

EFFECT OF OSTEOPOROSIS EDUCATION PROGRAM IN YOUNG WOMEN

Ruangsiri Mahapun

A Thesis Submitted in Partial Fulfillment of the Requirements

for the Degree of Master of Public Health

Health Systems Development Programme

College of Public Health

Chulalongkorn University

Academic Year 2001

ISBN: 974-03-0663-2

© College of Public Health, Chulalongkorn University

Bangkok, Thailand

I20695305


Thesis Title Effect of Osteoporosis Education Program in Young Women

By Ruangsiri Mahapun


Program Master of Public Health (Health System Development)
 College of Public Health

Thesis Advisor Wacharin Tanyanont, M.S.


Accepted by the College of Public Health, Chulalongkorn University,
Bangkok Thailand in Partial Fulfillment of the Requirements for the Master's Degree.

 Dean of the College of Public Health
(Samlee Plianbangchang, M.D., Dr.P.H.)

THESIS COMMITTEE

 Chairperson
(Assistant Professor Sathirakorn Pongpanich, M.A., Ph.D.)

 Thesis Advisor
(Wacharin Tanyanont, M.S.)

 Member
(Professor Edgar J. Love, M.D., Ph.D.)

Abstract

Osteoporosis is a condition characterized by a reduce amount of bone, leading to diminished physical strength of the skeleton and an increased susceptibility to fractures. Early identification of risk factors for osteoporosis and development of prevention programs is needed to halt the increasing incidence of the disease. The purpose of this study was to assess whether young women who participated in an osteoporosis prevention program based on the Health Belief (Rosenstock,1966) demonstrated higher levels of knowledge, perceived susceptibility in osteoporosis, perceived severity of osteoporosis, perceived benefit and barrier of osteoporosis prevention behavior and adequate daily intake of calcium and smoking cession, reduction of alcohol and caffeine regarding osteoporosis prevention than young women who do not participate in such a program. A quasi-experimental design with one experimental group and one control group was used to test the efficacy of the osteoporosis prevention program. Data on knowledge (13 items), health belief attitudes (21 items), and behaviors (15 items) were collected in the experimental and control groups. The experimental group participated in group work once with 2 weeks follow up, and met again after 2 months of the intervention. 70 young female students were nonrandomly assigned to an experimental group and to a control group to receive an osteoporosis prevention program. Young women in the experimental and control groups completed the osteoporosis knowledge test, the osteoporosis Health Belief Model, and their behaviors at three intervals. The experimental group received an osteoporosis prevention program. Both groups and experimental received a manual after finishing the intervention program with the experimental group. Instruction technique and structured questionnaire were used for data collection. Percentage, mean, Standard Deviation and statistic analysis by simple independent t-test, chi-square and ANCOVA were applied in the data analysis. Results show that young female in the experimental group had significantly higher scores in knowledge, perception and improvement of behavior after receiving the intervention than their pretest scores while subjects in the control group had no change in scores.

Conclusion: The osteoporosis program was effective in increasing knowledge and perception of osteoporosis prevention and increase improvement of behavior in osteoporosis prevention in this group of young women.

Acknowledgement

I would like to give my great appreciation to my advisor, Ajarn Wacharin Tanyanont, together with the co-advisor, Dr. Auk Rattarangsri, who provided all the good advice, support and comment for all the work.

In addition, I would like to say thank to all teachers and students at Satrisrisuriyotai school who gave me the hand and co-operated through the whole process of data collection as well as all staff at the college who help me with data searching.

Final thanks my husband and my children who gave the inspiration to me to complete this study.

Table of contents

	Page
Abstract	iii
Acknowledgment.....	iv
List of Tables.....	vii
List of Figures.....	viii
Abbreviation.....	ix
Chapter 1 Introduction.....	1
Chapter 2 Project Description.....	4
2.1. Rationale.....	4
2.1.1. Osteoporosis.....	4
2.1.2. Conceptual framework for the intervent	17
2.2. Goal and Objectives.....	21
2.3. Methods.....	21
2.3.1. Setting and participants.....	21
2.3.2. Intervention program.....	22
2.4. Activity with time table.....	24
2.5. Problems.....	25
Chapter 3 Project evaluation.....	26
3.1 Introduction.....	26
3.2 Purpose.....	27
3.3 Evaluation hypothesis.....	27
3.4. Method.....	28
3.4.1. Evaluation Design.....	28
3.4.2. Data Collection Methods.....	28
3.4.3. Questionnaire.....	29
3.5 Data analysis and results.....	30
3.5.1. Data analysis.....	30

3.5.2. Results.....	30
3.5.2.1. Changes in knowledge and perceptic	31
3.5.2.2. Effect of intervention on behavior.....	35
3.5.2.2.1. Effect of intervention on exercis€	35
3.5.2.2.2. Effect of intervention on calcium intake.....	37
3.5.2.2.3. Effect of intervention on risk factor avoidance.....	37
3.5.2.3. Effect of efficiency on behavior.....	38
Chapter 4 Discussion and Conclusion.....	40
4.1 Discussion.....	40
4.2. Conclusion.....	42
Chapter 5 Recommendation.....	44
References.....	45
Appendices.....	48
Appendix A: Questionnaire.....	49
Appendix B: Vocabulary.....	54
Appendix C: Activity plan in experimental group	56
Curriculum Vitae.....	57

List of Tables

Table	Page
2.1- Thai Recommended Dietary Allowances.....	15
2.2- Time table and activities	24
3.1- Mean score of students' knowledge and perception of experimental and control group regarding osteoporosis at baseline and immediate follow-up.....	33
3.2- The percentage of respondents in control and experimental group who reported having adequate daily intake of calcium and exercise and risk factor avoidance at baseline and at two-month follow-up in control and experimental groups.....	36
3.3- Behavior score at baseline and two-month follow-up by group.....	38

List of Figures

Figure	Page
2.1 The Health Belief Model.....	20
3.1 Comparison of mean knowledge scores of experimental and control group at baseline and at immediate follow-up.	32
3.2 Comparison of mean total perception scores of experimental and control group at baseline and at immediate follow-up	34

Abbreviation

BMD	=	Bone Mineral Density
Cms	=	Centimeter
DEXA	=	Dual Energy X-ray Absorptionmetry
ERT	=	Estrogen Replacement Therapy
FDA	=	Food and Drug Association
GDP	=	Gross Domestic Product
HBM	=	Health Belief Model
I.U.	=	International Unit
Kg.	=	Kilograms
NET	=	Nutrition Education and Training
PTH	=	Parathyroid Hormone
RDA	=	Recommended Dietary Allowances
SD.	=	Standard Deviation
USDA.	=	United Stated Department of Agriculture