

The Relationship of Physician Attitudes to the Care of Hyperlipidemia

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Twenty physicians were interviewed regarding the strength of their belief in a set of hypotheses concerning cholesterol. A positive correlation was discovered between their beliefs and their personal behavior regarding cholesterol testing and avoidance of risk factors. In contrast, no correlation could be found between their personal beliefs and their care of patients with hyperlipidemia who had recently experienced an acute myocardial infarction.

A review of current literature reveals little about the factors that influence physician performance. There are many possible factors, such as knowledge based on past and continuing medical education, degree of interest in a particular field, strength of conviction that medical intervention significantly affects the disease process, and the degree of patient compliance.

This paper examines how a physician's beliefs and personal life-style influence his performance in the area of hyperlipidemia diagnosis, management, and control in a group of high-risk patients.

Methods

In a previous retrospective study, the authors examined the charts of 41 patients who experienced premature acute myocardial infarction¹ at less than 50 years of age. In this study the authors attempted to interview the physicians of these patients 6 to 18 months post myocardial infarctions.

The study on which this article is based took place at the Family Practice Residency, E.W. Sparrow Hospital, Lansing, Michigan. Dr. Mayhew is now Chairman of the Department of Family Medicine at the Medical College of Ohio at Toledo. Dr. Rigden practices in Byron, Illinois, and Ms. Lach is Associate Chief of the University Health Service of the University of Rochester. Requests for reprints should be addressed to Dr. Harry E. Mayhew, Department of Family Medicine, Medical College of Ohio, C.S. # 10008, Toledo, Ohio 43699.

The physicians of 17 patients were lost to this study because of patient death (three), physician refusal to be interviewed (four), or no continuity of care or knowledge regarding patient disposition (ten).

The authors interviewed the remaining 20 physicians who were providing continuing care to 24 patients. The interviews took place with patient charts available for reference. A questionnaire was administered to identify the physician's belief and life-style regarding hyperlipidemia and his subsequent management of the post myocardial infarct patient.

The physicians were asked to rate, on a continuum scale of 0 (absence of belief) to 4 (firm conviction), the strength of their belief regarding the following cholesterol hypotheses:

A. elevated cholesterol is a significant coronary risk factor;

B. reducing an elevated cholesterol will significantly lower the risk of a myocardial infarct.

Results

Of the 20 physicians involved in the study, ten were family practitioners and ten were internists. Their practice experience ranged from 0 to 37 years with a mean of 15.5 years.

Two physicians had never had cholesterol determinations. The following examples illustrated their positions.

Example 1

A 35-year-old male physician had

never had a cholesterol study. His father and brother suffered acute myocardial infarctions at less than 50 years of age. He frankly replied that he was "scared to death" to know his cholesterol. He did not do cholesterol work-ups on his two patients involved in the study nor did he suggest screening children in their families.

Example 2

A 29-year-old male physician was completing his residency and had never had a cholesterol determination. His mother had a myocardial infarction at age 43, and a grandfather also sustained a myocardial infarction. The physician was not doing anything in his life to lower cholesterol or alter other risk factors. His patient in the study had not had a cholesterol work-up nor had he suggested screening the patient's children.

Eighteen of the 20 physicians had had previous cholesterol studies. Two of these 18 physicians had elevated cholesterol levels. Their interviews are summarized below.

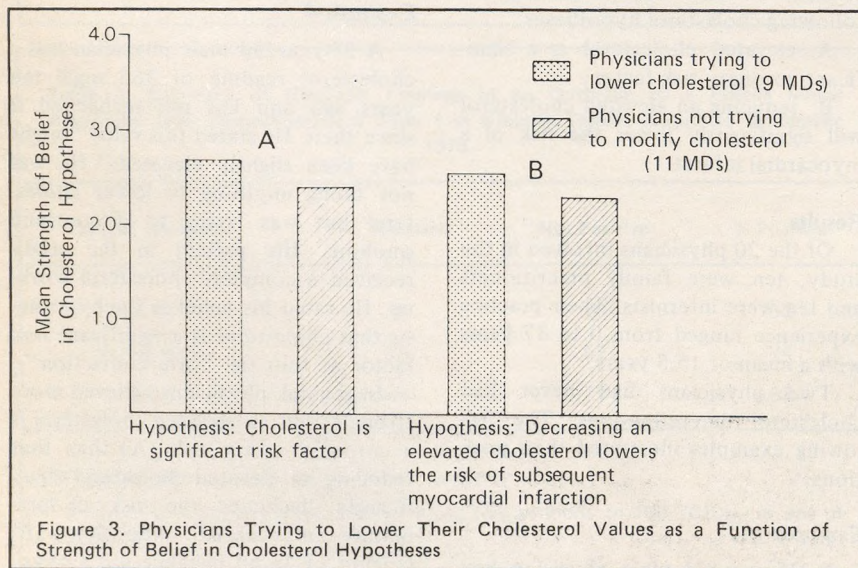
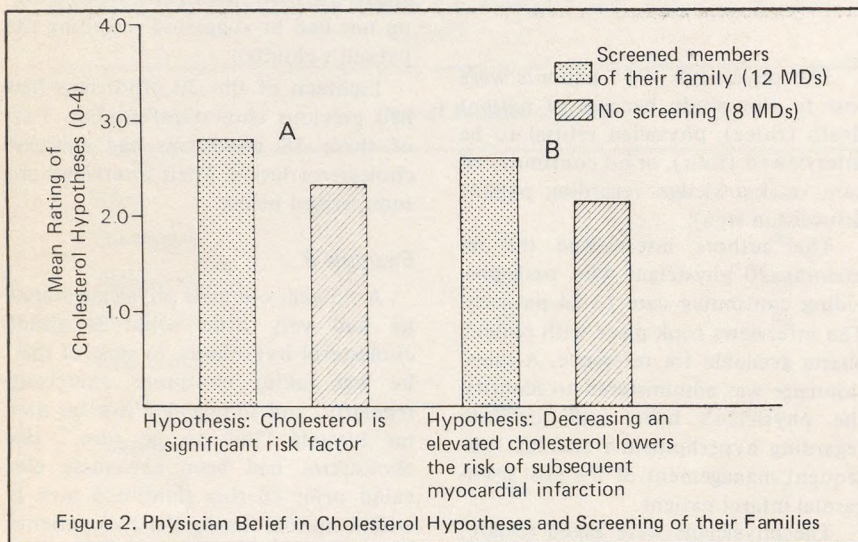
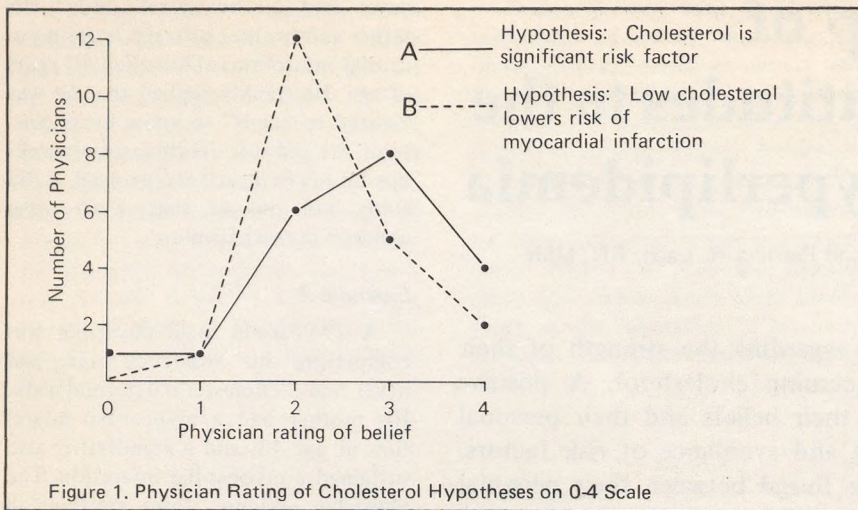
Example 3

A 55-year-old male physician stated he had very little belief in either cholesterol hypothesis. In spite of this, he was taking clofibrate, exercising regularly, and imposing a low fat diet on himself "just to be sure." His cholesterol had been extremely elevated prior to this time, and now is within normal limits. His two patients in the study received a cholesterol work-up.

Example 4

A 58-year-old male physician had a cholesterol reading of 365 mg% ten years ago and has not rechecked it since then. He stated this value "might have been slightly elevated." He was not doing anything to lower cholesterol but was trying to discontinue smoking. His patient in the study received a complete cholesterol work-up. He rated his belief in the hypothesis that cholesterol is a significant risk factor at four (ie, "firm conviction").

In general, physicians believed more strongly that an elevated cholesterol is a coronary artery risk (A) than that reducing an elevated cholesterol significantly decreases the risk of premature myocardial infarction (B) (Figure 1). In no instance did a physi-



chance rate hypothesis B with higher certainty than hypothesis A. Thirteen physicians rated hypotheses A and B at the same level of belief. Seven physicians rated hypothesis A with higher certainty than hypothesis B.

Twelve physicians (60 percent) had screened members of their own families for hyperlipidemia. Figure 2 illustrates that the physicians who screened their own families for cholesterol abnormalities tended to believe more strongly in the cholesterol hypothesis being considered.

Nine physicians (45 percent) stated they had intentionally tried to lower their cholesterol. All nine had done this with various dietary measures and one was also taking clofibrate.

Sixteen of the physicians (80 percent) had intentionally tried to alter other accepted coronary risk factors by controlling stress, exercising, discontinuing smoking, and losing weight.

Figure 3 relates physician behavior of intentionally trying to decrease dietary cholesterol to their strength of belief in the cholesterol hypotheses. The physicians who intentionally decreased cholesterol in their diet had stronger beliefs in the hypotheses.

Analysis of physician strength of belief in the cholesterol hypotheses and subsequent patient management regarding cholesterol evaluations and low fat diets showed no correlation whatsoever (Figure 4). Conversely, all physicians, regardless of stated belief, prescribed low fat or low cholesterol diets for their patients.

Thirteen of the patients (65 percent) had cholesterol work-ups following hospital discharge. Three patients, who had elevated cholesterol values during the stress of acute myocardial infarction did not receive confirming hyperlipidemic evaluations. All three of their physicians had low belief in the cholesterol hypotheses and two represent the physicians who have never had a personal cholesterol study done. Only 1 of the 20 physicians recommended that the patients' children be screened for hyperlipidemia.

Figure 5 summarizes the physicians' strength of belief in the cholesterol hypotheses as a function of time since medical school graduation. A clear trend is noted regarding both hypotheses. The more time that has elapsed since medical school graduation, the stronger the physicians' belief in the cholesterol hypotheses.

Comments

This study indicates that physicians' personal life-styles correlate positively with the strength of their belief in the cholesterol hypotheses. Ninety percent of the physicians had at least one cholesterol study, 60 percent screened members of their families, 45 percent stated that they limited their dietary cholesterol, and 80 percent were also intentionally altering other commonly accepted coronary risk factors. Paradoxically, absolutely no correlation is seen regarding the strength of physician belief and subsequent patient management.

Our physician interviews revealed several common attitudes. Fatalism was evidenced by comments such as, "... all that really matters is longevity of the parents..." or "I don't think that a doctor can really change a patient's eating habits." Fear, denial, and contradiction are suggested by these examples. This may indicate that medical decisions in this area fall more into the realm of personal conviction and experience rather than the realm of accepted medical science.

Another factor that may affect physician belief in the cholesterol hypotheses is the length of a physician's career. Older and more experienced physicians believe more strongly in the cholesterol hypotheses. Factors that might explain this include "medical gospel" that may have characterized their training, an older patient population that may have more atherosclerotic disease, and more self-awareness of their own cardiovascular system.

We recommend similar studies be done using a larger physician base, and that other areas of medical practice be studied in the same manner, examining physician knowledge and attitude, personal life-style, and patient management. Medicine is entering the era of intercepting disease in the risk phase. Much of our information is incomplete, requiring years of follow-up to determine the effectiveness of the therapeutic intervention. The factors which influence the physician's medical decision must be examined to better direct physician education and good patient care.

Reference

1. Rigden S, Mayhew HE, Lach PA: Myocardial infarctions in young adults in a community hospital. *Medicina (Journal of the Ingham County Medical Society)* 43:9-12, 1976

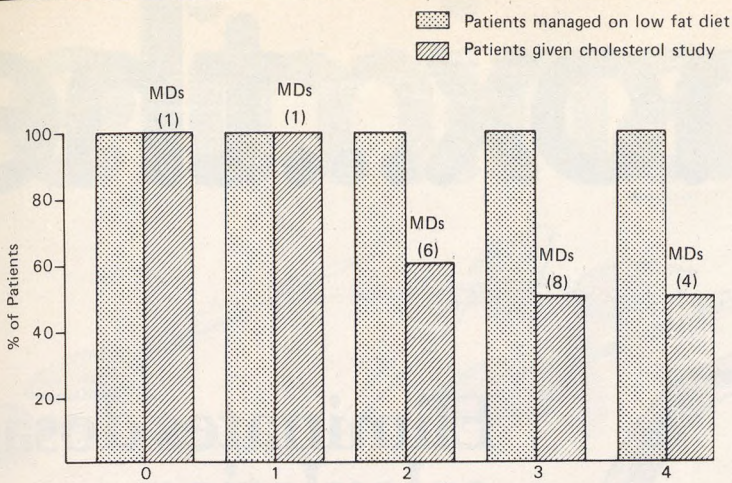


Figure 4. Physician Management and Strength of Belief that Elevated Cholesterol is a Significant Risk Factor

