Seasonal and H1N1 influenza vaccinations coverage among health care workers

Thesis submitted for partial fulfillment of the master degree in Community Medicine

By

Hebat Allaha Mohammed Salah Gabal

Demonstrator of Public Health. Ain Shams University

Under supervision of

Prof. Sawsan El Ghazali

Head of Community, Environment and Occupational

Medicine Department

Professor of Community, Environment, Occupational Medicine

Faculty of Medicine- Ain Shams University

Prof. Aisha Aboul Fotouh Algamal

Professor of Community, Environment and Occupational Medicine

Faculty of Medicine- Ain Shams University

Dr. Hassnaa Abou Seif

Lecturer of Community, Environment and Occupational Medicine

Faculty of Medicine- Ain Shams University

Faculty of Medicine- Ain Shams University

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SIV	Swine influenza virus
S-OIV	swine-origin influenza virus
HA	Hemagglutinin
NA	Neuraminidase
RNPs	Ribonuclear Proteins
WHO	The World Health Organization
HCW	Health care workers
NACI	National Advisory Committee on Immunization
CDC	Centers for Disease Control and Prevention
PSI	Proposed classification scale for reporting severity of influenza pandemic.
NA	Not readily available
NACI	Canadian National Advisory Committee on Immunization
AIDS	Human Immune Deficiency Syndrom
GBS	Guillain-Barré Syndrome
FAD	Food and Drug Administration
χ^2	Chi square
ABC	Australian Broadcasting Corporation

PROTOCOL

INTRODUCTION

Introduction :

Influenza is the sixth leading cause of death among adults in the United States, killing an average of 36,000 Americans annually **(Thompson et al, 2003)** .

Influenza kills as many or more Americans each year than breast cancer (40,000), and three times as many as HIV/AIDS (14,000) (**CDC**, **2004) , (American Cancer Society ,2004).**

In 2005 the World Health Organization recommended its member states to revise or construct a preparedness plan for pandemic influenza. The WHO also set up a system of influenza pandemic alert levels. Phases 1-3 include capacity development and response planning, while phases 4-6 signify the need for response and mitigation efforts **(WHO, 2005).**

By August 2008, 47 countries had prepared such a plan **(Jennings et al, 2008)**.

The recent spread of infection with a novel influenza A virus (H1N1 subtype) of swine origin ("swine flu") has prompted governments to review and carry out their pandemic responses, including vaccination strategies.(**Chor et al, 2009)**

The uptake of pre-pandemic vaccination among health care workers is a concern as the uptake of seasonal influenza vaccine is often low. In most studies, fewer than 60% of healthcare workers were vaccinated against seasonal influenza

in various clinical settings. The most common barriers were fear of side effects, uncertainty about the vaccine's efficacy, and misconceptions about the vaccination and the infection **(Opstelten et al, 2008, Van den Dool et al, 2008 and Hollmeyer et al, 2009).**

Within 2 months of its discovery, a novel influenza A (H1N1) virus, currently referred to as 2009 H1N1, caused the first influenza pandemic in decades. The virus has caused disproportionate disease among young people with early reports of virulence similar to that of seasonal influenza **(Sullivan et al, 2010)**

On 13 July 2009, the WHO also recommended that all countries should immunize their healthcare workers against H1N1 influenza as a first priority to protect the essential health infrastructure **(WHO, 2009)** .

Influenza infections among hospitalized patients can have much more serious consequences than among the general population because an increasing proportion of hospital patients are elderly and/or immunocompromised. Several outbreaks of health care facility-acquired influenza involving older patients as well as adults and children with immunosuppression have been documented in the infection control literature **(Salgado et al, 2002, Sartor et al, 2002 and Horcajada et al, 2003).**

The efficacy of influenza vaccine is lower in the elderly and immunocompromised than in younger adults **(Goodwin et al ,2006)** necessitating indirect protection through vaccination of health care workers (HCW) **(Hollmeyer et al, 2009).**

Influenza vaccination of HCW reduces the risk for infection, influenza-like-illness, absenteeism and presenteeism among staff **(Salgado et , 2004)** and appears to prevent nosocomial infections and associated morbidity and mortality among their patients **(Carman et al, 2000 and Salgado et al, 2004).**