

Effectiveness of Self Instructional Module on Knowledge Regarding Anticipated Risk of Ischemic Heart Diseases Among Clients with Hyperlipidemia at Selected Hospital

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Abstract- Ischemic heart disease (IHD) is commonly known as coronary artery disease. Blood supply to the heart is reduced due to narrowing of blood vessels. It is mainly caused by blockage of the arteries as well as deposition of cholesterol. It can lead to reduced blood, oxygen supply and functional impairment of the heart tissue. The preventive measure of coronary artery disease such as healthy lifestyle to do regular screening test for cholesterol levels and other parameters related to the disease. The self instructional module is one of the teaching strategies which can be used for teaching the clients regarding anticipated risk of ischemic heart diseases with hyperlipidemia.

Materials and Methods: pre experimental one group pre test post test design used for the study. Non probability purposive sampling technique was adopted to select 60 hyperlipidemic clients

Settings and population: out patient department of St. Philomenas hospital Bengaluru, 60 hyperlipidemic clients who fulfill the inclusion criteria.

Findings: The findings revealed that the calculated paired t test value is 21.256 greater than table value 1.98 at $p < 0.05$ found to be a statistically significant. Thus accepting hypothesis H_1 stating that there is a significant difference between pre & post test knowledge scores.

Conclusion: The study findings proved that self instructional module were effective in increasing the knowledge of hyperlipidemic clients regarding anticipated risk of ischemic heart diseases.

Index Terms- Self instructional module, anticipated risk of ischemic heart diseases with hyperlipidemia

I. INTRODUCTION

Coronary heart diseases is a major cause of mortality and morbidity all over the world. Coronary artery diseases are one or more arteries become narrowed or totally blocked by a gradual build-up of fat (cholesterol) within the artery wall, which reduces blood flow to the heart muscle. As a result, the heart muscle does not get oxygen rich blood that it needs and begins to die.¹ With dramatic changes in life style of people, hyperlipidemia incidences are increasing in our country especially among adults because of

addiction to fast food, lack of physical activity at an earlier stage.² High blood cholesterol levels are consistently associated with higher risk of coronary artery diseases, and other life-threatening cardiovascular and cerebrovascular damage, including fatal strokes.³ The burgeoning burden of coronary heart disease in India is due to alarming rise in the prevalence of coronary risk factors such as diabetes, smoking, obesity and physical inactivity. Rapid urbanization and changing lifestyle have led to the growing burden of coronary risk factors in India WHO(2009).⁴ Currently, hyperlipidemia is the major risk factor for coronary heart disease among men and women, affecting more than 12 million people. Death rate from hyperlipidemia appears to be higher in US, than in under developed countries and there is also evidence that atherosclerotic lesions leading to this problem, are developing at an early stage.⁵ Heart diseases are considered to be silent disease whose symptoms are not evident in patients suffering from them till the disease is in an advanced state.⁶

Despite of alarming statistics and literature reviews the researcher felt the need to develop Self Instructional Module to facilitate education regarding anticipated risk of ischemic Heart diseases among hyperlipidemic clients on life style modification. This will be helping them to have better quality of life.

The conceptual frame work adopted for this study was based on Imogene King's goal attainment theory. This theory was chosen as it highlighted the interaction between nurse and the clients where by each perceives the other as well as the situation and through communication they set goal, explore means and agree to achieve goals.

The objectives of study were :

- ✓ To assess the level of knowledge regarding anticipated risk of ischemic heart diseases among clients with hyperlipidemia.
- ✓ To evaluate the effectiveness of self instructional module on knowledge regarding anticipated risk of ischemic heart diseases among clients with hyperlipidemia.
- ✓ To determine the association between pre and post test knowledge scores on anticipated risk of ischemic heart diseases among clients with hyperlipidemia with selected baseline variables. At 0.05 level of significance

II. RESEARCH HYPOTHESES

At 0.05 level of significance

H₁: There will be a statistically significant increase in the level of knowledge regarding anticipated risk of Ischemic heart diseases among clients with hyperlipidemia following administration of self instructional module as measured by structured knowledge questionnaire.

H₂: There will be a statistically significant association between pre and post test knowledge scores on anticipated risk of Ischemic heart diseases among clients with hyperlipidemia with selected base line variables.

sampling technique was adopted to select 60 hyperlipidemic clients . The subjects were selected based on inclusion criteria. Tools were used Structured Knowledge questionnaire to assess the level of knowledge of hyperlipidemic clients regarding anticipated risk of ischemic heart diseases. Data collection was done after Obtaining from Administrator of St.Philomenas hospital. Informed consent was taken from clients. Pre test was conducted by Structured knowledge questionnaire .Administered SIM .Post test was conducted by structured knowledge questionnaire . Descriptive and inferential statistics were used for the analysis and interpretation of data . The conceptual framework used in the study was based on Imogene King’s goal attainment theory.

III. MATERIALS AND METHODS

To accomplish the task Quantitative Evaluative research approach was used for this study. pre experimental one group pre test post test design used for the study . Non probability purposive

IV. RESULTS

Frequency and Percentage distribution of pre & post test knowledge scores among clients with hyperlipidemia n=60

| Knowledge Scores | Pre Test | | Post Test | |
|--------------------|-----------|-------------|-----------|-------------|
| | Frequency | Percentage | Frequency | Percentage |
| Inadequate (<50%) | 44 | 73% | 0 | 0% |
| Moderate (50-75%) | 16 | 27% | 54 | 90% |
| Adequate (>75%) | 0 | 0% | 6 | 10% |
| Total | 60 | 100% | 60 | 100% |

Majority of clients during pre test 44(73%) most of them had inadequate knowledge ,16(27%)had moderate knowledge ,none of them had adequate knowledge. Where as in post test majority 54(90%)had moderate knowledge,6(10%)adequate

knowledge ,none of them had inadequate knowledge regarding anticipated risk of ischemic heart diseases .

ASPECT WISE COMPARISON OF PRETEST AND POST-TEST LEVEL OF KNOWLEDGE n=60

| Aspect-wise (Pre vs Post Knowledge) | Type | Mean | Std. dev | Paired t-test value | Df | Sig. (p-value) testing |
|-------------------------------------|-----------|------|----------|---------------------|----|------------------------|
| General information of Heart | Pre-test | 1.58 | 0.74 | 6.948 | 59 | 0.003 s* |
| | Post-test | 2.18 | 0.73 | | | |
| Ischemic heart diseases | Pre-test | 4.60 | 1.08 | 14.219 | 59 | 0.001 s* |
| | Post-test | 6.30 | 1.14 | | | |
| Hyperlipidemia | Pre-test | 4.15 | 0.97 | 13.527 | 59 | 0.001 s* |
| | Post-test | 5.90 | 1.29 | | | |
| Prevention | Pre-test | 3.15 | 1.06 | 14.212 | 59 | 0.001 s* |
| | Post-test | 4.60 | 1.11 | | | |

*Significant at 5%level t (0.05,59df)=1.98

The mean pre test knowledge scores on general information of heart was 1.58 with S.D 0.74 and mean Post test knowledge score 2.18 with S.D 0.73. The computed paired 't' value 6.948 is greater than the table value 1.98. The mean pre test knowledge scores on Ischemic heart diseases was 4.60 with S.D 1.08 mean Post test knowledge score 6.30 with S.D 1.14. The computed paired 't' value 14.219 is greater than the table value 1.98. The mean pre test knowledge scores on Hyperlipidemia was 4.15 with S.D 0.97 mean Post test knowledge score 5.90 with

S.D 1.29. The computed paired 't' value 13.527 is greater than the table value 1.98. The mean pre test knowledge scores on Prevention was 3.15 with S.D 1.06 mean Post test knowledge score 4.60 with S.D 1.11. The computed paired 't' value 14.212 is greater than the table value 1.98 shows a statistical significant difference between pre test and post test knowledge scores on hyperlipidemia at $p < 0.05$ level.

overall pretest and post-test knowledge scores of hyperlipidemic clients regarding anticipated risk of ischemic heart diseases
n=60

| Overall Knowledge | Max Score | Mean | Mean Difference | SD | Paired t-test value | Df | Sig. Testing (p-value) |
|-------------------|-----------|------|-----------------|------|---------------------|----|------------------------|
| Pre test | 60 | 13.5 | 5.5 | 2.14 | 21.256 | 59 | 0.0001 |
| Post test | 60 | 19.0 | | 2.45 | | | |

TABLE VALUE= 1.98

The computed t value (21.256) is greater than the table value (1.98) at $p < 0.05$ level found to be statistically significant. There was a statistically difference between pre-test and post knowledge scores of clients regarding ischemic heart diseases.

The study revealed that there was an increase in the level of knowledge regarding ischemic heart diseases, indicating the effectiveness of self instructional module. Hence research hypothesis H_1 is accepted.

Association between pretest knowledge scores of hyperlipidemic clients regarding anticipated risk of ischemic heart diseases with selected base line variables n=60

| Knowledge regarding hyperlipidemia – Pre test with baseline variables | Category | Respondents knowledge | | | | χ^2 value | P& t' Value |
|---|-------------------------|-----------------------|----|----------|----|----------------|--|
| | | Inadequate | | Moderate | | | |
| | | N | % | n | % | | |
| Age in years | 35-45 | 7 | 15 | 6 | 37 | 5.137 | df=3 t =7.82 P=0.162 p>0.05 NS |
| | 46-55 | 10 | 22 | 5 | 31 | | |
| | 56-65 | 15 | 35 | 2 | 13 | | |
| | >65 | 12 | 28 | 3 | 19 | | |
| Gender | Male | 24 | 54 | 9 | 56 | 0.014 | df=1 t =3.84 P=0.907 P>0.05 NS |
| | Female | 20 | 46 | 7 | 44 | | |
| Education status | No Formal Education | 5 | 11 | 2 | 12 | 0.487 | df=4 t=9.49 P=0.975 p>0.05 NS |
| | Primary | 11 | 16 | 4 | 25 | | |
| | Higher Secondary | 16 | 36 | 5 | 32 | | |
| | Graduate | 8 | 18 | 4 | 25 | | |
| | Post Graduate and above | 4 | 10 | 1 | 6 | | |
| Occupation | Government | 11 | 25 | 1 | 6 | 4.497 | df=3 t =7.82 P=0.213 p>0.05 NS |
| | Private | 19 | 43 | 8 | 50 | | |
| | Business/Self-employees | 4 | 10 | 4 | 25 | | |
| | Home Maker | 10 | 22 | 3 | 19 | | |
| Socio Economic Status | High | 21 | 47 | 11 | 68 | 5.257 | df=1 t =3.84 P=0.072 P<0.05 |
| | Moderate | 7 | 16 | 4 | 25 | | |
| | Low | 16 | 37 | 1 | 7 | | |

| | | | | | | | |
|---------------------------------------|------------------------|----|----|----|----|-------|--|
| Types of Lifestyle | Physically Active | 10 | 23 | 2 | 13 | 1.195 | S* df=2 t =5.99 P=0.550 p>0.05 NS |
| | Moderately Active | 21 | 48 | 10 | 62 | | |
| | Occasionally Active | 13 | 29 | 4 | 25 | | |
| Bread winner of the family | Yes | 27 | 62 | 11 | 69 | 0.276 | df=1 t =3.84 P=0.600 p>0.05 NS |
| | No | 17 | 38 | 5 | 31 | | |
| Dietary Pattern | Vegetarian | 15 | 35 | 5 | 32 | 0.043 | df=1 t =3.84 P=0.836 p>0.05 NS |
| | Non-vegetarian | 29 | 65 | 11 | 68 | | |
| Duration of Hyperlipidemia | Less than 1 year | 20 | 46 | 8 | 50 | 0.097 | df=1 t =3.84 P=0.755 p>0.05 NS |
| | 1-5 Year | 24 | 54 | 8 | 50 | | |
| Family History of Heart Disease | Yes | 26 | 60 | 11 | 68 | 0.463 | df=1 t =3.84 P=0.496 p>0.05 NS |
| | No | 18 | 40 | 5 | 32 | | |
| Previous History of co morbid illness | DM | 23 | 53 | 7 | 44 | 2.049 | df=2 t =5.99 P=0.359 p>0.05 NS |
| | HTN | 14 | 32 | 8 | 50 | | |
| | CVA | 7 | 15 | 1 | 7 | | |
| Habits of Smoking | Yes | 20 | 45 | 8 | 50 | 0.097 | df=1 t =3.84 P=0.755 p>0.05 NS |
| | No | 24 | 55 | 8 | 50 | | |
| Habits of Alcoholism | Yes | 20 | 45 | 5 | 32 | 0.974 | df=1 t =3.84 P=0.324 p>0.05 NS |
| | No | 24 | 55 | 11 | 68 | | |
| Tobacco Chewing | Yes | 20 | 45 | 6 | 38 | 0.302 | df=1 t =3.84 P=0.582 p>0.05 NS |
| | No | 24 | 55 | 10 | 62 | | |
| Source of Information Regarding IHD | Print/Electronic media | 7 | 15 | 2 | 12 | 0.406 | df=2 t =5.99 P=0.810 p>0.05 NS |
| | Health personal | 19 | 44 | 6 | 38 | | |
| | Friends/Neighbours | 18 | 41 | 8 | 50 | | |

The computed χ^2 value(5.257) for knowledge scores with socioeconomic status of clients is greater than table value (3.84) and $df = 1$, $p < 0.05$ level, which shows that there is a significant association between socio economic status and the pre-test knowledge scores on ischemic heart diseases. Hence hypothesis H_2 is accepted. Rest of the base line variables(age,

gender, educational status, occupation ,type of life style , bread winner of the family, dietary pattern ,duration of hyperlipidemia ,family history of heart disease , previous history of co morbid illness ,type of habit , previous source of information regarding ischemic heart diseases) were non significant considered H_2 was rejected.

V. DISCUSSION

The study revealed from the study after administration of Self Instructional Module on Ischemic heart diseases with hyperlipidemia.

- There was significant increase in the level of knowledge scores of hyperlipidemic clients after the administration of self instructional module regarding anticipated risk of ischemic heart diseases .
- There was statistically significant association between pre test knowledge scores of the clients with socio economic status and no significant association between the other base line variables .(age, gender, educational status, occupation ,type of life style , bread winner of the family, dietary pattern ,duration of hyperlipidemia ,family history of heart disease , previous history of co morbid illness ,type of habit , previous source of information regarding ischemic heart disease) .
- In post test the computed χ^2 value for knowledge scores with all base line variables of clients is lesser than table value $p > 0.05$ (age, gender, educational status, occupation, socioeconomic status ,type of life style , bread winner of the family, dietary pattern ,duration of hyperlipidemia ,family history of heart disease , previous history of co morbid illness ,type of habit , previous source of information regarding ischemic heart diseases) were no significant . Hence hypothesis H_2 is rejected.
- The study findings proved that self instructional module was effective in increasing the knowledge of hyperlipidemic clients regarding anticipated risk of ischemic heart diseases .

IMPLICATIONS:

NURSING PRACTICE

- ❖ Nurses can plan to conduct health teaching to the patients on one-one basis in the wards about risks of ischemic heart diseases.
- ❖ Information booklets can be prepared and distributed to the patients in OPD about risk factors and management of Ischemic heart diseases.
- ❖ Nurses can learn to motivate the patients to follow healthy lifestyle practices to prevent the risk of ischemic heart diseases and importance of periodic checking of serum cholesterol levels once in 3 months.

NURSING EDUCATION

- ❖ Nursing students can be encouraged to improve their knowledge regarding risk factors, management and prevention of ischemic heart diseases by attending workshops and conferences.
- ❖ Nursing students can plan to conduct health awareness camps regarding prevention of ischemic heart diseases to the public.

NURSING ADMINISTRATION

- Nurse administrator have a pivotal role in updating the knowledge of the newly recruited staffs regarding

management and prevention of ischemic heart diseases through in service education programmes .

- Nurse educator can plan to conduct educational programmes in the wards, medical and cardiology outpatient departments regarding early identification of risk factors and treatment of ischemic heart diseases.

NURSING RESEARCH

- The results of the study serves as a basis for student nurses to conduct an extensive research studies in future .
- Further studies can be conducted on risk factors and prevention of ischemic heart disease among hyperlipidemic clients .
- Dissemination of findings through conferences and professional journals will make the application of research findings to be more effective.

COMMUNITY HEALTH NURSING

- Community health nurse can prepare and distribute Pamphlets about risks and management of ischemic heart diseases in the community.
- Group health education can be planned regarding risks and prevention of ischemic heart diseases with the use of appropriate AV aids.

SUGGESTIONS

The hospital authority should take interest in conducting awareness programmes on ischemic heart diseases ,hyperlipidemia and its effect on health.

LIMITATIONS

- The study was limited to the hyperlipidemic clients in a selected hospital ,Bengaluru.
- Limits generalization as purposive sampling used.

RECOMMENDATIONS

- A similar study can be performed with larger sample size to draw more definite conclusions and make generalizations.
- A descriptive study could be conducted to assess the knowledge regarding IHD.
- A similar study could be conducted using various methods of teaching such as video assisted teaching, planned teaching programme.

VI. CONCLUSION

- The study findings proved that self instructional module was effective in increasing the knowledge of hyperlipidemic clients regarding anticipated risk of ischemic heart diseases .

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***“Education is the most powerful weapon
which you can use to change the world.”***

Nelson Mandela

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