

# Research Journal of Pharmaceutical, Biological and Chemical Sciences

## The Study Program of Hypertension Prevention in Behavioral Change by Applying Protection Motivation Theory Together with the Health Care Teaching and Counseling for the People of Ongkarak District, Nakorn Nayok Province.

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### ABSTRACT

The objective of the study was to analyze the Hypertension Prevention of Behavioral Change by Applying Protection Motivation Theory and the Health Care Teaching and Counseling theory to the people's health of Ongkarak district in Nakhonnayok province in the Quasi – Experimental Research. This research was divided into 2 groups. They were the experimental group of 38 people who are more than 35 year of old and the comparison group of 40 people that live in the daily normal lifestyles. Thus, the research model is the Before-After two groups design study. Study outcomes found that most characteristics of the Experimental Group and the Comparison Group were employees (37.5% and 71.1%). The experimental group had more congenital disease than the comparison groups (67.5% and 21.0%). However, majority of both groups were nonsmoking, no drinking, non-exercising and have physical examination yearly. The average scores difference prior to the test found that the violent acknowledgement, chances of risk acknowledgement and the outcome expectation of the comparison group was higher and statistically significant ( $P < 0.05$ ). After the test, the study results revealed that the violent acknowledgement had no difference, but other variables of the experimental group had higher average scores than the comparison group and also statistically significant ( $P < 0.05$ ). However, when compare with the average scores of the experimental group Before-After the test, the study found that for each variable had higher average in scores than before the test and statistically significant ( $P < 0.05$ ). Yet, for the comparison group, After-Before the test had no difference. But, when analyze the relationships between studied variables with the disease prevention control behavior found that the study participants had the relationships in the same direction and statistically significant ( $P < 0.05$ ). The study outcome can be concluded that the program of hypertension prevention in behavioral change by applying Protection Motivation Theory together with Health Care Teaching and Counseling can change the behavior in hypertension prevention control.

**Keywords:** Hypertension, Prevention, Behavioral Change, Counseling and Protection.

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**INTRODUCTION**

Nowadays, the medical evolution and the world public health are advanced enormously, thus, it decreases the infectious disease, but the rate of non-communicable diseases is high. However, causes of the non-communicable diseases are mostly coming from people’s normal lifestyle that increase more stress, intake of wrong nutrition, smoking, drinking and lack of exercise. Consequently, non-communicable diseases such as heart disease, stroke, diabetic and hypertension are in rise [1, 2, 3].

Therefore, researcher had created the counseling program by applying disease Prevention Motivation Theory together with counseling techniques in order to prevent high blood pressure. Moreover, researcher sends 4<sup>th</sup> year students of the Faculty of Public Health who have passed the studied subject of Health Care Teaching and Counseling (902 307 Teaching and Counseling in Health Care) to conduct the real test with the targeted groups and areas [4, 5].

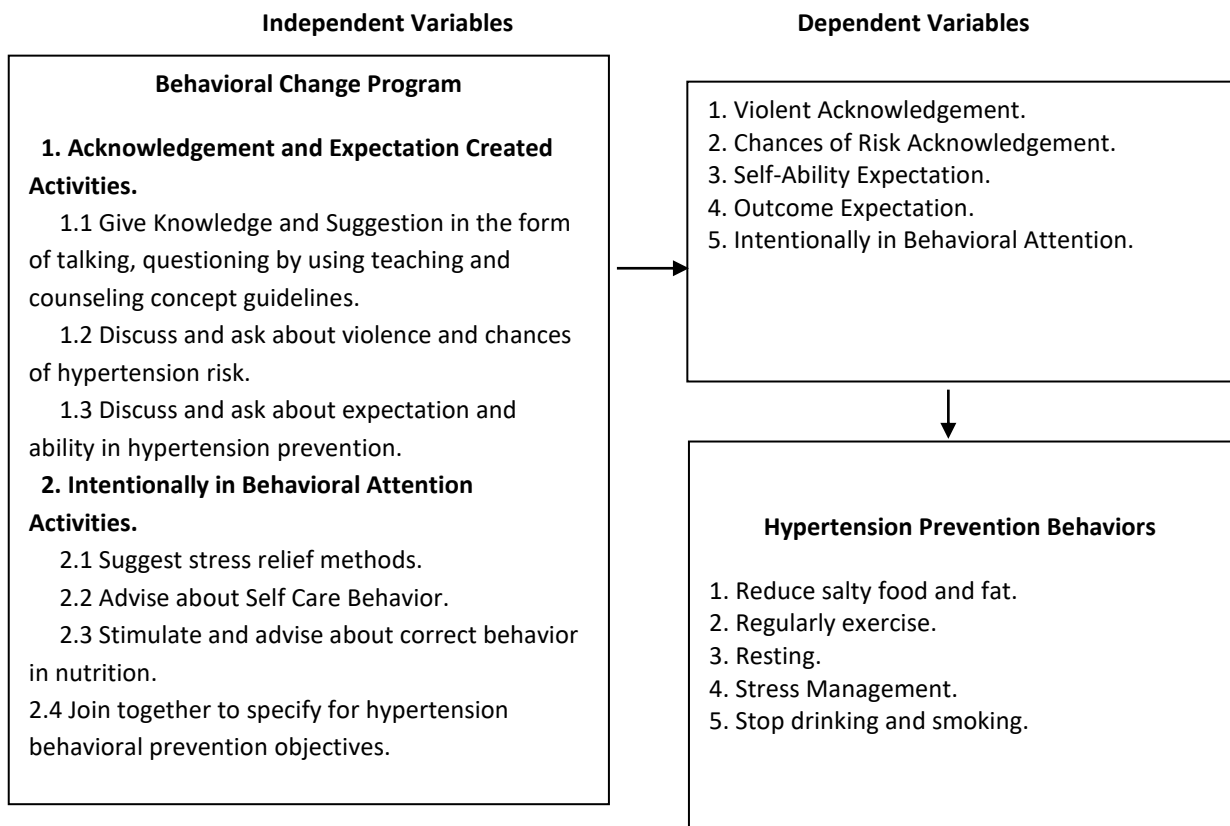
**Research Objectives**

The main objective of the research is to study the targeted groups’ behavioral change in the topics of violent acknowledgement, chances of risk acknowledgement, self-ability expectation, outcome expectation, intentionally in behavioral attention and hypertension behavioral prevention.

**Problems in Research**

Can the behavioral change program by applying Prevention Motivation Theory in disease prevention together with the correct counseling effect the targeted group in hypertension behavioral prevention or not?

**Conceptual framework**



## Research Regulations

For this research, researcher had brought the concept, theory and research works as guidelines in arranging for the Behavioral Change Program to prevent hypertension in the people who are older than 35 years old. Thus, this study is about the behaviors of reducing salty food, reducing fat, go for exercising, take rest and work on stress management.

Research Model [3,4, 5]. This was a quasi – experimental research by dividing the sampling group into 2 groups. They were the ordinary lifestyles of experimental group of 40 people who are older than 35 years old and the ordinary lifestyles of comparison group of 40 people who are older than 35 years old, with the Before – After two groups design Model as follow.

## RESULTS AND DISCUSSION

This research is the application of Prevention Motivation Theory in disease prevention together with the Counseling Techniques in hypertension prevention of the people who are older than 35 years old. Researcher had brought the collected data for analysis and presented the outcomes in 6 parts as follow:

### Part 1. General Outcome Analysis about the Sampling Group Characteristics.

General information of the experimental group characteristics, mostly were men (52.5%) and for the comparison group, mostly were women (73.7%). Experimental group was older than 60 years old, 35.0% of study participants had average age of 52 years old. However, most comparison group age was between 41 – 50 years old, had average age of 48 years (36.8%). The educational level of both groups was mostly elementary level, marital status was couple, work as employee, average income for the experimental group was ₹5,607 versus ₹4,187 for the comparison group. However, most experimental group had congenital disease than the comparison group. Also, experimental group family members had high blood pressure than the comparison group. Both groups were non-smoker with variation in weight. For drinking history, 72.5% of the experimental group did not consume alcohol. 50.0% of the comparison group took alcohol when there are some occasions/social gatherings with no record of exercising but had past history of pressure measuring.

### Part 2. The Studied Variables Different Comparison between the Experimental Group and the Comparison Group before the test.

The average scores different comparison of the violent acknowledgement between the experimental group and the comparison group before the test, found that the experimental group had average scores equivalent to 19.22 with standard deviation (SD) of 3.433. For the comparison group had average scores equivalent to 24.60 with standard deviation of 2.726. However, the statistical results have shown that the comparison group had higher average scores than the experimental group and statistically significant ( $P < 0.05$ ).

The average scores of different comparisons of the chances of risk acknowledgement between the experimental group and the comparison group before the test, found that the experimental group had average scores equivalent to 21.42 with the SD of 3.128. The comparison group had average scores equivalent to 25.94 with the SD of 4.483. Also, the statistical results found that the comparison group had higher average scores than the experimental group and statistically significant. ( $P < 0.05$ )

The average scores of different comparisons of the self-ability expectation between experimental group and the comparison group before the test, found that the experimental group had average scores equivalent to 22.55 with the SD of 3.699. For the comparison group, it had average scores equivalent to 24.50 with the SD of 3.073. When bring the results for statistical test, the study found that both groups had no different in average scores.

The average scores of different comparisons of the outcome expectation between the experimental group and the comparison group before the test, found that the experimental group had average scores equivalent to 21.22 with the SD of 2.018. For the comparison group, it had average scores equivalent to 22.92 with the SD of 5.236. When bring the results for the statistical test, the study found that the comparison

group had higher average scores than the experimental group and different in the statistical significant ( $P < 0.05$ ).

The average scores of different comparisons of the intentionally in behavioral attention between the experimental group and the comparison group, before the test found that the experimental group had average scores equivalent to 20.72 with the SD of 2.298. For the comparison group had average scores equivalent to 22.73 with the Standard Deviation of 2.543. When bring the results for the statistical test, the study found that both groups had no different in average scores.

The average scores of comparisons of the hypertension behavioral prevention between the experimental group and the comparison group, before the test found that the experimental group had average scores equivalent to 58.12 with the SD of 4.745. For the comparison group, it had average scores equivalent to 69.81 with the SD of 9.313. When bring the results for statistical test, it found that the experimental group and the comparison group had no different in the hypertension behavior prevention.

### **Part 3. The Different Comparison of Studied Variables Between the Experimental Group and the Comparison Group after the Test.**

The average scores different comparison of the violent acknowledgement between the experimental group and the comparison group, after the test found that the experimental group had average scores equivalent to 24.27 with the SD of 1.552. For the comparison group had average scores equivalent to 24.97 with the standard deviation of 2.235. When bring the results for statistical test, it found that both experimental group and the comparison group had no difference in average scores.

The average scores of different comparisons of the chances of risk acknowledgement between the experimental Group and the comparison group, after the test found that the experimental group had average scores equivalent to 26.52 with the SD of 1.617. For the comparison group had average scores equivalent to 26.02 with the SD of 4.420. When bring results for statistical test, it found that the experimental group had more average scores than the Comparison Group and different in the statistical significant ( $P < 0.05$ ).

The average scores different comparison of the ability expectation between the experimental group and the comparison group, after the test found that the experimental group had average scores equivalent to 25.60 with the SD of 1.765. For the comparison group had average scores equivalent to 24.84 with the SD of 2.584. When bring results for statistical test, it found that the experimental group had more average scores than the comparison group and statistically significant ( $P < 0.05$ )

The average scores of different comparisons of the outcome expectation between the experimental group and the comparison group, after the test found that the experimental group had average scores equivalent to 23.52 with the SD of 1.154. For the comparison group had average scores equivalent to 23.00 with the SD of 5.141. When bring the results for statistical test, it found that the Experimental Group had more average scores than the comparison group and statistically significant ( $P < 0.05$ ).

The average scores of different comparisons of the intentionally in behavioral attention between the experimental group and the comparison group, after the test found that the experimental group had average scores equivalent to 23.95 with the SD of 1.299. For the comparison group had average scores equivalent to 22.84 with the SD of 2.433. When bring results for statistical test, it found that the experimental group had more average scores than the comparison group and different in the statistical significant ( $P < 0.05$ ).

The average scores of different comparisons of the hypertension behavioral prevention between the experimental group and the comparison group, after the test found that the experimental group had average scores equivalent to 74.12 with the SD of 4.213. For the comparison group, it had average scores equivalent to 68.71 with the SD of 8.226. When bring results for statistical test, it found that the experimental group had more average scores than the comparison group and different in the statistical significant ( $P < 0.05$ ).

**Part 4. Variables Different Comparison of the Experimental Group, Before and After the test.**

The average scores of different comparisons of the violent acknowledgement within the experimental group, before and after the test found that, before the test the average scores were equivalent to 19.42 with the SD of 3.433. However, after the test it had average scores equivalent to 24.27 with the SD of 1.552. When bring results for statistical test, it found that after the test had more average scores than before the test and different with the statistical significant ( $P < 0.001$ ).

The average scores different comparison of the chances of risk acknowledgement within the experimental group, before and after the test found that, before the test the average scores were equivalent to 21.42 with the SD of 3.128. After the test, it had the average scores equivalent to 26.52 with the SD of 1.617. When bring results for statistical test, it found that after the test had more average scores than before the test and different with the statistical significant ( $P < 0.001$ ).

The average scores different comparison of the Self Ability Expectation within the Experimental Group, before and after the test found that, before the test the average scores were equivalent to 30.95 with the SD of 2.42. After the test had the average scores equivalent to 33.00 with the SD of 0.00. When bring results for statistical test, found that after the test had more average scores than before the test and different with the statistical significant ( $P < 0.05$ ).

The average scores different comparison of the Outcome Expectation within the Experimental Group, before and after the test found that, before the test the average scores were equivalent to 21.22 with the SD of 2.018. After the test, it had average scores equivalent to 23.52 with the SD of 1.154. When bring results for statistical test, it found that after the test had more average scores than before the test and different with the statistical significant ( $P < 0.001$ ).

The average scores different comparison of the Intentionally in Behavioral Attention within the Experimental Group, before and after the test found that, before the test the average scores were equivalent to 20.72 with the SD of 2.298. After the test, it had the average scores equivalent to 23.95 with the SD of 1.299. When bring result for statistical test found that after the test had more average scores than before the test and different with the statistical significant ( $P < 0.001$ ).

The average scores different comparison of the hypertension behavioral prevention within the Experimental Group, before and after the test found that, before the test the average scores were equivalent to 58.12 with the SD of 4.745. After the test, it had the average scores equivalent to 74.12 with the SD of 4.213. When bring results for statistical test, it found that after the test it had more average scores than before the test and different with the statistical significant ( $P < 0.001$ ).

**Part 5. Studied Variables Different Comparison of the Comparison Group, Before and after the Test.**

The test found that the average scores of different comparisons of the violent acknowledgement within the comparison group, before and after the test found that, before the test the average scores were equivalent to 24.60 with the SD of 2.726. After the test had the average scores equivalent to 24.97 with the SD of 2.235. When bring results for statistical test, found that before and after the test had no different in average scores.

The average scores different comparison of the chances of risk acknowledgement within the comparison group, before and after the test found that, before the test the average scores were equivalent to 25.94 with the SD of 4.483. After the test had the average scores equivalent to 26.02 with the SD of 4.420. When bring results for statistical test, found that before and after the test had no different in average scores.

The average scores different comparison of the self-ability expectation within the comparison group, before and after the test found that, before the test the average scores were equivalent to 24.50 with the SD of 3.073. After the test, it had the average scores equivalent to 24.48 with the SD of 2.584. When bring results for statistical test, found that before and after the test it had no different in average scores.

The average scores different comparison of the outcome expectation within the comparison group, before and after the test found that, before the test the average scores are equivalent to 22.92 with the SD of 5.236. After the test had the average scores equivalent to 23.00 with the SD of 5.141. When bring results for statistical test, found that before and after the test had no different in average scores.

The average scores different comparison of the Intentionally in behavioral attention within the comparison group, before and after the test found that, before the test the average scores are equivalent to 22.73 with the SD of 2.543. After the test had the average scores equivalent to 22.84 with the SD of 2.433. When bring results for statistical test, found that before and after the test had no different in average scores.

The average scores different comparison of the hypertension behavioral prevention within the comparison group, before and after the test found that, before the test the average scores were equivalent to 69.81 with the SD of 9.313. After the test had the average scores equivalent to 68.71 with the SD of 8.226. When bring results for statistical test, it found that before and after the test had no different in average scores.

#### **Part 6. The Testing Outcomes of the Relationships between the Violent Acknowledgement, the Chances of Risk Acknowledgement, the Self Ability Expectation, the Outcome Expectation, the Intentionally in Behavioral Attention with the Hypertension Behavioral Prevention Before the Test.**

The study results found that the Violent Acknowledgement, the Chances of Risk Acknowledgement, the Self Ability Expectation, the Outcome Expectation, the Intentionally in Behavioral Attention had the relationship with the Hypertension Behavioral Prevention in the same direction and statistically significant ( $P < 0.05$ ). For the Self Ability Expectation had the relationship with the Hypertension Behavioral Prevention in the same direction and statistically significant. ( $P < 0.001$ )

### **SUMMARY AND CONCLUSIONS**

The outcome analysis of the average scores different comparison of the Violent Acknowledgement, the Chances of Risk Acknowledgement, the Self Ability Expectation, the Outcome Expectation, the Intentionally in Behavioral Attention and the Hypertension Behavioral Prevention before and after the test, the Experimental Group had obtained the Behavioral Change Program from the students that had passed the study of the Teaching and Counseling in Health Care, but for the Comparison Group had not received the Health Care Program.

The research outcome illustrated that after the test, the Experimental Group had received the Behavior Change Program Guidelines from the research participated students with the Teaching procedures and health care counseling, also with the practical models including the dreadful and frightening facts, that will help in changing their behavior than normal stimulation. It can be summarized that the Behavior Change Program that researcher had created can stimulate the Violent Acknowledgement which is related to the targeted objective.

#### **Chances of risk acknowledgement**

The research outcome indicates that after the test, the Experimental Group who had obtained researcher's Behavioral Change Program can increasingly acknowledge the Chances of Risk correctly. However, for the Comparison Group that might have opportunity to learn about the Chances of Risk Acknowledgement from health officials and health volunteers or may be by self- information searched, but such information may not be enough for the chances of risk acknowledgement. Besides they have not sufficiently guided about the knowledge to acknowledge more about the Chances of Risk than the Experimental Group, Thus, their increased average scores are less than the Experimental Group. Therefore, it can be summarized that the Behavioral Change Program that researcher had created can stimulate the Chances of Risk Acknowledgement that related to the targeted objective.

#### **Self-Ability Expectation**

The research outcome appears that after the test, the Experimental Group had obtained Health Care Program knowledge that could enhance their Self Ability and problem solving power. On the contrary, for the

Comparison Group, their expectation in self-ability is not high enough including that they have not yet been introduced about the Health Care Program, that is why their average scores are less than the Experimental Group. It can be concluded that Health Care Program that researcher has created can stimulate people in Self Ability Expectation which is related to the targeted objective.

### **Outcome Expectation**

The research outcome indicates that after the test, the Experimental Group that obtained Health Care Program from researcher is capable to acknowledge well and correct. Thus, it leads to problem enlightening and capable to know about their own duty roles and understand how the behavioral acknowledgement effect to themselves, also it creates will power, self-confidence and increase in the Outcome Expectation. Therefore, when someone can do it daily, it can control the hypertension condition to the normal stage, so the average scores will be increased. On the contrary, for the Comparison Group that can only acknowledge about the symptom from normal treatment, they cannot be able to create better Outcome Expectation than they have already been, that is why their average scores are increased very little. It shows that the Health Care Program that created by researcher has influence towards the Outcome Expectation to the hypertension patients in accordance with the targeted objective.

### **Intentionally in Behavioral Attention**

The research outcome indicates that after the test, the Experimental Group that has obtained the Health Care Program from researcher, creates more value intentionally in Behavioral Attention program. In general, the acceptance of following the Intentionally in Behavioral Attention is highly possible when someone realizes to the useful of the program and willing to follow. It can be summarized that the Health Care Program that created by researcher can stimulate the Intentionally in Behavioral Attention in accordance with the targeted objectives.

### **Hypertension Behavioral Prevention**

The research outcome indicates that after the test, the Experimental Group that has obtained the Behavioral Change Program from the researcher will have a better, correct and proper acknowledgement regarding nutrition, exercise, stress relief that related to the problem of sickness. However, with the direct experience from the suggestion, demonstration, actual practice and to see the real model characteristic of problem that similar to oneself, will create self-acknowledgement and can evaluate own potentiality including the knowing about health benefit to oneself. These techniques will create confidence to one self and be able to practice, create good outcome expectation, have intention and decision to perform and can continually bring back home to practice after the test. Therefore, the average scores of the Experimental Group are still increasing. On the contrary, the Comparison Group that has the same old unchanging average scores and does not receive any health counseling, will never change in Hypertension Behavioral Prevention and it responds to the targeted objective.

The research outcome appears that after the test, the Experimental Group that had obtained Health Care Program from researcher, their Violent Acknowledgement, Self Ability Expectation and their Intentionally in Behavioral Attention have relationships with the Hypertension Behavioral Prevention which is related to the objective.

### **Recommendation**

This research work had received the cooperation from the 4<sup>th</sup> year students of St. Theresa International College who have passed the study program of Teaching and Counseling in Health Care and brought the program to apply the Protection Motivation Theory. For next study research should select sampling groups who have same knowledge and characteristic to compare within the volunteer groups.

### **REFERENCES**

- [1] Roger R.W. (1975). A Protection Motivation Theory of Fear Appeals and Attitude Change. *J. Psychol* 91:93-114.



- [2] House JS. (1981). The Association of Social Relationship and Activities with Mortality: Community Health Study. *Am J. Epidemiol*; 3:25 – 30.
- [3] Jarupa Laohapojjanard. The Motivation Theory Application in Disease Prevention Together with the Self Assist Group for Controlling Hypertension of Outpatient of the Pichit Hospital, Pichit Province. Thesis, Master of Science (Public Health), Major in Health Education, Postgraduate School, Mahidol University 2001.
- [4] Tuenjai Moukkao. The Motivation Theory Application in Disease Prevention Together with Social Support in Hypertension Behavioral Prevention of the Noncommissioned Officers Group. Lopburi Province. Thesis, Master of Science (Public Health), Major in Health Education, Postgraduate School, Mahidol University 1997.
- [5] Promjit Jongsoowiwatwong. The Effectiveness of Health Education Program in Hypertension Behavioral Prevention of the Unknown Cause, Songklanakarind Hospital, Songkla Province. Thesis. Master of Science (Public Health), Major in Health Education, Postgraduate School, Mahidol University 1996.