



شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



شبكة المعلومات الجامعية
@ ASUNET



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of
15-25- c and relative humidity 20-40%

بعض الوثائق الأصلية تالفة

بالرسالة صفحات لم ترد بالاصل

**Dental Treatment As A Source of Infection
For Hepatitis B and C**

By


Maged Ibrahim El-Watidy

B.D.S., M.Sc. Dental Public Health 1990

M.Sc. Orthodontics 1994

Faculty of Oral and Dental medicine

Cairo University

B4844


THESIS

Submitted in partial fulfillment of

**Ph.D. in Environmental Sciences
(Medical Sciences Department)**

To

The Institute of Environmental Studies and Research

1999

**Dental Treatment As A Source of Infection
For Hepatitis B and C**

By

Maged Ibrahim El-Watidy

B.D.S., M.Sc. Dental Public Health 1990

M.Sc. Orthodontics 1994

Faculty of Oral and Dental medicine

Cairo University

THESIS

Submitted in partial fulfillment of

**Ph.D. in Environmental Sciences
(Medical Sciences Department)**

To

The Institute of Environmental Studies and Research

Supervised by

Professor Dr. Mohsen A. Gadallah

Prof. of Community Medicine
Faculty of Medicine, Ain Shams University

Professor Dr. Mohamed A. Al-Khafif

Prof. of Biochemistry and Head of Medical Sciences Department,
Institute of Environmental Studies and Research,
Ain Shams University

Professor Dr. Amr M. Karim

Prof. of Biochemistry
Faculty of Science, Ain shams University

Dr. Amr E. Al-Dakroury

Assist. Prof. of Orthodontics,
Faculty of Oral and Dental Medicine, Cairo university

**Institute of Environmental Studies and Research
Ain Shams University**

1999

ACKNOWLEDGMENT

My most cordial thanks and gratitude are extended to **Professor Dr. Mohsen Gadallah**, Professor of Community, Environmental and Occupational Medicine, Faculty of Medicine, Ain Shams University, for his constructive help and advice as well as encouragement throughout this work.

I would like to express my deep appreciation to **Professor Dr. Mohamed El-Khafif**, Professor and Head of Medical Sciences Department, Institute of Environmental Studies and Research, Ain Shams University, for his excellent clinical help and keen interest in supervising the whole research.

I am grateful to **Professor Dr. Amr M. Karim**, Professor of Biochemistry, Faculty of Science, Ain Shams University, for his advise and support throughout the work in this thesis.

I would like to express my gratitude to **Assistant Professor Dr. Amr Dakroury**, Assistant Professor of Orthodontics, Faculty of Oral and Dental Medicine, Cairo University, for his kind help and support and professional guidance in this thesis.

CONTENTS

	Page
Introduction	1
Aim of the Work	5
Review of Literature	6
Viral Hepatitis	6
Hepatitis B Virus	11
Hepatitis C Virus	28
Epidemiology and Spread of Hepatitis C	38
Therapy of Hepatitis C	41
Dental Profession and Infection Control Recommendations	46
Subjects, Materials and Methods	63
Results	86
Discussion	118
Conclusion	131
Recommendations	133
English Summary	134
References	137
Arabic Summary	
Arabic Questionnaire	

LIST OF TABLES

	Page
Table (I): Sensitivity and accuracy of anti-HCV screening tests.	33
Table (II): Efficacy of therapy.	41
Table (III): Hepatitis C-related factors related to response to antivirals.	42
Table (IV): Possible indications for ribavirin therapy in chronic HCV.	44
Table (V): Disinfection of prostheses, casts, wax rims and jaw relation records.	57
Table (VI): Infection control recommendations for the dental office and the dental laboratory.	60
Table (1): Relation between sex and hepatitis B prevalence.	89
Table (2): Relation between sex and hepatitis C prevalence in group I.	89
Table (3): Relation between type of dental treatment and prevalence of Hepatitis B.	92
Table (4): Relation between type of dental treatment and prevalence of HCV.	92
Table (5): Relation between socioeconomic level and prevalence of hepatitis B.	92
Table (6): Relation between socioeconomic level and prevalence of hepatitis C.	92
Table (7): Comparison between AST level and PCR finding for hepatitis B.	94
Table (8): Comparison between ALT level and PCR finding for hepatitis B.	94
Table (9): Comparison between AST level and PCR finding for hepatitis C.	95
Table (10): Comparison between ALT level and PCR finding for hepatitis C.	95
Table (11): Age and PCR finding for hepatitis B.	96
Table (12): Age and PCR finding for hepatitis C.	96
Table (13): Hepatitis B incidence in group II and group III.	98
Table (14): Hepatitis C incidence in group II and group III.	98

Table (15): Relation between incidence of hepatitis B and age in group II.	100
Table (16): Relation between incidence of hepatitis C and age in group II.	100
Table (17): Relation between incidence of hepatitis B and socioeconomic level in group II.	102
Table (18): Relation between hepatitis C incidence and socioeconomic level in group II.	103
Table (19): Relation between age and hepatitis B incidence in group III.	105
Table (20): Relation between incidence of hepatitis C and age in group III.	105
Table (21): Relation between socioeconomic level and incidence of hepatitis B in group III.	107
Table (22): Relation between incidence of hepatitis C and socioeconomic level in group III.	108
Table (23): Relation between sex and incidence of hepatitis B in group II.	110
Table (24): Relation between sex and incidence of hepatitis C in group II.	110
Table (25): Relationship between sex and incidence of hepatitis B in group III.	113
Table (26): Relationship between sex and hepatitis C incidence in group III.	113
Table (27): Relation between hepatitis B incidence in group II and duration of time between 1st and 2nd PCR investigation.	115
Table (28): Relation between incidence of hepatitis C in group II and duration of time between 1st and 2nd PCR investigation.	115
Table (29): Relationship between duration of time and incidence of hepatitis B in group III.	116
Table (30): Relationship between incidence of hepatitis C in group III and duration of time between 1st and 2nd PCR investigations.	116

LIST OF FIGURES

		Page
Fig. (I)	Hepatitis C virus effect on the liver	39
Fig. (1):	Relation between sex and hepatitis B and C prevalence.	87
Fig. (2):	Relation between type of dental treatment and prevalence of Hepatitis B and C.	89
Fig. (3):	Relation between socioeconomic level and prevalence of hepatitis B and C.	91
Fig. (4):	Age and PCR finidng for hepatitis B and C.	95
Fig. (5):	Hepatitis B and C incidence in group II and group III.	97
Fig. (6):	Relation between incidence of hepatitis B and C and age in group II.	99
Fig. (7):	Relation between incidence of hepatitis B and C and socioeconomic level in group II.	102
Fig. (8):	Relation between age and hepatitis B and C incidence in group III.	104
Fig. (9):	Relation between socioeconomic level and incidence of hepatitis B and C in group III.	107
Fig. (10):	Relation between sex and incidence of hepatitis B and C in group II.	109
Fig. (11):	Relationship between sex and incidence of hepatitis B and C in group III.	111

LIST OF ABBREVIATIONS

ADA	American Dental Association
CDC	Centers for Disease Communication
EPA	Environmental Protection Agency
NHANES	National Health and Nutrition Evaluation Center
OSHA	Occupational Safety, Health Administration, Department of Labour