

## EFFECTIVENESS OF SELF INSTRUCTIONAL MODULE ON KNOWLEDGE REGARDING PREVENTION OF DEEP VEIN THROMBOSIS (DVT) AMONG ANTENATAL MOTHERS AT SELECTED HOSPITALS OF INDORE M.P.

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### **Background:**

Deep Vein Thrombosis (DVT) is a serious condition that can lead to life-threatening complications during pregnancy. Pregnant women are at higher risk due to changes in blood coagulation and venous pressure. Educating antenatal mothers on DVT prevention is crucial. A Self-Instructional Module (SIM) can be an effective tool for enhancing knowledge about DVT prevention. This study aims to assess the effectiveness of a SIM in improving the knowledge of antenatal mothers regarding DVT prevention.

### **Methods:**

A pre-experimental design was used with 60 antenatal mothers selected through non-probability purposive sampling. A structured questionnaire was administered before and after exposure to the SIM to assess knowledge levels. Descriptive and inferential statistics, including paired t-test, were used to analyze the data.

### **Results:**

Pre-test results: 21.66% of mothers had inadequate knowledge, and 78.33% had moderate knowledge. Post-test results: 83.33% of mothers achieved adequate knowledge, and 16.66% had moderate knowledge. The mean post-test score (19.16) was significantly higher than the pre-test score (12.59), with a mean difference of 5.39. The paired t-test showed a significant result ( $t = 20.98, p < 0.05$ ).

### **Conclusion:**

The Self-Instructional Module was effective in significantly improving antenatal mothers' knowledge about DVT prevention. The study highlights the potential of SIMs in health education and recommends their use in antenatal care to improve maternal health awareness.

### **Introduction:**

Deep Vein Thrombosis (DVT) is a medical condition characterized by the formation of blood clots within deep veins, typically in the legs. During pregnancy, women are at an increased risk of developing DVT due to various physiological changes, such as increased blood volume, hormonal fluctuations, and decreased blood flow in the legs. Antenatal mothers, or pregnant women receiving prenatal care, are particularly vulnerable to DVT, and prevention measures are crucial to ensuring their well-being.



The prevention of deep vein thrombosis among antenatal mothers is a significant concern within the healthcare community. DVT during pregnancy can lead to serious complications, such as pulmonary embolism, which can be life-threatening for both the mother and the unborn child. Therefore, understanding the risk factors, implementing preventive strategies, and raising awareness among healthcare providers and pregnant women are essential components of addressing this issue.

Among the PVDs, DVT ranks third when compared with other vascular diseases, thus remains a community health problem and revocable patient safety problem Centre for Disease Control and prevention (CDC, 2014). The major risk factors for DVT includes Hormona Replacement Therapy (HRT) or birth control pills, injury or surgery to the veins, prolonged bed rest, heart failure, inflammatory bowel disease, previous DVT, obesity, advancing age, prolonged standing and sitting for long duration when driving or flying (Vascular disease foundation, 2012). Out of which, HRT is combined with serious health consequences such as Type 2 Diabetes Mellitus (T<sub>2</sub>DM), Cardio-Vascular disorders (CVD), liver abnormalities, cancer and Venous Thrombo-Embolic disease (VTE).

### **1.3 PROBLEM STATEMENT**

A study to assess the effectiveness of self instructional module on knowledge of prevention of deep vein thrombosis (DVT) among antenatal mothers in selected hospitals of Indore M.P.¶

### **1.4 OBJECTIVE OF THE STUDY: -**

1. To assess the pre test knowledge score regarding prevention of deep vein thrombosis DVT among antenatal mothers.
2. To assess the post test knowledge score regarding prevention of deep vein thrombosis DVT among antenatal mothers.
3. To assess the effectiveness of self instructional module regarding deep vein thrombosis DVT among antenatal mothers.
4. To determine the association between pre test knowledge score regarding deep vein thrombosis DVT among antenatal mothers with their selected socio demographic variable.

### **1.5 HYPOTHESIS**

**RH<sub>1</sub>:** There will be significant difference between pre test knowledge and post test knowledge score regarding deep vein thrombosis DVT among antenatal mothers at the level of  $p \leq 0.05$ .

**RH<sub>2</sub>:** There will be significant association between the pre test knowledge score and selected socio-demographic variables at the level of  $p \leq 0.05$ .

### **3.1 RESEARCH APPROACH**

The quantitative approach was used.

### **3.2 RESEARCH DESIGN**

pre experimental one group pre test post test design is used to determine the effectiveness of self instructional module on knowledge regarding Deep vein thrombosis

### **3.3 VARIABLES**

**3.3.1 INDEPENDENT VARIABLE** – is the self instructional module on deep vein thrombosis DVT.

**3.3.2 DEPENDENT VARIABLE** –knowledge of deep vein thrombosis DVT.

**3.3.3 EXTRANEIOUS VARIABLE-** The extraneous variable of this include age, education , religion, income and Types of family.

### **3.4 SETTING OF THE STUDY**

Index Medical Hospital and Research Center, Indore.

### **3.5 POPULATION**

antenatal mothers present in selected hospitals Indore.

### **3.6 SAMPLE SIZE**

Sample size of this study consists of 60 antenatal mothers present in selected hospitals Indore.

### **3.7 SAMPLING TECHNIQUE**

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



### **3.8 SAMPLE CRITERIA**

#### **Inclusion Criteria**

Antenatal mothers who are admitted in selected hospital, Indore.

Antenatal mothers who are not willing to participate in the study.

Antenatal mothers who are able to read and write English or Hindi

#### **Exclusion Criteria**

Those who don't understand Hindi and English.

Antenatal mothers who are sick at the time of data collection.

### **3.9 DEVELOPMENT AND DESCRIPTION OF THE TOOLS**

the tool consisted of two sections.

**Section-A:** The demographic data consisted of baseline information of antenatal mothers regarding their age of antenatal mothers, religion, education of antenatal mothers, income and type of family. Previous knowledge regarding Deep vein thrombosis.

**Section-B:** Structured knowledge questionnaire. There were total 20 item was related to prevention of deep vein thrombosis. Multiple choice based questionnaire has prepared. For correct answer it was marked as one and for wrong answer it was marked as zero.

#### **Scoring Procedure**

Knowledge

0 - 07 – Inadequate knowledge

08 - 14 – Moderate knowledge

15 - 20 – Adequate knowledge

### **3.13 DATA COLLECTION PROCESS**

### Procedure for data collection

. The investigator collected data from Index Medical Hospital and Research Center Indore (M.P.). The investigator discussed the study with the authorities of the selected Hospital. The investigator approached the sample individually, discussed the objectives of the study and obtained consent for participation in the study.

**Phase I :** In this phase, pre test was conducted by distributing the structure knowledge questionnaire and instructions was given on answering the questionnaire.

**Phase II :** In this phase, Self instructional module on knowledge score regarding Deep vein thrombosis DVT was administered to the subjects. All the questions or queries asked by the subjects were clarified.

**Phase III :** In this phase, post test was conducted on 7<sup>th</sup> days of Self instructional module . It was conducted by administering the same structured knowledge questionnaire.

### Results and research findings.

**Regarding age:-** the number of sample was 13 (21.7%) in the age group of 18 - 20 years, 19 (31.7%) antenatal mothers were in the age group of 21 - 23 years and 08(13.3%) antenatal mothers were in the age group of 24-26 years and 20 (33.3%) in the age group of 27-29 years antenatal mothers.

**Regarding Percentage of educational qualification of antenatal mothers:** 09 (15%) antenatal mothers were Illiterate, 15(25%) antenatal mothers were Primary school, 13 (21%) antenatal mothers were Middle school, 06 (10%) antenatal mothers were High school, 08 (10%) antenatal mothers were High secondary school, 06 (10%) antenatal mothers were Graduate, and 03 (5.7 %) antenatal mothers were Post Graduate or above.

**Regarding Type of family:** 25(41.7%) antenatal mothers were Joint, 25(41.7%) antenatal mothers nuclear and 10 (16.6) antenatal mothers were extended family.

Regarding religion 40(66%) antenatal mothers were Hindu, 10(16%) antenatal mothers were Muslims, 04(6.7%) antenatal mothers were Sikh, 06(10%) antenatal mothers were Christians and 00 (00%) antenatal mothers were others.

**Regarding monthly family income:** 04(6.7%) antenatal mothers were less than 10,000Rs./ month, 15(25%) antenatal mothers were 10,001 – 20,000 Rs./ month, 21(35%) antenatal mothers were 20,001 – 29,000 Rs./ month, 20 (33.3%) antenatal mothers were less than 30,000 Rs./ month,

**Regarding Previous knowledge about Prevention of deep vein thrombosis:**Yes (if yes) 04(6.7%) antenatal mothers were newspaper, 02 (3.3%) antenatal mothers were magazine, 04(6.7%) antenatal mothers were media, 00 (00%) antenatal mothers were others, and 50 (83.3.%) antenatal mothers were no.

## SECTION II :

### ASSESSMENT OF KNOWLEDGE LEVEL OF PRETEST

**Table 3 Frequency & Percentage Distribution of Pre Test Knowledge Score  
Of Samples.**

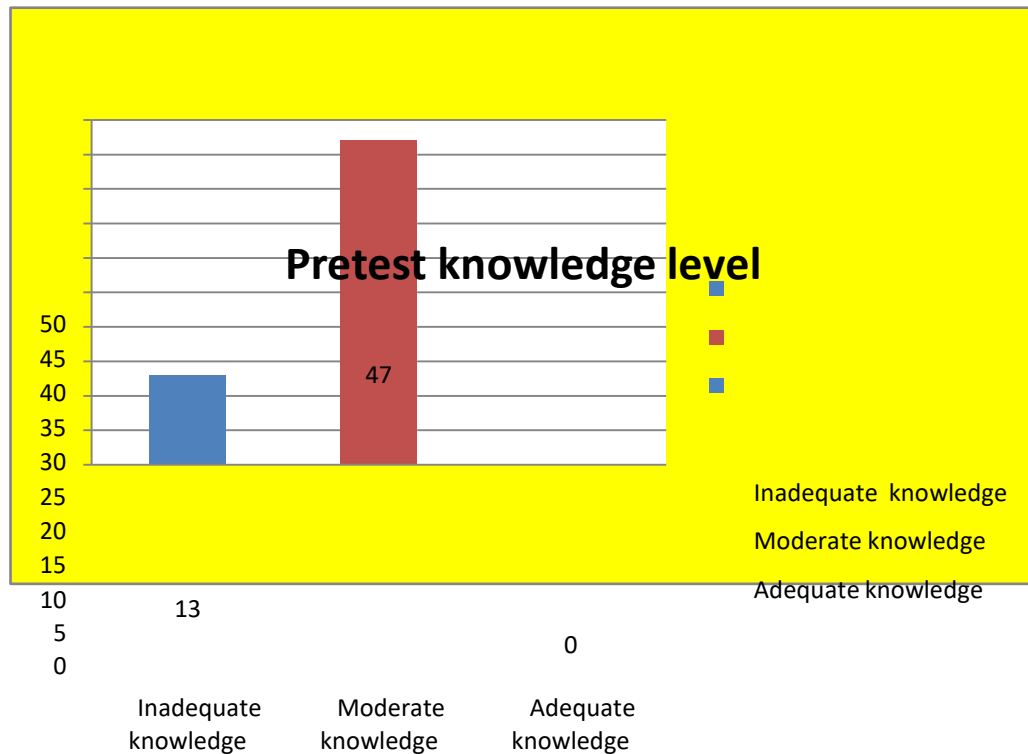
**N= 60**

| Level of knowledge   | Pretest   |                |
|----------------------|-----------|----------------|
|                      | Frequency | Percentage (%) |
| Inadequate knowledge | 13        | 21.66%         |
| Moderate knowledge   | 47        | 78.33%         |
| Adequate knowledge   | 00        | 00%            |
| <b>Total</b>         | <b>60</b> | <b>100%</b>    |

**Table 3: Representing the Frequency & Percentage Wise Distribution of Samples.**

The table-3 shows that the frequency and percentage distribution of samples according to the pre test knowledge score of antenatal mothers regarding Prevention of

deep vein thrombosis. It revealed that 13(21.66%) antenatal mothers had inadequate knowledge and 47(78.33%) antenatal mothers had Moderate knowledge and 00(00%) antenatal mothers had adequate knowledge about regarding Prevention of deep vein thrombosis.



**Fig.9 Distribution of samples according to the post test knowledge scores of antenatal mothers regarding Prevention of deep vein thrombosis.**

## SECTION-II

### ASSESSMENT OF KNOWLEDGE LEVEL OF POSTTEST

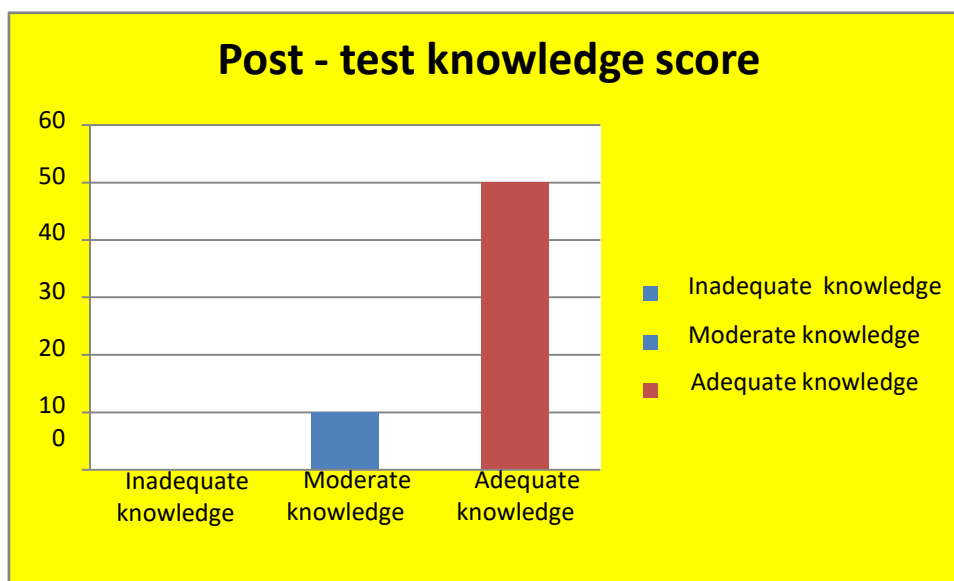
**Table 4. Frequency & Percentage Distribution Of Post Test Knowledge Score  
Of Samples.**

**N= 60**

| Level of knowledge   | Post test |                |
|----------------------|-----------|----------------|
|                      | Frequency | Percentage (%) |
| Inadequate knowledge | 00        | 00%            |
| Moderate knowledge   | 10        | 16.66%         |
| Adequate knowledge   | 50        | 83.33%         |
| <b>Total</b>         | <b>60</b> | <b>100%</b>    |

**Table 3: Representing the Frequency & Percentage Wise Distribution Of Samples.**

The frequency and percentage distribution of samples according to the post test knowledge scores of antenatal mothers regarding Prevention of deep vein thrombosis. It revealed that 00 (00%) antenatal mothers had inadequate knowledge, 10 (16.66%) antenatal mothers had moderate knowledge, 50 (83.33%) antenatal mothers had adequate knowledge Prevention of deep vein thrombosis



**Fig.10 Distribution of samples according to the post test knowledge scores of antenatal mothers regarding Prevention of deep vein thrombosis.**

#### COMPARISON OF KNOWLEDGE LEVEL OF ANTENATAL MOTHERS BEFORE AND AFTER SELF INSTRUCTIONAL MODULE

| Knowledge score | Mean  | Mean Difference | SD   | Df | Paired „t“ value | P Value |
|-----------------|-------|-----------------|------|----|------------------|---------|
| Pre test        | 13.77 | 5.39<br>(8.99)  | 2.89 | 59 | 20.98            | <0.5    |
| Post test       | 19.16 |                 | 3.09 |    |                  |         |

**Table 5 : Effectiveness of planned teaching programme**



\* $p < 0.05$  table

The paired 't' value was computed to determine the effectiveness of video assistant teaching programme on prevention of deep vein thrombosis DVT among antenatal mothers. The following research hypothesis was started.

**H<sub>1</sub>** - The mean post- test knowledge scores of the among antenatal antenatal mothers will be significantly higher than their mean pre – test knowledge scores.

**Table 5** – Illustrates that the mean post – test knowledge scores 19.16 was greater than the mean pre – test score 12.59.

The mean difference between pre – test and post - test score was 5.39. Paired t test knowledge score is 20.98 \* $p < 0.05$  is significant at 0.05 levels. Hence research hypothesis H<sub>1</sub> was accepted. This indicates that teaching programme was effective in increasing the knowledge of among antenatal mothers regarding prevention of deep vein thrombosis DVT among antenatal mothers.



**Fig.11 Comparison of between pretest & post test knowledge scores of simple.**

## SECTION- IV

### ASSOCIATION BETWEEN PRETEST KNOWLEDGE WITH SOCIO DEMOGRAPHIC CHARACTERS OF ANTENATAL MOTHERS.

**Table 6: Association Between The Pre Test Knowledge Scores With Selected Demographic Variables.**

(N = 60)

| S. No. | Demographic variables                | Variables                   | Frequency Poor | Average | Good | X <sup>2</sup>      |
|--------|--------------------------------------|-----------------------------|----------------|---------|------|---------------------|
| 1      | Age in year                          | 18 – 20 years               | 6              | 4       | 03   | 0.96 <sup>NS</sup>  |
|        |                                      | 21 -23 years                | 8              | 5       | 6    |                     |
|        |                                      | 24 -26 years                | 4              | 3       | 1    |                     |
|        |                                      | 27 -29 years                | 10             | 6       | 04   |                     |
| 2      | Educational qualification of mother- | Illiterate                  | 4              | 3       | 2    | 0.97 <sup>NS</sup>  |
|        |                                      | Primary School              | 5              | 6       | 4    |                     |
|        |                                      | Middle School               | 3              | 4       | 6    |                     |
|        |                                      | High School                 | 03             | 1       | 2    |                     |
|        |                                      | Higher Secondary School     | 2              | 3       | 3    |                     |
|        |                                      | Graduate                    | 3              | 2       | 1    |                     |
|        |                                      | Post graduate or above      | 1              | 1       | 1    |                     |
| 3      | Type of family                       | Joint                       | 15             | 6       | 4    | 0.89 <sup>NS</sup>  |
|        |                                      | Nuclear                     | 12             | 8       | 5    |                     |
|        |                                      | Extended family             | 6              | 3       | 1    |                     |
| 4      | Religion                             | Hindu                       | 20             | 6       | 5    | 0.945 <sup>NS</sup> |
|        |                                      | Muslim                      | 5              | 4       | 2    |                     |
|        |                                      | Sikh                        | 5              | 3       | 1    |                     |
|        |                                      | Christian                   | 4              | 2       | 1    |                     |
|        |                                      | Others                      | 1              | 1       | 1    |                     |
| 5      | Monthly family income-               | Less than 10,000Rs. / month | 03             | 2       | 1    | 0.87 <sup>NS</sup>  |
|        |                                      | 10,001 - 20,000Rs. / month  | 8              | 4       | 3    |                     |

|  |  |                    |    |   |   |  |
|--|--|--------------------|----|---|---|--|
|  |  | 20,001 - 29,000Rs. | 10 | 6 | 5 |  |
|--|--|--------------------|----|---|---|--|

|   |                                                             | / month                     |    |   |   |                   |
|---|-------------------------------------------------------------|-----------------------------|----|---|---|-------------------|
|   |                                                             | Less than 30,000Rs. / month | 6  | 8 | 6 |                   |
| 6 | Previous knowledge about Prevention of deep vein thrombosis | Yes (if yes)                |    |   |   | 8.84 <sup>s</sup> |
|   |                                                             | I. Newspaper                | 5  | 6 | 4 |                   |
|   |                                                             | II. Magazine                | 4  | 2 | 3 |                   |
|   |                                                             | III. Media                  | 2  | 1 | 4 |                   |
|   |                                                             | IV. Others                  | 3  | 2 | 1 |                   |
|   |                                                             | No                          | 10 | 5 | 8 |                   |

**\* Significant at 0.05 level**

**# Non significant at 0.05 level**

The table shown above chi-square is carried to find out the association between the knowledge on Prevention of deep vein thrombosis DVT of the antenatal mothers who have antenatal mothers and demographic variables.

The result shows there is a significance association between educational qualification of antenatal mothers religions, family income (In Rupees) and occupation. But there was no association between, age of the antenatal mothers.

The demographic data consisted of baseline information of antenatal mothers regarding their of the antenatal mothers, age, Educational qualification of antenatal mothers, Type of family, religion, monthly family income, type of family and previous knowledge regarding Prevention of deep vein thrombosis.

4 discussion.

The study analyzed data using descriptive and inferential statistics to achieve its objectives. Findings showed that most antenatal mothers (33.3%) were aged 27–29 years, while 31.7% were aged 21–23 years. Regarding education, 25% had primary schooling, and only 5.7% were postgraduates. Family types were equally distributed between joint and nuclear families (41.7% each), with 16.6% living in extended families. Most participants (66%) were Hindu, and monthly family income varied, with 35% earning ₹20,001–₹29,000. Only 16.7% of antenatal mothers had prior knowledge of deep vein thrombosis (DVT), mainly from newspapers and media, while 83.3% had no prior exposure.

Pre-test knowledge levels revealed that 78.33% of participants had moderate knowledge, and 21.66% had inadequate knowledge about DVT prevention, with no one scoring adequate



knowledge. After implementing a self-instructional module (SIM), post-test results showed significant improvement, with 83.33% achieving adequate knowledge and 16.66% moderate knowledge.

The effectiveness of the SIM was confirmed, with mean post-test scores (19.16) significantly higher than pre-test scores (12.59), yielding a mean difference of 5.39 ( $t = 20.98$ ,  $p < 0.05$ ). Hypothesis H1 was accepted, demonstrating the SIM's effectiveness. Association analysis with demographic variables partially supported Hypothesis H2, showing select correlations.

### Summary

The study evaluated the effectiveness of a self-instructional module (SIM) on antenatal mothers' knowledge of deep vein thrombosis (DVT) prevention. Data were analyzed using descriptive and inferential statistics. Most participants were aged 27–29 years, with primary education being the most common qualification (25%). Pre-test results showed that 78.33% of mothers had moderate knowledge, while 21.66% had inadequate knowledge. Post-test findings revealed significant improvement, with 83.33% achieving adequate knowledge. The mean post-test score (19.16) was significantly higher than the pre-test score (12.59). Statistical analysis confirmed the SIM's effectiveness, and associations with demographic variables partially supported the research hypothesis.

### Conclusion

The self-instructional module was effective in enhancing antenatal mothers' knowledge of DVT prevention, as evidenced by a significant increase in post-test scores ( $t = 20.98$ ,  $p < 0.05$ ). This highlights the importance of structured educational interventions in improving health literacy. While most mothers lacked prior knowledge of DVT, the module proved to be a valuable tool for addressing this gap. Associations with demographic variables further emphasized the need for targeted educational strategies based on specific characteristics. Overall, the study demonstrated that a well-designed SIM can play a crucial role in promoting maternal health awareness and preventive care practices.

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