



# EDUCATIONAL INTERVENTION REGARDING HYPERTENSION AND ITS PREVENTIVE MEASURES AMONG COLLEGE STUDENTS IN GANDHINAGAR CITY, GUJARAT

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## ABSTRACT

**Background:** Adolescence is an age of transition and clearly recognized for its vulnerability to adoption of behavior predisposing to hypertension development. This study was conducted to assess knowledge of college students regarding hypertension and its preventive measures before and after educational interventional training.

**Methods:** This interventional study was undertaken in government Commerce college of Gandhinagar city during January to March 2016 using pre-designed, pre-tested and semi structured questionnaire. Single educational interventional training for 45 minutes was given to selected adolescent girls. Post-intervention knowledge of students for the same was assessed after training.

**Results:** Baseline knowledge of the students regarding normal range of blood pressure, risk factors of hypertension and signs and symptoms of hypertension was 30%, 40% and 21% respectively which was significantly increased to 79%, 72% and 72% respectively after the intervention. Baseline knowledge of the students regarding preventive measures of hypertension like avoiding junk food/ healthy diet, exercise and meditation was 23%, 25% and 4% respectively which was significantly increased to 66%, 55% and 41% respectively after the intervention.

**Conclusion:** There was significant improvement in the knowledge regarding hypertension and its preventive measures among college students after our single educational session.

**Keywords:** Hypertension, Non-Communicable Diseases, College students, Knowledge, Blood pressure

## INTRODUCTION

Hypertension is a chronic condition of concern due to its role in the causation of other non communicable diseases like coronary heart disease, stroke and other vascular complications. In the era of socio-economic and epidemiological transition of population, it is the commonest cardiovascular disorder and emerged as major public health problem. It is one of the major risk factors for cardiovascular mortality. Hypertension alone accounts for 20-50 per cent of all deaths.<sup>1</sup>

Many adult health problems e.g. hypertension, diabetes have their early origins in early adulthood, because this is the time when lifestyles are formed. In primordial prevention, efforts are directed towards encouraging adults to adopt healthy lifestyles. The main intervention in primordial prevention is through individual and mass education. Adolescent constitutes over 23% of the population in India. High birth rate will continue to increase this number. Adolescence more broadly refers to the phase of human development which encompasses the transition from childhood to adulthood. This period is very crucial, since these are the

formative years in the life of an individual, when major physical, psychological and behavioral changes take place.<sup>2</sup>

During early adulthood, people become increasingly independent. They have their own choices in areas such as diet, substance use, sexuality, physical activity and use of health care services. Health of the adolescents should be promoted in a college, as college is a key location for educating them about health, hygiene and nutrition, and for putting in place interventions.<sup>3</sup> With this background in mind, the present study was undertaken to know impact of educational intervention regarding hypertension and its preventive measures before and after training among students of Government Commerce College of Gandhinagar city.

### MATERIAL AND METHODS

The present study was an interventional study undertaken in purposively selected Government Commerce college of Gandhinagar city during January to March 2016 by department of Community Medicine, GMERS Medical College, Gandhinagar. Total 100 students between the age group of 17-19 were included after written informed consent. Baseline knowledge of students regarding hypertension and its preventive measures was as-

essed by pre-designed, pre-tested and semi structured questionnaire. Questionnaire was converted in vernacular language for assessment. Single educational interventional training for 45 minutes was given to selected students with lecture with power point presentation, charts, demonstration and discussion. Post- intervention knowledge of students for the same was assessed after training by same questionnaire. Pre and post training assessment was done by scoring method and also mean, standard deviation, Wilcoxon sign rank test were applied. Thus collected data was analyzed using SPSS 17 (Trial Version).

### RESULTS

Mean age of the students was 18.4±0.7years. Baseline knowledge of the students regarding normal range of blood pressure was 30% which was significantly increased to 79% after the intervention. (Table 1) Baseline knowledge of the students regarding risk factors of hypertension was 40% which was significantly increased to 72% after the intervention. (Table 1) Baseline knowledge of the students regarding signs and symptoms of hypertension was 21% which was significantly increased to 64% after the intervention. (Table 1)

**Table 1 Distribution of the students according to knowledge of normal range of blood pressure, risk factors and signs and symptoms of hypertension before and after training.**

Knowledge Indicators	Students		*Z Value	p value
	Pre test (%)	Post test (%)		
Normal range of blood pressure	30 (30.0)	79 (79.0)	<b>6.731</b>	<b>&lt; 0.001</b>
Risk factors of hypertension	40 (40.0)	72 (72.0)	<b>5.191</b>	<b>&lt; 0.001</b>
Signs and symptoms of hypertension	21 (21.0)	64 (64.0)	<b>6.021</b>	<b>&lt;0.001</b>

\*Wicoxan Sign ranked test

**Table 2: Distribution of the students according to knowledge of preventive measure of Hypertension**

Preventive measures of obesity	Students		*Z Value	p value
	Pre test (%)	Pre test (%)		
Avoiding junk food/Healthy Diet	23 (23.0)	66 (66.0)	-6.410	<0.0001
Exercise	25 (25.0)	55 (55.0)	-4.768	<0.0001
Meditation	4 (4.0)	41 (41.0)	-5.925	<0.0001

\*Wicoxan Sign ranked test

Baseline knowledge of the students regarding preventive measure of hypertension like avoiding junk food/ healthy diet, exercise and meditation was 23%, 25% and 4% respectively which was significantly increased to 66%, 55% and 41% respectively after the intervention.(Table:2)

### DISCUSSION

As adolescence and early adulthood is period of transition, adolescents are vulnerable to adopt be-

havior predisposing to Non Communicable Diseases like hypertension and diabetes development. Hence during this period knowledge regarding healthy life style should be given to promote their health. Primary prevention in any NCDs is achieved by health promotion and specific protection. Health education is a priority in the adolescents as a long term preventive measure of hypertension and diabetes. Health education discourage them to adopt high risk behavior and life style responsible for NCDs. <sup>4</sup> The present study intended

to assess the awareness level regarding hypertension and their risk factors college students. The awareness level of the study participants regarding hypertension and their risk factors was unsatisfactory.

In our study baseline knowledge of the students regarding normal range of blood pressure was 30% which was significantly increased to 79% after the intervention. Baseline knowledge of the students regarding risk factors of hypertension was 40% which was significantly increased to 72% after the intervention. Baseline knowledge of the students regarding signs and symptoms of hypertension was 21% which was significantly increased to 64% after the intervention. In a study done by Chaudhari AI et al<sup>4</sup> baseline knowledge of the students regarding normal range of blood pressure was 67.2% which was significantly increased to 99.1% after the intervention and baseline knowledge of the students regarding risk factor of hypertension like high salt consumption, obesity, stress and lack of physical activity was 25.9%, 23.3%, 65.5% and 21.6% respectively which was significantly increased to 73.3%, 61.2%, 92.2% and 45.7% respectively after the intervention. A study conducted by Shaikh RB et al<sup>5</sup> among entry year students of a medical university highlighted that majority of the students (more than 70%) were aware about stress, high cholesterol, and obesity as the risk factors of hypertension. Goel S, et al<sup>6</sup> reported that 65.3% and 58.3% senior secondary school students of Chandigarh had knowledge about hypertension and diabetes, respectively. In ThawornLorga et al<sup>7</sup> the lifestyle-related risk factors which were common to all cardiovascular diseases were not well known among the students. The present study also highlighted that only one third of the students had knowledge of risk factors of hypertension.

In our study baseline knowledge of the students regarding preventive measure of hypertension like avoiding junk food/ healthy diet, exercise and meditation was 23%, 25% and 4% respectively which was significantly increased to 66%, 55% and 41% respectively after the intervention. In a study done by Chaudhari AI et al<sup>4</sup> baseline knowledge of the students regarding preventive measure of non communicable diseases like meditation, avoiding cigarette smoking/alcohol consumption and avoiding junk food was 11.2%, 11.2% and 5.2% respectively which was significantly increased to 40.5%, 46.6 and 37.9% respectively after the intervention. In Anju Ade et al<sup>8</sup> reported that 62.6% of the students had no knowledge about the preven-

tion of NCDs. Only 127(37.4%) students felt NCDs are preventable. A school based study by Taha AZ et al<sup>9</sup> on intermediate and secondary school male students in Saudi Arabia reported that few (<50%) of the students knew about the beneficial effects of physical activity in the prevention of heart disease, hypertension, diabetes mellitus.

## CONCLUSION

There was significant improvement in the knowledge regarding hypertension and its preventive measures among college students after our single educational session. Such education interventions are to be done on a regular basis to improve their knowledge and to discourage them from adopting harmful lifestyles which cause non communicable diseases.

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