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PREVENTION OF CARDIOVASCULAR DISEASE IN WOMEN: ROLE OF THE OBSTETRICIAN-GYNECOLOGIST

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ABSTRACT

A qualitative study was conducted to understand the current and potential role of the community obstetrician gynecologist in risk factor screening and prevention of cardiovascular disease. A total of four focus group discussions were conducted among 50 residents and practicing physicians in Iraq. Five main thematic areas were identified including the scope of practice, professional knowledge and skills in non-reproductive care, the potential for liability, logistical and structural barriers, medical practice community, and support for collaborative care. There were no differences between residents and those in practice within and between cities. Comprehensive care was most often defined as excluding chronic medical care issues and most likely as focusing on screening and referring women.

KEYWORDS: Cardiovascular disease, obstetrician-gynecologist.

INTRODUCTION

Cardiovascular disease is the leading cause of mortality for women in the United States. Although mortality rates have fallen for men over the past 10 years, the same decline has not been observed among women.[1]

Improvements in screening and management of cardiovascular risk factors are needed for women, yet it is not quite clear where this type of screening and management would be administered. The vast majority of women in the United States routinely access preventive health care, often from two types of providers: traditional primary care providers (PCPs; family practitioners and internists) as well as obstetrician/gynecologists.[2]

According to a 2004 Kaiser survey, 87% of women had at least one visit with a health care provider during the past year, and almost half (46%) had an ALKHARH HOSPITAL visit.[3] During her reproductive years, a woman is more likely to be connected. Of the 560 million physician visits by women in 2005, 19.7% were preventive care.[4]

In a study of young, low-income women, 38% of those surveyed considered their provider as their primary care physician,[5] As the sole clinician for many women, plays a critical role in cardiovascular disease prevention starting early in the life course.[6] Prior research suggests divergent views among doctors' providers regarding their role as a PCP as well as the adequacy of their training in primary and preventive care.[7]

Studies of self-reported physician practices have focused on the provision of preventive health care, preconception health care, and obesity. They found variation in the patterns of practice as well as perceived gaps in training.[8]

However, none of these earlier studies have focused on screening and management of cardiovascular risk factors, which contribute to the leading cause of death among women. The purpose of this study was to better understand the scope of practice of the doctors and their perceived role in primary care and as providers of comprehensive care, and to identify strategies that could potentially increase their role in the screening and prevention of cardiovascular disease in women.[9]

Clinicians providing reproductive health care for women with chronic medical diseases have long been challenged by the complex nature of these women's lives. This challenge includes integrating chronic disease and important reproductive health (RH) considerations such as future pregnancy and contraceptive use.[10]

A national study comparing the prevalence of preexisting chronic diseases among women admitted to labor and delivery in 1993–1997 and 2001– 2005 found a statistically significant increase in prevalence from 4.1% to 4.9%. Conditions included chronic hypertension (CHTN), cardiac disease and diabetes; CHTN was one of the most commonly reported conditions to increase in this period.[11] Hypertensive disease in pregnancy and peripartum cardiac events are leading causes of maternal morbidity and mortality.[12] While peripartum cardiomyopathy (PPCM) is rare (1 per 3000 to 4000 live births), it is associated with severe maternal and infant morbidity and mortality.[13]

Contraceptive care for women with medical conditions, including CHTN and PPCM, is complex[14]. Eisenberg et al.[15] demonstrated that many physicians are uncomfortable prescribing contraception to women with chronic conditions. Lohr et al.[16] found that a large percentage of internal medicine residents rarely or never provided contraceptive counseling to their patients. Women with and without chronic diseases have similar levels of sexual activity and risk of unintended pregnancy. Previous research has demonstrated that women with certain chronic medical diseases are more likely than women without these diseases to have an unintended pregnancy. Despite increased reproductive risks for women with cardiovascular disease.[17]

BACKGROUND

Role of the obstetrician/gynecologist

Cardiovascular disease poses a direct threat to the health of most women in the United States. Obstetrician-gynecologists are uniquely qualified to reduce that threat, because they are the principal health care providers for women and because preventive medicine is the thrust of obstetric and gynecologic practice in the United States. First, obstetrician-gynecologists serve as the primary care physicians for many millions of women. Of all office visits to physicians by women aged 15 to 44 years in 1980 to 1981, 30% were to obstetrician-gynecologists.

This percentage was exceeded only by visits to general and family practitioners (32%). Inasmuch as 24% of all patient encounters with obstetriciangynecologists occur in the hospital (as compared with 14% for general practitioners), the total number of patient-physician contacts (both office and hospital encounters) is highest for obstetrician-gynecologists.[18]

Second, most patients seen by obstetrician-gynecologists are of reproductive age. Inasmuch as atherosclerosis begins early in life, < women of this age group are highly appropriate candidates for prevention, rather than treatment, of cardiovascular disease. Only 1% of women who consulted obstetriciangynecologists from 1980 to 1981 did so because of cardiovascular disease, in contrast to 10% who consulted other specialists.[19] Third, preventive medicine is already an integral part of obstetrics and gynecology. The proportion of visits to obstetrician-gynecologists for preventive care ranges from two to three times that for all other physicians combined.[20]

Moreover, of the five most frequent reasons for office visits to obstetriciangynecologists-prenatal examination, gynecologic examination, general medical care, postpartum examination, and postoperative visits-all but the last are related to health maintenance rather than to illness or surgery. Blood pressure screening provides a good example. The percentage of office visits at which a blood pressure measurement was taken in 1980 to 1981 was twice that for obstetrician-gynecologists as for all other physicians combined.' The proportion screened by other physicians increased with patient age. Fewer than one third of visits by women of reproductive age to other physicians involved recording blood pressure[21].

Assessing cardiovascular risk

Given that cardiovascular disease threatens women's health and that obstetrician-gynecologists dominate the health care field in preventive medicine for women, how can we help our patients prevent cardiovascular disease? An understanding of multivariate models of risk provides a foundation for preventive practice in this area. Despite a large and expanding body of epidemiologic information, knowledge of the pathophysiology of the cardiovascular disease is incomplete. As stated by Krishan and Kottke,6 "Even the best-understood risk factors provide only a partial insight into the intricate web of causal relationships in a complex, probably heterogeneous, a disease with varying clinical expression, undefined latency, and incompletely characterized progression into clinical stages." The relationship between cardiovascular risk factors (such as lipid abnormalities),[22] the progression or regression of vascular lesions, and the evolution of clinical disease is further obscured by the probabilistic nature of epidemiology. Inferences from large populations cannot be applied with certainty to an individual patient. This may reflect the presence of other previously unrecognized risk factors, such as white blood count.[23]

Moreover, the presumably complex interaction or modification of risk factors has been poorly defined. Finally, the potential role of genetic predisposition to cardiovascular disease is not well understood. 6 Despite these limitations, much is known about major risk factors for cardiovascular disease.[24] Most contribute independently to the prediction of the likelihood of developing cardiovascular disease. Stated alternatively, each risk factor has its own incremental predictive value. The task for epidemiologists has been to develop models that provide a composite risk estimate based on knowledge of several risk factors.[25]

An early approach stratified populations based on the presence or absence of likely risk factors. This simple technique had two important limitations. First, as the number of

subgroups in the analysis increased, the number of individuals in each subgroup dwindled, robbing the analysis of both power and precision. Second, and more important from a clinical perspective, these methods inappropriately dichotomized what are in reality continuous variables.[26]

Defining abnormal blood pressure provides a good example. Although the medical community has arbitrarily adopted diastolic pressure 90 mm Hg or systolic pressure 140 mm Hg as the bounds of normality, this has no firm biologic or epidemiologic basis. Morbidity and mortality in women increase progressively with increasing values of systolic or diastolic blood pressure, with no critical threshold along this curve. 10 Thus valuable prognostic information is lost if continuous variables such as blood pressure or serum cholesterol levels are arbitrarily divided into "normal" or "abnormal" categories.

A better means of assessing cardiovascular risk is "multiple logistical models." Using the Framingham Study data,[27] shows the probability of developing coronary heart disease in 8 years by age, sex, and risk category. Clearly, the nature of cardiovascular risk is curvilinear. The Framingham Study led to another useful numerical example of the multivariate approach to risk assessment: the American Heart Association Coronary Risk Handbook.[28] Its tables allow estimation of the risk of developing coronary heart disease for men and women of different ages and with various combinations of risk factors. The risk of disease is viewed as a continuous graded function of blood pressure and cholesterol levels, and glucose intolerance, left ventricular hypertrophy, and cigarette smoking is considered dichotomous variables[29], a 45-year-old woman with systolic blood pressure I 05 mm Hg, serum cholesterol 185 mg/dl, and no history of glucose intolerance, cigarette smoking, or left ventricular hypertrophy can be predicted to have a 0.4% chance of developing coronary heart disease in 6 years.[30]

At the other extreme, a 45-year-old woman with systolic pressure 195 mm Hg, serum cholesterol 335 mg/dl, plus the other three risk factors in her history has a 13.2% chance. The average risk for all 45-year-old women in the cohort is 0.9%. These mathematical projections depict a composite cardiovascular risk profile, reflecting the joint effects of a number of risk factors. With this technique physicians can identify the I 0% of women of a given age at greatest risk of cardiovascular disease, in whom one fourth to one third of all new cases of coronary heart disease in the cohort will occur. Thus, clinical epidemiology can target those high-risk patients in greatest need of preventive care.[31]

Cardiovascular preventive medicine in obstetrics and gynecology

Preventive medicine has three tiers: primary, secondary, and tertiary prevention Primary prevention avoids the occurrence of disease; secondary prevention entails prompt diagnosis and treatment of disease; and tertiary prevention involves rehabilitation and reduction of late sequelae. Despite the preventive medicine orientation of contemporary obstetrics and gynecology in the United States, too little attention has been paid to primary prevention. Tubal infertility provides an egregious example.[32]

Large numbers of citations in the Index Medicus deal with the devastation of fallopian tubes by salpingitis, requiring tubal reconstructive surgery and in vitro fertilization. These tertiary prevention strategies are extremely expensive, not widely available, and relatively ineffective. On the other hand, use of a barrier contraceptive plus a spermicide is inexpensive, widely available, and significantly protective against tubal infertility.[33]

Citations about prevention of tubal infertility are scarce, however, a discrepancy that stems partly from prestige and money. In the United States preventing infertility is considered neither "glamorous" 16 nor lucrative. Treatment of infertility is both. Similarly, coronary bypass surgery is a booming industry in the United States (more than 100,000 operations are performed per year), although the long-term public health benefit of these costly, high-technology interventions is limited.[34] More effort at primary prevention is needed, and here obstetrician-gynecologists have an important role.

Targets in prevention

What factors should be the focus of preventive services? Kannel" has grouped the major cardiovascular risk factors into four categories: atherogenic attributes (e.g., blood lipids), living habits (e.g., cigarette smoking), signs of preclinical disease (e.g., left ventricular hypertrophy), and host susceptibility (e.g., gender).[35]

Although logical and valid from an epidemiologic standpoint, this scheme does not readily identify the targets for intervention. An alternative classification divides known risk factors into intrinsic (e.g., age) and extrinsic (e.g., diet) categories. Although this approach is simpler, it still falls short in terms of pragmatism. A more useful classification may be one that hinges on the key concept of patient control: Can the risk factor be influenced by the patient (Table III)? At least thre major risk factors can be modified or eliminated by patient behavior. Blood lipids respond to changes in diet, and the average intake of fat is powerfully

related to mean cholesterol levels. High intake of complex carbohydrates is associated with low risk of death from cardiovascular disease. Caloric balance also promotes a favorable ratio of low-density to highdensity lipoprotein-cholesterol. Drug therapy is effective for the more serious disorders of lipid metabolism. Will dietary changes help? Animal studies suggest that dietary change can not only halt the progression of atherosclerosis but also may cause it to regress. 18· 19 Although data on the reversibility of human coronary atherosclerosis are scanty, angiographic studies of femoral atherosclerosis20 have documented regression of disease in response to treatment of hyperlipoprotein- emia. Moreover, the Cholesterol-Lowering Atherosclerosis Study' has shown significantly greater regression of coronary atherosclerosis among men treated with colestipol-niacin than among those given a placebo.[36]

Hypertension, another powerful independent risk factor for cardiovascular disease, is amenable to change. Although the specific causes of 95% of hypertension are unknown (idiopathic), high sodium intake, obesity, heavy drinking, and stress are probably involved.[37]

In addition, isotonic exercise may lower blood pressure either independently or through effects on weight and heart rate. If nutritional-hygienic measures do not achieve desired reductions in blood pressure, drug therapy is usually effective.

Cigarette smoking may contribute to cardiovascular disease in several ways. Likely mechanisms include the effects of nicotine on the sympathetic nervous system,'" the desaturation of hemoglobin by carbon monoxide,[38] and an increase in platelet adhesiveness.'" Preventing young people from starting to smoke is critical, because once a person is addicted, stopping is very difficult. Among the technique's patients can use to quit are nicotine chewing gum, aversive conditions, group programs, and hypnosis. Stopping "cold turkey" may have the highest success rate, however. When smokers quit smoking, they progressively lose their increased cardiovascular risk.[39] Smoking gives little and costs much.

Data Analysis

Data from the focus group transcripts were analyzed using an inductive and step-wise approach to identify themes. First, data were summarized into codes individually by each research team member and then collectively to discuss discrepancies among the codes until consensus was achieved for a final set of codes.

Matrices of the codes were then developed to compare the data by geographic area in iraq and by physician type (resident and practicing physician).

METHODS

Characteristics of the Sample, A total of 50 physicians participated in the four focus groups, namely, 25 residents and 25 practicing generalist alkark hospital.

RESULTS

Two important exceptions were noted. First, pregnancy status, in which addressing 'all' health concerns including chronic medical conditions were expected. The second was geographic location and local resources, for example, a rural setting, which would shape the scope of care to include chronic disease diagnosis and co-management. Although most providers felt that they could offer basic screening services, they did not feel that they should be responsible for managing conditions/diseases that were not reproductive in nature.

They reported that management of abnormal screening test results was nearly always seen to be outside of their scope of care and was therefore handled by referral to another provider. Management of hypertension, diabetes, and abnormal lipids were areas within cardiovascular risk management perceived by most to be beyond scope of practice.

Some providers reported addressing lifestyle risks, including tobacco use. Of interest, obesity was identified by many to be within the scope of care, although some providers almost uniformly stated that they lacked resources and referral options. The scope of practice was informed by issues related to professional identity, knowledge and skills, and potential for liability. Professional identity. Overall, if obstetrician-gynecologist identified themselves as PCPs, they only viewed themselves as such for healthy women of reproductive age.

Older women, and those with chronic disease, were felt to need an internist or family practitioner for primary care. Several participants mentioned that they were supportive of the obstetrician-gynecologist serving as the medical home for women, but acknowledged that services for non-gynecologic chronic conditions were not currently readily available. Others felt that they were a woman's PCP only during pregnancy because "no one else will do it," but they did not otherwise see themselves as PCPs.

"We are specialists. I need to do well what we do well." Participants in all groups recognized that they are the exclusive source of health care for many of their patients, which results in

the need to provide comprehensive health care. This was most often discussed among providers caring for low-income women. “You should be up on your prevention and screening and stuff” because you “might be that patient’s only doctor at that time. She might not be able to afford to go to another doctor.” Further discussion of the debate over the “identity” of the obstetrician-gynecologist as women’s health PCPs versus specialists identified a lack of consensus and therefore direction from the American College of Obstetricians and Gynecologists (ACOG)[40].

It was observed that the current ACOG guidelines do not support cardiovascular risk factor screening as a priority, perhaps consistent with a move to identify the ALKHARH HOSPITAL as reproductive, surgical experts in women’s health who ’screen and refer.’ Some physicians discussed the current consideration and debate over separating training into two areasdobstetrics and gynecologydwith the expectation that gynecology could add more training time in primary care. Finally, there was recognition that health care reform might carry additional implications. Professional identity was also tied to their perceptions of their patients’ expectations. Both residents and practicing providers recognized that women are in the habit of attending an annual well-woman examination with an obstetrician-gynecologist provider.

There was an overall impression that women’s preferences for their obstetrician-gynecologist as their primary health care provider influenced, and perhaps forced, their identity as a PCP. Some felt that the obstetrician-gynecologist was perceived to be more women centered; others felt it was owing to poor access to the care of primary care physicians in their community.

“There are so many barriers to their care and they don’t know how to access that care.” A number of residents and practicing providers reported that although they often encourage patients to go to an internist, they acknowledged that for many of their patients, this never happens. Of interest, it was observed, however, that patients rarely come to the obstetrician-gynecologist and ask about cardiac disease.

Knowledge and skills in non-reproductive health care. Linked to the discussion of identity as specialist, participants highlighted issues of clinical competence related to knowledge and skills. Practicing physicians and residents alike expressed discomfort at the idea of providing “comprehensive care.” Most felt that it was important for providers to “know” their comfort

level and to not go beyond it. “Be able to do what your comfort base is dstart them on the baseline drug if you are familiar with it. . .. I think a big thing for anybody in any topic is to know your limit.” “I think that if you want the best care for your patient.

The potential for liability

There was a discussion of the concern for liability and the role of fear and “defensive medicine” in guiding provider behaviors. One participant stated, “There has to be protection from litigation because a lot of reason the whole system is clogged is that everyone feeling that they must refer to a specialist for every little thing because everyone is practicing defensive medicine.

DISCUSSION

Women begin life with a complement of risk factor "baggage," including vascular anatomy and genetic predisposition, among others. During their life many women also acquire excess baggage through their voluntary living habits-principally a "rich" diet, hypercholesterolemia, hypertension, and cigarette smoking. 32 With the help of obstetrician-gynecologists, women can, also of their own volition, discard this excess baggage and lighten their cardiovascular risk factor load.

By adopting healthy lifestyles women can enhance the length and quality of their lives. The role of the obstetrician-gynecologist is to assess risk status and recommend healthful behaviors based on that assessment. A firm commitment to adopt those behaviors is the key to success. Basic information about the potential benefits should be accompanied by realistic goals. The patient should be allowed as much autonomy as possible in choosing among alternative means of achieving the desired goals (e.g., increasing activity versus decreasing caloric intake to achieve weight loss)[41].

Systematic follow-up and positive reinforcement are integral components of this health education program. Finally, the importance of the physician as a role model cannot be overstated; advice from an overweight, sedentary, smoking physician about cardiovascular risk reduction is likely to be heeded poorly, if at all. In conclusion, cardiovascular disease is a major threat to the health of women, and obstetrician-gynecologists have a unique opportunity to lower the risk of morbidity and mortality. Cardiovascular risk should be viewed as a complex phenomenon with a gradient of response: the greater the number and severity of risk factors, the greater the likelihood of disease and death.

If obstetrician-gynecologists are to fulfill their primary care commitment to the women they serve, then their specialty must expand its scope to include prevention of cardiovascular disease as an integral component of women's health care.

Cardiovascular risk screening must become as routine as Papanicolaou screening. The drawback of preventive medicine is that it lacks the immediacy of surgical or obstetric intervention and the prompt gratitude of an appreciative patient and her family. Most of the benefits of prevention will be enjoyed by women decades in the future. The practice of obstetrics and gynecology is intensely personal; that of preventive medicine is anonymous: the practitioner never knows the name, face, or family of the person whose illness was averted or whose life was saved. Nevertheless, prevention of cardiovascular disease will have more impact on the ultimate well-being of women than virtually anything else obstetrician-gynecologists can do in clinical practice.[42] This may be the noblest medicine of all: the anonymous gift of health.

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