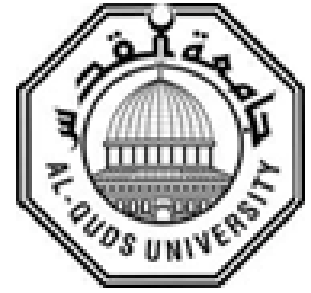


**Al-Quds University**  
**Deanship of Graduate Studies**



**Assessment of Medical Management Practices of Acute  
Diarrhea among Children Admitted to Pediatric  
Hospitals in Gaza City**

**Ibrahim Omar Ibrahim Lubbad**

**MPH Thesis**

**Jerusalem- Palestine**

**1438/ 2017**

**Assessment of Medical Management Practices of Acute  
Diarrhea among Children Admitted to Pediatric  
Hospitals in Gaza City**

Prepared by:

**Ibrahim Omar Ibrahim Lubbad**

BSN – The Islamic University of Gaza

Supervisor: **Dr. Ashraf Y. EL-Jedi.**

Associate Professor in International Public Health

A thesis Submitted in Partial Fulfillment of the Requirement  
for the Degree of Master of Public Health/ Epidemiology  
Track- Al-Quds University

**1438/ 2017**

**Al-Quds University**

**Deanship of Graduate Studies**

**Public Health College**



**Thesis Approval**

**Assessment of Medical Management Practices of Acute Diarrhea among  
Children Admitted to Pediatric Hospitals in Gaza City**

Prepared by: Ibrahim O. Lubbad.

Registration No.: 21411785

Supervised by: Dr. Ashraf Y. EL-Jedi.

Master thesis submitted accepted in     /     /

The name and signatures of the examining committee members are as follows:

- |                               |                   |       |
|-------------------------------|-------------------|-------|
| 1- Dr. Ashraf Y. EL-Jedi      | Head of Committee | ..... |
| 2- Dr. Khitam Abu Hamad       | Internal Examiner | ..... |
| 3- Dr. Anwar ALSheikh Khaleel | External Examiner | ..... |

**Jerusalem- Palestine**

**1438/ 2017**

## **Dedication**

*To my beloved parents and family,*

*To my wife,*

*To my daughter Noor,*

*To all of them,*

*I dedicate this work*

**Declaration**

I certify that this thesis submitted for the degree of Master is the result of my own research, except where otherwise acknowledged, and that this thesis (or any part of the same) has not been submitted for a higher degree to any other university or institution.

Signed: .....

Ibrahim O. Lubbad

Date.....

## **Acknowledgment**

All praise to **ALLAH** (Al-mighty), The Beneficent, the Merciful, without his mercy and guidance this work and other works never has been started nor completed. I praise to Him (Al-mighty) as much as the heavens and earth and what is between or behind.

I would like to express my sincere thanks to my supervisor **Dr. Ashraf Y. EL-Jedi**, associate professor of public health, faculty of nursing at the Islamic University of Gaza, for his supervision, invaluable help and guidance to achieve this work.

My sincere gratitude goes to my great parent and all my nice family.

My deep gratitude goes to my wife **Shereen** for her help, encouragement, support and efforts to finalize this study.

Also, my thanks go to all my teachers at the school of public health at Al-Quds University – Gaza branch.

Finally yet importantly, warm thanks are dedicated to whoever extended a hand to achieve this work.

Ibrahim O. Lubbad

## **Abstract**

*Diarrhea is one of the most common diseases in children. It constitutes a large problem in Gaza Strip, where its percentage is more than 11% of all diseases in children under age of five, and thus, represents a large load. The one answer of the problem is to utilize evidence based guidelines in managing of diarrhea, such as the World Health Organization guidelines.*

*In an attempt to assess the medical management of acute diarrhea regarding the World Health Organization guidelines, a cross sectional study was conducted in Gaza city, during the peak of diarrheal diseases (May to August, 2016), in order to improve medical adherence to the universal guidelines which enforce effective, standardized, ideal, and management of acute diarrhea.*

*The interviewed questionnaires targeted all physicians working at AL-Nasser and Al-Durra Pediatric hospitals (102 physicians) to identify their knowledge regarding the guidelines. The response rate was 93%. Also, a retrieval sheet was used to identify their actual practices, where 301 acute diarrhea cases' records were retrieved from the two hospitals.*

*Reporting of the most danger signs of acute diarrhea (3 and 4 compatible signs) specified by the guidelines had very low percentage in the knowledge (10.6%) and practice (18.9%). On other hand, Reporting of the most of dehydration signs (2 and 3 correct signs) had a high percentage in the knowledge (71.1%) and less in the practice (47.5%). For the correct classification of dehydration, only 4.2% of the physicians classified dehydration correctly, while 27% of the classification practices were correct. Though the percentage of requesting serum electrolytes was 88.4% in the knowledge, 54.2% of the records contained them. The sharp differences between knowledge and practices were found in correct indication of intravenous fluids, and use of zinc during management of acute diarrhea, where the percentages 85.3%, and 86.3% respectively were in knowledge, compared with 16.3%, and 24.3% in the practice. The opposite were found in the use of antiemetics (24.2% VS 65.1%), antimicrobials (18.9% VS 59.1%), and the correct indications of Oral Rehydration Salts (23.2% VS 65.4%). Regarding the use of antidiarrheal, the difference between knowledge (4.2%) and practice (5.6%) was very small.*

*The intravenous fluids' sets were the most available commodities (98.9%), while the guidelines on management of diarrhea /dehydration were the least available (14.7%). Furthermore, the largest problem impeding application of the guidelines was lot of work (48.5%).*

*The researcher called for the importance of adoption, on the job training, and application of the guidelines, the need for audit and regular feedback, elimination of the impeding obstacles, and the necessity of provision of the commodities necessary for application of the guidelines.*

## Table of contents

No.	Content	Page No.
	Dedication .....	i
	Declaration .....	ii
	Acknowledgement .....	iii
	Abstract .....	iv
	Table of content .....	v
	List of tables .....	viii
	List of figures .....	ix
	List of annexes .....	x
	List of abbreviation .....	xi
	<b>Chapter (1) Introduction .....</b>	<b>1</b>
1.1	Background .....	1
1.2	Research problem .....	3
1.3	Justification of study .....	4
1.4	Aim of the study .....	5
1.5	Specific objectives .....	5
1.6	Context of problem .....	6
1.7	Operational definition .....	10
	<b>Chapter (2) Literature Review .....</b>	<b>11</b>
2.1	Conceptual framework .....	11
2.2	Health of the Palestinian Children .....	13
2.3	The main causative factor of diarrhea .....	16



2.4	The rout of transmission of diarrhea .....	17
2.5	Types of diarrhea .....	18
2.6	Diagnosis of diarrhea .....	16
2.7	The global burden of DD among children .....	19
2.8	Prevention and control of DD in GC .....	19
2.9	Benefits of Zinc in Treatment of Diarrhea .....	20
2.10	Management of a cute diarrhea according to the WHO .....	21
2.11	Management of AD .....	22
<b>Chapter (3) Methodology .....</b>		<b>33</b>
3.1	Study design .....	33
3.2	Study setting .....	33
3.3	Study population .....	33
3.4	Eligibility Criteria .....	34
3.5	Study Period .....	35
3.6	Study instruments .....	35
3.7	Pilot study .....	36
3.8	Validity and Reliability .....	37
3.9	Data collection .....	38
3.10	Response rate .....	38
3.11	Statistical analysis .....	38
3.12	Ethical consideration .....	39
3.13	Study limitation .....	39
<b>Chapter (4) Results and Discussion .....</b>		<b>40</b>
4.1	Results of data derived from the interviewed questionnaires.....	41

4.1.1	Characteristics of study population .....	41
4.1.2	Training and availability of DD treatment guidelines .....	43
4.1.3	Physicians' knowledge about AD according to WHO guidelines .....	45
4.1.4	Physicians' knowledge about AD management .....	49
4.1.5	Challenges facing application of DD guidelines .....	54
4.1.6	Physicians' view on commodities availability.....	55
4.2	Results of data derived from the retrieval sheets.....	57
4.2.1	Demographic characteristics of cases admitted to GC pediatric hospitals .....	57
4.2.2	History of cases admitted to GC pediatric hospitals .....	58
4.2.3	General examination of cases admitted to GC pediatric hospitals .....	60
4.2.4	Classification of dehydration .....	62
4.2.5	Co-morbid conditions specified by admitting clinician .....	63
4.2.6	Physicians' actual documented regarded fluid giving .....	64
4.2.7	Physicians' documented actual practices regarded drugs use .....	65
4.2.8	Physicians' practices regarded feeding and measuring of serum electrolytes for AD cases according to WHO guidelines .....	68
4.3	Interviews' answers V/S Records' documented practices.....	69
4.3.1	Comparison between physicians' knowledge and actual practices .....	69
	<b>Chapter (5) Conclusion and Recommendation .....</b>	<b>72</b>
5.1	Conclusion .....	72
5.2	Recommendations .....	76
5.3	Research recommendations .....	76
	<b>References .....</b>	<b>78</b>
	<b>Annexes .....</b>	<b>85</b>
	<b>Arabic Abstract .....</b>	<b>117</b>

## List of tables

No.	Name of table	Page
Table 4.1:	Characteristics of study population .....	41
Table 4.2:	Physicians' knowledge about AD according to WHO guidelines .....	47
Table 4.3:	Physicians' knowledge about fluid indications according to WHO guidelines..	49
Table 4.4:	Physicians' view on commodities availability .....	55
Table 4.5:	Demographic characteristics of cases admitted to GC pediatric hospitals.....	57
Table 4.6:	History of cases admitted to GC pediatric hospitals .....	58
Table 4.7:	General examination of cases admitted to GC pediatric hospitals .....	60
Table 4.8:	Knowledge V/S Practice .....	69
Table 6.1:	Validity of the interviewed questionnaire .....	95
Table 6.2:	Validity of the retrieval sheet .....	96
Table 6.3:	Cronbach's alpha coefficient and Spilt –half .....	97

## List of figures

No.	Name of figure	Page
	Figure 1.1: Conceptual framework of the study .....	11
	Figure 4.1: Receiving of DD management training courses .....	44
	Figure 4.2: Availability and places of availability of DD treatment guidelines .....	45
	Figure 4.3: Physicians' knowledge about type of fluid used in the 1st hour .....	50
	Figure 4.4: Physicians' knowledge about drugs use according to WHO guidelines ...	51
	Figure 4.5: Challenges impeding application of guidelines .....	54
	Figure 4.6: Compatibility of classification of dehydration with WHO guidelines ....	62
	Figure 4.7: Distribution of co-morbid diseases .....	63
	Figure 4.8: Type and compatibility of the given fluid .....	64
	Figure 4.9: Physicians' documented actual practices regarded drugs use .....	66

## List of annexes

No.	Name of annex	Page
<b>Annex 1</b>	Gaza Strip Map .....	85
<b>Annex 2</b>	Helsinki Committee Approval .....	86
<b>Annex 3</b>	Sample Size Calculation by Equation of Stephen Sampson .....	87
<b>Annex 4</b>	The questionnaire .....	88
<b>Annex 5</b>	The retrieval sheet .....	93
<b>Annex 6</b>	Validity of the study tools .....	95
<b>Annex 7</b>	Reliability of the study tools .....	97
<b>Annex 8</b>	The Treatment of Diarrhea (A manual for physicians and other senior health workers, 2005) .....	98
<b>Annex 9</b>	Time Table of the work plan Activities .....	116

## List of abbreviations

AAP	The American Academy of Pediatrics
AD	Acute Diarrhea
AGE	Acute Gastro Enteritis
CPGs	Clinical Practice Guidelines
DD	Diarrheal Disease
EDL	Essential Drug List
FFI	Fever for Investigation
GC	Gaza City
GS	Gaza Strip
HIV	Human Immunodeficiency Virus
IMR	Infant Mortality Rate
IV	Intravenous
IVF	Intravenous Fluids
Km	Kilometer
MOH	Ministry Of Health
MOI	Ministry of Interior
NGO	Non-Governmental Organization
NGT	Naso Gastric Tube
NS	Normal saline
ORS	Oral Rehydration Solution
ORT	Oral Rehydration Therapy
PCBS	Palestinian Central Bureau of Statistics
PDS	Pediatric Dextrose Saline
PHC	Primary Health Care

RL	Ringer Lactate
Sq.	Square
UNRWA	The United Nations Relief and Works Agency
URL	Universal Resource Locator
WB	West Bank
WHO	World Health Organization