LIFESTYLE AND DISEASE, MALE HEALTH AND RISKS

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SUMMARY

Men throughout the world continue to have higher rates of morbidity and mortality compared to their female counterparts. The result of men living shorter and unhealthier lives impacts families, communities, economies and societies. The majority of the underlying cause relates to modifiable and preventable lifestyle choices made by men. Epidemics in obesity and diabetes are directly related to smoking, poor diet, excess alcohol consumption, and sedentary lifestyles. If physicians and policy makers are truly going to change the poor state of men's health, the focus must be on the preventable illnesses resulting from lifestyle choices and behaviors.

Key words: Male health, epidemiology, risk, lifestyle.

INTRODUCTION

Lifestyle choices complicate decisions regarding health and wellbeing. Consider the impact of smoking and other substance abuse issues, unhealthy diet and obesity, sedentary behavior and failure to maintain adequate exercise. Epidemics in obesity, diabetes and cardiovascular disease are directly related to smoking, poor diet, excess alcohol consumption, and sedentary lifestyles. All have significant consequences regarding disease. All, to some extent, can promote better health if modified or can lead to severe deterioration and progression of illness.

How many patients come to their physicians and other medical providers asking for a medication to treat GERD which is exacerbated by over eating and obesity? How many require treatment for hypertension secondary to smoking, obesity, lack of exercise? The same is true for the consequences of the metabolic syndrome, sleep apnea, diabetes, elevated cholesterol, and lipids.

This is not to say that physicians have become the enablers of excess, however responsibility toward the identification of lifestyle risks does rest on the shoulders of physicians and non-physician providers. The education of the patient regarding the consequences of lifestyle on health concerns and appropriate intervention must accompany any medication solutions. The intervention regarding correction of these life choices are in most cases more intense both for the patients and the practitioner than a simple office reference such as "you should stop smoking, you should lose weight, you should begin to exercise." They are significantly more intense than the simple writing of a prescription. The patients in most instances know they need to initiate these modifications, however, most do not know how. Many may have tried and failed. A coordinated plan must be available for each patient who wishes to make improvements in lifestyle and must be developed with the individual needs of the particular patient with goals set and with sustained follow up. Lifestyle excesses must be approached as addictions and treated as intensely. The ultimate goal of health and disease prevention will result in a happier, healthier patient who will be relieved to be spending less on medications.

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The preservation of valuable health dollars and resources within the healthcare delivery system will be an additional benefit. Promoting and propagating better lifestyle choices for younger generations, will hopefully follow an improvement in lifestyle of the current population.

To better appreciate the impact of lifestyle choices on health and disease, let's review associated diseases, opportunities to intervene and the overall economic impact of these diseases on the healthcare system.

OBESITY

Obesity is defined by the United States Center for Disease Control and Prevention as a Body Mass Index (BMI) of 30 or higher, Overweight is defined as a BMI of 25-29.9.The BMI is calculated by dividing the adults weight in kilograms by the square of his or her height in meters. World Health Organization data demonstrates obesity trends have been increasing globally over the last 3 decades. While Obesity rates in the United States have stabilized since 2003, they have more than doubled since 1980 (1). It is approximated that two out of three adults in the U.S. are overweight or obese (69 percent), and one out of three is obese (36 percent) (2). It is predicted that if trends continue in the U.S. that by 2030 half of all men and women will be obese (3).

The most recognizable disease associated with excessive weight is diabetes.

As the epidemic of obesity grows so does the diabetic population. In the United States 55 percent of adults diagnosed as diabetic are obese and 85 percent are either overweight or obese (4). Diabetes as defined by the American Diabetes Association as the presence of any one of the following three criteria A1C≥ 6.5, Fasting plasma glucose-8-hour fast ≥126mg/dl, Glucose 2 hours post oral load of 75 grams of glucose dissolved in water ≥200mg/dl. Pre diabetes is defined as A1C 5.7-6.4, Fasting plasma glucose 100-125 mg/dl, Glucose 2 hour post oral load 140-199mg/dl. Pre diabetes is a risk factor for Type 2 diabetes. Pre Diabetes is associated with the metabolic syndrome. The metabolic syndrome is defined as three or more of the following; Blood pressure ≥ 130/85, fasting glucose ≥100mg/dl, Large waist circumference (men ≥ 40 inches, women ≥ 35 inches), Low HDL Cholesterol (men <40 mg/dl, women <50 mg/dl), Triglycerides ≥ 150mg/dl. Individuals with metabolic syndrome are at increased risk for stroke, myocardial infarction, diabetes, urinary calculus disease, androgen deficiency, lower urinary tract symptoms, erectile dysfunction.

In addition to type 2 diabetes, obesity itself places individuals at risk for hypertension, elevated cholesterol, cardiovascular disease, gallbladder disease, colon cancer, post menopausal breast cancer, sleep apnea, increase wear on joints leading to either joint replacement surgery or a diminished quality of life. The economic costs of obesity can be significant. They can be calculated as direct costs (those that result from outpatient and inpatient health services – surgery, labs, imaging, medications), and indirect costs –defined as resources forgone as a result of a health condition(loss of work (5), insurance costs (6), lower wages (7)). One estimate found that the calculated per capita medical spending for an obese individual in the U.S. was and additional $1,429 or 42 percent higher than for an individual of normal weight. Other authors estimate the per capita spending for obese individuals was $2,741 or a 150 percent increase (8). Thompson in his research felt that a lifetime course of per person obesity related medical costs were equal to those increases related to smoking (9).

The identification of diabetes, metabolic syndrome, and other obesity related condition's is relatively straightforward when compared to developing an approach and treatment plan for the obese patient. One robust obesity management plan has been developed by the Canadian Obesity Network (www.obesitynetwork.ca).

This comprehensive plan discusses five key principles for obesity management. They are:

1) Obesity is a chronic condition.

Obesity is a chronic and often progressive condition not unlike diabetes or hypertension

Successful obesity management requires realistic and sustainable treatment strategies

Short-term "quick fix" solutions focusing on maximizing weight loss are generally unsustainable and therefore associated with high rates of failure.

2) Obesity management is about improving health and well-being, and not simply reducing numbers on the scale

The success of obesity management should be measured in improvement in health and wellbeing rather than in the amount of weight loss

For many patients, even modest reductions in body weight can lead to significant improvements in health and well-being.

3) Early intervention means addressing root causes and removing roadblocks.

Successful obesity management requires identifying and addressing both the 'root causes' of weight gain as well as the barriers to weight management.

Weight gain may result form a reduction in metabolic rate, overeating, or reduced physical activity secondary to biological, psychological or socioeconomic factors.

Many of these factors also pose significant barriers to weight management.

4) Success is different for every individual

Patients vary considerably in their readiness and capacity for weight management.

"Success" can be defined as better quality of life, greater self-esteem, higher energy levels, improved overall health prevention of further weight gain, modest (5 percent) weight loss, or maintenance of the patients "best: weight.

5) A patient's "best" weight may never be an "ideal" weight.
An "ideal" weight or BME is not a realistic goal for many patients with obesity, and setting unachievable targets simply sets up patients for failure.
Instead, help patients set weight targets based on the "best" weight they can sustain while still enjoying their life and reaping the benefits of improved health.

In addition to the above **5 key principles** the Canadian Obesity Network has developed the following **Five A's** of Obesity Management and suggests that physicians and other non physician providers follow these guidelines when assisting their patients with overweight or obesity concerns.
1) Ask (for permission to discuss weight)
2) Assess (for obesity related risk and potential "root causes" of weight gain)
3) Advise (on obesity risks, discuss benefits and options)
4) Agree (on realistic weight-loss expectations and on a SMART plan to achieve behavioral goals)
Behavioral goals should be SMART
Specific
Measurable
Achievable
Rewarding
Timely
5) Assist (in addressing drivers and barriers, offer education and resources refer to provider, and arrange follow-up)

The opportunity to develop goals for obesity management must also include information on diet and exercise. Many diets have been developed over a number of decades, a diet that appeals and is useful for one patient may not be accepted by another patient. Facilitating patient access to nutritional counseling will provide the ability for the patient to work with an experienced professional such as a nutritional counselor or Registered Dietician who can help them find diet and goals that are acceptable and palatable.

In general the Mediterranean Diet (10) provides excellent outcomes regarding long term compliance, health benefits with demonstrated reductions in stroke and heart attack and weight loss. Many patients are embracing the "Paleo" diet. In respect to weight loss, a diet can provide a good foundation and structure for achievement and goal attainment. In this current age of technology many mobile apps allow patients to track calories and calculate meals with specific calorie goals in mind.

Despite the best efforts of providers and patients, some obese patients may require more than diet, exercise and counseling can provide. Bariatric surgery has progressed to include a team approach with surgeons working alongside other obesity specialists to provide a comprehensive solution for the appropriate patients. Exercise must be considered as vital to weight management and good health as is diet. We abound with advertising for fitness and active lifestyles, yet for the overweight and obese exercise is problematic. As with any journey, exercise needs to begin with getting started. Many exercise programs are available and as with diet selection, no one program will fit all. Professional exercise prescriptions can be written for patients whose physical abilities are so significantly restricted by their obesity that assessment by Physical Medicine and Rehabilitation physicians is required before the plan can be carried out by Physical Therapists. For those patients less restricted, gym membership and home exercise programs offer an opportunity to begin to develop a regular and routine fitness program.

The most important aspect of undertaking an exercise regime for the overweight, or obese patient, and for those who wish to begin a healthier lifestyle is to emphasize making exercise routine and deemphasize weight loss as a goal. Exercise needs to become a habit. If patients set weight loss as an immediate goal, many will stop exercising. A routine, regular increase in exercise time and effort will help to make fitness a habit. By first instructing patients to begin with as little as 15 minutes a day for weeks to a month, will help to shape a pattern. Most patients will complain that free time for exercise is limited, so the best strategy is to have them set the alarm clock in the morning 15 minutes earlier. Exercise first in the morning avoids conflicts that arise later in the day. The simple act of changing into workout clothes and developing a daily routine allows 'habit' to be developed. The addition of 5 minutes of exercise every 2 weeks, will eventually lead to 40 minutes or more of exercise, where goals of weight loss will begin to be fulfilled. The electronic monitoring bracelets such as those offered by Nike, or FitBit allow for feedback in calorie output, achievement of set goals and tracking of each days effort through downloadable devices. Once patients begin to make fitness habit and the realization of improved health occurs, the reinforcement of wellness will help to move the patient toward increasing and more sustained goals of health lifestyle choices.

SMOKING

Smoking related disease and illness are significant in both scope and direct association. To review some of these associations consider cardiovascular disease such as stroke, myocardial infarction, peripheral vascular disease, aortic aneurysm. Pulmonary disease such as COPD (Asthma, Emphysema, Chronic Bronchitis). Smoking related cancers such as lung, laryngeal, throat, oral, esophageal, pancreatic, gastric, renal, bladder, and acute myeloid leukemia. The list of associated disease continues to grow, yet smoking remains one of the most prevalent cause of preventable and premature deaths. Estimates for 2010 in the United States from Center for Disease Control and Prevention (C.D.C.) data suggest smoking is responsible for 440,000 premature deaths per year, 40 percent from cancer, 35 percent from cardiac disease and stroke, 25 percent form lung cancer. The economics of smoking related illness in 2005 were estimated to cost the United States $193 billion($97 billion in lost production and $96 billion in health care expenditures) (11).

Smoking and tobacco dependence require a committed patient and many times support or medication assistance from the patients medical provider to successfully quit. The CDC website describes the following methods.

• Brief clinical interventions (i.e., when a doctor takes 10 minutes or less to deliver advice and assistance about quitting)
• Counseling (e.g., individual, group, or telephone counseling and quit lines; online smoking cessation programs)
• Behavioral cessation therapies (e.g., training in problem solving)
• Treatments with more person-to-person contact and intensity (e.g., more time with counselors)
Cessation medications found to be effective for treating tobacco dependence include the following:
• Nicotine replacement products
- Over-the-counter (e.g., nicotine patch, gum, lozenge)
- Prescription (e.g., nicotine inhaler, nasal spray)
• Prescription non-nicotine medications, such as bupropion SR (Zyban®) and varenicline tartrate (Chantix®) (12,13).
The combination of medication and counseling is more effective for smoking cessation than either medication or counseling alone.

It is clear that improving the health of individuals is well worth the efforts toward cessation of tobacco use and dependence. The ability to funnel money previously used for tobacco and smoking related disease back into the health care system provides resources for multiple others, institutions and research.

ALCOHOL AND SUBSTANCE ABUSE

No review of lifestyle related disease is complete without mention of alcohol and substances abuse. The associated health risks of alcohol abuse include cancer (oral, pharynx, larynx, esophagus, liver, breast, and colorectal). Risks increase when alcohol abuse is associated with tobacco abuse. Additionally, Cardiovascular disease (including cardiomyopathy, atrial and ventricular fibrillation), Cirrhosis, Dementia, Depression, Seizures, Gout, Hypertension, Neuropathy, Pancreatitis, Esophagitis, Gastritis, and Alcohol related Diabetes.

In the United States a 2006 study found the costs of excessive alcohol consumption to be an estimated $223.5 billion. Costs were related to losses in the workplace, health care expenses, law enforcement and other criminal justice expenses, and motor vehicle accidents related to impaired driving (14).

It is suggested that binge drinking accounts for about three-quarters of the cost of excessive alcohol consumption. Appropriate counseling and education of patients regarding the harms of excessive consumption through early education, social programs, counseling, supervision of alcohol distribution will help to promote appropriate use.

If providers can assist patients in making appropriate adjustments toward healthy lifestyles, the population will benefit in improved quantity and quality of life, while the health care system will benefit in considerable cost savings that can be applied to other disease and health matters. Prevention through education and information will help to aid the population toward wellness.

CONCLUSION

Physicians must work in partnership with their male patients to address the modifiable lifestyle choices that impact their health negatively. Evidence-based approaches to diet, exercise, and smoking cessation should be utilized for best outcomes. Certainly, more time is required on an individual level to address each of these health concerns but in the larger scope of male health, efforts to address preventable illness can have dramatic effects on male morbidity and mortality. Health care organizations and governments must address male health issues, such as sedentary lifestyle, poor diet, smoking and alcohol consumption, through a gender-specific approach. The epidemics of male obesity, diabetes, and cardiovascular disease cannot be left unchecked any longer.

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