
List of Tables	I
List of Figures	IV
List of Abbreviations	V
Operational Definitions	VII
Abstract	IX
Introduction	1
Significance of study	5
Aim of the Study	11
Review of Literature	
Chapter (I):	
- Hospital food safety, Food poisoning and Food borne diseases.....	12
Chapter (II):	
- Food safety system in Egypt	22
- Health analysis critical control point (HACCP) system.	24
- The National and International guidelines of food safety	26
Chapter (III):	
- Role of Occupational Health Nurse in relation to food handlers and food safety in the hospital kitchen.....	28
Subject and Methods	35
Results	43
Discussion	70
Conclusion	86
Recommendations	87

Summary	89
References	97
Appendix I	110
Appendix II	135
Protocol	
Arabic Summary	

List of Tables

No.	Table	Page
1	Distribution of the studied sample according to their socio-demographic characteristics.	45
2	Distribution of the studied sample according to their license, travelling, training, vaccination, isolation, past History of disease, recent history of suffering from food borne diseases, medical examinations and investigations.	47
3	Distribution of the studied sample according to their knowledge about food safety.	48
4	Distribution of the studied sample according to their knowledge about food hygiene.	49
5	Distribution of the studied sample according to their knowledge about food borne diseases.	50
6	Distribution of the studied sample according to their knowledge about prevent cross contamination.	51
7	Distribution of the studied sample according to their practices regard wearing working clothes (uniform), washing hand in different occasions, practices prevent cross contamination in different shifts.	53

No.	Table	Page
8	Distribution of the studied sample according to their practices regards receiving food in different shifts.	54
9	Distribution of the studied sample according to their practices regards storage of food in different shifts.	55
10	Distribution of the studied sample according to their practices regards food preparation in different shifts.	56
11	Distribution of the studied sample according to their practices regards thawing food, cooking and distribution of food in different shifts.	58
12	Distribution of the studied sample according to their practices regarding equipment and utensils in different shifts.	59
13	Distribution of the studied sample according to their practices regarding cleanliness of the environment in different shifts.	61
14	Distribution of the studied sample according to their practices regarding dealing with waste, security & safety, Surveillance system for food and utensil safety in the kitchen in different shifts.	62

No.	Table	Page
15	Environmental condition of hospital kitchen	64
16	Statistical relation between knowledge of the studied sample and their socio-demographic characteristics.	67
17	Statistical relation between practices of the studied sample and their socio-demographic characteristics.	68
18	Correlation between knowledge of the studied sample and their practices.	69
19	Correlation between practices of studied sample and environmental condition of the kitchen.	69

List of Figures

No	Figure	Page
1	Distribution of the studied sample according to their working shifts	46
2	Distribution of the studied sample according to their job	46
3	Distribution of the studied sample according to their total knowledge levels about food safety and food borne diseases.	52
4	Total compliance of the studied sample in different shifts.	66

List of Abbreviations

Abb.	Full term
ARC	Agriculture Research Center
CDC	Centre Of Disease Control.
CCP	Critical Control Points
CFIA	The Canadian food Inspection Agency
CAC	Codex Alimentarius Commission
EFSIC	Egyptian Food Safety Information Center
EFTRI	Egyptian Food Technology Research Institute
EHS	Environmental Health and Safety.
FOHNEU	Federation of Occupational Health Nurses in the European Union.
FAO	Food and Agriculture Organization.
FBD	Food borne disease
GHP	Good Hygiene Practice
HACCP	Hazard Analysis Critical Control Point
JCI	Joint Commission International
MOHP	Ministry of Health and population
NFSA	National Food Safety Authority
OHN	Occupational Health Nurse
OH	Occupational Health.
OSHA	Occupational Safety and Health Administration.
PPE	Personal Protective Equipment.
SPSS	Statistical package for social sciences

<i>Abb.</i>	<i>Full term</i>
SHED	Society for Environment and Human Development.
US	United States
UNEP	United Nation Environment Program.
USDHH	United States Department of Health and Human Services
WHO	World Health Organization.

Operational Definitions

Compliance: Means acting according to certain accepted standard.

Critical control points (CCP): Is a step at which control can be applied and is essential to prevent or eliminate a food safety hazard or reduce it to an acceptable level.

Food safety: Food safety is defined as the conditions and measures that are necessary during production, processing, storage, distribution and preparation of food to ensure that it is safe and fit for human consumption.

Food handlers: A food handler is defined as a person who directly engages in the handling of food, or who handles surfaces likely to come into contact with food.

Food hygiene: The practices which should be followed to make sure that food are safe and wholesome throughout all the stages of production from purchase to consumption..

Hazard Analysis Critical Control Point (HACCP): HACCP is a management system in which food safety is addressed through the analysis and control of biological, chemical, and physical hazards from raw material production, procurement and handling, to manufacturing, distribution and consumption of the finished product.

Standards: Standard is a statement that defines the performance expectations, structures, or processes that must be in place in an organization to provide safe and high quality care, treatment, and service.

Compliance of Food Handlers with the Food Safety Standards

Suzan Mohamed Hamdy Ibrahim, Prof. Dr. Magda Abd El-Sattar

Ahmed, Dr. Mervat Mohamed Hassan.

Faculty of Nursing, Ain Shams University

Abstract

Improper practices and lack of knowledge by food handlers are contributing factors for the spread of foodborne out-breaks. **A descriptive** study design was used **aiming** to assess the compliance of food handlers with food safety standards. **Setting:** The study was conducted at Nasser Institute Hospital Kitchen. **Sampling:** **A convenient sampling technique** was employed to select sample, one hundred food handlers' staff were included in the study. **Tools:** For data collection **two tools** were used. **The first tool:** Interview questionnaire for the workers which include socio demographic data, License, vaccination, history of disease, travelling, isolation, training, medical examination and routine investigations and knowledge of food handlers regarding food borne disease and food safety standards, The **second tool:** Observational checklists have been done by the investigator regarding food safety and environmental condition of the kitchen design. **Results:** The study revealed that 75% of the studied samples were males, 85% of them had good level of knowledge and 15% of them had average level of knowledge, 41% of them had secondary education, 100% of them had license and vaccinated. **Conclusion:** There were a significant relation between job and knowledge. There were a significant relation between shifts and practice and between job and practice. There were correlation between practices of the studied sample and environmental condition of the kitchen. On the other hand there were no correlation between the total knowledge of studied sample and their practices. **Recommendation:** Orientation program in addition to on job training required to generate positive attitude and motivate behavior change in a definite setting, implementation of the Hazard Analysis Critical Control Point system. Further researches required for identifying factors that hindering compliance of food handlers with food safety standards.

Key words: Compliance of Food Handlers, Food Safety Standards.
