Health Screening- Health Conditions that affect Physical Activity and Medication.

Introduction

With the average population age increasing in industrialised countries, there is an increase in the proportion of older adults, many of whom are at risk for developing non-communicable chronic health conditions. Older adults are generally less physically active than younger adults. In the presence of strong evidence linking physical inactivity to chronic health conditions and increased physical activity to lower mortality and morbidity in older adults, it is imperative to develop a strong commitment to improving physical activity levels in older adults.

Governments around the world have begun to produce national guidelines for physical activity and health for older adults. The main challenge is to find effective ways to support older adults to increase their physical activity and then to develop habitual physical activity behaviours. Individual health practitioners have an important role in discussing and making recommendations around physical activity. GPs should have sufficient understanding of physical activity prescription to make recommendations to patients about type, amount, intensity and frequency of physical activity for health gain. Inclusion of physiotherapists or exercise professionals for exercise prescription may prove to be a valuable addition to the General Practice team. The health problems relating to physical inactivity are unlikely to be completely solved by individual health practitioners, and significant steps by governments and policy makers have to be taken to create environments that encourage participation in lifelong physical activity.

Health screening

Health screenings are tests that look for diseases before the client have symptoms. Screening tests can find diseases early, when they're easier to treat. The client can get some screenings in their doctor's office. Others need special equipment, so the patient may need to go to a different office or clinic.

Some conditions that doctors commonly screen include the following

- Breast cancer and cervical cancer in women
- Colorectal cancer

- Diabetes
- High blood pressure
- High cholesterol
- Osteoporosis
- Overweight and obesity
- Prostate cancer in men

COMPONENTS OF SCREENING

Proper screening and risk stratification of clients who are starting exercise programs is important for promoting exercise safety and preventing adverse events during exercise. Personal fitness trainers (PFTs) must be able to utilize the proper tools and understand the information gathered from the exercise screening. Components of this screening include:-

- Health history questionnaire (HHQ)
- Physical activity readiness questionnaire (PAR-Q)
- Risk stratification and
- Informed consent.

HHQ and PAR-Q

The HHQ and PAR-Q are critical first steps in the exercise screening process. They help exercise professionals to determine whether clients need physician referral before starting an exercise program; to recognize clients who require exercise program modifications based on physical limitations; and to identify clients for whom exercise training would be inappropriate or unsafe.

Administering HHQs to clients should be a standard procedure for all PFTs. However, the information collected using an HHQ may vary by facility. In general, HHQs should cover a number of basic areas:

- demographic information (including health care provider information)
- medical diagnoses (cardiovascular, pulmonary, metabolic, musculoskeletal disorders)
- history of symptoms for disease (chest pain, dizziness, shortness of breath, palpitations, musculoskeletal pain, etc.)
- family history (primarily immediate family, including mother, father, sisters, brothers)
- previous physical exam, lab and exercise test results
- recent illnesses, hospitalizations, medications and allergies

- health habits (diet, stress, tobacco, alcohol, etc.) and exercise/work history
- pregnancy status

The PAR-Q is considered a minimal standard screening tool for clients starting a moderate-intensity exercise program and should be used in conjunction with the HHQ. The PAR-Q is mostly used to identify when physical activity would be inappropriate for a client or whether a client should seek medical advice before starting a program. The PAR-Q consists of seven questions referring to signs or symptoms suggestive of diseases that exercise can exacerbate. The questions have simple yes or no answers. If clients answer yes to any of the questions, they should be referred to a physician for further screening.

RISK STRATIFICATION

Some of the most important items that should be identified with these screening tools are coronary artery disease (CAD) risk factors. These risk factors can be associated with the overall promotion or development of CAD (seven positive risk factors) or with the prevention of CAD (one negative risk factor). Interestingly, risk factors can be summed to obtain a total number of factors, with a negative risk factor canceling out a positive risk factor if both are present. ACSM suggests that the list of risk factors are not be considered all-inclusive, but rather be used as a guideline when determining if physician referral and further evaluation are needed before beginning a program.

Once the HHQ and PAR-Q are complete, individual clients can be evaluated based on their risk of experiencing an adverse cardiovascular event during exercise. According to the American College of Sports Medicine (ACSM), PFTs can stratify a client's risk using variables such as age, risk factors, and symptoms suggestive of disease. The "Initial ACSM Risk Stratification" screening defines three risk categories:

1. Low Risk: younger individuals who are asymptomatic and meet no more than one risk factor threshold (from the CAD risk factor chart).

2. Moderate Risk: older individuals (men more than 45 years of age; women more than 55 years of age) or those who meet the threshold for two or more risk factors (from the CAD risk factor chart).

3. High Risk: individuals with known cardiovascular or pulmonary disease; known metabolic disease, such as type 1 or type 2 diabetes; or one or more signs/symptoms suggestive of any of these diseases.

INFORMED CONSENT

The last step in the exercise screening process should provide an opportunity for all clients to give informed consent before beginning an exercise program. The informed consent document can vary among facilities depending on clientele, staff, equipment, etc., but all informed consents should be written in an understandable manner and include certain basic information:

- purpose of the consent
- degree of exercise supervision (i.e., close monitoring, occasional monitoring)
- benefits and risks of exercise participation
- steps or procedures that will be followed in an emergency situation
- responsibilities of the client (i.e., reporting of symptoms, exercise program adherence)
- statement covering confidentiality and freedom of consent to participate in the program

True informed consent can be obtained only when the personal trainer verbally communicates the meaning of the form to the client (simply asking the client to read and sign it does not constitute informed consent). Provide an opportunity to answer client questions before the client and witness add their signatures. Since most legal claims against exercise professionals occur based on negligence or malpractice, having a signed informed consent on file can help prove that the client intentionally engaged in the exercise program after full disclosure and examination of risks associated with exercise participation.

PHYSICAL ACTIVITY AND MEDICATION

The benefits of exercise extend far beyond weight management. Research shows that regular physical activity can help reduce your risk for several diseases and health conditions and improve your overall quality of life. Regular physical activity can help protect you from the following health problems. If you have a chronic condition, regular exercise can help you manage symptoms and improve your health.

Aerobic exercise can help to improve your heart health and endurance and aid in weight loss. Strength training can improve muscle strength and endurance, make it easier to do daily activities, slow disease-related declines in muscle strength, and provide stability to joints. Flexibility exercises may help you to have optimal range of motion about your joints, so they can function best, and stability exercises may help reduce the risk of falls.

Heart Disease and Stroke: Daily physical activity can help prevent heart disease and stroke by strengthening your heart muscle, lowering your blood pressure, raising your high-density lipoprotein (HDL) levels (good cholesterol) and lowering low-density

lipoprotein (LDL) levels (bad cholesterol), improving blood flow, and increasing your heart's working capacity. Optimizing each of these factors can provide additional benefits of decreasing the risk for Peripheral Vascular Disease.

High Blood Pressure: Regular physical activity can reduce blood pressure in those with high blood pressure levels. Physical activity reduces body fat, which is associated with high blood pressure.

Obesity: Physical activity helps to reduce body fat by building or preserving muscle mass and improving the body's ability to use calories. When physical activity is combined with proper nutrition, it can help control weight and prevent obesity, a major risk factor for many diseases.

Osteoporosis: Regular weight-bearing exercise promotes bone formation and may prevent many forms of bone loss associated with aging.

Self Esteem and Stress Management: Studies on the psychological effects of exercise have found that regular physical activity can improve your mood and the way you feel about yourself. Researchers have found that exercise is likely to reduce depression and anxiety and help you to better manage stress.

Diabetes: Regular exercise can help the production of insulin more effectively and lower your blood sugar level. Physical activity also can help you control your weight and boost your energy.

Asthma: Often, exercise can help control the frequency and severity of asthma attacks.

Back pain: Regular low-impact aerobic activities can increase strength and endurance in your back and improve muscle function. Abdominal and back muscle exercises (core-strengthening exercises) may help reduce symptoms by strengthening the muscles around your spine.

Arthritis: Exercise can reduce pain, help maintain muscle strength in affected joints and reduce joint stiffness.

Disability: Running and aerobic exercise has been shown to postpone the development of disability in older adults.

CONCLUSION

Many physical disorders have been identified that are more prevalent in individuals with severe mental illness (SMI). In addition to modifiable lifestyle factors and psychotropic medication side effects, poorer access to and quality of received health care remain addressable problems for patients with SMI. Greater individual and system level attention to these physical disorders that can worsen psychiatric stability,

treatment adherence, and life expectancy as well as quality of life will improve the outcomes of these generally disadvantaged populations worldwide.