

UNIVERSITI TEKNOLOGI MARA

**RELATIONSHIP BETWEEN LIFESTYLE
FACTORS AND BONE DENSITY AMONG
FEMALE PHARMACY STUDENTS IN UITM**

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Dissertation submitted in partial fulfilment of the requirements for the

Bachelor of Pharmacy (Hons.)

Faculty of Pharmacy

2016

ACKNOWLEDGMENT

Bismillahirrahmanirrahim.

First and foremost, I praised to Allah SWT, the most gracious and the most merciful for making my journey towards completion this dissertation went smoothly and successful as partial fulfilment of the requirements for the degree of Bachelor of Pharmacy (Hons.), Faculty of Pharmacy, UiTM. I would like to thank my supervisor, Prof Zabidah Binti Ismail for her guidance, motivation and patience upon completion this study.

Besides that, I would like to thank my family and parents, Mr Haji Mohd Hisham bin Abd Karim and [redacted] for their encouragement, advice, support and prayers throughout this study. I would also like to thank two of my friends, Noguee Anne binti Ishak and Syarifah Nabilah for always have my back and stick with me through ups and downs during this research. Not to be forgotten, I would send my appreciation to Dr Mariam binti Mohamad from Faculty of Medicine, UiTM Sungai Buloh for helping us out in designing the questionnaire. Last but not least, a sincere gratitude to all lecturers, staff of Faculty of Pharmacy and everyone who helped and supported me directly or indirectly during this study.

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ABSTRACT

Low bone mineral density (BMD) and osteoporosis is a serious general issue in Asia, especially in postmenopausal women. Healthy lifestyles has known to improve this issue, however lifestyle behaviours and other factors influencing BMD is still controversial. Identifying the bone health status at younger age is essential in order to prevent osteoporosis in future. Previous studies discussing about BMD status among young women in Malaysia is limited. This study aimed to determine the lifestyle factors that may influence BMD in young women. In a cross-sectional study, a total of 276 female pharmacy students in UiTM were interviewed and a questionnaire was given to gain information regarding their demographic profile and lifestyle habits. Calcaneal BMD was measured using ultrasound bone densitometry. Relationships between BMD and lifestyle factors were evaluated by Spearman's correlation test. A chi-square test was conducted to see significance difference between BMD and desired variables. All tests were two-tailed, and a 5 percent level of statistical significance was chosen. In a total of 276 female pharmacy students, 62.0% of them were normal, 35.10% were osteopenia and 2.90% were osteoporotic. BMD were correlated with body weight, height, body mass index (BMI), body fat and sunlight exposure while there was no correlation between BMD with exercise, physical activity, calcium intake and caffeine intake.

CHAPTER 1

INTRODUCTION

1.1 Background

Osteoporosis is a disorder in which bone strength was loss and cause fragility fractures. It is a skeletal disease, distinguished by low bone mass and deterioration of the microarchitecture of bone tissue leading to increased tendency to fractures (Szulc & Bouxsein, 2011). Fragility fractures are usually occurring at the wrist, spinal vertebrae and hip and also through the skeleton (Prentice, 2004). As the age increases, the incidence of vertebral and hip fractures grow exponentially while wrist fractures come to rest on starting the age of 60 years (Prentice, 2004).

Osteoporosis and state of bone density are highly connected. Bone density is referring to the amount of mineral matter per square centimetre of bones. Bone density test is carried out to approximate the strength of bone. The higher bone density, the stronger the bone (Bolland *et al.*, 2010). The bone mass decreases as people grow older. Bones naturally become thinner, because existing bone is broken down faster than new bone is made. As this occurs, our bones lose calcium and other minerals and become lighter, less dense and more porous. This makes the bones weaker and increases chance to fracture.