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To Effectiveness of the Awareness Program on Prevention of Cholelithiasis in General Population

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ABSTRACT

Introduction: Cholelithiasis is the most common health problem in the western population. In this 80% of gallstones contain cholesterol. The pigment stones and mixed stones are remaining 20%. Every subtype having contained bile acids, calcium salt, and components of bile. The prevalence rate of gallstone is 10% to 20% worldwide. But cholelithiasis is found in a different part of the world. In India, the female prevalence rate is 5.59 % than the males 1.99%. South Indians have a 7 times lower occurrence of cholelithiasis as compared to north Indians.

Objective: This study is planned to assess the existing level of awareness on the prevention of cholelithiasis in the general population. To evaluate the effectiveness of awareness program on the prevention of cholelithiasis in the general population. To associate the findings of the awareness program on the prevention of cholelithiasis in the general population with selected demographic variables. Methodology - It is an academic-based study. Research approach – Interventional approach use in this study.

Research design: One group pre-test post-test design. The study will be conducted in the selected community area of the Wardha district. Sampling technique-probability convenient sampling technique use. Structure questionnaire use.

Result: The finding of the study shows that (90.83%) of the general population had an excellent level of awareness score, and (9.17%) had a good level of awareness score. The minimum awareness score in the posttest was 13 and the maximum awareness score in the post-test was 20. The mean awareness score in the post-test was 19.26 ± 1.87 and the mean percentage of awareness score in the post-test was 96.33 ± 9.36 . there was no significant association of awareness score about age education, occupation, Place of residence and diet.

Conclusion: The conclusion is drawn on the basic finding of the study, the pre-test finding showed that knowledge of the general population regarding prevention of cholelithiasis inadequate after the planned teaching helped the general population to understand more about prevention of cholelithiasis, most of the general population wear having adequate knowledge after the planned teaching.

Key Words: Awareness, Cholelithiasis, Effectiveness, General population, Prevention

INTRODUCTION

“Diamond snatched by a thief is better than a pebble in the tummy”

Cholelithiasis is the most common health problem in the western population. In this 80% of gallstones contain cholesterol. The pigment stones and mixed stones are remaining 20%. Every subtype having contained bile acids, calcium salt, and components of bile.¹

The gall bladder is a small shaped of the pear pouch or sac present below the liver. The gall bladder stored is bile concentrated. But gall stones difference caused in the bile stagnation. In this, there are two types of stone formation. Cholesterol stone and pigment stones. Cholesterol stones are account for 80% of gall stones affect in the world. The majority of the gallstones are caused by age over 40, diet, obesity, and complex interaction of genetic and environmental factors. Women’s rate is higher than men’s. Because of less

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activity in women as to men. Women tend to have higher body fat. And gall stones are silent form. And its complication is cancer.²

Cholelithiasis is a more common reason for abdominal mortality and morbidity in the world.³ But now, Gallbladder disease is a widespread health concern in developing countries and is a major health issue in this regard.⁴

Cholelithiasis is a recurrent and chronic hepatobiliary disease, in this impaired bilirubin, metabolism of cholesterol and bile acids. And this characterized by the formation of gallstones in the gallbladder, common bile duct and hepatic bile duct.⁵

The prevalence rate of gallstone is 10% to 20% worldwide. But cholelithiasis is found in a different part of the world. In India, the female prevalence rate is 5.59 % than the males 1.99%. South Indians have 7 times lower occurrence of cholelithiasis as compared to north Indians.⁶

While most cholelithiasis is asymptomatic but some peoples experience biliary colic, which is characterized by severe and sudden pain in the upper right abdomen with some time nausea and vomiting and nausea occurring in later times and lasting few hours. Acute or chronic cholelithiasis is also in association with cholecystitis. Complications of cholelithiasis may include gangrene, infection, inflammation and perforation.⁷

Cholecystitis because of cholelithiasis is a big health problem in the prevalence. cholelithiasis occur three times more often in women under 40 years of age and more than; and they also high in frequency with age.⁸

Cholelithiasis is mainly seen in females, most of which have high cholesterol levels.⁹ Gallstones are followed by essential epithelial changes in the gallbladder.¹⁰ Cholelithiasis is the type of cholesterol, brown pigment stones, and mixed. In this biliary colic symptom present in most common of the cholelithiasis in this 75 % of people seen the symptomatic cholelithiasis disease. In abdominal pain because of intermittent obstruction of the common bile duct.¹¹

Composition of gall bladder stone is assumed. Heterogeneous, and observed variations within and without people.^{12,13}

Abdomen ultrasound is the confine diagnosis evaluation of cholelithiasis and also the identification of the particular disease condition .in this also does the medical and surgical management use for the cholelithiasis. In cholelithiasis medical management given the dissolution of gallstone with the bile. In surgical management do the surgical procedure in this laparoscopic or open cholecystectomy.

Cholelithiasis is a more common risk factor in women, multiparty, family history, obesity, hypertension, diabetic Mellitus, birth control pills, vitamin C deficiency etc.^{14,15}

This study aimed to identify the effectiveness of the awareness on the prevention of cholelithiasis among the general population.

METHODOLOGY

An Interventional research approach and quasi-experimental one group pre-test -post-test design were used in this study. The study was conducted in the selected community area of the Wardha district. the general population with the age group of 18-60. Inclusion criteria wear The both male and female are included study. Who are available at the time of data collection. Participants who are willing to participate in the study. Participants who can read and write Marathi and Hindi. Exclusion criteria wear Those who are participants in a similar type of study. Those who are health professionals. The sampling technique was used as a non-probability convenient sampling technique. The sample size was 120. A structured questionnaire was used to collect the data.¹⁶

Organization findings

The analysis and interpretation of the observations are given in the following section:

- Section A: Distribution of general population with regards to demographic variables.
- Section B: Assessment of level of pre-test and post-test level of awareness on prevention of Cholelithiasis in the general population.
- Section C: Assessment of the effectiveness of awareness on prevention of Cholelithiasis in the general population.
- Section D: Association of the post-test level of awareness on prevention of Cholelithiasis in the general population with their selected demographic variables.

RESULT

Section A: Distribution of general population with regards to demographic variables.

This table deals with the percentage wise distribution of the general population with regards to their demographic characteristics. A convenient sample of 120 subjects was drawn from the study population, who were from selected areas. The data obtained to describe the sample characteristics including age, education, occupation, place of residence and diet pattern respectively.

Table no.1 show the distribution of general population according to their age in the year shows that 40% of the general population were in the age group of 18-30 years, 17.50% were in the age group of 31-40 years, 20% were in the age group of 41-50 years and 22.50% of the general population were in the age group of 51-60 years.

Distribution of general population according to their 15.80% of the general population were educated up to primary standard, 40% up to secondary, 32.50% of them up to graduation and 11.70% of the general population were educated up to PG and above occupation.

The distribution of the general population according to their occupation shows that 15.80% of the general population were doing business, 22.50% of them were employees, 34.20% of them were housewife and 27.50% of the general population were doing other types of occupation.

The distribution of the general population according to their place of residence shows that 17.50% of the general population were from an urban area and 82.50% of them were from rural area.

The distribution of the general population according to their diet shows that 38.30% of the general population were vegetarian and 61.70% of them were mixed vegetarian.

Section B: Assessment of level of awareness on prevention of cholelithiasis in the general population

Table no 2 shows that 85% of the general population had a poor level of awareness score and 15% of them had an average level of awareness score. The minimum awareness score in the pretest was 1 and the maximum awareness score in the pretest was 8. The mean awareness score in the pretest was 3.80 ± 1.48 and the mean percentage of awareness score in pre-test was 19 ± 7.43 .

Table no. 3 shows that 9.17% of the general population had a good level of awareness score and 90.83% of them had an excellent level of awareness score. The minimum awareness score in the post-test was 13 and the maximum awareness score in the post-test was 20. The mean awareness score in the post-test was 19.26 ± 1.87 and the mean percentage of awareness score in the post-test was 96.33 ± 9.36 .

Section C: Evaluation of the effectiveness of awareness on prevention of cholelithiasis in the general population

Table no 4. shows the comparison of pretest and post-test awareness scores of the general population regarding the prevention of cholelithiasis. Mean, standard deviation and mean difference values are compared and student's paired 't' test is applied at a 5% level of significance. The tabulated value for $n=120-1$ i.e. 119 degrees of freedom was 1.97. The calculated 't' value i.e. 70.16 are greater than the tabulated value at a 5% level of significance for the overall awareness score of the general population which is the statistically acceptable level of significance. Hence it is statistically interpreted that the awareness regarding cholelithiasis among the general population was effective. Thus the H_1 is accepted.

Section D: Association of the level of post-test awareness score regarding prevention of cholelithiasis among the gen-

eral population about demographic variables.

There was no significant association of awareness score about age, education, occupation, place of residence and diet.

DISCUSSION

Cholelithiasis is a common health problem worldwide. The prevalence rate of gallstone is 10% to 20% worldwide. But cholelithiasis is found in different parts of the world. In India, the female prevalence rate is 5.59 % than the males 1.99%. South Indians have a 7 times lower occurrence of cholelithiasis as compared to north Indians.

The findings of the study were discussed regarding the objective stated in chapter 1 and with the finding of the studies in this section. The present study was undertaken 'To effectiveness of the awareness program on prevention of cholelithiasis in the general population. in the present study that 90.83 of the general population has an excellent level of awareness score.¹⁷

So many studies have evaluated the diet role and risk for developing the gallstone in this fatty acids, vitamins, carbohydrates energy intake, cholesterol, fibre alcohol intake and minerals. So many different studies given the association between gallstone and cholesterol intake. Nowadays, discoveries by the role of the orphan nuclear receptor in the regulations of fatty acid and cholesterol metabolism in the hepatic.¹⁸

So many studies demonstrated the risk for inflammation, path physiology of the gallbladder disease e.g. of the gallbladder wall, a diameter of the common bile duct. But in ultrasound also help predict the risk of the conversion. That time surgeon has to be decided during the time of the intra-operative open procedure in a short time.^{19,20}

In cholelithiasis, the prevalence rate is increased in non-vegetarian peoples and females also. all type of risk factors is affected in cholelithiasis especially among the females. Ultrasound also helps to detect and early screening.²¹

So many studies in finding the in cholelithiasis bacterial play a role in the growth and development of cholesterol and pigment stone formation in the gallstone. Infection of the bacterium typos, E. coli, streptococcus.²²

Cholelithiasis is a preventive disease. But in this take the proper treatment. It used the medical, surgical both managed is effective in the treated for the cholelithiasis. In this prevention management in a proper diet, physical activity, lifestyle, proper vitamin C diet or supplement, all this helps to the prevention of cholelithiasis.

So many studies found the majority of the study patients are non-vegetarians when compared with vegetarians. A drop in

the risk of developing gallstones. Holding an optimal body weight and eating the meal same diets recommended for the prevention of some common diseases like Diabetes Mellitus, hypertension, and heart diseases. Some food additives can also be used to help to avoid gallstones without supporting evidence that the option isn't strong. Based on the reality before us, going to suggest 500 to 2000 mg will be fair of additional vitamin C per day for patient's risk of cholelithiasis developing to reduce their pathogenicity of bile. Iron status should also be measured and weaknesses should be dealt with properly.

In this study, 61.7% (74 out of 120) population consumed a mixed diet and the rest 38.3% (46 out of 120) population consumed a vegetarians diet.

CONCLUSION

This study aimed to identify the effectiveness of the awareness on prevention of cholelithiasis among the general population. Information is given to the general population through planned teaching which includes various aspects like general knowledge regarding causes, sing and symptoms, types, management and prevention of cholelithiasis. The conclusion is drawn on the basic finding of the study, the pre-test finding showed that knowledge of the general population regarding the prevention of cholelithiasis inadequate after the planned teaching helped the general population to understand more about the prevention of cholelithiasis, most of the general population wear having adequate knowledge after the planned teaching. The majority of 90.83 of the general population had an excellent level of awareness score. there was no significant association of awareness score about age education, occupation, Place of residence and diet.

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Ethical Approval

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Patient Inform Consent

Taken.

Conflict of Interest

The author declares that there are no conflicts of interest.

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Table 1: Percentage-wise distribution of the general population according to their demographic characteristics.

n=120		
Demographic Variables	No. of General Population	Percentage(%)
Age(yrs)		
18-30 yrs	48	40.0
31-40 yrs	21	17.5
41-50 yrs	24	20.0
51-60 yrs	27	22.5
Educational Level		
Primary	19	15.8
Secondary	48	40.0
Graduate	39	32.5
PG and above	14	11.7
Occupation		
Business	19	15.8
Employee	27	22.5
Housewife	41	34.2
Other	33	27.5
Place of residence		
Rural Area	99	82.5
Urban Area	21	17.5
Diet		
Vegetarian	46	38.3
Mixed	74	61.7

Table 2: Assessment with the level of pre-test awareness

n=120			
Level of pre-test awareness	Score Range	Level of Pre-test Awareness Score	
		No of the general population	Percentage
Poor	0-25%(1-5)	102	85
Average	21-50%(6-10)	18	15
Good	51-75%(11-15)	0	0
Excellent	76-100%(16-20)	0	0
Minimum score		1	
Maximum score		8	
Mean awareness score		3.80 ± 1.48	
Mean % awareness Score		19 ± 7.43	

Table 3: Assessment with the level of post-test awareness

n=120

Level of post-test awareness	Score Range	Level of Post-test Awareness Score	
		No of the general population	Percentage
Poor	0-25%(1-5)	0	0
Average	21-50%(6-10)	0	0
Good	51-75%(11-15)	11	9.17
Excellent	76-100%(16-20)	109	90.83
Minimum score		13	
Maximum score		20	
Mean awareness score		19.26 ± 1.87	
Mean % awareness Score		96.33 ± 9.36	

Table 4: Significance of difference between awareness score in pre and post-test of the general population

n=120

Overall	Mean	SD	Mean Difference	t-value	p-value
Pre Test	3.80	1.48	15.46±2.41	70.16	0.0001
Post Test	19.26	1.87			S,p<0.05