Assessment of Knowledge of Medical and Paramedical Health Care Providers about Hepatitis C Virus Infection in Egypt

Thesis

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To My Loving and Supporting Parents

To My Sisters Dr. Heba & Dr. Ola

To my Brothers Dr. Mohamed & Dr. Abdelrahman

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Abstract

Background: Hepatitis C is a major health problem in Egypt, with 8 out of each 10 new cases occur in hospitals. Health care workers are at high risk of hepatitis C infection and transmission of it to their patients.

Objective: The aim of the study was to assess the knowledge of health care workers about hepatitis C virus infection transmission and prevention.

Methods: A descriptive cross sectional survey was conducted in six Egyptian governorates including randomly selected physicians, nurses and traditional providers. Three interview questionnaires were conducted to physicians, nurses and traditional providers to assess their socio-demographic characteristics, knowledge about cause, symptoms, transmission, and prevention of HCV. Two observational checklists were designed to assess infection control practices of physicians and nurses.

Results: Mean knowledge score of physicians was (36± 5.6) out of total score 44, with mean practice score (5± 3.9) out of total score 9. The mean knowledge score of nurses was (29.6 ± 6.2) out of total score 41 and mean practice score (3.49± 3.5) out of total score 7, while the knowledge score of the traditional providers was 25.9± 5.8 out of total score 40. The knowledge and practice score were positively correlated with attendance of infection control courses. Correct knowledge about contaminated needles as a mode of transmission was 93.7% for physicians, 72.7% for nurses, and 3% for traditional providers. There was statistically significant difference between the groups regarding knowledge score with the traditional providers had the lowest knowledge.

Conclusion: The percentage of correct knowledge was higher among physicians than the nurses, while the traditional providers had the lowest Knowledge, with some gaps of knowledge that need to be strengthened through infection control courses.

Recommendation: Sustainable educational courses for the health care providers about modes of transmission and prevention of HCV especially the traditional providers.

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List of abbreviations

WHO	: World Health Organization
HCSP	: Hepatitis C Support Project
HCV	: Hepatitis C Virus
CDC	: Centers for Disease Control and Prevention
EDHS	: Egypt Demographic and Health Survey
MMWR	: Morbidity and Mortality Weekly Report
HCC	: Hepatocellular Carcinoma
HD	: Hemodialysis
HIV	: Human Immunodeficiency Virus
RNA	: Ribonucleic Acid
NAT	: Nucleic Acid Amplification Testing
IDUs	: Intravenous Drug Users
IV	: Intravenous
FGC	: Female Genital Cutting
HBV	: Hepatitis B Virus
AAOS	: American Academy of Orthopedic Surgeons
IOM	: Institute Of Medicine
UNICEF	: United Nations Children Fund
MOHP	: Ministry Of Health and Population
PWID	: People Who Inject Drugs
OSHA	: Occupational Safety and Health Administration

NS : Non significant

S : Significant

HS : Highly Significant

HCWs : Health Care Workers

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Introduction

Hepatitis C, the silent epidemic, is a serious health problem and one of the most important infectious leading causes of death worldwide. Hepatitis C is a major cause of cirrhosis, liver failure, hepatocellular carcinoma, and the most common indication for liver transplantation **(Joukar et al., 2012).**

WHO estimates that about 130-150 million people, 3% of the world's population, are infected with HCV and 3-4 million persons are newly infected each year **(Yaghi et al., 2012)**. Approximately 350,000 to 500,000 people die every year from Hepatitis C-related liver disease **(WHO, 2015a).**

Egypt has higher rates of HCV than neighboring countries with comparable socioeconomic conditions and hygienic standards for invasive medical, dental, or paramedical procedures. Hepatitis C kills an estimated 40 000 Egyptians a year **(WHO, 2015b).**

HCV transmission is ongoing in Egypt, and incidence rates have been estimated at 2.4 per 1,000 person-years (165,000 new infections annually) **(Mostafa et al., 2010**).

Transmission can occur through medical procedures: such as Transmission of non screened blood transfusions, reuse of inadequately sterilized needles, syringes or other medical equipment, or through needle-sharing among drug-users. Other modes of transmission done by traditional providers include social, cultural, and behavioral practices using percutaneous procedures **(Kabir et al., 2010).**

Hepatitis C can be spread in clinical settings from patient to patient, from patient to doctor, and from doctor to patient with 8 out of 10 new

infections occur during medical procedures **(Denniston et al., 2012)** which reveal the great role of physicians, nurses, and traditional providers in transmission of HCV.

Having enough knowledge towards HCV infection among the health care workers is the cornerstone of preventing the spread of HCV. While, the lack of knowledge and awareness about Hepatitis C in the community often leads to misinformation, missing of early opportunities for prevention and treatment, and stigmatization of infected populations in the work place, by family members and by members of their communities. The consequences for members of at-risk communities are dangerous; because missing these opportunities for prevention can lead to infection of additional people with HCV **(Ball and Pike, 2008 and Basal et al., 2011).**

Confirmed transmission of HCV in health care facilities, in addition to the factor that many infected patients are unaware of their status or not willing to disclose their disease status to health care workers, all raise concerns related to the need to assess the knowledge status of the health care providers about modes of transmission of HCV and ways of prevention and their practical adherence to these ways of prevention.