Assessment of Interventions by Pharmacist in Improving Knowledge Attitude and Practice in Hyperlipidemic Patients

Sachin P.S[1], Karthikeyan.V [1], Naveen James[1], Mohammed Shameem[1], Krishna Thulasi.J[1] and D.R.Kiran[2]

[1]Department of Pharmacy Practice, Grace College of Pharmacy, Palakkad – 678004.

[2]Department of General Medicine, Karuna medical college and hospital.

ABSTRACT

Background information: Hyperlipidemia is an elevation of one or more fat proteins in the blood i.e., too much cholesterol in the blood. It is one of the leading causes of various cardiovascular diseases resulting in 40% deaths annually in USA. Aim & Objectives: The aim is to assess and improve the knowledge attitude & practice in hyperlipidaemia patients. Materials & Methods: A prospective observational study was conducted in Karuna Medical College Hospital, Palakkad from November 2016 to April 2017. The questionnaire was basically divided into three sections (Knowledge, Attitude and Practice) with 15 questionnaires. Out of these 15 questionnaires, 5 were related to knowledge, 5 were related to attitude and 5 related to practice. Each positive answer was given a score of 'one' and the negative answer was given a score of 'zero'. Marks scored 4 to 5 considered as good scorer, score 3 considered as average and 2 or below 2 considered as poor scorer. Results: A total of 107 cases were collected of which 101 cases were available for post intervention. All patients with hyperlipidemia in the age group 30-70 years, willing to participate were included in the study. Among the 101 completed cases, 63.3% were male and 37.7% were female patients. 53.5% of patients were from the age group 61-70yrs. 87.1% followed a mixed diet where as 12.9% followed a vegetarian diet. Before intervention, 9.9 % had good knowledge, 15.8% had good attitude and 4.9% had good practice; whereas after intervention 85.1% had good knowledge, 87.1% had good attitude and 37.6% had good practice in hyperlipidemia. Conclusion: Factors beyond knowledge and attitude contribute to disease management. Plausible factors could be poor self-management, lack of motivation, inadequate social support or lack of resources that are necessary for sustained life style modification or behavior change.

1. Introduction

KAP surveys are focused evaluation that measure changes in human certain things, how they feel, how they behave.[1] Hyperlipidemia is an elevation of one or more fat proteins in the blood. Cholesterol is a waxy, fat protein manufactured by the liver and is essential for healthy cell membranes, hormone production, and vitamin storage[2]. The causes of hyperlipidemia are either genetic (familial or primary hyperlipidemia) or from a poor diet and other specific factors (secondary hyperlipidaemia).[4,9]

The cholesterol level can minimize by avoiding fast food, junk food and processed meats. When the body cannot utilize or remove the excess fat, it accumulates in the blood. Over time, the build-up damages the arteries and internal organs. This process contributes to the development of heart disease. In familial hyperlipidemia, the high cholesterol has nothing to do with poor habits but is caused by a genetic disorder.[3]The major risk factors include poor diet, obesity, lack of exercise, smoking, diabetes mellitus.[4]

Dyslipidemia is classed as primary and secondary based on their causes. Primary Dyslipidemia is due to genetic causes whereas secondary dyslipidemia is due to a number of disorders or as a side effect of drug therapy[4]. Dyslipidaemia

is a major risk factor for various non-communicable diseases like atherosclerosis, IHD, CCF etc. The country wise statistics of the WHO on non-communicable diseases (NCDs) estimates that NCDs account for 53% of the total deaths in India, out of which 8 CVDs have a major share of 24%.[5] By reducing the number of patients with dyslipidaemia, the incidence of cardiovascular complications can be reduced. The non-pharmacological treatment of hyperlipidemia include consumption of polyunsaturated fatty acids (PUFA), reduction in cholesterol intake, plant sterol & fibre intake, moderate alcohol consumption, regular exercise etc.[8,10]

Hyperlipidemia can be prevented to a great extent by changing their lifestyle habits and food pattern. KAP study is a suitable method to analyse the patients' life style during hyperlipidemia and to compare it with the changes after intervention.[1,6] In this study, the patient's knowledge, attitude and practice is analysed through a specially prepared questionnaire and proper counselling is provided. The patients are assessed after a period of 15 days or more through questionnaire and their lipid levels.

Tele: +918907473878
E-mail address: sachin_sreenivas@yahoo.com

2. Materials and Methods

A prospective observational study was conducted in the department of Medicine at Karuna Medical College Hospital, Vilayodi, Chittur, Palakkad dist., Kerala. The duration of study was 6 months (November 2016 – April 2017). The ethical approval was obtained from ethics and research committee of the institution. Inclusion criteria, Patients in the age group 30-70 years with elevated or altered lipid levels. Patients with or had a history of dyslipidaemia and/or cardiovascular complications. Exclusion criteria, pregnant women and breastfeeding women are excluded from the study. Patients who are not willing to participate are excluded from the study. A predesigned Data Entry Form and Questionnaire were used to obtain and evaluate the data. The questionnaire was basically divided in to three sections (Knowledge, Attitude and Practice). The KAP form contained 15 questionnaires. Out of these 15 questionnaires 5 were related to knowledge, 5 were related to attitude and 5 were related to practice. Each correct answer was given a score of 'one' and the wrong answer was given a score of 'zero'. Marks scored 4 to 5 considered as good scorer, score 3 considered as average and 2 or below 2 considered as poor scorer. The questionnaire was prepared in English and later translated to Malayalam and Tamil. Data were analysed by using a Graph pad prism software version 6. The overall scores for Knowledge, Attitude and Practice questions and subscale scores were converted into percentages. The chi – square test was used to determine the relationship between KAP.

3. Result and Discussion

A total of 101 patients fulfilling the inclusion and exclusion criteria were enrolled in to the study. Among the total number of patient, 61.3% (n=62) of patients were male and 38.6% (n=39) of patients were female. The maximum number of patients affected hyperlipidemia in the age group of 61 – 70 (53.5%), followed by the age group 51 – 60 (27.7%), and the age group 41 – 50 (15.8%) as shown in Table No.1.

Table No 1. Age wise distribution.

S. No	Age Group	No. of Patients (n = 101)	Percentage (%)
1	30-40	3	03.0
2	41-50	16	15.8
3	51-60	28	27.7
4	61-70	54	53.5

Social history plays a major role in the management of hyperlipidemia. In this study population 65.5% (n=66) of patient were non-alcoholic and non-smoker, 19.8% (n=20) of the patient are smoker and drinking any form of alcohol, followed by 9.9% (n=10) of patients are smoker and 5% (n=5) of patients are drinking any form of alcohol.

Fig No 1: Social history
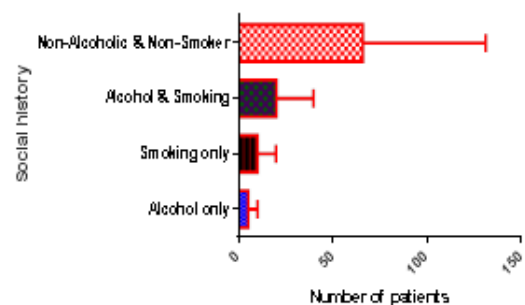
A healthy diet will help you prevent, control, and a few will even reverse diabetes. Taking steps to prevent and management of hyperlipidemia doesn't mean living in deprivation; it suggests that eating a tasty, balanced diet that may also boost your energy and improve patient's mood. In this study population 87% (n=88) patient are having mixed diet and 12% (n=13) of the patient having vegetarian. (See table No: 2)

Table No 2. Dietary management.

Type of food		No. of Patients	Percentage (%)
Diet	Veg Diet	13	12.9
	Mixed Diet	88	87.1

Among the 101 patients, about 93% (n=94) of patients know the blood cholesterol come from food we eat, followed by 92% (n=93) of patients have better knowledge about hyperlipidemia, 21.7% (n=22) of patients having the reference range of blood cholesterol range, 91% (n=92) of patients know that diet is an important factor to manage the hyperlipidemia and 60.3% (n=61) of patients knows that alcohol can worsen the lipid levels. In our study, when comparing with pre intervention, post intervention having a better knowledge about the diseases, reference ranges of cholesterol, diet and exercise management of Hyperlipidemia (see Table No.3).

Table 3. Response of the participants to the Knowledge questions involved in assessment of KAP's of HL.

| S. No	Knowledge Questions	Pre – Intervention		Post – Intervention	
		Number of patients correctly answered (n=101)	Percentage	Number of patients correctly answered (n=101)	Percentage
1	Do you know high blood cholesterol often come from food we eat?	56	55.4%	94	93.0%
2	Do you know what Hyperlipidemia is?	63	62.3%	93	92.0%
3	Do you know what normal cholesterol levels are?	13	12.9%	22	21.7%
4	Do you think that diet control is as an important factor for management of hyperlipidemia?	46	45.5%	92	91.0%
5	Do you think that excess alcohol can worsen the lipid levels?	25	24.7%	61	60.3%

Table No 4. Response of the participants to the Attitude questions involved in assessment of KAP's of HL.

S. No	Attitude Questions	Pre-Intervention		Post-Intervention	
		Number of patients correctly answered (n=101)	Percentage	Number of patients correctly answered (n=101)	Percentage
1	Are you following a controlled and planned diet?	19	18.8%	87	86.1%
2	Do you avoid extra added salts in your diet?	61	60.3%	97	96.0%
3	Are you going for regular follow-up?	55	54.4%	95	94.0%
4	Do you monitor weight regularly?	25	24.7%	30	29.7%
5	Do you take medications as per physician's instruction?	82	81.1%	99	98.0%

Table No 5. Response of the participants to the Practice questions involved in assessment of KAP's of HL.

S. No	Practice Questions	Pre-Intervention		Post-Intervention	
		Number of patients correctly answered (n=101)	Percentage	Number of patients correctly answered (n=101)	Percentage
1	Do you frequently eat a lot of carbohydrate such as bread, rice, pastries, sweets, soda, juices?	42	41.5%	43	42.5%
2	Do you regularly visit your doctor for review or check up?	53	52.4%	96	95.0%
3	Was your last visit to the physician within a month?	44	43.5%	97	96.0%
4	Do you take your hypolipidemic drugs without skipping a dose?	35	34.6%	63	62.3%
5	Are you doing physical exercise to maintain your weight?	16	15.8%	26	25.7%

About 86% (n=87) of the respondents were following a controlled and planned diet, 96% (n=97) respondents were aware regarding the reduction of salt intake to prevent hyperlipidemia, 94% (n=95) of the patients reported that they were visiting the physician regularly, 98% (n=99) think that regular use of medication is beneficial for treating hyperlipidemia (See Table No.4).

Among the 101 patients, 95% of the participants reported that they visit the physician regularly without any fail for prescription refill, 62.3% of the patients normally do not miss the dose at any cost, and 25.7% of patients have health consciousness and were doing physical activities like walking, jogging and mild exercises (See Table No.5).

Knowledge, Attitude and Practice score during pre - intervention and post - intervention phase

The participant's knowledge was assessed based on their knowledge, attitude and practice towards hyperlipidemia, which include the causes, risk factors, symptoms, complication and treatment. This study was conducted on number of general public in and around chittur, to evaluate their Knowledge, Attitude and Practice about hyperlipidemia and the result indicated the respondents had an acceptable level of knowledge. (See fig No: 2 & 3)

Fig No 2: Pre - Intervention
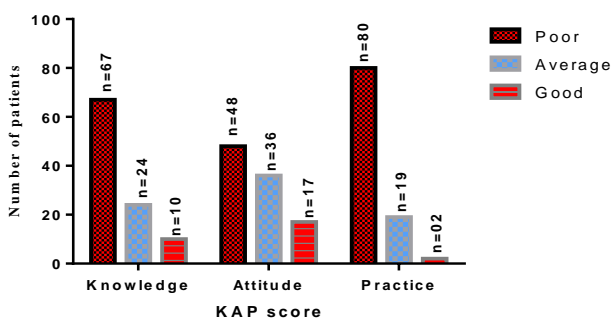
Fig No 3: Post - Intervention
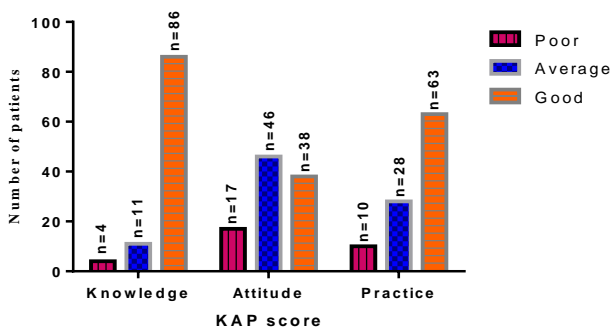
There is considerable evidence that pharmacist provided counseling enhances patient compliance and improves the quality of life outcomes in hyperlipidemia. As evidenced from our results, the KAP score of the patients improved significantly ($P<0.0001$) after patient counseling by the pharmacist, with significant improvement in two of the three parameters of the analysis, viz., knowledge ($P<0.0001$), attitude ($P<0.0001$) and practice ($P<0.0001$).

4. Conclusion

Factors beyond knowledge and attitude contribute to disease management. Plausible factors could be poor self-management, lack of motivation, inadequate social support or lack of resources that are necessary for sustained life style modification or behavior change. Repeated reinforcement of health education and strong motivation are bound to bring about positive changes in self-care practices. The results of the study also suggest that pharmacist counseling may have an impact in improving the perception about disease, diet, and lifestyle changes and thereby on lipid control and the complications of hyperlipidemia.

References

1. HariBabu R etal.,. Knowledge, Attitude and Practices of Hyperlipidemia Patients in a Teritiary Care Setting. International Journal of Innovative Pharmaceutical Research.2012;3(2):208-211.
2. CDC, Diagnostic and coding manual, High cholesterol facts, accessed 13 June 2015.
3. AAFP, Endocrine Society releases guidelines on diagnosis and management of hypertriglyceridemia, volume 88, number 2, 15 July 2013.(5)
4. AANP, Familial hypercholesterolemia: program ID 1504208,accessed 13 June 2015.(3)
5. WHO. Non- communicable diseases country profile: India 2010 [Internet]. [Cited 2014 May 9]. Available from: www.who.int
6. FWMM, Duijn NP van, Meyboom - de Jong B.Measuring functional status with the COOP/WONCA charts: a manual / C.Van Weel, C König - Zahn,F.W.M.M. Touw - Otten, N.P. Van Duijn, B.Meyboom - de Jong. Groningen: Noordelijke Centrum voor Gezondheidsvraagstukken (NCG)/ Northern Centre of Health Care Research (NCH).
7. Roger Walker, cate Whittlesea.clinical Pharmacy and Therapeutics,5THedition2012;393-407.
8. Parker RM, Jacobson TA. The role of health literacy in narrowing the treatment gap for hypercholesterolemia. Am JManag Care.2000;6:1340-2.
9. AANP, Familial hypercholesterolemia: program ID 1504208, accessed 13 June 2015.(3)

10.Regina M,Anthony Wasef, Bindu Nair et.al. A Questionnaire assessment of physical function in hyperlipidemic patients. Clin Invest Med.2010; 33(4).

11.Rosediani Muhammad,Harny Mohamed et. al.Knowledge, Attitude and Practice on Cardiovascular disease among women in Northeast Coast Malayasia.International Journal of Collaborative Research on Internal Medicine & Public Health. 2012;4.