

INTERNATIONAL JOURNAL OF UNIVERSAL PHARMACY AND BIO SCIENCES

Pharmaceutical Sciences

Review Article.....!!!

Received: 23-11-2012; Accepted: 02-12-2012

WEIGHT MANAGEMENT STRATEGIES IN COMMUNITY PHARMACY- OBESITY

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KEYWORDS:

Obesity, *Cosmos*

caudatus leaves,

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ABSTRACT

Obesity has become one of the leading public health concerns in the United States, and it is a growing health concern globally. Excess weight increases risks for type 2 diabetes, cardiovascular disease, hypertension, stroke, and other chronic diseases. The impact of the obesity epidemic on health care expenditures is considerable -- more than \$61 billion in direct health care costs were attributable to obesity in 2000 alone. This includes placing community pharmacy's role within a broader health promotion context, expanding community expectations of pharmacists, and addressing barriers to performing a health promotion role. An array of environmental, genetic, behavioral, and physiologic factors contributes to overweight and obesity. Fortunately, even a modest amount of weight reduction can lead to substantial health benefits.

1. INTRODUCTION :

Obesity has become one of the leading public health concerns in the United States, and it is a growing health concern globally. According to recent estimates, 127 million Americans (64.5% of the adult population) have body mass indexes (BMI) of 25 kg/m² or greater, classifying them as overweight or obese. Excess weight increases risks for type 2 diabetes, cardiovascular disease, hypertension, stroke, and other chronic diseases. The impact of the obesity epidemic on health care expenditures is considerable -- more than \$61 billion in direct health care costs were attributable to obesity in 2000 alone. This includes placing community pharmacy's role within a broader health promotion context, expanding community expectations of pharmacists, and addressing barriers to performing a health promotion role.

An array of environmental, genetic, behavioral, and physiologic factors contributes to overweight and obesity. Fortunately, even a modest amount of weight reduction can lead to substantial health benefits. A loss of 5% to 10% of initial body weight is sufficient to alter the risks associated with the obese state.

DEFINITION

Obesity is defined as a body mass index (BMI) of 30kg/m² or more, where a person's BMI is defined as their weight in kilograms divided by the square of their height in metres. Overweight is defined as a BMI between 25 and 30kg/m². The International Obesity Task Force classification of obesity is described as follows.

Underweight <18.5

Normal range 18.5-24.9

Class I overweight 25-29.9

Class II obese 30-34.9

Class II a obese 35-39.9

Class III obese 40

In addition to the determination of BMI, waist circumference presents another simple way of assessing someone's risk from being overweight, as fat around the waist is associated with a higher risk of developing cardiovascular and other diseases than fat in other parts of the body. Waist circumference is measured midway between the lower margin of the ribs and the top of the iliac crest laterally.

Gender	Increased	Substantial Health Risk Increased Health Risk
Men	94cm	102cm
Women	80cm	88cm

CAUSES FOR OBESITY

In scientific terms, obesity occurs when a person consumes more calories than he or she burns. Causes for this imbalance between calories in and calories may differ from one person to another.

The causes of obesity can be classified under:

1. Genetic Factors
 2. Physical Factors
 3. Emotional Factors
 4. Social Factors
1. **Genetic Factors:** Various genetic factors play a role in the development of obesity. Various genetic factors which contribute to the development of obesity are as follows.
- a) Low serotonin levels. This, in turn, leads to a deficiency in tryptophan, an amino acid that is a precursor of serotonin. Low tryptophan leads to hunger and craving for carbohydrates.
 - b) Insulin resistance or insensitivity. This leads to decreased utilization of energy leading to more hunger.
 - c) High Lipoprotein lipase (LPL) enzyme level. Lipoprotein lipase (LPL) is an enzyme produced by the body which transports fat from the blood into storage in fat cells. if the LPL level is higher the person will be more predisposed for the storage of fat you are to store fat.
 - d) Lower percentage of brown fat. This leads to 25 percent higher efficiency in producing energy and heat, leaving a net saving of calories with more calories to go into fat storage.

2. **Physical Factors**-various physical factors like television watching , lack of physical activity an excess starch diet all contribute to the development of obesity
 - A) **Increased screen based entertainment**-These lower levels of daily activity by us all are caused by an increase in sedentary occupation and screen-based entertainment (computers and television). Families are using their cars for ever shorter journeys. Children become housebound as parents are worried about letting their children play outside. School meals at present do not provide.
 - B) **Physical inactivity** In the majority of obese people, caloric intake habitually exceeds caloric loss from physical activity, movement, and exertion. Up to two.
 - C) Thirds of men and three quarters of women do not take the recommended amount of physical activity. Children are generally less active than the national guidelines.
 - D) **An excess-starch diet**-The most fattening food is starch. People who eat excessive amounts of starch are prone to gain weight. The foods such as bread, pasta, rice, and beans contain an excess of starch.
 - E) **Low metabolism:** -Metabolism is deficient in many overweight people for genetic reasons and lack of physical exercise. The metabolism of stored fat in the body is considerably below that of lean tissue. So the metabolic rate of obese people is well below that of lean people, reduced by the sluggish metabolism of fat.
 - F) **Certain disease states** are also associated with a greater likelihood of obesity, including diabetes, hypothyroidism, hypertension, hypopituitarism, and hyperlipidemias.
 - G) **Candidiasis and parasites**-An overgrowth of the yeast *Candida albicans* and parasitic conditions can cause bloating and weight gain.
 - H) **Environmental poisons (enzyme inhibitors)**-These include heavy metals (lead, cadmium, mercury), pesticides, synthetic substances such as margarine, and many common chemicals used by industry, agriculture, and consumers. Enzyme poisons can interrupt important metabolic processes in the body, some of which control fat burning and appetite.
3. **Emotional and Mental Factors**- Psychological factors may also influence eating habits. Many people eat in response to negative emotions such as boredom, sadness, or anger. Eating may be triggered by learned responses from childhood. Childhood and adult obesity are much more common in those whose parents use or tended to use more manipulative negative and positive prompting to control their eating as children. Food is often used as a source of pleasure by some people. These people have experienced previous traumas in life that limit their ability to find sources of pleasure not associated with food. This leads to overeating and obesity.
4. **Social Factors**- Food is often used as a centerpiece of social and we are obligated to attend social functions such as dinner parties, featuring sumptuous meals. Eating can often carry a sense of social obligation.

HEALTH CONSEQUENCES OF OBESITY

Obesity is a health hazard. The lives of many sufferers of obesity are being shortened by up to nine years. In 2002, 22 per cent of men and 23 per cent of women were clinically obese (BMI >30). 43 per cent of men and 34 per cent of women were overweight (BMI > 25-29.9). Being overweight or obese can seriously affect one's health and can manifest itself in any of the following conditions:

- Decreased life expectancy.
- Development of type 2 diabetes (in adults and, increasingly, in young people).
- Cardiovascular disease.
- Certain forms of cancer are more common in obese people:
 - ✓ colorectal and prostate in men
 - ✓ breast, endometrium and gall bladder in women.
- Other associated diseases are
 - ✓ osteoarthritis, breathing difficulties,
 - ✓ gallstones, abnormalities of the
 - ✓ reproductive system including
 - ✓ infertility and complications of
 - ✓ pregnancy, sleeping problems and
 - ✓ alterations in liver function
 - ✓ may lead to cirrhosis.

Psychological and social effects-Emotional suffering may be one of the most painful parts of obesity. Many people think that obese individuals are gluttonous, lazy, or both, even though this is not true. As a result, obese people often face prejudice or discrimination in the job market, at school, and in social situations. Feelings of rejection, shame, or depression are common.

ROLE AND IMPORTANCE OF COMMUNITY PHARMACIST IN HEALTH PROMOTION SERVICES

Community pharmacist can play a very important role in the health promotion activities like smoking cessation, weight management etc. The commented high potential of community pharmacy as a health promotion setting, is due to accessibility and high level of use. Pharmacies are recognized as the most accessible healthcare service in the community with over 90% of the population visiting during one year. Community pharmacies are patronized by both healthy and sick people, thus having access to a large proportion of the population—before major illness or disease is evident. Community pharmacies can take an active role at an individual and community level to support the health of their communities, and thus move their service in a health promotion direction consistent. The strength lies in a multidisciplinary approach incorporating organizational economic, policy, and educational interventions. Educational interventions have limited ability to produce behavioural change but can support and augment other interventions. Thus, while increasing education may not directly alter behaviour it may improve attitude and knowledge, and lead to increased support for economic, organisational and policy interventions that would be more effective in driving change.

WEIGHT MANAGEMENT STRATEGIES IN COMMUNITY PHARMACY

Pharmacists are ideally positioned to assist patients in the difficult process of losing weight. Weight management strategies in community pharmacies is mainly aimed at support, motivation and education. Services are focused on patients in danger of developing secondary symptoms of obesity or who are trying to change their life style but needs support. Easily implemented programs requiring minimal interventions may provide the best possibilities for success.

Pharmacist's action plan

- ✓ Coronary Heart Disease Risk assessment using a computer model- (this could then be used to demonstrate to the patient the actual risk reduction if they were to address a particular risk factor such as reducing weight or stopping smoking)
- ✓ Measurement and explanation of BMI
- ✓ Blood pressure measurement
- ✓ Blood glucose measurement
- ✓ Total cholesterol measurement
- ✓ Education on obesity and related health issues
- ✓ Provision of dietary and lifestyle advice and advice on risk
- ✓ Advice on realistic goals for weight loss
- ✓ Waist circumference measurements
- ✓ Regular checks and analysis of food diaries
- ✓ Education on calorie and fat intake, general nutrition and reading of food labels
- ✓ Advice on physical activity
- ✓ Smoking cessation support
- ✓ Regular support and contact with the patient

There are 2 levels to the service:

The **Level 1** service is an existing service and includes:

1. Raising Awareness of the service to identified overweight pharmacy patients and other customers visiting the pharmacy.
2. Measurement of height and weight.

3. Calculation of BMI and provision of a BMI chart
4. Waist to hip measurement
5. Patient record of the above measurements
6. Lifestyle advice on the implications of their BMI and advice on exercise, healthy eating and other lifestyle issues when requested
7. Supply of generic healthy eating and lifestyle leaflets.

The **Level 2 Service** is aimed at those patients who have accessed the Level 1 service or have been referred by another healthcare professional and includes:

- Blood pressure monitoring and the provision of a printout of blood pressure readings
- Measurement of blood cholesterol levels and the provision of a printout
- Measurement of Blood glucose levels and the recording of results
- CHD Risk Assessment.
- An explanation of test results.
- Feedback of adverse results to the GP subject to the patients agreement.
- Establishment of realistic weight loss targets.
- Provision of a weight loss diary.
- Individual exercise and dietary advice.
- Three-monthly monitoring and support.

Those found to be at significant risk were referred to their GP using a referral protocol. The advices which can be given to the patients should include advices healthy diet combined with exercise. The following advices will help to lose significant weight and keep it off.

1. Make a commitment

Permanent weight loss takes time and effort. It requires focus and a lifelong commitment. No one else can make you lose weight. In fact, external pressure often from people closest to you may make matters worse. You must undertake diet and exercise changes to please yourself. As you're planning new weight-related lifestyle changes, try to resolve any other problems in your life. It takes a lot of mental and physical energy to change your habits. So make sure you aren't distracted by other major life issues, such as marital or financial problems. Ask yourself if you're ready to take on the challenges of serious weight loss.

2. Get emotional support

Only you can help yourself lose weight by taking responsibility for your own behavior. But that doesn't mean that you have to do everything alone. Seek support when needed from your partner, family and friends. Pick people who you know want only the best for you and who will encourage you. Ideally, find people who will listen to your concerns and feelings, spend time exercising with you, and share the priority you've placed on developing a healthier lifestyle.

3. Set a realistic goal

When you're considering what to expect from your new eating and exercise plan, be realistic. Healthy weight loss occurs slowly and steadily. Aim to lose 1 to 2 pounds a week. To do this, you need to burn 500 to 1,000 calories more than you consume each day through a low-calorie diet and regular exercise. Losing weight more rapidly means losing water weight or muscle tissue, rather than fat.

Make your goals "process goals," such as exercising regularly, rather than "outcome goals," such as losing 50 pounds. Changing your process — your habits — is the key to weight loss. Make sure that your process goals are realistic, specific and measurable, for example, you'll walk for 30 minutes a day, five days a week.

4. Enjoy healthier foods

Adopting a new eating style that promotes weight loss must include lowering your total calorie intake. But decreasing calories need not mean giving up taste, satisfaction or even ease of meal preparation. One way you can lower your calorie intake is by eating more plant-based foods — fruits, vegetables and whole grains. Strive for variety to help you achieve your goals without giving up taste or nutrition. Cutting back on calories is easier if you focus on limiting fat.

To lose weight, talk to your doctor about setting these daily calorie goals:

Your current weight in pounds	Daily calorie goal	
	Women	Men
250 or less	1,200	1,400
251 to 300	1,400	1,600
301 or more	1,600	1,800

Very low calorie diets aren't a healthy long-term strategy. Fewer than 1,200 calories a day for women and 1,400 calories for men aren't generally recommended. If your calories are too low, you run the risk of not getting all of the nutrients you need for good health.

5. *Get active, stay active*

Dieting alone can help you lose weight. Cutting 250 calories from your daily diet can help you lose about half a pound a week: 3,500 calories equals 1 pound of fat. But add a 30-minute brisk walk four days a week, and you can double your rate of weight loss.

The goal of exercise for weight loss is to burn more calories, although exercise offers many other benefits as well. How many calories you burn depends on the frequency, duration and intensity of your activities. One of the best ways to lose body fat is through steady aerobic exercise such as walking for more than 30 minutes most days of the week.

Even though regularly scheduled aerobic exercise is best for losing fat, any extra movement helps burn calories. Lifestyle activities may be easier to fit into your day. Think about ways you can increase your physical activity throughout the day. For example, make several trips up and down stairs instead of using the elevator, or park at the far end of the lot.

6. Change your lifestyle

It's not enough to eat healthy foods and exercise for only a few weeks or even several months. You have to include these behaviors into your life. To do that, you have to change the behaviors that helped make you overweight in the first place. Lifestyle changes start with taking an honest look at your eating habits and daily routine.

After assessing your personal challenges to weight loss, try working out a strategy to gradually change habits and attitudes that have sabotaged your past efforts. Simply admitting your own challenges won't get you past them entirely. But it helps in planning how you'll deal with them and whether you're going to succeed in losing weight once and for all.

You likely will have an occasional setback. But instead of giving up entirely, simply start fresh the next day. Remember that you're planning to change your life. It won't happen all at once, but stick to your healthy lifestyle and the results will be worth it.

7. Diet

A balanced diet rich in fruit, vegetables, and lower-glycaemic index (GI) carbohydrates. The GI is a ranking system for carbohydrates based on their immediate effect on blood glucose levels: low-GI foods include beans and pulses, porridge, bran cereals and some fruit (apples, oranges, pears); high-GI foods include bread, rice, potatoes and cornflakes. There should be moderate amounts of milk and dairy products, meat, fish or protein alternatives, and limited amounts of food containing sugar and fat – with the emphasis on reducing saturated fats and increasing mono- and polyunsaturated fats. If weight needs to be lost, a balanced reduction across the different food groups is advisable, rather than a diet that excludes certain food groups.

BARRIERS FOR WEIGHT MANAGEMENT IN COMMUNITY PHARMACY

Pharmacists face burgeoning challenges in the workplace, as increasing volume and pharmacist shortages leave less and less time for the development of patient care programs. Therefore, easily implemented programs requiring minimal interventions may provide the best possibilities for success. One of the key barriers to pharmacies offering health promotion services is remuneration. Incentive payments are one of the key criteria determining pharmacies' effectiveness in providing smoking cessation services. Another barrier is the level of skill and confidence of pharmacists and pharmacy assistants. Pharmacists have been trained in behaviour change principles for delivering smoking cessation advice. While training in behaviour change and educational principles is important, this reflects only one aspect of a health promotion approach. While some areas are beyond the scope of community pharmacy, they could take a lead role within a community, particularly in rural areas, in relation to health promotion activities which accord with health promotion and public health movements towards community partnerships and involvement. Another area requiring attention is community perception and their use of community pharmacy services. Many rural residents only use the dispensing services and do not use the health information services that a pharmacy could provide. Community pharmacy represents a valuable health promotion setting and there is growing research to recommend health promotion pharmacy practice.

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