

To Assess the Effectiveness of an Information Booklet on Knowledge Regarding Life Style Modification in Relation to Hypertension among Adults above 40 Years of Age in Selected Areas

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Abstract: *With a drastic transition in the socio-economic and lifestyle scenario, Indians are at a threat to acquire various non-communicable diseases. Indians have been found to fall prey to major cardiovascular diseases at a young age reported to be in late twenties and early thirties, and end up encountering a heart attack and stroke in the 3rd and 4th decades of their life. One of the key risk factors for cardiovascular disease is hypertension or raised blood pressure. The adoption of health lifestyle by all individual is crucial for the primary prevention of high blood pressure and is an indispensable part of the management of those with hypertension.*

This study is conducted "To assess the effectiveness of an information booklet on knowledge regarding life style modification in relation to hypertension among adults above 40 years of age in selected areas.". An evaluator approach with one group pretest post design was adopted for study. Non probability convent sampling technique was used for fifty adults above 40 years of age with the formulated criteria. The tools use were self-structured questioner. In first day Pretest taken and distribution of information booklet on knowledge regarding lifestyle modification in hypertension and on 30th day post test conducted. While comparison of pretest and posttest knowledge scores of adults above 40 years of age in the selected area regarding life style modification in relation to hypertension. Mean, standard deviation and mean score percentage values were compared and 'z' was applied at 5% level of significance. The tabulated value for $n=50-1$ i.e 49 degrees of freedom was 1.96. The calculated 'z' value was much higher than the tabulated value at 5% level of significance which was statistically acceptable level of significance. In addition the calculated 'p' value for overall knowledge regarding life style modification in relation to hypertension was 0.000 which was ideal for any population. Hence it is statistically interpreted that information booklet on knowledge regarding life style modification in relation to hypertension was effective.

Keywords: knowledge, effectiveness of information booklet, hypertension, lifestyle modification

I. INTRODUCTION

BACKGROUND

The WHO statistics reveals has said that hypertension is a silent killer that affects 600 million persons. Hypertension causes 5 million premature deaths a year, worldwide. Across WHO region, research indicates that about 62% of strokes and 49% of heart attacks are caused by hypertension.^[2]

Gupta Cardiovascular diseases caused 2.3 million deaths in India in the year 1990; this is projected to double by the year 2020. Hypertension is directly responsible for 57% of all stroke deaths and 24% of all coronary heart disease deaths in India.^[16]

Joshi S V the prevalence of hypertension has been increasing in India, both in rural and urban regions. The prevalence of hypertension in urban areas of India ranged from 2.6-5.2 per cent between 1960-1980 and it has increased to 20-33 per cent in last decade. The high prevalence of hypertension in the current study (32.2%), confirms this increasing trend. In addition, there was a high prevalence of (31%) in pre-hypertension^[17].

NEED OF THE STUDY

Hypertension cannot be eliminated because there are no vaccines to prevent the development of hypertension, but its incidence can be decreased by reducing the risk factor for its development, which include obesity, high dietary intake of fat and sodium, low intake of potassium, physical inactivity, smoking and excessive alcohol intake. Efforts are to be directed to control BP by lifestyle modification.^[19]

Through the clinical experience investigator found that in community area in age above 40 years peoples are having the problems of hypertension which leads to various complication and major cause of mortality and morbidity in our developing countries.

RESEARCH STATEMENT

“To assess the effectiveness of an information booklet on knowledge regarding life style modification in relation to hypertension among adults above 40 years of age in selected areas.”

OBJECTIVES OF THE STUDY

To assess the level of knowledge regarding life style modifications in relation to hypertension among adults above 40 years of age in a selected areas.

To determine the effectiveness of an information booklet on knowledge regarding life style modification in relation to hypertension among adults above 40 years of age in a selected areas.

To associate the level of knowledge regarding life style modification in relation to hypertension with selected demographical variables among adults above 40 years of age.

HYPOTHESIS

H0- There will be no significant difference between the mean pretest and post test score on knowledge regarding life style modification in relation to hypertension among adult above 40 years of age before and after administration of information booklet.

H1- There will be significant difference between the mean pretest and post test score on knowledge regarding life style modification in relation to hypertension among adult above 40 years of age before and after administration of information booklet.

II. RESEARCH METHODOLOGY

Research Approach

An evaluator approach was used for this study to test the efficacy of information booklet prepared for adult with above 40 years of age regarding lifestyle modification in hypertension.

Research Design

The research design used in this study was Pre experimental one group pretest and posttest design.

In one group pretest posttest design, the investigator introduced base measure before and after planned exposure which is depicted as O1 and O2 respectively. In this study the base measure was structured knowledge questionnaire used to assess the knowledge of clients with adult above 40 years age regarding life style modifications in relation to hypertension. The administration of information booklet was depicted as X.

Schematic Representation of research design of the study

Group	Pre-test (O1)	Nursing Intervention (X)	Post test (O2)
Adult above 40 years age regarding life style modifications in relation to hypertension in selected area.	Assessment of knowledge on life style modifications in relation to hypertension on 1 st day.	Administration of information booklet on life style modifications in relation to hypertension on 1 st day.	Assessment of knowledge on life style modifications in relation to hypertension on 30 th day.

SETTING OF THE STUDY

The study was conducted in a selected community.

POPULATION

The population for the present study included all adult above 40 years of age.

Target Population

In this study all adults above 40 years of age from the selected community.

Accessible population

In this study all adults above 40 years of age meeting the inclusive criteria and who were available at time of data collection.

SAMPLE AND SAMPLING TECHNIQUE

Sample

The sample size for the study was 50 adult above 40 years of age, who were available at the time of data collection and also who fulfilled the inclusion criteria.

Sampling technique

Non probability convenient sampling technique was used to select the sample.

Sample size

Fifty adults above 40 years of age who were available during the period of data collection, were the sample for this study.

DATA COLLECTION TOOL

The study aimed at evaluating the efficacy of an information booklet on knowledge regarding life style modification in relation to hypertension among adults above 40 years of age in selected areas . Hence a self-administered structured knowledge questionnaire was used.

Development and description of the Tool

After an extensive review of literature, discussion with the experts the structured knowledge questionnaire and the information booklet on lifestyle modification in hypertension was developed.

The structured knowledge questionnaire consists of two sections

Section – A

It comprised of 11 items seeking information on demographic data such as age, gender, educational status, occupational status, monthly income, dietary pattern, (frequency of non-vegetarian food), marital status, habits such as smoking (type and duration), alcohol consumption (frequency in week, duration, type and amount of alcohol consumption).

Section – B

It consisted of a structured knowledge questionnaire on lifestyle modification in hypertension, which comprised of 26 items. This section consisted of 3 sub topics that depicted the distribution of items according to the content areas based on 3 domains namely knowledge, comprehension and application. Knowledge domain had 13 items; Comprehension had 7 items and Application 6 items covering all the aspects of lifestyle modification in hypertension.

Scoring technique

The knowledge questionnaire consisted of 26 closed ended multiple choice questions with a single correct answer. Every correct answer was recorded a score of one (1) and every incorrect / unanswered item was recorded zero (0). The maximum score on knowledge questionnaire was twenty six (26). The obtained knowledge score were categorized under the following level. This categorization is purely for this study only.

Level of knowledge	Range
Poor	0-19%
Average	19-39%

Good	40-59%
Very good	60-79%
Excellent	> 80%

Section –C

Development of Information booklet

An Information booklet on lifestyle modification in hypertension was developed. Based on extensive review of related literature, experts' opinion and objectives stated for the study. The investigators clinical experience in the medicine unit also helped to prepare the information booklet.

The Information booklet consisted of objectives and guidelines for the use of Information booklet. Content of the module consisted of Definition, Risk factors for hypertension, classification, lifestyle modification in hypertension, Dietary management, Physical activity, Resumption of sexual activity, Adhering to Therapeutic Regimen, Management of stress, Quitting smoking, How to prevent complications and follow up. It also included conclusion and Appendix.

VALIDITY

To ensure content validity of the tool, structured questionnaire and Information booklet on lifestyle modification in hypertension were submitted to 15 experts. Out of this 11 validated contents of the tools were received from the experts with their valuable suggestions and comments. Their suggestions were taken into consideration and necessary modifications were incorporated in the final preparation of the structured knowledge questionnaire and Information booklet.

RELIABILITY OF THE TOOL

Reliability of the structured knowledge questionnaire was established by the split half method. This was done to rule out any bias or any confusion with the questions, which would be elicited after the actual administration of questionnaire. Co-efficient of correlation for the two sets of scores was done with the help of Karl Pearson's formula, where 'r' value obtained was 0.84 which showed that the tool was reliable.

DATA COLLECTION METHOD

Procedure for data collection

Phase I

In this phase, pre-test was conducted by distributing the structured knowledge questionnaire and instructions were given on answering the questionnaire and doubts were clarified. Each client took 45 minutes to fill the questionnaire.

Phase II

In this phase, an information booklet regarding lifestyle modification in hypertension was distributed to subjects and explained how to use information booklet. Follow up visits were made to reinforce them and to read the information booklet.

Phase III

In this phase, post-test was conducted on 30th day of administration of information booklet. It was conducted by administering the same structured knowledge questionnaire. During the conduction of the study no problem aroused and subjects were co-operative to conduct the study.

The questionnaires were completed in the presence of the investigator to avoid contamination and bias in the collection of data.

II. FINDINGS

SECTION A: DISTRIBUTION OF ADULTS ABOVE 40 YEARS OF AGE WITH REGARDS TO DEMOGRAPHIC VARIABLES

The findings were:

Sample characteristics revealed that most of the samples were of the age group of 41-50 years (38%), majority of the subjects were male (56%), most of the subjects were primary educated (40%), majority of their occupation was business

(52%), most of them were having a monthly income of 6001-9000 (70%), majority of subjects were vegetarian (66%) and 90% of the subjects were married. majority of subjects were having no the habit of smoking (94%) and remaining (6%) were smokers, out of these 6%, 4% were using cigarette for smoking, majority of them had habit of smoking since 6-10 years (66.67%), majority of subjects were not consuming alcohol (84%), remaining had the habit of alcohol consumption (16%), from the alcohol consumers 62% consumes alcohol for 6-10 years. Most of them were consuming branded alcohol and the quantity varies from 30-150 ml. majority of subjects were no history of hypertension (56%), remaining have the history of hypertension(44%),from the (60%) history of hypertension more than 3 years.

SECTION B

ASSESSMENT OF LEVEL OF KNOWLEDGE REGARDING LIFE STYLE MODIFICATIONS IN RELATION TO HYPERTENSION AMONG ADULTS ABOVE 40 YEARS OF AGE IN SELECTED AREA

This section deals with the assessment of level of knowledge regarding life style modifications in relation to hypertension among adults above 40 years of age in selected area. The level of knowledge score was divided under following headings: poor, average, good, very good and excellent.

Table XI: Knowledge regarding life style modifications in relation to hypertension before and after administration of information booklet (n=50)

Level of knowledge score	Score range	Pre-test		Post- test	
		Frequency	Percentage	Frequency	Percentage
Poor	0-5	0	0.00	0	0.00
Average	6-10	25	50.00	0	0.00
Good	11-15	25	50.00	27	54.00
Very Good	16-20	0	0.00	17	34.00
Excellent	21-26	0	0.00	6	12.00

Table XI shows that 50% of adults above 40 years of age each were having average and good level of knowledge in before administration of booklet,54% of adults were having good level of knowledge score, 34% had very good and 12% had excellent knowledge score after administration of booklet.

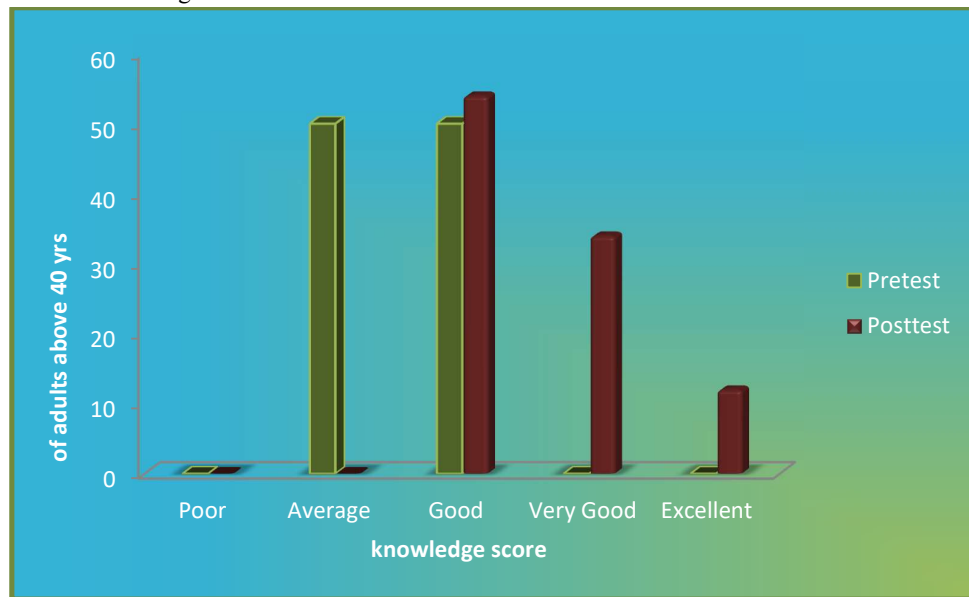


Figure 13: Knowledge regarding life style modifications in relation to hypertension before and after administration of information booklet

SECTION C

EVALUATION OF EFFECTIVENESS OF INFORMATION BOOKLET ON KNOWLEDGE REGARDING LIFE STYLE MODIFICATION IN RELATION TO HYPERTENSION AMONG ADULTS ABOVE 40 YEARS OF AGE IN SELECTED AREA Table XII

Significance of difference between pre and post test knowledge score in relation to life style modification in hypertension among adults above 40 years of age . (n=50)

Overall	Mean score	knowledge SD	Mean percentage	z-value	p-value
Pre Test	10.72	1.79	41.23	5.96	0.000 S,p<0.05
Post Test	15.96	3.33	61.38		

Table XII shows that the comparison of pretest and post test knowledge scores of adults above 40 years of age in selected area regarding life style modification in relation to hypertension . Mean standard deviation and mean score percentage values are compared and ‘z’ test is applied at 5% level of significance. The tabulated value for df=(50-1) i.e 49 degrees of freedom was 1.96. The calculated ‘z’ value are much higher than the tabulated value at 5% level of significance which is statistically acceptable level of significance. In addition the calculated ‘p’ values for overall knowledge regarding life style modification in relation to hypertension was 0.000 which is ideal for any population. Hence it is statistically interpreted that information booklet on knowledge regarding life style modification in relation to hypertension was effective. Thus the H₁ is accepted.

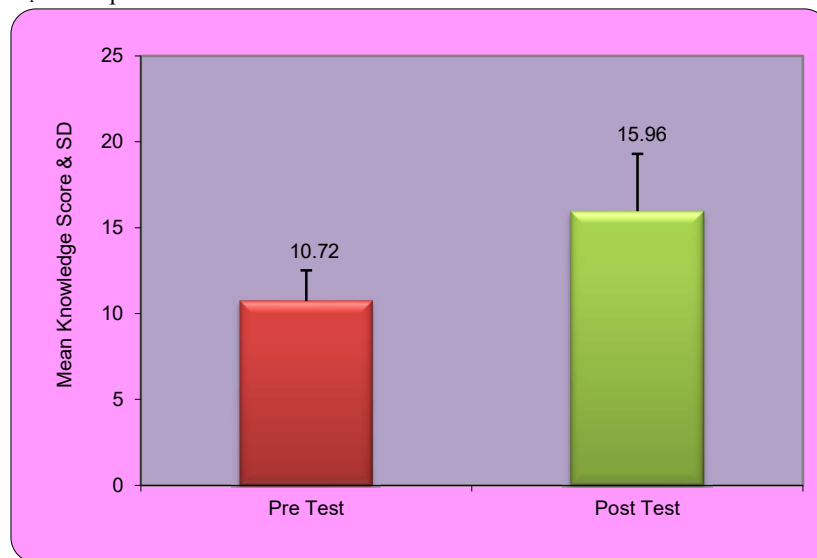


Figure. 14: Significance of difference between pre and post test knowledge score in relation to life style modification in hypertension among adults above 40 years of age .

SECTION D

ASSOCIATION OF KNOWLEDGE SCORE IN RELATION TO DEMOGRAPHIC VARIABLES

There were significant association between age and education of adult above 40 years of age. There was no significant association between, gender, educational status, occupational status, monthly family income in rupees, dietary pattern, marital status of clients, smoking habits of clients, alcohol consumption, of adult above 40 years of age.

III. DISCUSSION

The finding of the study was discussed were reference to the objectives stated in chapter I and with the findings of the other studies in this section. The present study was undertaken as “To assess the effectiveness of an information booklet

on knowledge regarding life style modification in relation to hypertension among adults above 40 years of age in selected areas.”

A similar study was to assess the effectiveness of self-instructional module on the knowledge of life style modification of hypertension among patient with hypertension. The outcome of the study reports showed that self-instructional module is highly effective in enhancing level of knowledge on life style modification of hypertension among patients with hypertension.^[54]

A study was conducted to evaluate the effectiveness of a self-explanatory booklet on knowledge and compliance regarding the management of hypertension among hypertensive patient it showed that the self-explanatory booklet was effective in improving the knowledge and compliance regarding the management of hypertension among hypertensive patients.^[55]

A study conducted to evaluate the effectiveness of a self-instructional module in increasing nurse’s knowledge of Genetics. Sample size was 262 registered nurses. The study has shown a significant increase of 20.8 percentages in participants mean knowledge score on the post-test as compared with pre-test. The study concluded that self-instructional module for registered nurses were effective in increasing knowledge of basic human genetic concepts and risk assessment. The findings of the present study also show that there was improvement of knowledge scores after the administration of booklet. The findings of the study showed the mean percentage of pretest knowledge score was 41.3% and posttest knowledge score was 61.3%. The mean percentage gain from pretest to post test was 20.0%.

IV. CONCLUSION

After the detailed analysis, this study leads to the following conclusion:

There was a significant increase in the knowledge of subjects after the administration of information booklet. To find the effectiveness of information booklet ‘z’ test was applied and ‘z’ value was calculated, the mean post test score were significantly higher than their mean pretest score as evidenced from structured knowledge test ‘p’ <0.05 level of significance. Thus it was concluded that information booklet on lifestyle modification in hypertension was found to be effective teaching strategy.

Demographic variables did not show a major role in influencing the pre test and post test knowledge score among adult above 40 years of age.

Hence, based on the above cited findings, it was concluded undoubtedly that the information booklet effectively increased the knowledge of the adult above 40 years of age regarding lifestyle modification in hypertension.

REFERENCES

- [1]. WHO. Global status report on non communicable diseases 2010. Geneva: World Health Organization; 2011 (Updated March 2013); Available from URL: <http://www.who.int/mediacentre/factsheets/fs317/en/>
- [2]. WHO. The World Health Report 2002. Reducing Risks, Promoting Healthy Life. Geneva: World Health Organization; 2002; available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2864143>
- [3]. Joyce M. Black, Jane Hokanson Hawks. Medical Surgical Nursing, clinical management for positive outcomes. 7 th ed. Vol 2. Elsevier publishers; 2007. P 1701.
- [4]. Desai V K, Kavishwar A. A Study On Effect Of Life Style Risk Factors On Prevalence Of Hypertension Among White Collar Job People Of Surat. The Internet Journal of Occupational Health. 2011; Vol 1: available from DOI: 10.5580/10bc
- [5]. National Institute of Medical Statistics, Indian Council of Medical Research (ICMR), 2009, IDSP Non-Communicable Disease Risk Factors Survey, Phase-I States of India, 2007-08.
- [6]. Reducing risks, promoting healthy life. Geneva, Switzerland: World Health Organization; 2002. 248p. Report No.: The World Health Report 2002.
- [7]. Shaughnessy AF, Slawson DC, Bennett JH. Becoming an information master: A guidebook to the medical information jungle. J FamPract. 1994;39:489-499.