

Survey of Physician's Attitudes and Practices toward Lipid-Lowering Management Strategies

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Key Words

Physician's attitudes and practices · Lipid management strategies

Abstract

Background: The purpose of the present study was to examine physician's attitudes and practices toward the use of different lipid-lowering management strategies in patients at increased risk for coronary heart disease (CHD). **Aims/Methods:** An internet-based questionnaire was completed by 78 general internists and family practitioners (mean age = 49 years; 80% male) affiliated with a large primary care health delivery system in Connecticut. Questions were asked about physician knowledge and use of current national guidelines for lipid-lowering therapy and their treatment practices for patients at varying risk for CHD. **Results:** Most physicians reported they were very knowledgeable about different interventions to lower serum lipids. Most (92%) indicated that they were aware of and followed national guidelines for the treatment of patients with hyperlipidemia the majority of the time. Physicians were likely to initiate lipid-lowering therapy at lower levels of serum LDL cholesterol in patients at high, as compared to those at moderate, risk for coronary disease. Targeted treatment levels were also reported to be considerably lower for patients at higher risk, than for those at moderate risk, for the development of coronary disease. Diabetes, cigarette smoking, and elevated

LDL cholesterol levels were reported to be the three most important risk factors for CHD by the physician sample. Gaps in the recommendation of lifestyle changes to patients with hyperlipidemia were observed. **Conclusions:** Despite adequate physician knowledge, achieving desirable serum lipid levels in primary care patients remains elusive. Provider education is needed to optimize the care of patients with elevated serum lipids treated in the primary care setting.

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Introduction

Coronary heart disease (CHD) is the leading cause of death in the US and elevated serum lipids are one of the major risk factors for CHD [1–4]. Lifestyle changes, as well as use of different lipid-lowering medications, have been shown to favorably impact serum cholesterol levels. Statin therapy, in particular, has been shown to be a safe and highly effective treatment for reducing the morbidity and mortality associated with CHD.

While published treatment guidelines and a variety of pharmacologic agents exist for the effective management of patients with hyperlipidemia [4–6], many individuals who should be treated with lipid-lowering regimens are not and many of those who are treated are managed sub-optimally. The purpose of the present study was to examine, in the primary care practice setting, physician's at-

Table 1. Physician rated knowledge of various lipid lowering management practices

Factor	Very knowledgeable ^a , %	Moderately knowledgeable ^b , %	Not knowledgeable ^c
Current national guidelines for serum cholesterol/lipid management	53	41	0
Lifestyle interventions to lower serum lipids	50	42	0
Lipid lowering therapies	49	49	0
Cost of lipid lowering medications	19	41	5

^a Rating of 1 on a 5-point Likert knowledge scale.

^b Rating of 2 on a 5-point Likert knowledge scale.

^c Ratings of 4 or 5 on a 5-point Likert knowledge scale.

titudes and practices toward the management of patients with elevated serum lipid levels and factors associated with physician's clinical decision making.

Methods

A total of 98 physicians practicing at ProHealth comprised the target sample of interest. ProHealth Physicians is comprised of a network of primary care physicians practicing throughout Central Connecticut. These physicians are recipients of a ProHealth PDA and various lipid management educational initiatives.

The questionnaire survey, which was administered over the period 11/2004 to 2/2005, was designed to assess physician's attitudes and practices toward the management of patients at varying risk for CHD and factors influencing physician's practice patterns. Questions were asked about physician's knowledge of current national guidelines, lipid-lowering therapies, lifestyle interventions to lower serum lipids, use of national guidelines in the practice setting, perceived effectiveness of various lifestyle interventions for lowering serum lipids, and treatment practice for patients at varying lipid levels and differential risk for CHD. The questionnaire was designed to be completed in <10 min. Our survey instrument was pilot tested with several physicians prior to formal field implementation and modified accordingly. Responses to the majority of study related questions were elicited on a 5-point Likert scale (with 1 indicating very important, knowledgeable, or likely, and 5 of little to no importance, knowledgeable, or likely depending on the question asked). All questionnaires were completed online. Chi square tests were utilized to examine the significance of differences in the frequency of selected responses in our study sample.

Results

A total of 78, out of a potential pool of 98, physicians completed the internet-based questionnaire survey. Among survey respondents, 51% were internists while

the remainder was classified as family medicine physicians. Physicians who completed the survey did not differ significantly from non-responding physicians on the basis of average age (48 vs. 49 years) and male sex (80 vs. 85%).

About half of the respondents perceived themselves as being very knowledgeable about current national guidelines for the management of elevated serum cholesterol levels (53%), lifestyle interventions to lower serum lipids (50%), and lipid-lowering therapies (49%). They were considerably less knowledgeable (19%) about the costs of lipid-lowering medications ($p < 0.001$) (table 1). With the exception of their more limited knowledge about the costs of lipid-lowering therapies, the majority of physicians reported being moderately or very knowledgeable about treatment guidelines and intervention approaches (table 1).

Survey respondents stated that they followed Adult Treatment Panel III guidelines for the treatment of patients with hyperlipidemia either all (15%) or most (77%) of the time. The major concerns they had with these guidelines were the lack of patient compliance (moderately to strongly agree) (72%), and a lack of time to adequately use these guidelines during an office visit (22%). Responding physicians believed that these guidelines were generally applicable to the individual patient (63%) and were practical (85%).

Statin drugs were considered by the majority of physicians (91%) to be very effective for lowering serum lipids while only 6% of responding physicians reported that other cholesterol-lowering drugs were very effective (rating of 1 on a 1–5-point Likert scale of perceived effectiveness) ($p < 0.001$). A further 9% of responding physicians believed that statin drugs were moderately effective whereas an additional 63% of physicians believed that

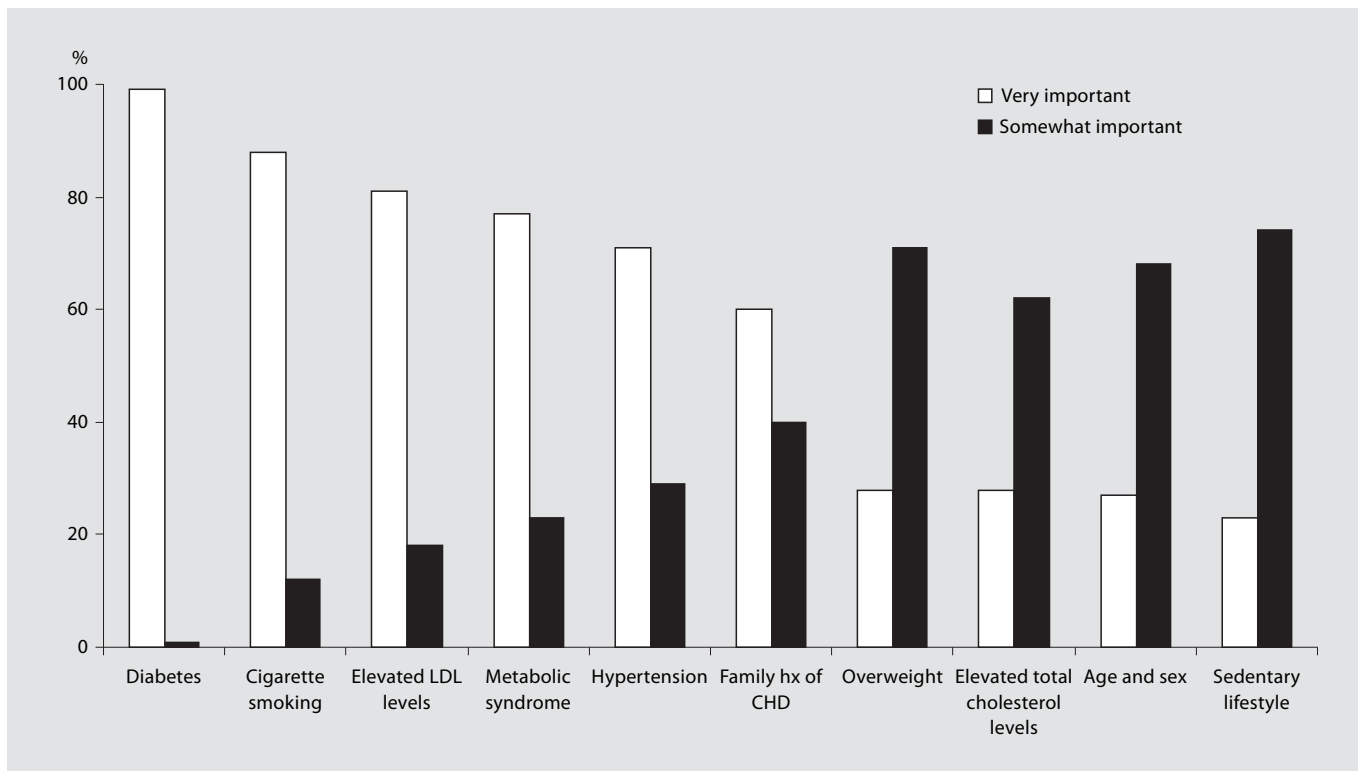


Fig. 1. Importance of selected factors in determining a patient's risk for CHD.

Table 2. Management practices in patients at varying risk for coronary heart disease (CHD)

	Patients at high risk for CHD, %	Patients at moderate risk for CHD, %
Serum LDL levels (mg/dl) at which physicians reported initiating treatment		
<70	4	0
70–99	8	1
100–129	32	18
130–159	20	43
160–189	18	26
≥190	18	12
Serum LDL levels (mg/dl) at which physicians report being satisfied with patient response to lipid lowering treatment		
<70	40	1
70–99	59	45
≥100	1	54

other cholesterol-lowering drugs were moderately effective for lowering serum lipids (rating of 2 on a 1–5-point Likert scale). Dietary changes (4%) and exercise (3%) were considered to be very effective modalities by few respondents ($p < 0.001$). These latter dietary and lifestyle approaches were primarily considered to be somewhat/moderately effective for reducing serum lipids levels by responding physicians (62 and 64%, respectively).

In asking physicians about a variety of factors that they considered to be important in determining a patient's risk of CHD (fig. 1), diabetes, cigarette smoking, and elevated serum LDL levels were the three factors reported to be very important by the majority of responding physicians. Considerably fewer physicians reported that being overweight, or having a sedentary lifestyle, were important contributory factors to a patient's risk for CHD ($p < 0.001$).

We asked physicians at what levels of serum LDL cholesterol they initiate treatment, and are satisfied with patient's resultant lipid levels, separately for patients at moderate and at high risk for CHD (table 2). Responding physicians were more likely to initiate treatment for pa-

Table 3. Likelihood of providing various resources to patients with hyperlipidemia

Resource	Very likely ^a , %	Somewhat likely ^b , %	Somewhat unlikely ^c , %
Nutritional counseling/referral	28	50	19
Advice on smoking cessation	97	3	0
Dietary advice	76	24	0
Advice on exercise	78	21	1
Health related handouts	44	35	21

^a Rating of 1 on a 4-point Likert scale of likelihood of providing a selected resource.
^b Rating of 2 on a 4-point Likert scale of likelihood of providing a selected resource.
^c Rating of 3 on a 4-point Likert scale of likelihood of providing a selected resource.

tients determined to be at high risk for CHD at consistently lower LDL cholesterol levels than those considered to be at moderate risk for CHD ($p < 0.001$). Physicians were satisfied with the results of lipid-lowering treatment at markedly lower levels of LDL cholesterol in patients at high vs. moderate risk of CHD. When we asked about the importance of treating patients with low serum HDL cholesterol levels, if the patient's level of serum LDL cholesterol was well-controlled, approximately 1 in 5 physicians responded that it was very important to treat these patients while two-thirds responded that it was of somewhat or moderate importance.

In asking physicians about providing referral resources to patients with hyperlipidemia, the overwhelming majority stated that they were very likely to advise them about the benefits of stopping smoking, give them advice about diet and exercise, but were considerably less likely to refer them for nutritional counseling ($p < 0.05$) (table 3).

Finally, we asked the physician sample how often various at risk groups should have their serum lipid levels checked. The responding physicians reported that the majority of patients currently on lipid-lowering therapy (89%), those with elevated serum lipids (84%), and persons with CHD (81%) should be screened at least every 3–6 months. On the other hand, responding physicians stated that only 40% of individuals with risk factors for CHD, but without CHD, should be screened that often ($p < 0.05$).

Discussion

The results of this questionnaire survey indicate that physicians appear to be very knowledgeable about the different ways patients with hyperlipidemia should be

managed. The surveyed physicians appear to have different thresholds for the treatment of patients perceived to be at high vs. moderate risk for CHD. These physicians also judged LDL cholesterol to be a more important risk factor for the development of CHD than total cholesterol and appear to do a reasonable job providing dietary advice to their patients with elevated serum lipid levels.

In an effort to improve the treatment of patients with CHD, the American Heart Association launched the 'Get with the Guidelines' initiative over the past several years [7]. This ambitious effort is, however, a hospital-based program and it is unclear whether this initiative will extend to patients with CHD treated in the outpatient setting. In a 1999 survey of approximately 257 physicians from Central Massachusetts involved in the treatment of patients with acute myocardial infarction, responding physicians reported that, compared with dietary therapy, drug therapy was more frequently initiated at similar levels of total and LDL cholesterol [8]. Internists and cardiologists were more likely to initiate dietary and lipid-lowering drug therapy at lower total serum cholesterol and LDL levels compared with their colleagues in general family practice. A more recent study, using a before-after design, evaluated the impact of a clinical pharmacy cardiac risk service on lipid screening, control, and treatment outcomes in more than 8,000 middle-aged and elderly male and female enrollees of a large group model health maintenance organization. The results of this study showed improvements in the outpatient management of LDL cholesterol levels as well as enhanced screening efforts for the identification of patients with elevated serum lipid levels [9].

Recent studies indicate, however, that achievement of desirable serum LDL levels remains an elusive target with a large percentage of primary care patients continuing to have high levels of LDL cholesterol [10, 11]. Developments

in evidence-based medicine hold considerable promise that more practice based efforts could be done to improve the risk factor profile of these high-risk patients. In a recent study, a clinical hypertension specialist working in a primary care group practice setting developed an algorithm for managing cardiovascular risk factors [12]. The algorithm included specific medical and pharmacological interventions as well as patient education material. At the end of 12 months, the systematic application of the treatment algorithm resulted in significant improvements in goal achievement in every major modifiable risk factor for cardiovascular disease [12]. Since an increasing number of managed care organizations and group practices have implemented electronic medical records, the use of evidence based treatment algorithms should result in better management of cardiovascular risk factors, including elevated LDL levels, in general practice populations as well as in targeted high risk groups. Further research remains needed, however, to determine the most effective educational, as well as practice based, approaches to enhance physicians' knowledge with regards to the primary and secondary prevention of adults determined

to be at high risk for CHD and implementation of effective treatment and/or lifestyle regimens that will be met with high acceptability by patients. For example, as evidenced by the results of our study, nutrition counselors appear to be underutilized by primary care physicians in the management of patients with hyperlipidemia, and possibly other related disorders, such as being overweight. The referral of appropriate patients to these health care professionals could result in both enhanced time and cost efficiencies for generalist physicians as well as favorable changes in patient's lifestyle characteristics.

The results of our study provide encouragement for the enhanced use of treatment guidelines in the primary care practice setting and for the identification and removal of obstacles to the enhanced treatment of patients with elevated serum lipid levels. This includes the increased use of nurses, nutritionists, and other health professionals who could be utilized to assist patients in setting and achieving targeted goals for adopting positive lifestyle changes and maintaining these changes on a long-term basis.

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