



PREVALENCE OF DYSLIPIDEMIA AMONG MASTER HEALTH CHECK-UP BENEFICIARIES IN A RURAL TERTIARY CARE HOSPITAL

Community Medicine

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ABSTRACT

Dyslipidemia is one of the major cause and risk factor for the development and progression of Cardiovascular Disease (CVD), many epidemiological study shows dyslipidemia is a major cause of morbidity and mortality in both developed and developing countries like India, Bangladesh, Pakistan and Nepal. Most of the studies have revealed the prevalence of dyslipidemia mostly in general population. The present study attempted to find out the prevalence of dyslipidemia among master health checkup beneficiaries who attended the master health checkup unit of our institution.

MATERIAL AND METHODS: The aim of the study was to determine the prevalence of dyslipidemia among master health check-up beneficiaries by retrospective analysis of data from Master health check-up department of IRT- Perundurai Medical College and Hospital, Perundurai, Tamilnadu.

RESULT: Among the study subjects, Overall 65.4% were found to have Dyslipidemia which was determined by considering all four lipid parameters (Total Cholesterol, LDL, HDL and Triglycerides) into consideration.

DISCUSSION: The prevalence of dyslipidemia among the study population undergone master health checkup is 65.4%, comparative to study done by Karna.S.K et al(57.7%) among individuals attending preventive health checkup in rural tertiary care hospital.

CONCLUSION: The overall prevalence of dyslipidemia in our study is alarming and it highlights the extensive need for screening programs and appropriate intervention programs to reduce the risk factors.

KEYWORDS

Dyslipidemia, Cardiovascular Disease, Ncep-atp Iii.

INTRODUCTION

Dyslipidemia is a key independent, modifiable risk factor for the development and progression of Cardiovascular Disease (CVD), which is a major cause of morbidity and mortality in both developed and developing countries.^{1,2} It is estimated that dyslipidemia is responsible for about 4.3 million deaths per year world-wide and 39 million disability-adjusted life years lost.³

In India, there has been an alarming increase in the prevalence of CVD over the past two decades and it accounts for 24% of all deaths among adults aged 25–69 years.⁴ Studies from different parts of India shows that the prevalence of hypercholesterolaemia is high among Indians⁵⁻⁷ and with growing urbanization and industrialization, there has been concomitant rise in dyslipidemia and CVD.^{8,9}

Primary prevention is a key intervention in reducing the prevalence of disease in the community. So, early detection of dyslipidemia by screening and timely interventions can significantly reduce the morbidity, mortality and economic burden due to the disease. Most of the studies have revealed the prevalence of dyslipidemia in general population, but the information on the prevalence of dyslipidemia in preventive health checkup beneficiaries in a hospital setting is very much limited. Hence, the present study has attempted to find out the prevalence of dyslipidemia among master health checkup beneficiaries who attended the master health checkup unit of our institution.

MATERIAL AND METHODS

The aim of the study was to determine the prevalence of dyslipidemia among master health check-up beneficiaries by retrospective analysis of data from Master health check-up department of IRT- Perundurai Medical College and Hospital, Perundurai, Tamilnadu. The master health checkup performed in the institution comprises recording of comprehensive medical history, physical examination and the individuals were subjected to a set of investigations. Out of which, Socio-demographic history and lipid profile of 1273 beneficiaries who were not a known case of cardiovascular disease and not a known dyslipidemic was considered for the study purpose from the medical records section.

Lipid profile results were categorized as per NCEP-ATP III classification. Dyslipidemia was defined as presence of one or more abnormal serum lipid values¹⁰. Data collected was entered in Microsoft 2007 excel spreadsheet, compiled and analysed using IBM SPSS

Version 18 statistical package. Descriptive analysis was used in the processing and analysis of data.

RESULTS

Socio demographic characteristics of study subject (Table 1)

The study population consisted of 719(56.5%) males and 554(43.5%) females. The mean age of the study subjects were 44 in males and 44.36 in females. Of these, 210(16.5%) were in less than 30 years, 496(39%) were in 31-45 age group, 437(34.3%) in 46-60 age group and 130(10.2%) in 60 and above. In the present study, majority of the study subjects were married (92.5%). Of the total study subjects, 1206(94.7%) were Hindus, 44(3.5%) Christians, and 22(1.8%) Muslims. Majority of the study subjects were from rural area 835(65.6%). The literate percentage in the sample was 744(58.4%).

Table 1. Socio demographic characteristics of study subjects (N=1273)

Characteristics	Male (%)	Female (%)	Total (%)
<30 Age (years)	127(17.7%)	83(15%)	210(16.5%)
31-45	281(39.1%)	215(38.8%)	496(39%)
46-60	227(31.6%)	210(37.9%)	437(34.3%)
≥60	84(11.7%)	46(8.3%)	130(10.2%)
Sex	719(56.5)	(43.5)554	1273(100%)
Married	642(89.3%)	535(96.6%)	1177(92.5%)
Unmarried	77(10.7%)	11(3.4%)	96(7.6%)
Hindu	685(95.3%)	521(94%)	1206(94.7%)
Christians	21(2.9%)	23(4.2%)	44(3.5%)
Muslims	13(1.8%)	10(1.8%)	23(1.8%)
Illiterate	204(28.4%)	325(58.7%)	529(41.6%)
Up to Middle school	299(41.6%)	171(30.9%)	470(36.9%)
Middle-Higher Secondary school	104(14.5%)	27(4.9%)	131(10.3%)
College	112(15.6%)	31(5.6%)	143(11.2%)
Rural area	466(64.9%)	369(66.6%)	835(65.6%)
Urban area	252(35.1%)	185(33.4%)	438(34.4%)
Skilled worker	44(6.1%)	5(0.9%)	49(3.8%)
Unskilled workers	510(70.9%)	136(24.5%)	646(50.7%)
Home Makers	2(0.3%)	362(65.3%)	364(28.6%)
No work	66(9.2%)	40(7.2%)	106(8.3%)
Professionals	97(13.5%)	11(2%)	108(8.5%)

Lipid Profile of study subjects (Table 2)

The lipid profile of study population shows majority (80.1%) of the

study participants were found to have desirable Total Cholesterol level and no marked difference found between males (80.7%) and females (79.7%). About 48.5% of the study population had abnormal Low Density Lipoprotein (LDL) level, remaining 51.5% have optimal level. The High Density Lipoprotein (HDL) levels were within normal limits in the majority (75.7%) of them and only 24.3% had abnormal levels. Majority (76%) of the study subjects were found to have normal Triglycerides level and the remaining 24% were in abnormal levels.

Table 2. Lipid Profile of study subjects (N=1273)

Characteristics	Male (%)	Female (%)	Total (%)
Total Cholesterol			
Desirable	573(79.7)	447(80.7)	1020(80.1)
Borderline high	119(16.5)	68(12.3)	187(14.7)
High	27(3.8)	39(7.0)	66(5.2)
Total	719(100)	554(100)	1273(100)
LDL			
Optimal	369(51.3)	287(51.8)	656(51.5)
Above optimal	218(30.3)	153(27.6)	371(29.1)
Borderline high	89(12.4)	62(11.2)	151(11.9)
High	32(4.5)	34(6.1)	66(5.2)
Very high	11(1.5)	18(3.2)	29(2.3)
Total	719(100)	554(100)	1273(100)
HDL			
Low	191(26.6)	116(20.9)	307(24.1)
Moderate	527(73.3)	437(78.9)	964(75.7)
High	1(0.1)	1(0.2)	2(0.2)
Total	719(100)	554(100)	1273(100)
Triglycerides			
Normal	511(71.1)	457(82.5)	968(76.0)
Borderline high	105(14.6)	49(8.8)	154(12.1)
High	97(13.5)	46(8.3)	143(11.2)
Very high	6(0.8)	2(0.4)	8(0.6)
Total	719(100)	554(100)	1273(100)

Dyslipidemia status among study subjects (Table 3)

Among the study subjects, Overall 65.4% were found to have Dyslipidemia which was determined by considering all four lipid parameters (Total Cholesterol, LDL, HDL and Triglycerides) into consideration.

Table 3. Dyslipidemia status among study subjects (N=1273)

Characteristics	Male (%)	Female (%)	Total (%)
Normal Lipid Profile	233(32.4)	208(37.5)	441(34.6)
Dyslipidemia	486(67.6)	346(62.5)	832(65.4)
Total	719(100)	554(100)	1273(100)

DISCUSSION

The overall prevalence of dyslipidemia among the study population undergone master health checkup is 65.4%, which is higher compare to similar study done by Karna.S.K et al¹⁰ (57.7%) among individuals attending preventive health checkup in rural tertiary care hospital. However, the prevalence of dyslipidemia in similar study done by Ramesh R et al¹⁵ among master health checkup beneficiaries in a tertiary care hospital (89.2%) is higher compare to our study. The most common lipid abnormality in our study is LDL level. In contrast, the studies done by Karna.S.K et al¹⁰ and Ramesh R et al¹⁵ shows HDL level is the most common lipid abnormality. The extent of dyslipidemia in our study was significantly higher in males (67.6%) compared to females (62.5%). Similar results was observed in studies conducted by Sawant et al in North India and Estari et al in Warangal.^{11,12} However, it was significantly associated with female gender in the study carried out by Shuang Wang et al in China.¹³ According to WHO, the prevalence of dyslipidemia in India was 27.1 %¹⁴, which is lower compare to our study results 65.4%. And the reason may be due to, the results of WHO is population based prevalence while ours is prevalence limited to health screening subset.

CONCLUSION

The overall prevalence of dyslipidemia in our study is alarming and it highlights the extensive need for screening programs and appropriate intervention programs to reduce the risk factors. Hence, regular screening of population on periodic basis and awareness programmes

on recommended diet should be incorporated in all Primary health centers, Taluk hospitals, District hospitals, Medical college hospitals and in Private hospitals to combat the risk factors of dyslipidemia and to reduce the morbidity and mortality due to CVD.

ACKNOWLEDGEMENT

We acknowledge the support and help provided by Medical Records Department and administration of IRT Perundurai Medical College and Hospital for giving access to medical database.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

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