KNOWLEDGE, ATTITUDE AND PRACTICE OF OSTEOPOROSIS PREVENTION AMONG FEMALE ADULTS COMMUNITY IN PENAMBANG, KELANTAN

By

MUHAMMAD TARMIZI BIN ANUAR

105131

Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Bachelor of Health Sciences (Nursing)

JUNE 2014

DECLARATION

I certify that this dissertation does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

CERTIFICATE

This is to certify that the dissertation entitled *"Knowledge, Attitude and Practice of Osteoporosis Prevention among Female Adults Community in Penambang, Kelantan"* is the bonafide record of research work done by Muhammad Tarmizi Bin Anuar, Matric Number 105131 during the period of July to March 2005 under my supervision. This dissertation is submitted in partial fulfillment for the degree of Bachelor of Health Sciences (Nursing). Research work and collection of data belong to Universiti Sains Malaysia.

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LIST OF ABBREVIATIONS

BMD	- Bone Mass Density
HBM	- Health Belief Model
HUSM	- Hospital Universiti Sains Malaysia
KAP	- Knowledge, Attitude and Practice
OKT	- Osteoporosis Knowledge Test
RN	- Registered Nurse
SPSS	- Statistical Package for Social Sciences
SD	- Standard Deviation
TB	- Tuberculosis

KNOWLEDGE, ATTITUDE AND PRACTICE OF OSTEOPOROSIS PREVENTION AMONG FEMALE ADULTS COMMUNITY IN PENAMBANG, KELANTAN.

ABSTRACT

Osteoporosis is a serious public health issues, affecting up to 1 in 2 women over the age 50 years old. The Malaysian generally are not serious to take care about osteoporosis, that's why it is important to enhance and promote good bone health. This study is a cross-sectional designs, descriptive study. These study was carried out to identify the relationship between knowledge, attitude and practice of osteoporosis prevention among female adults in Kampung Bunga Mas community, Penambang, Kota Bharu, Kelantan. Approximately 90 of females adults ages ranged from 40 until 60 years old have completed questionnaires by purposive sampling method for female adults that meet the inclusion criteria. Data was collected by using Oteoporosis Knowledge Test (OKT), attitude toward osteoporosis and practice toward osteoporosis. Data was statistically analyzed by using the software package SPSS version 21. The statistical significance was considered at p-value <0.05. Descriptive statistic were used to determine the prevalence of osteoporosis. Meanwhile, the independent t-test and One Way Anova test were used to describe the association between selected socio-demographic data (age and level of education) with knowledge, attitude and practice of osteoporosis prevention among respondents. There was significant association between age and practice of prevention osteoporosis since the p-value was 0.031 (p<0.05). In addition, the p-value of One Way Anova test for level of education and knowledge score was 0.001 (p<0.05) and the result shown that there was significant association between level of education and knowledge of osteoporosis prevention among respondents. The relationship between knowledge, attitude and practice of osteoporosis prevention was tested by using Pearson's correlation. The p-value of knowledge and attitude was 0.125 (r=0.163), p-value of knowledge and practice was 0.734 (r=0.036), and p-value of attitude and practice was 0.951 (r=0.007). From the result, it was revealed that there were no relationship between knowledge, attitude and practice of osteoporosis prevention and no direct correlation between these variables.

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Osteoporosis is a serious public health issues, affecting up to 1 in 2 women over the age 50 years old. The Malaysian generally are not serious to take care about osteoporosis, that's why it is important to enhance and promote good bone health. This study is a cross-sectional designs, descriptive study. These study was carried out to identify the relationship between knowledge, attitude and practice of osteoporosis prevention among female adults in Kampung Bunga Mas community, Penambang, Kota Bharu, Kelantan. Approximately 90 of females adults ages ranged from 40 until 60 years old have completed questionnaires by purposive sampling method for female adults that meet the inclusion criteria. Data was collected by using Oteoporosis Knowledge Test (OKT), attitude toward osteoporosis and practice toward osteoporosis. Data was statistically analyzed by using the software package SPSS version 21. The statistical significance was considered at p-value <0.05. Descriptive statistic were used to determine the prevalence of osteoporosis. Meanwhile, the independent t-test and One Way Anova test were used to describe the association between selected socio-demographic data (age and level of education) with knowledge, attitude and practice of osteoporosis prevention among respondents. There was significant association between age and practice of prevention osteoporosis since the p-value was 0.031 (p<0.05). In addition, the p-value of One Way Anova test for level of education and knowledge score was 0.001 (p<0.05) and the result shown that there was significant association between level of education and knowledge of osteoporosis prevention among respondents. The relationship between knowledge, attitude and practice of osteoporosis prevention was tested by using Pearson's correlation. The p-value of knowledge and attitude was 0.125 (r=0.163), p-value of knowledge and practice was 0.734 (r=0.036), and p-value of attitude and practice was 0.951 (r=0.007). From the result, it was revealed that there were no relationship between knowledge, attitude and practice of osteoporosis prevention and no direct correlation between these variables.

PENGETAHUAN, TINGKAHLAKU DAN AMALAN PENCEGAHAN OSTEOPOROSIS DALAM KALANGAN WANITA MUDA DI KOMUNITI PENAMBANG, KELANTAN.

ABSTRAK

Osteoporosis merupakan masalah kesihatan awam yang serius, yang mana mengancam 1 daripada 2 wanita pada usia 50 tahun ke atas. Rakyat Malaysia umumnya tidak mengambil serius tentang osteoporosis, sebab itulah pentingnya untuk menjaga kesihatan tulang. Kajian ini merupakan kajian tinjauan deskriptif-silang. Tujuan utama kajian dijalankan adalah untuk mengenalpasti hubungan di antara pengetahuan, tingkahlaku dan amalan pencegahan osteoporosis dalam kalangan wanita muda di kampung Bunga Mas komuniti, Penambang, Kota Bharu, Kelantan. Seramai 90 wanita muda daripada umur 40 tahun sehingga 60 tahun telah menjawab soal kaji selidik melalui kaedah pemilihan secara tentuan di mana wanita muda yang dipilih memenuhi ciri-ciri inklusi yang telah ditetapkan. Data telah dikumpulkan menggunakan soalan kaji selidik pengetahuan terhadap osteoporosis, tingkahlaku terhadap osteoporosis dan amalan terhadap osteoporosis. Data kemudiannya dianalisis dengan menggunakan perisian SPSS versi 21. Signifikan statistik ditetapkan pada nilai-p <0.05. Statistik deskriptif digunakan untuk menentukan prevalen osteoporosis. Sementara itu, ujian tidak bergantung ujian t dan Ujian ANOVA Sehala juga digunakan untuk menghuraikan hubungan antara sosio-demografi data yang terpilih (umur dan tahap pendidikan) dengan pengetahuan, tingkahlaku dan amalan pencegahan osteoporosis dalam kalangan responden. Terdapatnya hubungan signifikan antara umur dan amalan pencegahan osteoporosis di mana p-nilai adalah 0.031 (p<0.05). Tambahan itu, p-nilai untuk Ujian ANOVA Sehala terhadap tahap pendidikan dan skor pengetahuan adalah 0.001 (p<005) dan keputusan menunjukkan terdapatnya hubungan signifikan antara tahap pendidikan dan pengetahuan pencegahan osteoporosis dalam kalangan responden. Hubungan antara pengetahuan, tingkahlaku dan amalan pencegahan osteoporosis diuji dengan menggunakan ujian "Pearson's correlation". P-nilai pengetahuan dan tingkahlaku adalah 0.125 (r=0.163), p-nilai pengetahuan dan amalan adalah 0.734 (r=0.036), dan p-nilai tingkahlaku dan amalan ialah 0.951 (r=0.007). Daripada keputusan ini, dapat dirumuskan bahawa tiada hubungan di antara pengetahuan, tingkahlaku dan amalan pencegahan osteoporosis dan tiada kolerasi terus di antara kesemua pemboleh ubah.

CHAPTER 1

INTRODUCTION

1.1 Background of The Study

Osteoporosis currently is one of the most known diseases affected people throughout the world especially among female population and the prevalence of osteoporosis has increased in the past few decades (Tadic, I., Stevanovic, D., Tasic, L., & Vujasinovic, S.N. 2012). Osteoporosis or also known as porous bones, characterized by decreased in bone mass and structural deterioration of bone tissue, which further leading to an increased susceptibility to fractures. It is a non-reversible, disabling condition which affected more than 25 million Americans (Yu, S., & Huang, Y., 2003).

It develops silently, and frequently goes undiagnosed until a fall or fractures occurs. Throughout the world, approximately 1.7 million individuals having fracture at their hips every year due to osteoporotic changes, in which these number expectedly to exceed 6 million by 2050 (Chang, S., Hong, C., & Yang, R., 2007). In spite fractures can cause debilitating pain and have a huge impact on posture and mobility, it also affects daily living. Patient with hips fracture have costed amount of more than £ 1.73 billion per year in 2001 especially for costs of hospital and social care (Carne, K., 2009).

Women aged from 50 years or over are expected to suffer 40,000 fractures of the hip, spine or distal forearm which give rise to over US $ 13 million in direct medical expenditures (Chang et al., 2007). In the US alone it is estimated that at least 700,000 vertebral fractures occur each year (Mary, L. B. & Harry, K. G., 2010). Mary and Harry, 2010 added that, osteoporotic fractures cases have caused financial burden such as direct costs. For example hospital acute care, in-hospital rehabilitation, outpatient services, long- term nursing care and indirect costs such as morbidity and loss of working days.

According to Chang et al. (2007), around 452,000 women over 50 years old in Taiwan are expected to suffer from osteoporosis, and this number is increasing gradually.

In addition, for females especially in peri-menopausal years their bone's mineral density loss rapidly with an accelareted phase than in males. This is because postmenopausal women most commonly are affected by osteoporosis because at any age, women have a lower bone density than in men (Yu and Huang, 2003). Reversely, previous epidemiological study that have been done noted European and American women's bone mass density (BMD) are higher than that of Asian women, due to their body structure and body weight (Chang et al., 2011).

In Malaysia, the prevalence of osteoporosis were reported as 24.1% in 2005, which predominantly affecting the hip area (Loh, K.Y., & Shong, H.K., 2007). Serious problem from osteoporosis are fractures especially hip fractures which were affected 218 women per 100,000 at Malaysia with a direct hospitalization cost of RM 22 million (US $6.5 million) as stated by (Lai, P.S., Chua, S.S., Chan, S.P., & Low, W.Y., 2008). Meanwhile, in other South East Asian countries such as in Thailand, their prevalence of osteoporosis was 12.6%, in China 16.1% and in Taiwan was 10.08%. The overall prevalence of osteoporosis in the Asian population is higher than the western countries due to the fact that the Asian population has lower body mass index and shorter height than western ones (Loh and Shong, 2007).

1.2 Problem Statements

Eventhought osteoporosis previously is always being linked to diseases related to erderly population, but currently regardless of any age of people especially females having greater possibilities to get osteoporosis. Osteoporosis affects women disproportionately, with estimation that 1 of every 2 women more than 50 years old will have an osteoporosis-related fracture in her lifetime (Laura et al., 2009).

Osteoporosis affects women disproportionately, with estimation that 1 of every 2 women more than 50 years old will have an osteoporosis-related fracture in her lifetime (Laura et al., 2009). Percentage of women estimated to have osteoporosis at age 50 was 15%, at 70 years old about 30%, and 40% at the age of 80 (Shakil et al., 2010).

According to study conducted by the Chang et al. (2007), it was found that the average knowledge of osteoporosis score was 7.6, and the rate of correct knowledge was 50.6%.

The main risk factors for osteoporosis and fractures are age, gender, parental history of hip fracture, oral glucocorticoid use, low hormone levels, other diseases, smoking, and alcohol consumption more than 3 units per day (Carne, 2009). A higher level of education was associated with more knowledge on osteoporosis in women (Yeap et al., 2010). In the study conducted by Yeap, S.S., Goh, E.M. L., & Gupta, E.D., 2010 at Klang Valley and Seremban, 89.5% out of 483 respondents are getting concern about osteoporosis problem. In Malaysia, the prevalence of osteoporosis were reported as 24.1% in 2005, which predominantly affecting the hip area (Loh and Shong, 2007).

From the survey done at the Klinik Kesihatan Penambang, about 3 female adults attending the clinic were at risks of developing osteoporosis. Most of them do not know about osteoporosis and its complications. Hence, this study on knowledge, attitude and practice of osteoporosis prevention among female adults in community will be conducted as a starting point for futher improvement in understanding the osteoporosis itself so that necessary preventive measures could be taken into consideration whether it is compulsory to be implemented or not. Other than that, this study also aids to increase public awareness regarding osteoporosis prevention and immediately gives stronger desire for people with high risk in developing osteoporosis to change their behaviour, lifestyle, and as well as gain knowledge for their better future health maintainance.

1.3 Objectives of The Study

1.3.1 General Objective

To identify the relationship between knowledge, attitude and practice of osteoporosis prevention among female adults in Kampung Bunga Mas community, Penambang, Kota Bharu, Kelantan.

1.3.2 Specific Objectives

1. To determine the frequency of osteoporosis knowledge, attitude and practice among female adults at community.
2. To determine the association between selected socio-demographic (age and level of education) data with knowledge, attitude and practice osteoporosis prevention among female adults at community.
3. To determine the relationship between knowledge, attitude and practice of osteporosis prevention among female adults at community.

1.4 Research Questions

1. What is the frequency of knowledge, attitude and practice of osteoporosis prevention among female adults community, Penambang.
2. What is the association between selected socio-demographic data and knowledge, attitude and practice of osteoporosis prevention among female adults at community.
3. How does the relationship between knowledge, attitude and practice of osteoporosis prevention among female adults at community.

1.5 Hypothesis

1. Null hypothesis, H_O : There is no significant association between selected socio-demographic data and knowledge, attitude and practice of osteoporosis prevention among female adults at community.

   Alternative hypothesis, H_A : There is significant association between selected socio-demographic data and knowledge, attitude and practice of osteoporosis prevention among female adults at community.

2. Null hypothesis, H_O : There is no significant relationship between knowledge, attitude and practice of osteoporosis prevention among female adults at community.

Alternative hypothesis, H_A : There is significant relationship between knowledge, attitude and practice of osteoporosis prevention among female adults at community.

1.6 Operational Definations

(a) Knowledge

The facts, informations, and skills acquired through experience or education (Oxford Dictionary Online, 2014). In this study, the knowledge were assessed based on 20 items of Osteoporosis Knowledge Test (OKT), with the highest scoring indicate high level of osteoporosis knowledge.

(b) Attitude

A settled way of thinking, belief or feeling about something (Oxford Dictionary Online, 2014). In this study, the attitude refers to how the respondents think. belief and feels about osteoporosis which reflect their behaviour towards osteoporosis prevention. They were assessed through attitude towards osteoporosis prevention questionnaires.

(c) Practice

The actual application or use of an idea, belief, or method, as opposed to theories relating to it (Oxford Dictionary Online, 2014). Preventive activity against osteoporosis was defined as "any activity undertaken by a person without osteoporosis, for the specifle purpose of preventing osteoporosis or detecting il in an asyinptomatie stage" (Huang and Yu, 2003). In this study, practice represents calcium and vegetables intake by the respondents. It figured how respondents taking actions to prevent from getting osteoporosis by diet consuming.

(d) Osteoporosis

A systemic skeletal disease characterized by low bone mass and micro-architectural detioration of bone tissue with a consequent increase in bone fragility and susceptibility to fracture Shakil, A., Gimpel, N.E., Rizvi, H., Siddiqui, Z., Ohagi, E., Billmeier, T.M., & Foster, B., 2010.

(e) Prevention

Prevention is concerned with improving health outcomes among at-risk groups of vulnerable populations has increasingly become a priority in nursing research (Hooven, Walsh, Willgerodt, and Salazar, 2011). In this study, prevention refers to the action taken by respondents either from their knowledge, attitude or practice (preventive behaviors) aspects towards osteoporosis.

(f) Female Adults

In this study, female adults were categorized into 4 age groups which includes from 40 until 45 years old, 46 until 50 years old, 51 until 55 years old and 56 until 60 years old.

(g) Community

According to Oxford Dictionary Online 2014, community is a group of people living in the same place or having a particular characteristic in common. In these context of study, the community refers to overall population in that area in which the selected sample or respondents will be randomly picked between the range of age that indicated.

1.7 Significance of The Study

Hopefully, from this study it will provide a baseline statistic or prevalence on osteoporosis awareness among female adults at the community setting of Kampung Bunga Mas, Penambang, Kota Bharu as well as it can be referred as a initial data for

another researcher to conduct this scope of study again in the future. In addition, it will prevent of frequent incidence of osteoporosis. Previously there is no research or study done to search for prevalence of osteoporosis among community population Kelantan. Research that have been done only involved west part of Malaysia includes Loh and Shong, 2007 ; Lai, P.S., Chua, S.S., Chan, S.P., & Low, W.Y., 2008 and Yeap et al., 2010.

Futhermore, in this study the knowledge, attitude and practice of osteoporosis prevention also were assessed among participant. According to Yeap et al. (2010), in order to decrease the incidence of osteoporosis, population-based strategies need to be used to decrease the risk factors for osteoporosis, which would hopefully will reduce the incidence of osteoporosis in future. Due to that, it need for greater public awareness of the seriousness of osteoporosis and the possible preventative measures that can be taken to reduce the prevalence in Malaysia and population as well as other countries.

In addition, it also can increase awareness among public regardless of their social status, level of education and more over to practice healthy lifestyle such as exercises, eating diet well especially in their proportion, and others. Consequently, the complication-related to osteoporosis also can be prevented such as most common problem for osteoporosis which is fractures at the bones as well as it can reduce cost of burden for hospitalization on osteoporosis cases around the world.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Ostesoporosis is a systemic skeletal disease characterized by low bone mass and micro-architectural detioration of bone tissue with a consequent increase in bone fragility and susceptibility to fracture Shakil, A., Gimpel, N.E., Rizvi, H., Siddiqui, Z., Ohagi, E., Billmeier, T.M., & Foster, B., 2010. This will consequently impacted the bones structures which may impaired movement of a person. Currently, osteoporosis also become a major health problems throughout the world especially at country that having lack of calcium sources and their citizens do not practice well diet for calcium intake. There is around 452,000 women over 50 years old in Taiwan are expected to suffer from osteoporosis (Chang et al., 2007). It also problem such as fractures. According to Carne (2009), patient with hips fracture have costed amount of more than £ 1.73 billion per year in 2001 especially for costs of hospital and social care as the treatment of their fractures. Meanwhile, in Asian countries such as Malaysia, prevalence of osteoporosis were reported as 24.1% in 2005, which predominantly affecting the hip area (Loh and Shong, 2007) . Due to that, there is outgrowth number of study whether have been done or in planning to increase awareness among public society in Malaysia on the prevention of osteoporosis especially in group that have high risks for that problem. These study includes Lim et al., 2005; Noorsuzana, 2009; Yeap et al., 2010; and Sheril Aida, 2011.

2.2.1 Awareness of Osteoporosis

There are several research that have been done regarding awareness of osteoporosis among people especially at community setting. According to (Miura, Yagi, Saavedra and Yamamoto, 2010), there are 80.3% of the urban women living in low incomes in Davao, Philippines had heard about osteoporosis in which a higher educational background status independently predicted this awareness. This research was carried out in which

consists of qualitative investigation and quantitative survey. The particular nutrients for osteoporosis prevention, milk, and a list of six local foods suggested for reducing the risk of osteoporosis are the topic which were included in questions on nutritional knowledge (Miura et al., 2010).

A Mann-Whitney test was used to compare the different distributions of sociodemographic variables in the two groups of women and the chi-square test also were used to examine the differences in responses to the questions about knowledge between groups. Finally, Miura et al. (2010) hypothesized that older women had greater knowledge of the locally available calcium-rich foods than younger women.

Besides, a study also have been conducted by Yeap et al. (2010), at Malaysia which specifically at public forum at the Klang Valley (Selangor and Kuala Lumpur) and Seremban (Negeri Sembilan) between May and October 2005. It's study regarding on ascertain the depth of knowledge of osteoporosis in Malaysian men and women. From 600 distributed questionnaire, there were 483 was returned back. The Parametric tests (1-way analysis of variance) and nonparametric tests (Pearson's $\chi 2$ tests, Mann–Whitney U test, and Kruskal–Wallis test) was used to analyze the differences between the groups with respect to their knowledge about osteoporosis and socioeconomic status. As a result, a total of 87.1% of the respondents had heard of osteoporosis in which in women with a higher level of education it was associated with more knowledge of osteoporosis.

Meanwhile, Ayfer and Aysin (2008) did a study on knowledge and awareness of osteoporosis and its related factors among Turkish women. The awareness, perception, sources of information, and knowledge of osteoporosis in a sample size of rural Turkish women becomes the aim of that study constructed. It also was done in order to examine the factors related to their knowledge, and organize effective education programs. During visiting of 768 of women to primary care centers in three rural towns in West Anatolia, Turkey, they were randomly selected and interviewed.

The Chi-squared test was performed in age and educational level groups and Oneway analysis of variance (ANOVA) analysis was carried out in calculating the