Study Of Health Behaviour For Control Of Lipid Levels In Adults With Dyslipidemia

Shruthi Ashok Pai [1], Spoorthi Ashok Pai [2]

[1]Senior Resident, [2]Assistant Professor; Department of General Medicine, Father Muller Medical College, Mangaluru, Karnataka, India.

Abstract:
Background: *Dyslipidemia Is A Major Risk Factor Contributing To Cardiovascular Disease And Its Prevalence Is Steadily Rising. Although Screening Tests Are Readily Accessible, Dyslipidemia Remains Undertreated. Evaluating Health Behaviour Patterns After Diagnosis May Help Improve Lifestyle Interventions For The Management Of Dyslipidemia. Patients May Be More Compliant To Behavioural Modification And Behavioural Factors Have The Advantage Over Pharmacological Therapy .*
Aims & Objective: *Study Of Health Behaviour For Control Of Lipid Levels In Adults With Dyslipidaemia.*
Materials And Methods: *This Is A Descriptive Study Done On 100 Adult Patients With Dyslipidemia Visiting The Outpatient And In-Patient Services Of A Tertiary Medical College Hospital In Coastal Karnataka. A Prevalidated Questionnaire Was Administered To The Study Subjects In Their Native Language.*
Inclusion Criteria: *Adults Above 30 Years With Dyslipidemia.*
Exclusion Criteria: *Patients With Conditions Altering Serum Lipid Levels Like Nephrotic Syndrome, Hypothyroidism. The Data Collected Was Analysed By Frequency, Percentage And Ratios.*
Results: *Majority Of The Subjects (70) Were From Urban Area. Age Group Of 50 To 70 Years Was The Most Common. Only 60 Subjects Did Exercise, Out Of Which Aerobic Exercise (Walking, Jogging) Was The Most Common With 64% (39) Of The Subjects. Only 40% (24) Of The Subjects Resorted To Exercise On Regular Basis. 39 Percent Of The Subjects Consumed Vegetarian Diet, 5 Percent Vegan Diet, And 56 Percent Non-Vegetarian Diet. Fish Being The Most Common Non-Vegetarian Food. 78 Percent (43) Consumed Red Meat With 20 Percent (9) Of It Consuming Red Meat Atleast Three Times A Week. Sunflower Oil Was The Most Common Type Of Oil Used For Cooking. 79 Percent Of The Subjects Reused Cooking Oil. Same Oil Was Reheated And Used Atleast 3 Times Before Discarding. Alcohol Was Consumed By 54% Of The Subjects With Majority Of It Being Male (78%, 42). 27 Percent Of The Subjects Resorted To Smoking, Consisting Of 90 Percent (24) Male Population. 60 Percent Of The Subjects Consumed Atleast Two Serving Of Vegetable Per Day. 83 Percent Of The Subjects Consumed Dairy Products, With Milk And Curd Being The Most Common Dairy Product. Only 12 Percent Of The Subjects Consumed Nuts On Daily Basis.*
Conclusion: *The Health Behaviour For Control Of Dyslipidemia Was Influenced Strongly By The Area Of Residence, Education And Occupation. Alcohol And Smoking Had A Positive Correlation With Dyslipidemia. Therefore, This Study Highlights The Need For Education Of General Population About Health Behaviour And Lifestyle Modification.*
Keywords: *Dyslipidemia, Health Behaviour, Lifestyle Modification*

I.   Introduction:

Dyslipidemia is a major risk factor contributing to cardiovascular disease and its prevalence is steadily rising. Although screening tests are readily accessible, dyslipidemia remains undertreated. Evaluating health behaviour patterns after diagnosis may help improve lifestyle interventions for the management of dyslipidemia. The use of lipid-lowering medications such as statin and fibrate are important for the treatment of dyslipidemia, especially in high-risk patients[1]. However, lifestyle interventions are also important for managing dyslipidemia and are considered initially after diagnosis[1]. Pharmacological therapy requires diagnosis by a doctor, and patients may be initially reluctant to take daily medication, making lifestyle interventions an attractive first choice for intervention. Patients may be more compliant to behavioural modification and behavioural factors have the advantage that intervention for prevention of chronic diseases and lowering of cardiovascular risks can be emphasized at the population level. Hence our aim was to study health behaviour and other lifestyle habits among patients with dyslipidemia , so that it can be modified to prevent complications.

Aims & objective:
To study health behaviour for control of lipid levels in adults with dyslipidemia.

II. Materials and methods:

Source of data: This is a descriptive study done on 100 adult patients with dyslipidemia visiting the outpatient and in-patient services of a tertiary medical college hospital in coastal Karnataka. The ethics and scientific committee approval was obtained. An informed consent was also obtained. A prevalidated questionnaire was administered to the study subjects in their native language.

Study design: This is a descriptive study done on 100 dyslipidemia patients.

Inclusion criteria: Adults above 30 years with dyslipidemia

Exclusion criteria: Patients with conditions altering serum lipid levels like nephrotic syndrome, hypothyroidism.

Analysis:

The data collected was transferred to an Excel data sheet and analysed by frequency, percentage and ratios.

III. Results:

Data collected among total 100 dyslipidemia patients visiting the outpatient and in-patient services of a tertiary medical college hospital in coastal Karnataka was analysed.

In our study majority of the subjects (70) were from urban area. 30 subjects were from rural area. Age group of 50 to 70 years was the most common, consisting of 63 subjects, 5 subjects above the age of 70 years and 32 subjects below 50 years (Table 1). 54 percent of the subjects were male and 46 percent of the subjects were female (Table 2). 95 subjects received formal education, with 22 subjects being graduates, 45 subjects upto preuniversity, 20 subjects upto 10th grade, and 7 subjects upto primary school (Table 3). Majority of the subjects (72%) belonged to upper middle and lower middle socioeconomic group according to modified Kuppuswamy scale.

Only 60 subjects did exercise, out of which aerobic exercise (walking, jogging) was the most common with 64% (39) of the subjects, swimming by 12% (7) of the subjects, weight lifting by 10% (6) of the subjects and yoga by 14% (8) percent of the subjects. Aerobic exercise, yoga was most common (86%) among subjects above the age of 50 years. Only 40% (24) of the subjects resorted to exercise on regular basis of 5 times/ week (Table 4). 40 percent of the subjects, slept for 6-8 hours per day, 20 percent slept for less than 6 hours per day and 40 percent slept more than 8 hours a day. Majority of the subjects with less than six hours of sleep consisted of less than 50 years of age. 39 percent of the subjects consumed vegetarian diet, 5 percent vegan diet, and 56 percent non-vegetarian diet.

Out of 56 percent of the non-vegetarian subjects, 70 percent (39) consumed some source of non-vegetarian diet daily. Fish being the most common non-vegetarian food.78 percent (43) consumed red meat with 20 percent (9) of it consuming red meat atleast three times a week (Table 5). Sunflower oil was the most common type of oil used for cooking. With 56% of the subjects, followed by coconut oil (16%) and hydrogenated vegetable oil (12%) (Table 6). 79 percent of the subjects reused cooking oil with more prevalence among semi-skilled workers. Same oil was reheated and used atleast 3 times before discarding (Table 7). Alcohol was consumed by 54% of the subjects with majority of it being male (78%, 42). Thirty percent (16) of the subjects consumed alcohol for more than three times a day, 5 percent (3) of the subjects consumed alcohol every day. 27 percent of the subjects resorted to smoking, consisting of 90 percent (24) male population. Beedi was smoked by forty percent of the subjects, cigarette by fifty percent (Table 8,9). 60 percent of the subjects consumed atleast two serving of vegetable per day (Table 10). 83 percent of the subjects consumed dairy products, with milk and curd being the most common dairy product. 79 percent of the subjects consumed dairy products on daily basis (Table 11,12,13). Only 12 percent of the subjects consumed nuts on daily basis (Table 14). Most common source of knowledge was newspaper (Table 15).
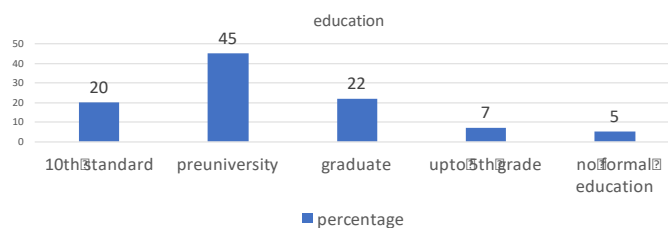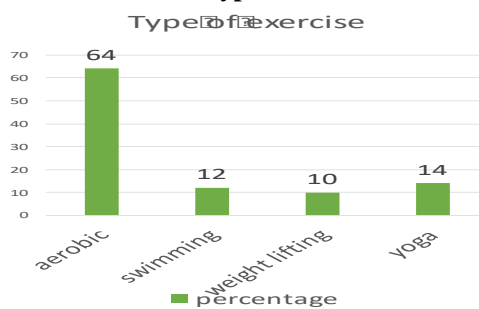
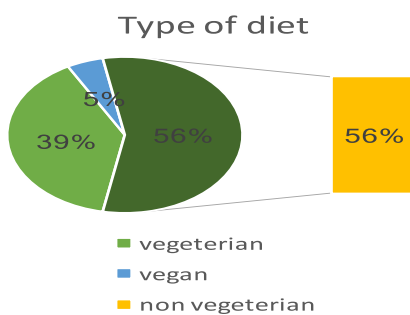### Table 1: Age distribution
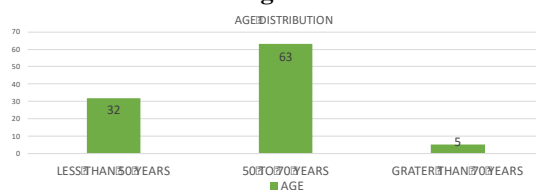
Table 2: Sex Distribution
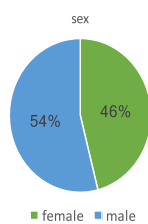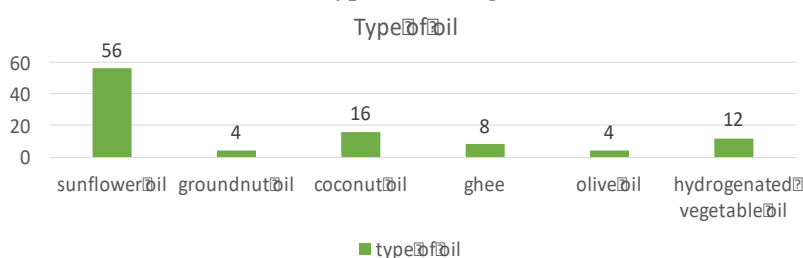

Table 3:Education
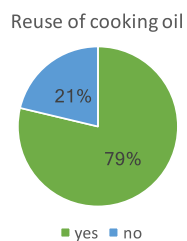

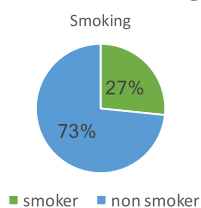
Table 4: Type of Exercise

Table 5: Diet Habit

Table 6: Type of cooking oil used

Table 7: Reuse of cooking oil

Reuse of cooking oil

21%

79%

■ yes ■ no

Table 8: Smoking

Smoking

27%

73%

■ smoker ■ non smoker

Table 9: Type of smoking

Type of smoking

	beedi	cigarette
percentage	40	60
greater than 10	20	30

■ percentage ■ greater than 10
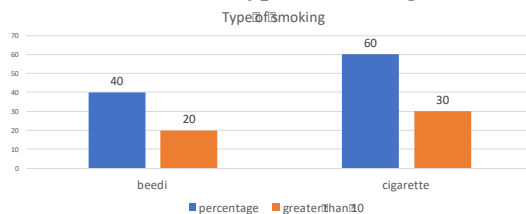
Table 10: Vegetable servings per day

Vegetable servings per day

atleast 2 servngs	more than 2	less than 2
60	10	30

■ percentage
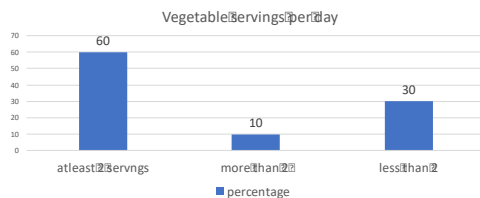
Table 11: Dairy product consumption

yes	no
83	17
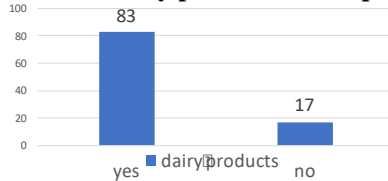
■ dairy products

Table 12: Frequency of consumption of dairy products

Frequency of consumption

21%

79%

■ 2-4 times/ week ■ everyday
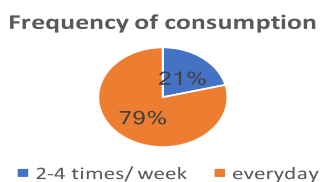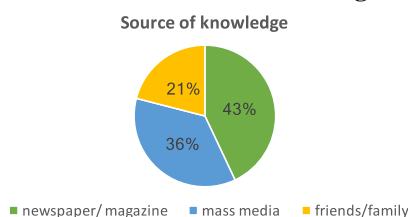
Table 13: Type of dairy product consumed
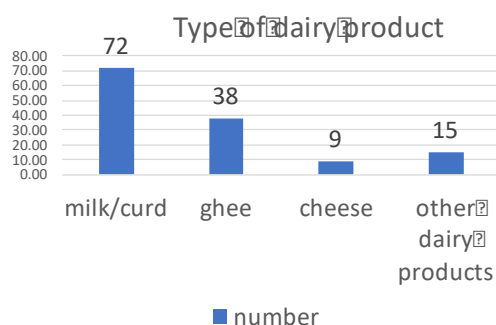
Table 14: Consumption of nuts
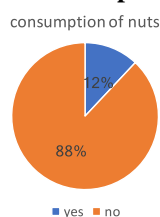
Table 15: Source of knowledge

IV.   Discussion:

Cardiovascular disease (CVD) is one of the main cause of morbidity and mortality worldwide.[1] Previous studies have declared that dyslipidaemia is an important risk factor for CVD by contributing to the initiation and progression of atherosclerosis; therefore, its management is important for reducing the burden of CVD.[2] Lifestyle interventions are important for managing dyslipidaemia and are considered initially after diagnosis, since dietary factors can influence lipid levels and regular exercise improves lipid profiles, while smoking has been known to have a detrimental effect.[3] Villegas et al. reported that a combination of protective factors including normal body mass index (BMI), never smoking, light alcohol consumption, prudent diet and regular physical activity was associated with a significantly lower prevalence of dyslipidaemia.[4] In a study by Kitagawa et al, patients with high awareness of their health status showed a positive attitude towards diet and exercise as lipid-lowering treatment, and high adherence to drug therapy. [5]Another study conducted in a Chinese province that analysed dyslipidaemia awareness and influencing factors demonstrated that awareness was associated with a lower odds ratio for drinking and physical, and with higher odds ratio for increased BMI , age, education and family history of dyslipidaemia.[6] In the study performed on dyslipidaemia patients under pravastatin treatment in Japan, high awareness of health and positive attitude towards diet and exercise, and high adherence to drug therapy were related with favourable overall lipid levels.[5] Fritsch et al. reported that lipid-based interventions at the worksite (education and coaching on lifestyle and lipid values through classes and phone call interventions) can improve lifestyle behaviour including exercise and diet, contribute to continuous health care, and lead to improved lipid values.[7]

V.   Conclusion:

The health behaviour for control of dyslipidemia was influenced strongly by the area of residence, education and occupation. Alcohol and smoking had a positive correlation with dyslipidemia. Therefore, this study highlights the need for education of general population about health behaviour and lifestyle modification.

References:

[1].   Mcqueen MJ, Hawken S, Wang X, Ounpuu S, Sniderman A, Probst- Field J, Et Al. Lipids, Lipoproteins, And Apolipoproteins As Risk Markers Of Myocardial Infarction In 52 Countries (The INTERHEART Study): A Case-Control Study. Lancet 2008;372:224-33.

[2].   Farzadfar F, Finucane MM, Danaei G, Pelizzari PM, Cowan MJ, Pacio- Rek CJ, Et Al. National, Regional, And Global Trends In Serum Total Cho- Lesterol Since 1980: Systematic Analysis Of Health Examination Surveys And Epidemiological Studies With 321 Country-Years And 3·0 Million Participants. Lancet 2011;377:578-86.

[3].   Son JI, Chin SO, Woo JT. Treatment Guidelines For Dyslipidemia: Sum Mary Of The Expanded Second Version. J Lipid Atheroscler 2012;1:45-59.

[4].   Villegas R, Kearney PM, Perry IJ. The Cumulative Effect Of Core Lifestyle Behaviours On The Prevalence Of Hypertension And Dyslipidemia. BMC Public Health 2008;8:210.

[5].   Kitagawa Y, Teramoto T, Daida H; APPROACH-J Study Group. Adherence To Preferable Behavior For Lipid Control By High-Risk Dyslipidemic Japanese Patients Under Pravastatin Treatment: The APPROACH-J Study. J Atheroscler Thromb 2012;19:795-805.

[6].   He H, Yu YQ, Li Y, Kou CG, Li B, Tao YC, Et Al. Dyslipidemia Awareness, Treatment, Control And Influence Factors Among Adults In The Jilin Province In China: A Cross-Sectional Study. Lipids Health Dis 2014;13:122.

[7].   Fritsch MA, Montpellier J, Kussman C. Worksite Wellness: A Cholesterol Awareness Program. AAOHN J 2009;57:69-76.