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List of Abbreviations

AACE	American Association of Clinical Endocinology
AHMAC	Australian Health Minister's Advisory Council
BMD	Bone Mineral Density
BMI	Body Mass Index
DIPART	Vitamin D Individual Patient Analysis of Randomized Trials
DXA	Dual energy X-ray Absorptiometry
FF	Fragility Fracture
FRAX	Fracture Risk Assessment Tool
GOLW	Global Longitudinal study of Osteoporosis in Women
HRT	Hormone Replacement Therapy
IOF	International Osteoporosis Foundation
IOM	Institute of Medicine
ISCD	International Society of Clinical Densitometry
IU	International Unit
KAP	Knowledge Attitude Practice
MCH	Maternal Child Health
MOHP	Ministry of Health and Population
NAS	National Academic Science
NIAMS	Natinal Institute of Arthritis, Muscloskeletal and Skin diseases.
NIH	National Institue of Health
NOF	National osteoporosis foundation
NOS	National Osteoporosis Society
OKAT	Osteoporosis Knowledge Assessment Tool
OPSMC	Osteoporosis Prevention & Self-management Course
QCT	Quantitative computed tomography
SCORE	Simple Calculation Osteoporosis Risk Assessment
SD	Standard Deviation
USDHHAS	United States Department of Health and

	Human Services
USPSTF	United States Preventive Services Task Forces
WHO	World Health Organization

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An Interventional Study for Osteoporosis Prevention Among Female Employees of Faculty of Medicine Ain Shams University.

Thesis

Submitted for the Partial Fulfillment of Master Degree in **Public Health**

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**Faculty of Medicine
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2014**

دراسة تداخلية للوقاية من مرض هشاشة العظام لموظفات كلية الطب جامعة عين شمس

رسالة

توطئة للحصول على درجة الماجستير فى الصحة العامة

مقدمة من

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Acknowledgement

First of all, all gratitude is due to *ALLAH*, the almighty guided and aided me in bringing this work to light which would have never been crowned by success without blessing of *ALLAH*, to whom my faithful loyalty will remain however beyond my compromises.

It's a pleasure to express my deepest appreciation, gratitude and sincere thanks to my supervisor *Prof. Dr. Hoda Ibrahim Fahim*, Professor of Community, Enviromental and Occupational Medicine, Faculty of Medicine, Ain Shams University for his constructive suggestions, excellent guidance and eminent supervision which aided me over difficulties I met with throughout this work.

It's a pleasure to express my deepest appreciation, gratitude and sincere thanks to my supervisor *Dr. Iman Mohamed Ahmed Bakr*, Professor of Community, Enviromental and Occupational Medicine, Faculty of Medicine, Ain Shams University, for his constructive suggestions, excellent guidance and eminent supervision which aided me over difficulties I met with throughout this work.

I would like to express my profound gratitude to *Dr.Amany Mohamed Sayed*, lecturer of Community, Enviromental and Occupational Medicine, Faculty of Medicine, Ain Shams University, for his excellent guidance, continuous encouragement and valuable help.

بسم الله الرحمن الرحيم

قالوا

سبحانك لا علم لنا

إلا ما علمتنا إنك أنت

العليم الحكيم

صدق الله العظيم

سورة البقرة الآية: ٣٢

Introduction:

Osteoporosis is a debilitating and silent metabolic disorder characterized by a decrease in bone mass and an increased susceptibility to fractures. It is considered as a "silent killer" of public health concern owing to its high morbidity and mortality **(IOF, 2011).**

It is considered a global health issue along with heart disease, stroke, diabetes and cancer and takes up many financial resources for prevention and treatment **(Wallace et al., 2011).** With socio-economic development in many countries and rapid ageing of populations, osteoporosis has become one of the most prevalent and costly health problems **(Kalpana et al., 2012**). Osteoporosis prevalence is higher in females than males **(Ohta, 2011).** It can begin as early as age twenty-five, yet the majority of those affected by osteoporosis are postmenopausal women **(Kalpana et al., 2012).**

The prevalence of osteoporosis among Egyptian population is 10% **(NIAMS, 2006). Salem et al. (2000)** reported that (16.7%) of 1190 Egyptian menopausal females had lumbar osteoporosis. Constructed Bone mineral density charts for Egyptian women showed that, in general, they have a lower bone mineral density

compared to their western counterparts. **Sallam et al. (2006)**

It affects more than 75 million people worldwide **(Schuiling et al., 2011)**. In the United States, it is considered a threat to approximately 55% of individuals 50 years of age and older **(NOF, 2010).**

Osteoporosis can lead to back pain, height loss, and kyphosis, It can result in fragility fractures particularly in wrist, hip and vertebral fractures. Hip fractures result in 10 to 20 percent excess mortality within 1 year, and 2.5 fold increase in risk of future fractures **(NOF, 2011)**. Vertebral fractures cause substantial morbidity and mortality; they are associated with limitations in functional capacity, pain, reduced social participation, reduced quality of life and fear of falling **(Guillemin et al., 2013).**

Despite these adverse effects, osteoporosis is often over looked and undertreated. During the postmenopausal period, many women deny their personal risk factors for osteoporosis, do not consult with their primary care providers about osteoporosis, and often do not seek diagnostic testing or treatment following an osteoporotic fracture **(IOF, 2011).**

Insufficient awareness of osteoporosis and related education are among the most important reasons for osteoporosis **(Mithal et al., 2009).**

Giangregorio et al. (2008) reported that Knowledge about osteoporosis process and the risk factors associated with it, as well as best practices in prevention and treatment are not enough for such a prevalent and important disease. Also **Gemalmaz and Oge (2008)** reported that most studies about osteoporosis knowledge were conducted in postmenopausal women whose bone losses had already been accelerated.

It is estimated that less than 6 % of women in developed countries, have an adequate combination of nutrition and exercise **(Schnatz et al., 2011).** Failure of women to engage in healthy preventive behavior is of particular concern because menopausal transition and the years immediately following menopause are a time of significant bone loss **(Finkelstein et al., 2008). NOF (2011)** also stated that failure to identify patients at-risk, lack of interest in educating the public and implementing preventive measures upon them may lead to tragic consequences.

Participation in "educational" programs is an intervention used worldwide to increase people's

engagement in health- promoting behaviors **(Straus et al., 2009)**. **Papaioannou et al. (2010)** and **Smith et al. (2010)** reported that Healthcare professional led educational programs are effective in osteoporosis prevention and treatment.

These educational programs in particular will benefit women in young adulthood as most bone mass density and content is formed in young age **(Babatunde et al., 2012).** These programs will increase their awareness about osteoporosis risk factors as smoking, alcohol abuse, diets low in calcium and Vitamin D, and physical inactivity **(Rodzik et al., 2008).** Also they will increase their awareness about modifiable factors in the prevention of osteoporosis as proper nutrition including adequate calcium intake and physical activity including regular exercise that would eventually lead to maximizing their bone mass and preventing osteoporosis **(Babatunde et al., 2012).**

Finally, since osteoporosis is considered a public health problem affecting large sector of the Egyptian women suffering from it and it's a preventable disease through increasing knowledge and awareness about healthy lifestyle. Therefore implementing educational interventions for osteoporosis prevention in our community is an important mission.