

# Effectiveness of Online Teaching Module on Knowledge regarding Hypertension among Secondary School Teachers

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**Abstract:** Blood pressure is the force exerted by circulating blood against the walls of the arteries. Such a pressure measured on two or more consecutive readings above 140/90 mmHg can be considered as hypertension (HT). This silent killer progressive disease is often asymptomatic. In a data collected by WHO estimated 1.13 billion people worldwide have HT. The prevalence of HT was found to be significantly associated with occupational stress in case of school teachers. **Objectives:** The study conducted with primary objective to assess the effect of online teaching module on knowledge regarding HT among secondary school teachers. **Materials & Method:** A quantitative approach with one group pre-test post-test design was used. Whereas 60 samples were selected using purposive sampling technique from the selected schools of Maharashtra. A structured questionnaire was used to measure knowledge of secondary school teachers. **Results:** In pre-test level of knowledge regarding HT, the mean was found to be 18.55 with standard deviation of 3.44. In the post-test level of knowledge, the mean increased to 23.97 with standard deviation of 3.06 after intervention among secondary school teachers. **Conclusion:** The online teaching module was effective to increase the knowledge regarding HT among secondary school teachers. There was a significant association found for the variable education with 0.03 level of significance.

**Keywords:** hypertension, online teaching module, knowledge regarding hypertension, hypertension among school teachers

## 1. Introduction

Blood pressure is the force exerted by circulating blood against the walls of the arteries. Such a pressure measured on two or more consecutive readings above 140/90mmHg can be considered as hypertension (HT). This silent killer progressive disease is often asymptomatic. In a data collected by WHO estimated 1.13 billion people worldwide have HT. The prevalence of HT was found to be significantly associated with occupational stress in case of school teachers.

National prevalence shows the prevalence of HT in the last six decades has increased from 2% to 25% among urban residents and from 2% to 15% among the rural residents in India. This rising trend observed is multifactorial, maybe because of increased life expectancy, lifestyle changes increased salt intake, and increased awareness and detection.<sup>1</sup>

In a large cross-sectional STEPS survey on prevalence of hypertension and pre-hypertension in North India conducted by Tripathy JP, et al. shows that Overall prevalence of HTN among the study participants (5127) was found out to be 40.1% whereas prevalence of prehypertension, isolated diastolic and isolated systolic hypertension were 40.8%, 9.2% and 6.5% respectively. This indicates the need for systematic screening and awareness program to identify the undiagnosed cases in the community and offer early treatment and regular follow up.<sup>2</sup>

The overall prevalence of hypertension is 25% in Maharashtra, and a huge variation in the prevalence of hypertension is found across the districts. Dhule, Gadchiroli, Mumbai, and Satara are the districts with a higher (above 30%) prevalence of high blood pressure. Again, age, sex, marital status, place of

residence, wealth status, unhealthy habits (i.e. smoking and alcohol consumption), & BMI are significantly associated with hypertension.<sup>3</sup>

Mini G. K, et al. (2020) investigated the prevalence, awareness, treatment, control of Hypertension (HT) and the factors associated with Hypertension (HT) prevalence and control among school teachers in Kerala, India. Among the hypertensives, 62% were aware, 49% on treatment and 34% achieved adequate control from the 2216 selected school teachers from Thiruvananthapuram district of Kerala. The study concluded that, a higher level of hypertension control among school teachers in this study indicates an attainable level of hypertension control in the general population of the state.<sup>4</sup>

Several studies have reported a cause-effect relationship between job strain and high blood pressure.<sup>5</sup> A study among bank employees in Gujrat state of India reported a prevalence of HT as 30.4% including 7.6% self-reported and 22.8% detected during the study. Highest prevalence of hypertension was reported in 50-59 years age group followed by 20-29 years (26.3%).<sup>6</sup> Another study conducted in Dhaka city showed a HT prevalence of 52% among school teachers.<sup>7</sup>

When studied across India, the prevalence of HT among school teachers was found to be 45.4% in the Dibrugarh district of Assam.<sup>8</sup> 28.57% in Tumkur, Karnataka.<sup>9</sup>

**Objectives:** The study conducted with primary objective to assess the effect of online teaching module on knowledge regarding HT among secondary school teachers. Other objectives- To assess the existing knowledge regarding HT among secondary school teachers and To find out association

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between pre-test and post-test knowledge regarding HT among secondary school teachers.

**Primary Hypotheses:** The hypotheses to be tested are as follows-

H0 = There is no significant difference between pre-test and post-test mean knowledge score regarding Hypertension (HT) among secondary school teachers.

H1 = There is significant difference between pre-test and post-test mean knowledge score regarding Hypertension (HT) among secondary school teachers.

**Other Hypotheses:**

H01 = There is no significant association between knowledge regarding Hypertension (HT) among secondary school teachers with selected demographic variables.

H2 = There is significant association between knowledge regarding Hypertension (HT) among secondary school teachers with selected demographic variables.

## 2. Materials & Method

A pre-experimental study for which a quantitative research approach with one group pre-test post-test design was used. Demographic Variables considered in the study were age, gender, educational qualification, medical history of HT, history of HT in the family, locality, any medical camps conducted/ attended regarding HT and status of annual medical check-up respectively. A structured questionnaire tool containing 30 questions were used to assess the knowledge of the participants. The reliability for knowledge questionnaire was done by Test-retest method and was found to be 0.86 thus the tool was considered reliable.

**Table 1.1:** Schematic representation of different phases of study design

| Sampling  | Phase-I   | Pre-test (O1)   | Phase-II  |   | Phase-III   |
|---|---|---|---|---|---|
|   | Preparation of structured knowledge questionnaire and online teaching module  |   | Administration of online teaching module (X1)   | Post-test (O2)  | Data analysis   |
| <ul style="list-style-type: none"> <li>Secondary school teachers from selected schools</li> <li>Sampling technique Non-probability purposive sampling technique</li> <li>Sample size- 60</li> </ul> | <ul style="list-style-type: none"> <li>Review of literature</li> <li>Discussion with experts</li> <li>Preparation of blue print</li> <li>Preparation of structured knowledge questionnaire</li> <li>Preparation of online teaching module</li> <li>Content validity</li> <li>Pre-testing</li> <li>Reliability of tool</li> <li>Pilot study</li> </ul> | Pre-test to assess the knowledge level of secondary school teachers by structured knowledge questionnaire | Online administration of prepared teaching module to the secondary school teachers after the pre-test | Post-test to assess the knowledge level of secondary school teachers on seventh day by using the same questionnaire | Level of pre-test and post-test scores<br>Analysis and interpretation of data<br>Hypothesis testing |

**Pilot Study:** A pilot study was carried out at the end of the planning phase after obtaining permission from the authorities among 10% of samples at a selected schools in Maharashtra. For the performed pilot study the results showed that the mean of pretest is 19.00 (SD=3.34) and post-test knowledge is 26.17 (SD=1.94). After SPSS analysis calculated t value was found to be higher (5.73) than the table value (2.57) (at 0.05 d.o.f. and p=0.000).

**Data Collection Process:** Before starting the data collection process, a formal administration permission was obtained. The researcher visited the selected schools in the state of Maharashtra. The Data gathering process commenced for 2 weeks (13th June 2022 to 07th July 2022).

**Methodological Delimitations:** 1. Study is limited to 60 secondary school teachers from the selected schools in Maharashtra. 2. The result of the study is limited to the selected schools in the state of Maharashtra.

**Ethical Clearance:** The proposed study have obtained permission from: 1. Ethical committee of the Institution. 2. Authority of selected schools. 3. Informed written consent

from the participants. These all information have been handled carefully so that confidentiality and anonymity will be maintained at all times.

## 3. Results

According to the age, majority i.e., 48.33% samples were from the age group 51-58 years, followed by 21.67% from the 31-40 years. 20% were from the 41-50 years whereas only 10% were in age group of above 21-30years. Out of the total sample 68.33% were female, whereas 31.67% were male. According to the educational qualification, majority i.e., 58.34% samples were having B.Ed. as their educational qualification. 30% having D. Ed followed by 8.33% having M. Ed., and only 3.33% having Ph. D. Educational qualification. 90% were from the urban area and only 10% were living in rural area. Out of the total samples 18.33% had history of HT whereas only 3.33% had history of HT in their family. 6.67% had conducted/attended medical camps regarding HT in the past. 41.67% were doing their medical check-up regularly. However, 58.33% of samples were not doing regular health checkup.

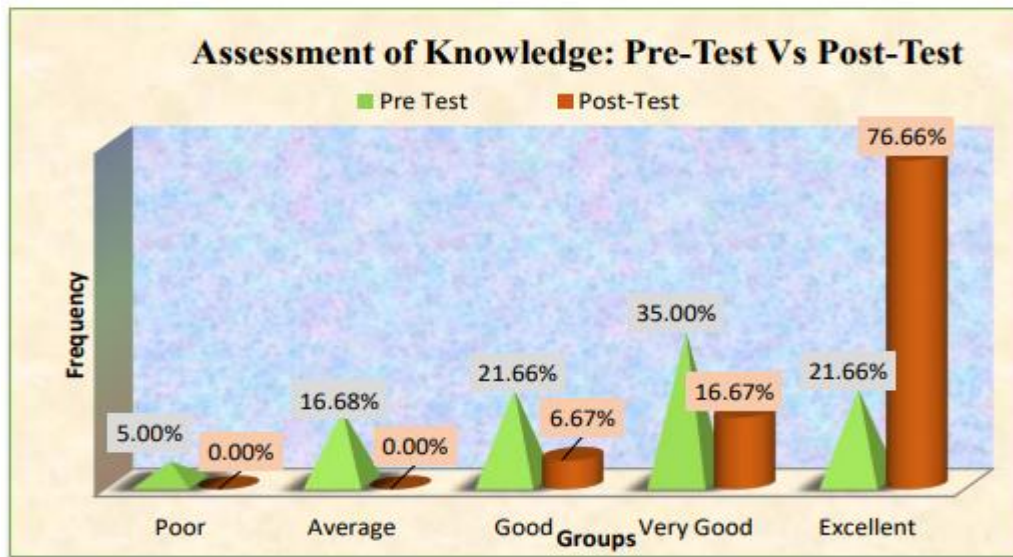


Figure 1.1: General assessment of knowledge: Pre-test Vs. Post-test

In pre-test level of knowledge regarding HT, the mean was found to be 18.55 with standard deviation of 3.44. In the post-test level of knowledge, the mean increased to 23.97 with standard deviation of 3.06 after intervention among secondary school teachers.

Table 1.2: Association of the pre-test knowledge with selected demographic variables

| Sr. No. | Variable                         | Groups | N  | Mean  | f value | p value | Significance    |
|---------|----------------------------------|--------|----|-------|---------|---------|-----------------|
| 1       | Age in years                     | 21-30  | 06 | 20.00 | 0.59    | 0.624   | Not significant |
|         |                                  | 31-40  | 13 | 18.15 |         |         |                 |
|         |                                  | 41-50  | 12 | 19.08 |         |         |                 |
|         |                                  | 51-58  | 29 | 18.21 |         |         |                 |
| 2       | Gender                           | Male   | 19 | 17.58 | 2.25    | 0.139   | Not significant |
|         |                                  | Female | 41 | 19.00 |         |         |                 |
| 3       | Education                        | D. Ed  | 18 | 17.06 | 3.19    | 0.030   | Significant     |
|         |                                  | B. Ed  | 35 | 18.77 |         |         |                 |
|         |                                  | M. Ed  | 05 | 20.60 |         |         |                 |
|         |                                  | PhD    | 02 | 23    |         |         |                 |
| 4       | Locality                         | Rural  | 06 | 19.33 | 0.34    | 0.562   | Not significant |
|         |                                  | Urban  | 54 | 18.46 |         |         |                 |
| 5       | Medical history of HT            | Yes    | 11 | 20.18 | 3.11    | 0.083   | Not significant |
|         |                                  | No     | 48 | 18.17 |         |         |                 |
| 6       | Family history of HT             | Yes    | 02 | 23.00 | 3.60    | 0.063   | Not significant |
|         |                                  | No     | 58 | 18.40 |         |         |                 |
| 7       | Any medical camps attended on HT | Yes    | 04 | 19.75 | 0.51    | 0.476   | Not significant |
|         |                                  | No     | 56 | 18.46 |         |         |                 |
| 8       | Does medical checkup             | Yes    | 25 | 19.28 | 1.95    | 0.168   | Not significant |
|         |                                  | No     | 35 | 18.03 |         |         |                 |

#### 4. Conclusion

From the study it is concluded that this population can be considered to have an average knowledge of HT. The online teaching module was effective to increase the knowledge regarding HT among secondary school teachers. There was a significant association found for the variable education with 0.03 level of significance which was calculated by using ANOVA and paired ‘t’ test. Online teaching module will help secondary school teachers to improve their knowledge about HT and impart it to others.

#### 5. Discussion

The present study have shown the significant impact in post-test regarding knowledge of HT among secondary school teachers after administration of online teaching module. The similar findings were also seen in the quasi experimental study

conducted by Choudhary R and Shalini to evaluate the effectiveness of self- instructional module on Knowledge regarding HT among selected school teachers from Mohali District. With the sample size of 150 and convenient sampling technique their study showed significant impact on knowledge level of school teachers after administration of self-instruction module.<sup>10</sup>

#### 6. Future Scope

The study can include attitude and practices regarding HT among school teachers. A descriptive survey can also be conducted to find out the prevalence of HT among the school teachers with larger sample size.

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