

## Effect of self-instructional module on knowledge of adolescents regarding modifiable risk factors of hypertension in selected hospital

Deepak Kumar Singh<sup>1</sup>, Nagarajaiah<sup>2</sup>

<sup>1</sup> Research Scholar, Himalayan University, Arunachal Pradesh, India

<sup>2</sup> Research Guide, Himalayan University, Arunachal Pradesh, India

### Abstract

Adolescents were important part of the Nation as lot of expectations are there to lead the country towards progress through their hard work and determination. A study was conducted to find the Effect of self-instructional module on knowledge of adolescents regarding modifiable risk factors of Hypertension in selected Hospital.

**Objectives:** 1) To assess and compare the knowledge before and after self-instructional module regarding modifiable risk factors of hypertension among adolescents. 2) To find out the association between pretest knowledge score regarding modifiable risk factors of hypertension and selected demographic factors.

**Research design:** An evaluative approach was adopted for to assess the: Effect of self-instructional module on knowledge of adolescents regarding modifiable risk factors of Hypertension. A single group pretest and post test research design was adopted. The sample consisted of 100 adolescents, who fulfilled the inclusion criteria. Non-Probability Convenient sampling technique was used to select the adolescents for the study. Structured questionnaire and Self-instructional module was used.

**Data gathering process:** After obtaining permission from the concerned authorities total 100 samples were selected as per criteria. Investigator assessed knowledge by using structured questionnaire before and after administration of Self-instructional module. The data was analysed in terms of the objectives of the study and presented in the form of the tables and graphs.

**Findings of the study:** There is significant improvement in the overall knowledge after self-instructional module administration. ( $t = 4.089$ ,  $P < 0.00^{**}$ ). The calculated  $t$  value for knowledge about modifiable risk factors of hypertension among adolescents is found to be 4.089. As the calculated value of ' $t$ ' at 99 degree of freedom is 1.984 which is greater than the table ' $t$ ' value at 0.05 level of significance. So Null hypothesis ( $H_0$ ) is rejected and research hypothesis is accepted ( $H_1$ ). The above data indicates that Self-instructional module prove to be effective in improving the knowledge of Adolescents.

**Conclusion:** The analysis of the study revealed that there was a significant improvement in the knowledge of adolescents. The Self-instructional Module proved to be effective in improving the knowledge of adolescents regarding modifiable risk factors of Hypertension.

**Keywords:** hypertension, risk factors, self-instructional module

### Introduction

Now a days many diseases are emerging and causing lot of health problems among adolescents Hypertension among adolescents is growing rapidly and about one third of adolescents population is suffering from Hypertension. In order to prevent the occurrence of Hypertension, it is not only the medicines that is important but also exercise, knowledge about diet and life style modifications play an important role. If appropriate information is given to the adolescents at the correct time, occurrence of Hypertension can be reduced or prevented.

Stress and Anxiety has an adverse effect in the body system. One of which is the circulatory system i.e. the blood and the blood vessel but the individual continues to remain asymptomatic owing to the gradual onset and progressive damage occurring to the blood vessels, leading to elevated Arterial Blood Pressure i.e Hypertension. Hypertension may be confirmed in an individual if Blood Pressure reading taken on three different occasions with a sphygmomanometer exceeds  $> 140/90$ mmhg.

At least 970 million people are affected by Hypertension Worldwide. It is predicted that by 2025 1.56 billion individuals will have Hypertension. If the hypertension is left untreated, nearly half of the hypertensive patients will die of

heart disease, a third will die of stroke and the remaining 10-15% will die of renal failure.

Hypertension can be termed as an iceberg disease. The submerged portion of iceberg represents the hidden mass of the disease while floating tip denotes a clinical sign and symptoms and most of the hypertension subjects are not aware of the condition and only half of those treated are considered time-long between disease onset and unusually time of diagnosis. Intensive training of patients with hypertension is effective in modifying lifestyle risk factors.

Since student are more influential group in the family as well as in communities. It is important to equip them with adequate knowledge of hypertension so that they become the most effective media to spread awareness about this chronic disease and adopt healthy lifestyle. So this is very essential to assess the knowledge level of adolescents regarding hypertension in order to propose education programmes which can enhance the adolescent's knowledge on hypertension.

The investor observed that a number of hypertension patients were hospitalized because of uncontrolled blood pressure, nephropathy and Arteriosclerosis. Hypertension complications are preventable and long and healthy life is possible despite of hypertension. Education is the process of

motivating self-care so that they can look after themselves without being dependent on trained health professionals and thereby reducing the complications and burden on the family, community, society. Hence the investigator felt need to conduct this study.

### Problem statement

Effect of self-instructional module on knowledge of adolescents regarding modifiable risk factors of Hypertension in selected Hospital.

### Objectives

1. To assess and compare the knowledge before and after self-instructional module regarding modifiable risk factors of hypertension among adolescents.
2. To find out the association between pre test knowledge score regarding modifiable risk factors of hypertension and selected demographic factors.

### Variables

**Independent Variables:** Self-instructional module

**Dependent Variables:** Knowledge of adolescents regarding modifiable risk factors of Hypertension.

### Hypothesis

**Ho-** There is no change in knowledge score of adolescents after self-instructional module.

### Ethical aspects of the study

1. Approval from the Ethics committee was obtained for the study.
2. Informed consent from the adolescents was taken.
3. An adolescent has the right to participate or opt out at any given point of time.
4. Privacy and confidentiality of the documents was maintained.
5. The social justice maintained without discrimination among the patients irrespective of their age, gender or social status.
6. Safety of the adolescents given the top most priority.
7. Study results not be withheld from the adolescents.

**Research approach:** The evaluative research approach was used in this study.

**Research design:** The research design was one group pre test post test research design

### Variables

**Independent variables:** Self-instructional module

**Dependent variables:** Knowledge of adolescents regarding modifiable risk factors of Hypertension.

**Setting of the study:** The setting for the present study is Shershah Hospital, Rohtas.

**Population:** All the adolescents between 15-19 yrs of age in selected Hospital.

### Sample size and sampling technique

In this study the sample comprised of 100 adolescents (boys and girls) in selected Hospital Convenient sampling technique was used to select the sample.

### Criteria for sample selection

#### Inclusion Criteria

- Adolescents in age group of 15 to 19 yrs.
- Boys and Girls adolescents.
- Adolescents who were the care givers in selected Hospital.
- Adolescents who are willing to participate in this study.
- Adolescent who are present during data collection

**Tool preparation:** The Tool used in this study is a structured questionnaire with-

Section A: Socio demographic Data.

Section B: Assessing the Knowledge about Hypertension

Section A- socio

**Demographic data:** consist of a structured questionnaire schedule to collect the baseline data, which consist of 11 items for socio demographic data such as Age, Sex, Education of adolescent, Religion, Income/monthly of parents, Dietary habits and information about hypertension, family history of hypertension, & choice of mental relaxation technique.

Section B- knowledge about hypertension Questionnaire for assessing the knowledge about hypertension; There are 23 items and each item has 4 options.

### Validity

The tool was submitted to 11 experts nursing personnel from the field of Nursing. Modifications are done according to the experts suggestion and final tool was developed.

### Reliability

Reliability of the research instrument is defined as the extent to which the instrument yields the same result on repeated measures.. The reliability was calculated by using Spearman-Brown Prophecy formula that obtained ' $r = 0.85$ '. Which showed that the tool was reliable. No modification was made. Thus tool was found to be valid, reliable and feasible for the purpose of study.

### Data collection process

Written permission was obtained from the concerned authority prior to the data collection. A total of 100 samples were selected for the study. The investigator collected the data from 100 subjects. The purpose of the study was explained to the respondents and informed consent was obtained. Confidentiality was assured to all the subjects as to get their cooperation. A pre test with the Socio demographic data & knowledge about hypertension was given to total of 100 subjects following which a copy of the questionnaire was given to each respondent with little explanation on Self-Instructional Module and the instruction to read it thoroughly. Post test was administered on the 8<sup>th</sup> day by using the same questionnaire.

### Plan for data analysis

The data obtained from the 100 subjects would be analyzed using both the inferential and descriptive statistics on the basis of the objectives and hypothesis of the study.

### Significant findings of the study

**First objective;** To assess and compare the knowledge before and after self-instructional module regarding modifiable risk factors of hypertension among adolescents.

Knowledge of the adolescents regarding modifiable risk factors of Hypertension in Pre-test mean knowledge score was 9.07 and in Post-test mean knowledge score was 10.92. Hence the knowledge was improved in post-test.

Data in pre test knowledge score of adolescents regarding modifiable risk factors of hypertension was 9.07. After Self-Instructional Module it has been increased to 10.92.

To assess the significance of self-instructional module on knowledge score of adolescents, Parametric "t test" was applied. The calculated t value for knowledge about modifiable risk factors of hypertension among adolescents is found to be 4.089. As the calculated value of 't' at 99 degree of freedom is 1.984 which is greater than the table 't' value at 0.05 level of significance. So Null hypothesis stated ( $H_0$ ) that there is no significant difference in the pre-test and post-test knowledge score of adolescents regarding modifiable risk factors of hypertension is rejected and statistical hypothesis is accepted. The above data indicates that Self-instructional module prove to be effective in improving the knowledge of Adolescents.

**Second objective:** To find out the association between pre test knowledge score regarding modifiable risk factors of hypertension and selected demographic factors.

Study depicts that regarding age, the calculated value is 3.064 which is more than the table value i.e 1.98 that suggests that demographic variable age has association with knowledge level. Regarding sex the calculated value is 5.51 which is more than the table value i.e 1.98 that suggests that there is association between sex and knowledge level. The calculated value regarding religion is 1.31 which is less than the table value which suggests that there is no association between religion and knowledge. The calculated value of standard is 9.82 which is more than the table value which suggests that there is association between education and knowledge level. The calculated value of education of mother and income's which is less than table value which suggests that there is no association between education of mother, income and knowledge at level t. Therefore, the demographic variables i.e Age, sex, education has association with knowledge level. Thus research hypothesis ( $H_1$ ) is accepted and null hypothesis ( $H_0$ ) is rejected. The demographic variables i.e. religion, education of mother and income has no association with knowledge. Thus the research hypothesis  $H_1$  is rejected and Null hypothesis is accepted.

### Recommendations

- A comparative study may be conducted to find out the effectiveness of using different teaching strategies regarding the same topic.
- The study can be replicated with control group.
- A Study can be conducted to assess the knowledge and practices of other health practices like tobacco consumption, sex education, hand washing, Yoga etc.

### Conclusion

During the study, the researcher observed that all the samples were eager to learn even though they did not have improper lifestyle, bad habits of chewing tobacco or alcohol. The need for the information was present irrespective of age, religion and educational status. The findings of the study proves that teaching through Self-Instructional Module is really effective to increase the knowledge of the adolescents.

### References

1. Smeltzer Suzanne C. A text book of Medical Surgical Nursing, tenth edition: Lippincott, Williams & Wilkins.
2. Kearney PM, Whelton M, Reynolds K, *et al.* Global burdens of hypertension, Analysis of World Wide Lancet, 2005, 365.
3. Falkner B, Gedding SS, Portman R, Rosner B. A Study on BP Variability & Classification of Prehypertension & Hypertension in Adolescence may, 2007.
4. <http://www.Hypertension foundation.org>
5. American Heart Association, High Blood Pressure Statistics: march, 2010
6. Soya K. "conducted study on self-care activities of Pregnancy induced Hypertension and Maternal outcome," The Nursing Journal of India, 3(2), 58-60.
7. Reddy KS, Naik N, Prabhakaran D. Hypertension in the developing world: a consequence of progress. *Curr Cardiol Rep.* 2006; 8:399-404.
8. Turzanski Fortner, Shannon Renee. Ph.D., Modifiable risk factors for hypertensive disorders of pregnancy among Latina women DAI-B, 2009, 70/06.
9. Hypertension. "American Heart Association", 2010; 56:584.
10. Rosamond W, Flegal K, Friday G, *et al.* Heart disease and stroke statistics-2007 update: a report from the American Heart Association Statistics Committee and Stroke Statistic Subcommittee. *Circulation.* 2007; 115:e69-171.
11. *Journal of Human Hypertension*, 2008, 4(3).
12. Xiaoli Chen, Youfa Wang. Tracking of blood pressure from childhood to adulthood: A systematic review and meta-regression analysis. *Circulation: Journal of the American Heart Association*, 2008.
13. Chobanian AV, Bakris GL, Black HR, Cushman WC, Green LA, Izzo JL, *et al.* Seventh report of the joint national committee on prevention, detection, evaluation, and treatment of high blood pressure. *Hypertension.* 2003; 42:1206-1252.