Lipid lowering therapy deficits in secondary cardiovascular prevention in a large cohort from 8 busy clinics in Greece over 12 years.

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INTRODUCTION

The increasing availability of aggressive lipid lowering therapies (LLTs) globally is expected to produce a significant decline in cholesterol concentrations worldwide and a more successful attainment of LDL lowering goals (LLGs), especially in those who need them most: patients with established atherosclerotic cardiovascular disease (ASCVD).

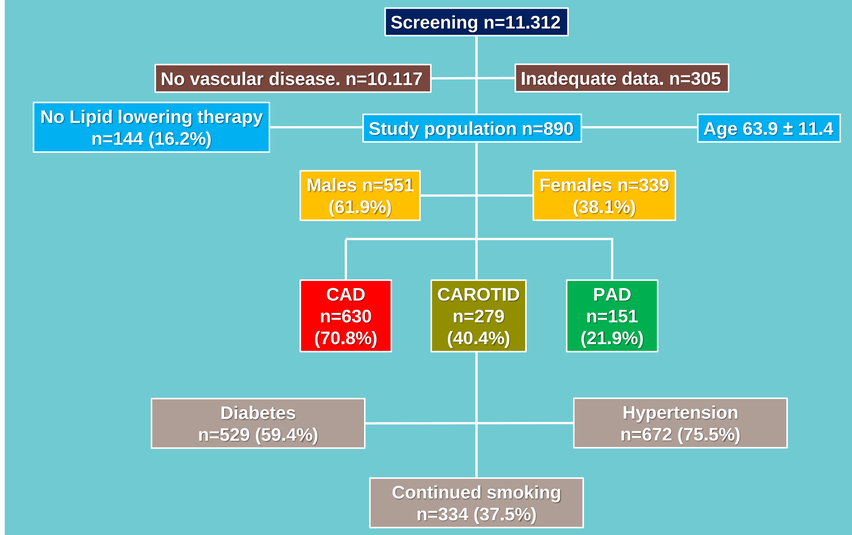
MATERIALS & METHODS

With the present study, we aimed to assess the long-term changes in the rate of attainment of lipid goals according to the European Society of Cardiology Guidelines nationwide, with the use of different LLTs during 12 consecutive years. We reviewed the charts of all patients initially seen between 2010-2022 who returned for care follow up at our 8 busy Endocrinology clinics, located in 6 cities in Greece, between Sep-1-2022 and Nov-30-2022. Using data from their baseline visits, we enrolled those with a clear diagnosis of ASCVD [coronary artery disease (CAD), peripheral arterial disease (PAD) or carotid stenosis >50% (CS)], when the diagnosis was made at least 6 months prior to our baseline clinical visit. For the present work, we reviewed data on tobacco use, intake of LLTs, and LDL-cholesterol concentrations as recorded during that clinic visit. We excluded all patients referred to our clinics for lipids management. Data are presented as means ± standard deviation. Means are compared with Kruskal Wallis test and $p<0.05$ is deemed significant.

RESULTS

We enrolled n=890 consecutive patients, age 63.9 ± 11.4 years, n=339 were women (38.1%), n=529 (59.4%) had diabetes, n=672 (75.5%) had hypertension and all had ≥1 forms of established ASCVD: n=630 with CAD, n=279 with CS and n=151 with PAD. Out of these, n=144 (16.2%) were on no LLTs, n=334 (37.5%) continued to smoke, n=381 (42.8%) were on guidelines-based appropriate LLT strategy, n=248 (27.9%) reached LLGs and only n=66 (17.9%) were concurrently on guidelines-based appropriate LLT strategy and reached the LLGs. The likelihood of achieving LDL goals was not statistically significantly different among patients with different forms of ASCVD (p=0.42). Overall. the mean LDL was 88.2 ± 32.1mg/dl. and was not different between patients with different forms of ASCVD (p=0.75). Mean LDL concentrations have only started to drop between 2020-2022 as compared to 2019 ($p<0.001$), but are not different compared to those seen in the years 2010-2018. The mean LDL dropped to 82.3 ± 30.5mg/dl in 2022 as compared to 102.2 ± 38.8mg/dl in 2019.

STUDY FLOWSHEET



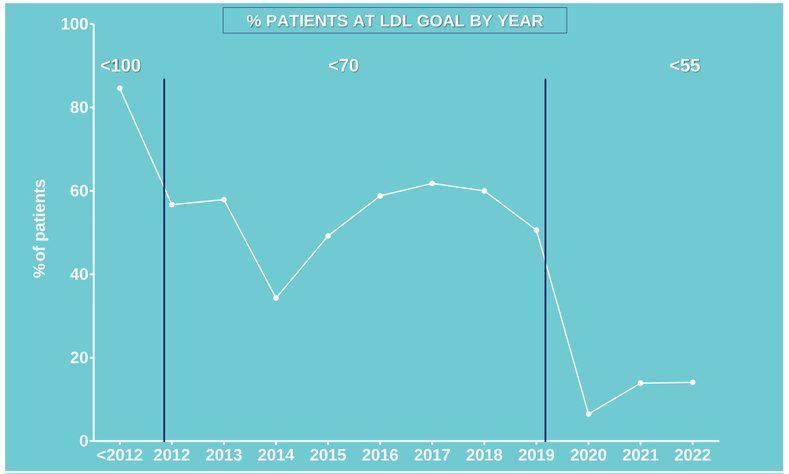
EUROPEAN / HELLENIC GUIDELINES TREATMENT GOALS

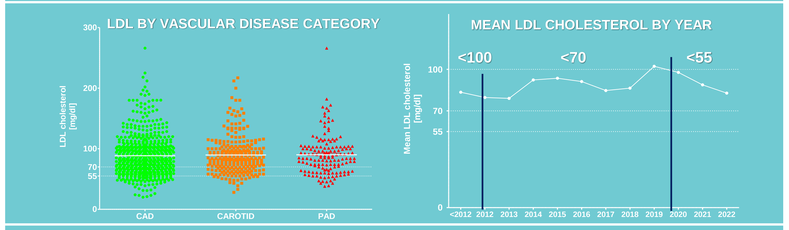
YEAR	LDL GOAL	% LDL LOWERING	REQUIREMENTS
<2011	<100	NA	<100
2011	<70	>50%	ANY ONE
2016	<70	>50%	ANY ONE
2019	<55	>50%	BOTH

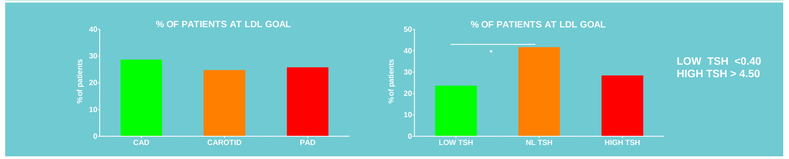
GEOGRAPHICAL DISTRIBUTION OF OUR SITES

CLINICAL SITE	Subjects n	No Lipids Rx	Active Smoking
ATHENS 1	73	11 (15.1%)	20 (27.4%)
ATHENS 2	24	0 (0.0%)	5 (20.8%)
ATHENS 3	39	0 (0.0%)	3 (7.7%)
ALEXANDROUPOLI	86	7 (0.8%)	14 (16.3%)
CHANIA	342	30 (8.8%)	205 (59.9%)
KAVALA	56	2 (3.6%)	0 (0.0%)
LARISA	50	2 (4.0%)	18 (36.0%)
PATRAS	220	92 (41.8%)	69 (31.4%)
Overall	890	144 (16.2%)	334 (37.5%)

RESULTS







SUMMARY / CONCLUSIONS

Our study reveals a large care gap in patients with established ASCVD, which did not seem to improve significantly over the past 12 years. despite the excellent availability of aggressive LLT strategies in Greece. Intervention studies are urgently needed to enhance adherence to updated international guidelines and reduce the extremely high ASCVD risk in this fragile population.