Promotion of Physical Activity in Primary Health Care Facilitator Guide for Training of Trainers' Session

Ministry of Health

Directorate of Non Communicable Diseases

Sri Lanka Sports Medicine Association

World Health Organazation Sri Lanka

Promotion of Physical Activity in Primary Health Care
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Directorate of Non Communicable Diseases
Ministry of Health
In collaboration with
Sri Lanka Sports Medicine Association and
World Health Organization
2020

Promotion of Physical Activity in Primary Health Care: Facilitator Guide for Training of Trainers' session.

This work has been developed based on the Physical Activity and Sedentary Behavior Guidelines for Sri Lanka – 2018 developed by the Institute of Sports & Exercise Medicine, Ministry of Sports, recommendations made by the World Health Organization and American College of Sports Medicine, adapted to the local setting. This work also includes challenging myths related to physical activity, motivational interviewing and implementation of brief interventions for primary health care workers.

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Table of Contents

Abbreviations

NCD	- Non Communicable Diseases
CHD	- Coronary Heart Disease
PAF	- Population Attributable Risk Fraction
HLC	- Healthy Lifestyle Centre
MO-NCD	- Medical Officer – Non Communicable Diseases
MOOH	- Medical Officers of Health
MO-HLC	- Medical Officer – Healthy Lifestyle Centre
MOIC-PMCI	- Medical Officer In Charge - Primary Medical Care Institution
MO-OPD	- Medical Officer – Out Patient Department
GP	- General Practitioner
PAR-Q	- Physical Activity Readiness Questionnaire
ToT	- Training of Trainers'
MET	- Metabolic Equivalent of Task
HRmax	- Heart Rate Maximum
HRR	- Heart Rate Reserve
BMI	- Body Mass Index

List of Annexures

Introduction

Non communicable diseases (NCD) including, cardiac diseases, cerebro-vascular accidents, diabetes mellitus, cancer and chronic respiratory diseases are the major causes of morbidity and mortality in Sri Lanka. The NCDs were accountable for 83% of total deaths and 17% premature (30 -70years) deaths in Sri Lanka in the year 2016 (1). In the year 2016, of the total 464 billion of current health expenditure, majority (36%) was spent on the management of NCDs (2). In addition, these chronic debilitating diseases result in a great economic impact to the individual, family and the country as a whole due to lost productivity.

The NCDs are caused by four major lifestyle related, and therefore, highly preventable behavioural risk factors namely, physical inactivity, unhealthy diet, tobacco smoking and use of alcohol. The national NCD risk factor survey (STEPs survey) 2015 found that 72.5% of the Sri Lankan adult population (18-69 years) do not consume the recommended 5 servings of fruits and vegetables per day, 18% were current alcohol users and 15% were current tobacco smokers. The survey also reported that 30.4% of the Sri Lankan adult population do not engage in the recommended 150 minutes of moderate intensity physical activity level per week, making them more vulnerable for NCDs, with females (38.4%) being more inactive compared to males (22.5%) (3).

There is ample evidence to show that physical inactivity attributes to many of the NCDs in the world, including Sri Lanka. It is the 4th leading behavioural risk factor for global burden of diseases (4). It is shown that improving physical activity would prevent 6% - 10% of the major NCDs including coronary heart disease (CHD) (aRR = 1.16; 95% CI: 1.04-1.30), diabetes (aRR = 1.2; 95% CI: 1.10- 1.33), breast cancer (aRR = 1.33; 95% CI: 1.26-1.42) and colon cancer (aRR = 1.32; 95% CI: 1.23-1.39), thereby, improving the life expectancy (5). It is also shown that if not eliminated, even a mere reduction of physical inactivity by 10% would prevent more than 533,000 deaths and a reduction of inactivity by 25% would prevent more than 1.3 million deaths globally (5). Considering Sri Lanka, physical inactivity accounts for CHD [population attributable risk fraction (PAF) = 4.3; 95% CI: 1.6 – 7.1); Diabetes (PAF= 5.3; 95% CI: 2.7-8.3); breast cancer (PAF=8.7; 95% CI:4.2-13.5); colon cancer (PAF=7.7; 95% CI: 4.2-11.1); and all-cause mortality (PAF=6.9; 95% CI: 5.5-8.3) (5). Thus, improving physical activity among the Sri Lankan population would support in combating the NCD burden of the country and improve life expectancy. In addition, it is evident that being physically active has psychosocial benefits as well, including reduction in anxiety, depression and negative mood; improves self-esteem, social withdrawal and cognitive function (6).

It is shown that personal factors such as health issues (e.g. joint disorders), time and lifestyle related factors, lack of knowledge; unavailability of facilities or dedicated areas for exercise; and environmental, social and cultural factors (e.g. myths related to physical activity, physical activity being a novel concept, security reasons etc) prevent Sri Lankans from being physically active (7) .

There are a total of 1007 Healthy life style centres (HLC) established at the primary healthcare institutions across the country. At HLCs, NCD behavioural risk factor assessment, bio-chemical assessment for intermediate risk factors, CVD risk assessment, NCD diagnosis and referral, health education, health promotion, counselling and brief interventions for behavioural change are implemented. Healthcare staff at the primary healthcare level being the first point of contact for the general population, it is utmost important that each staff member providing primary healthcare services be competent on promotion of healthy lifestyle including physical activity.

Therefore, developing a training module for the primary health care staff in order to guide them, to make them knowledgeable about the recommendations and how to promote physical activity of the population at the primary healthcare level was a felt need. Physical activity and sedentary behaviour guidelines for Sri Lanka – 2018 was developed by the Institute of Sports and Exercise Medicine, Ministry of Sports. Thus, this Training of Trainers' module on promoting physical activity at primary healthcare was developed including not only the recommendations for Sri Lanka given by the Ministry of Sports, but including the recommendations from the World Health Organization and American College of Sports Medicine as well, adapted to the local setting. This ToT module also includes how to challenge the myths related to physical activity, stages of behaviour change, how to conduct motivational interviewing and implementation of brief interventions, which are important for the primary healthcare workers in promoting physical activity among the community.

Objective of the training

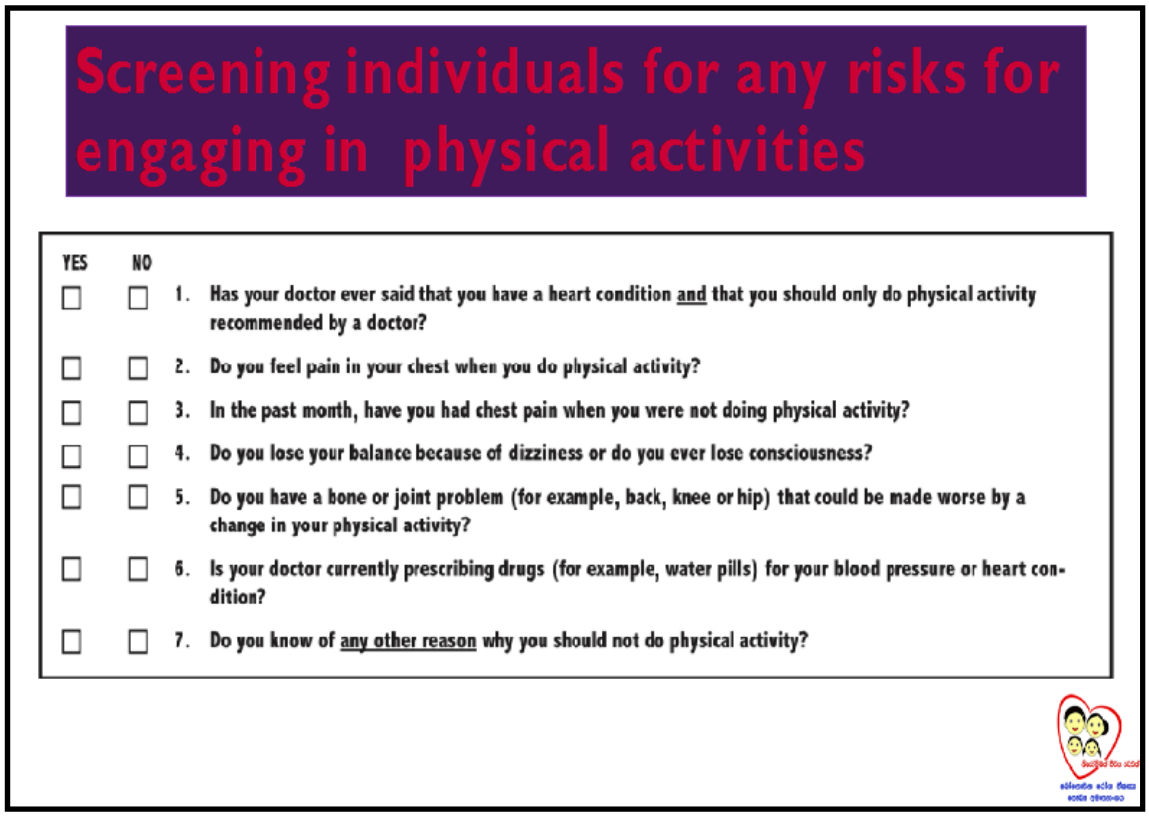
The overall objective of this training is to promote physical activity among the community

Information to the Master Trainer

- This module contains 2 parts; a set of power point slides and the facilitator guide.
- This module is designed to be used by the following Master Trainers to train their primary health care staff:
  - MO-NCD
  - MOOH
  - MO – HLC
  - MOIC of PMCI
  - MO – OPD of public and private hospitals
  - GPs

Disclaimer:

As a part of this training module, physical activity and exercises will be done. Therefore, it is essential to assess the readiness of the trainees to do exercises. Therefore, apply the Physical Activity Readiness Questionnaire (PAR-Q) prior to the session for medical clearance to do exercises.



- If the answer is YES to even a single question of PAR-Q:
  The particular individual has to be referred to the relevant Sports Medicine Unit (Annex I) or to a Medical Officer certified for Exercise Prescription for detailed assessment

- **If there is any person who needs detailed evaluation based on the PAR-Q, please advise accordingly and refer to the relevant specialist.**

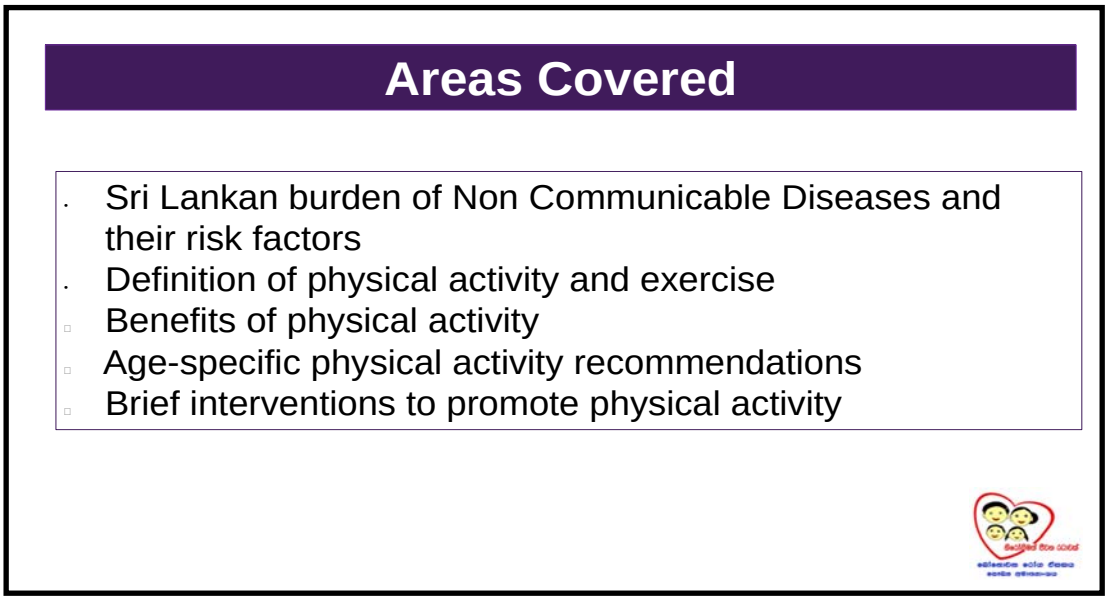
- For patients already diagnosed with a non communicable disease, please refer to the dietary and physical activity guidelines for selected non communicable diseases, published by the Directorate of Non Communicable Diseases, Ministry of Health

Requirements for the session:

Setting	This training should be conducted on a leveled ground
Number of participants	Limit one training session to **15** participants
Attire	An appropriate, comfortable attire to perform exercises has to be worn, wearing shoes is optional
Logistics	• Flip Charts or a white board • White board Markers and Eraser • Computer/Laptop • Projector and Screen to put up the power- point presentation • Two chairs, 1 or 2 wooden Tables, Red colour and Blue coloured cards or papers, cards/papers stating the challenges for physical activity, for the Activities • Yoga Mats (if available)

Overview

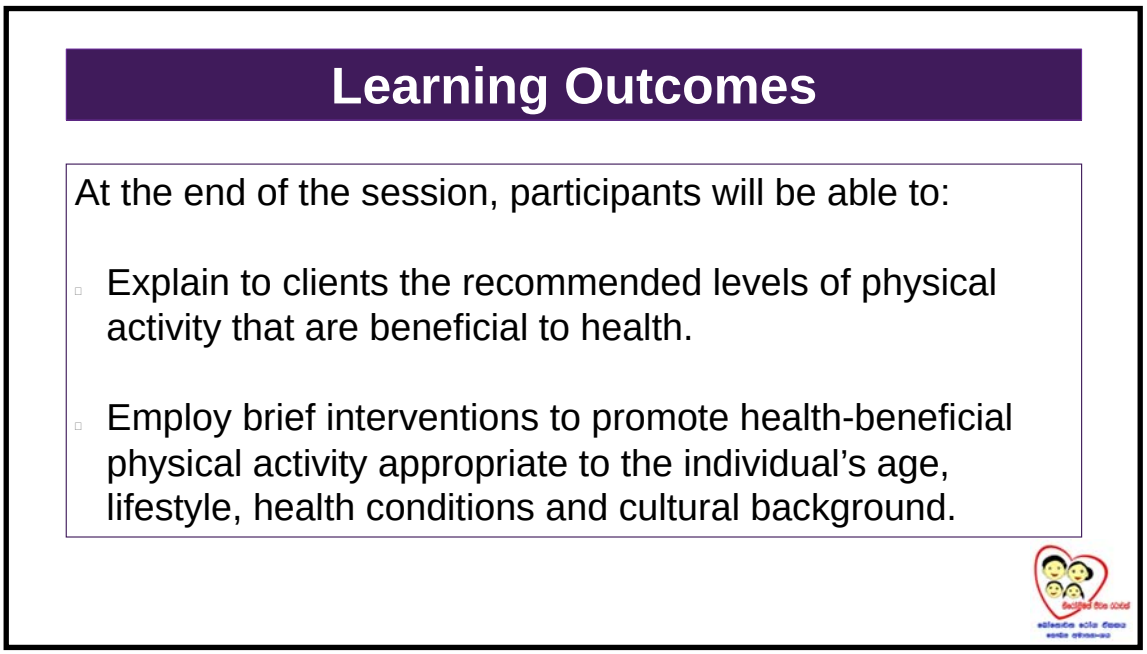
Areas covered (Slide No. 2)



This slide lists the areas that are covered through this Training of Trainers (ToT) module. Thus, this module will cover the following:

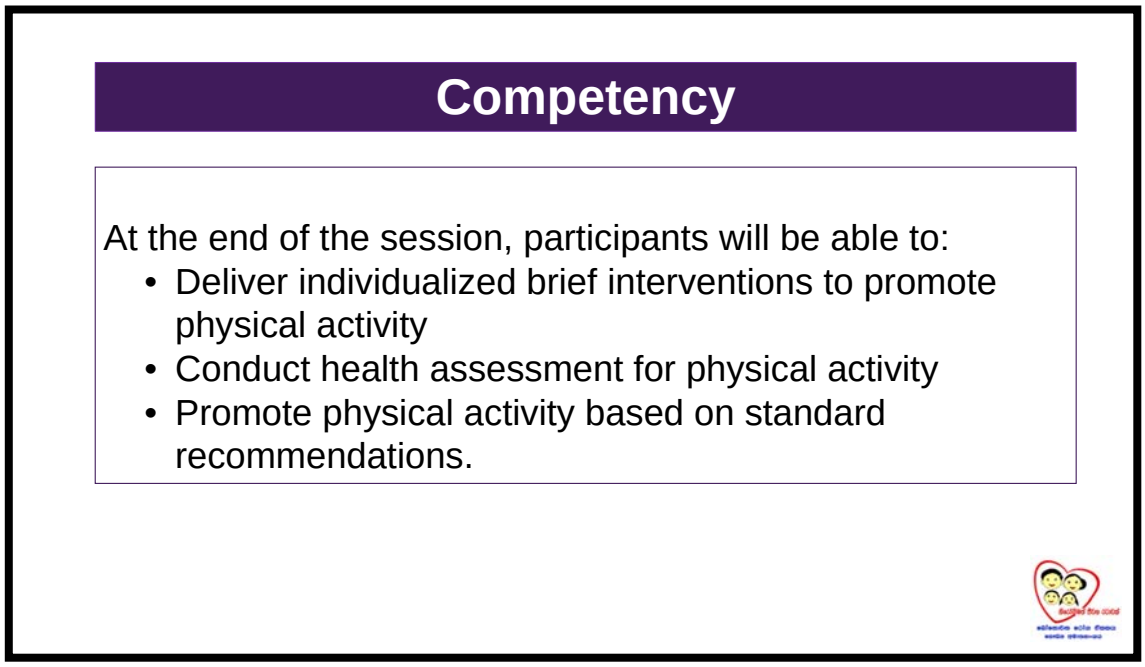
- Burden of NCDs and their risk factors in Sri Lanka
- Definition of physical activity and exercise
- Benefits of physical activity
- Age specific physical activity recommendations
- Brief interventions to promote physical activity

Learning outcomes (Slide No.3)



At the end of this training, the participants should be able to:

1. Explain the clients, recommended levels of physical activity that are beneficial to health
2. Employ brief interventions to the client to promote health-beneficial physical activity that is appropriate for his/her age, lifestyle, health condition and culture.



At the end of the session, the participants should be competent enough to:

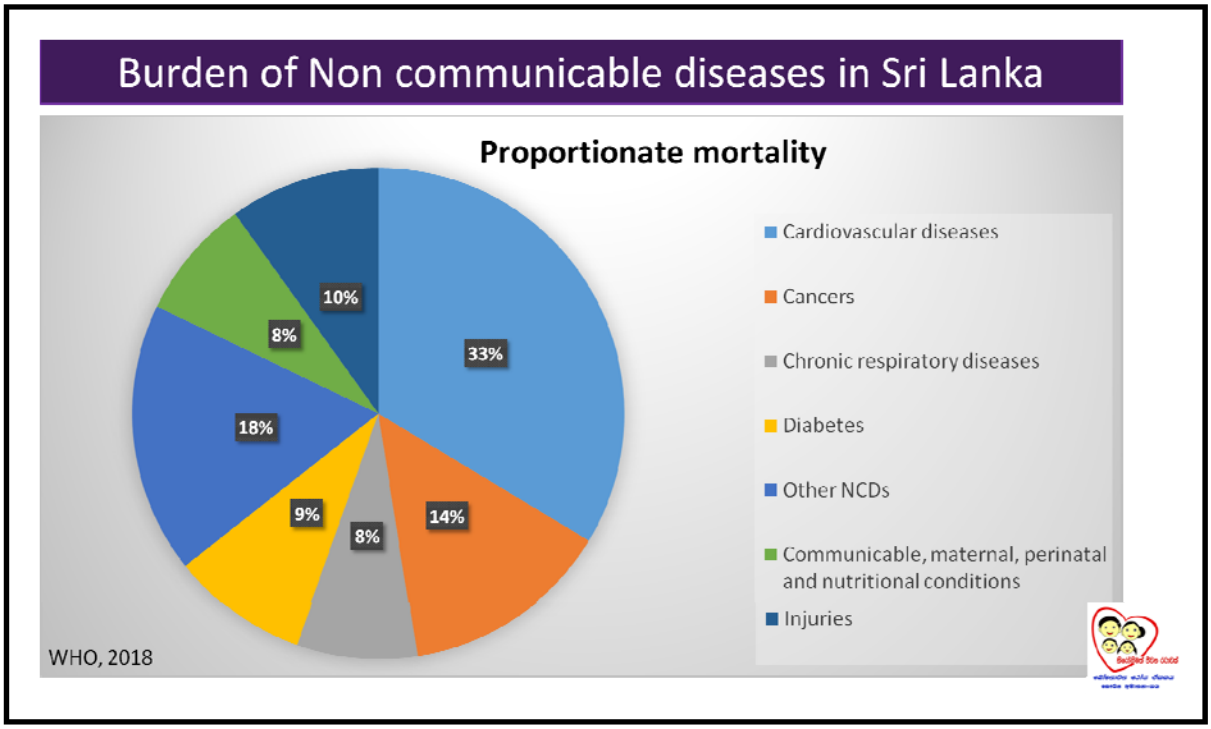
1. Deliver individualized brief interventions to promote physical activity
2. Conduct health assessment for physical activity
3. Promote physical activity based on standard recommendations

Burden & risk factors of NCD

Approach to the training:

Get an approach to the training by providing the related information to the following:

The burden of Non Communicable Diseases (NCDs) in Sri Lanka (Slide No. 5)

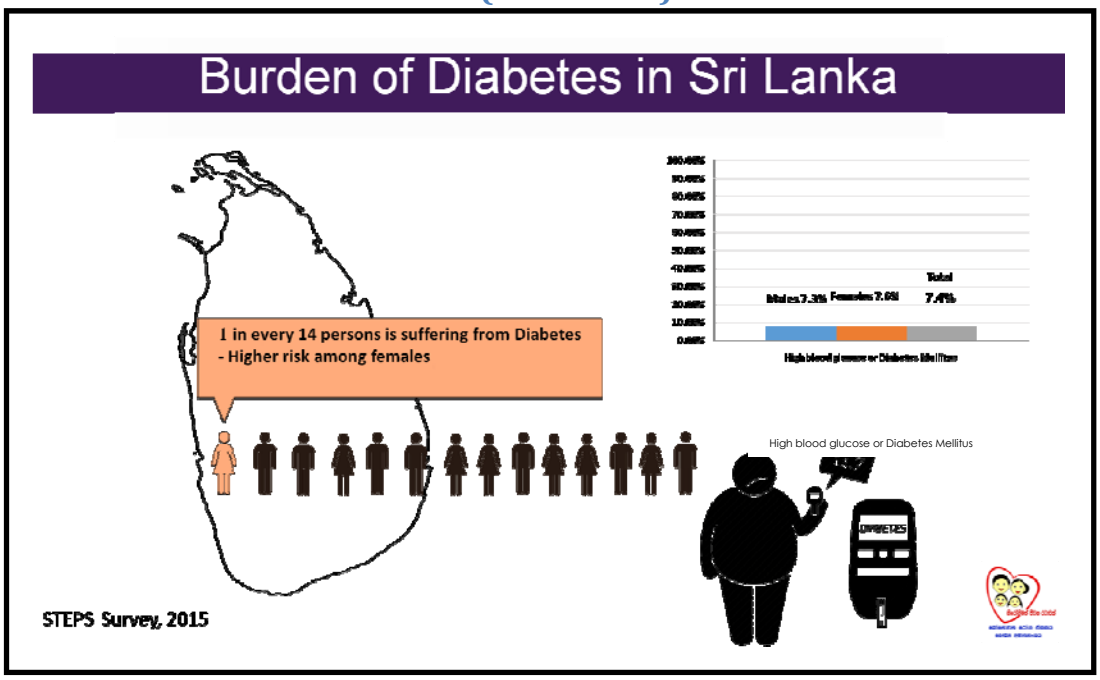


This slide shows the burden of Non communicable diseases in Sri Lanka by means of proportionate mortality.

Emphasize the following factors:

- Only 8% of deaths occur due to the communicable diseases, maternal, pre-natal and nutritional conditions in combination in Sri Lanka
- Compared to that, 92% of deaths occur due to Chronic Non communicable diseases (82%) and injuries (10%)
- Of the Non communicable diseases, highest number of deaths occur due to cardiovascular diseases

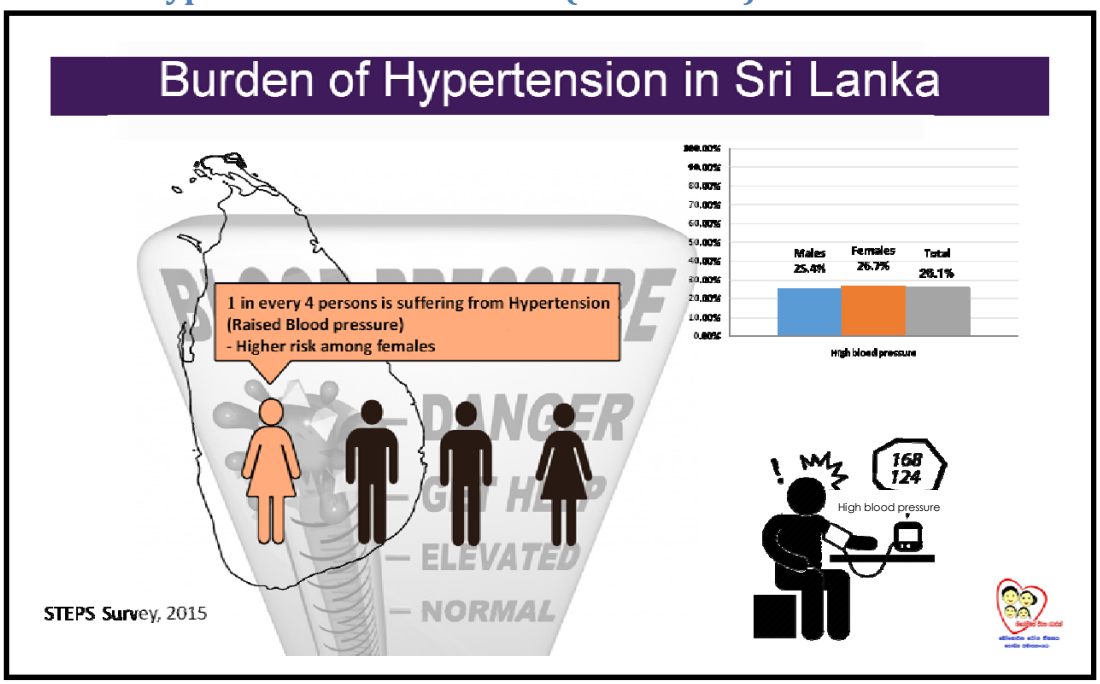
Burden of Diabetes in Sri Lanka (Slide No. 6)



This slide shows the burden of Diabetes in Sri Lanka.
Emphasize the following:

- 1 in every 14 persons in Sri Lanka is suffering from Diabetes.
- The risk is higher among the females

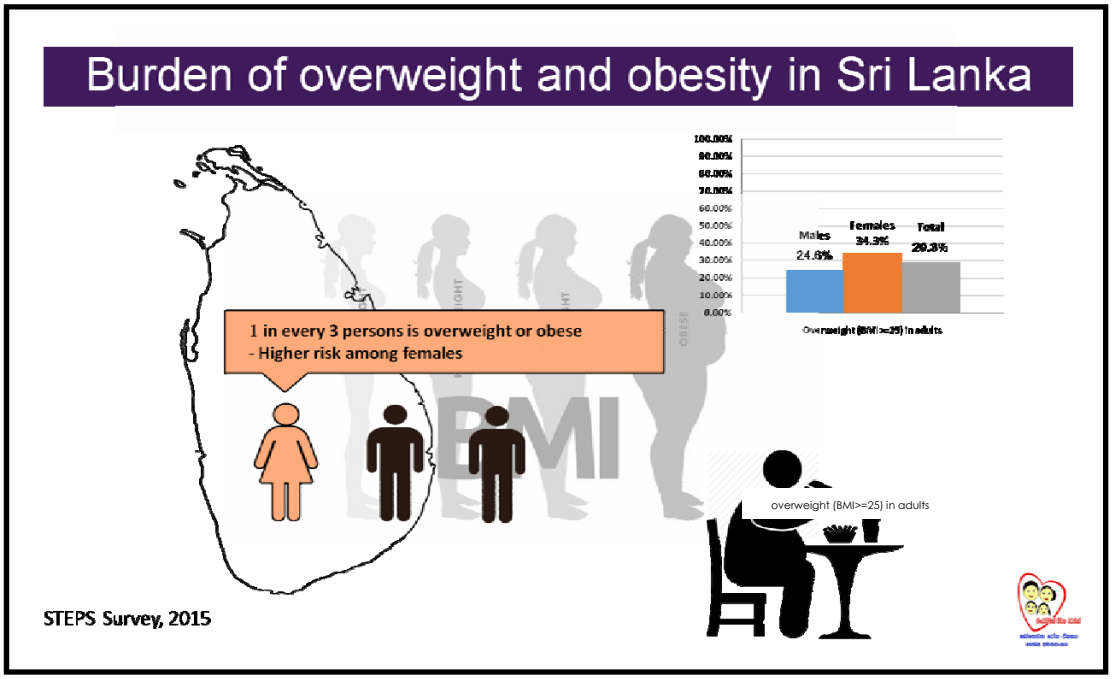
Burden of Hypertension in Sri Lanka (Slide No. 7)



This slide shows the burden of Hypertension in Sri Lanka.
Emphasize the following:

- 1 in every 4 persons in Sri Lanka is suffering from Hypertension or having raised blood pressure
- The risk is higher among the females

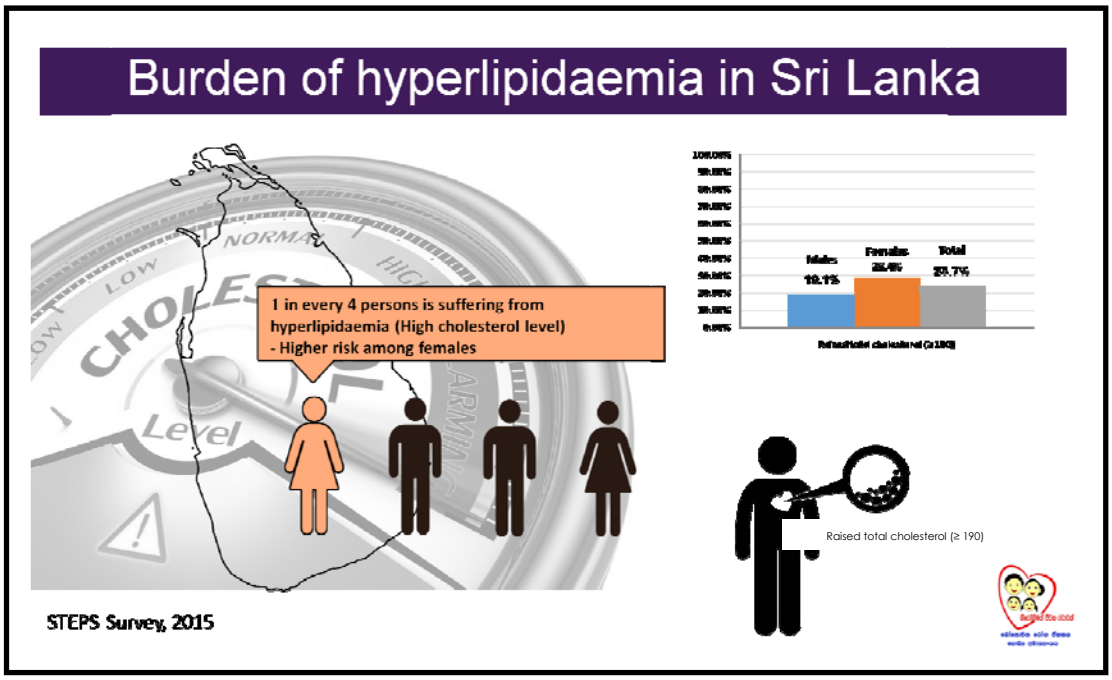
Burden of Overweight and Obesity in Sri Lanka (Slide No. 8)



This slide shows the burden of overweight and obesity in Sri Lanka.
Emphasize the following:

- 1 in every 3 persons in Sri Lanka is overweight or obese
- The risk is higher among the females

Burden of Hyperlipidaemia in Sri Lanka (Slide No. 9)

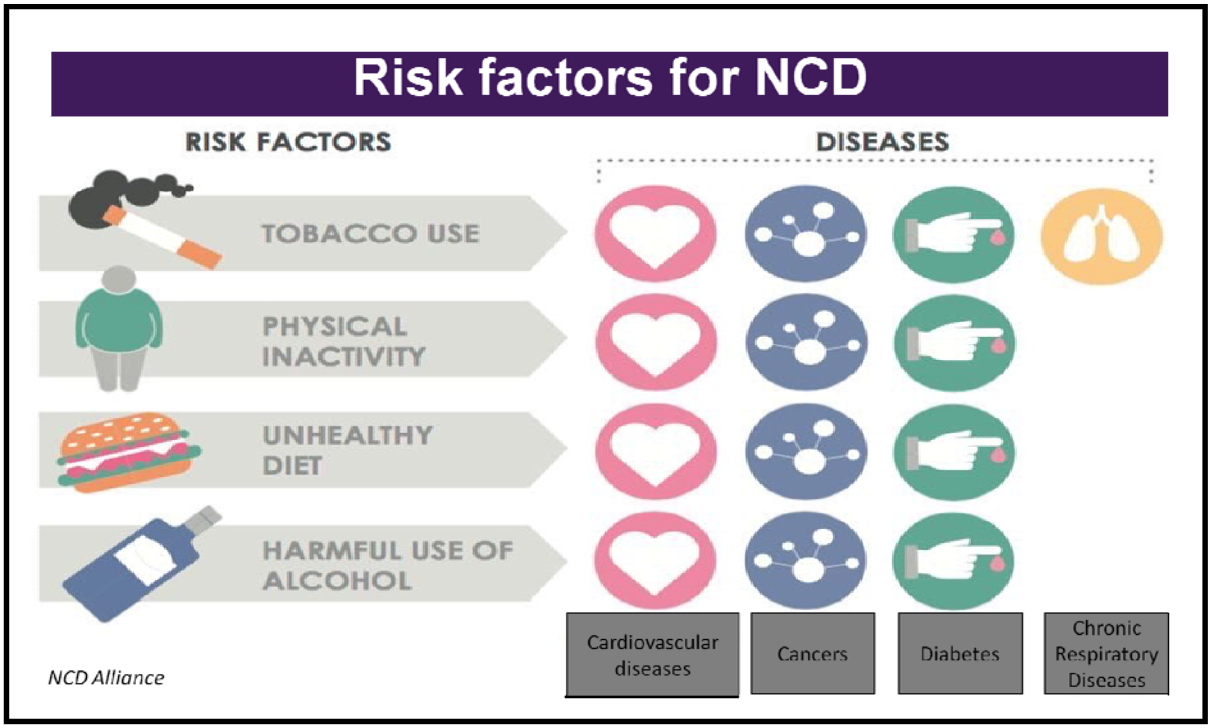


This slide shows the burden of hyperlipidaemia in Sri Lanka.

Emphasize the following:

- 1 in every 4 persons in Sri Lanka is having hyperlipidaemia or raised blood cholesterol levels
- The risk is higher among the females

Risk factors for NCD (Slide No. 10)



This slide shows the common behavioural risk factors for the most common Non Communicable Diseases, namely Cardiovascular diseases, Diabetes, Cancers and Chronic respiratory diseases.

Explain the following to the participants:

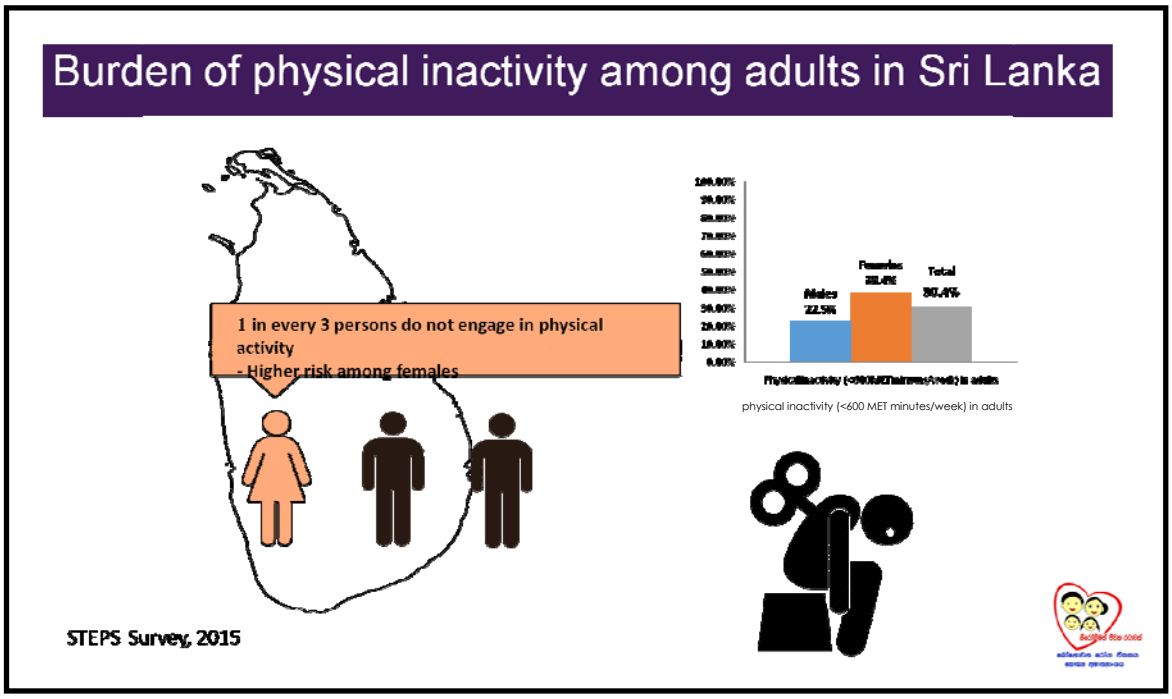
- There are four common risk factors that would ultimately result in developing Non Communicable Diseases namely, tobacco use, physical inactivity, unhealthy diet and use of alcohol
- These risk factors are common among the Sri Lankans.

Emphasize the following:

- These risk factors are behaviour related
- Therefore, these risk factors are highly preventable by modifying the lifestyle

Since this training is about promoting physical activity, we shall focus on how common physical inactivity is among the Sri Lankan population.

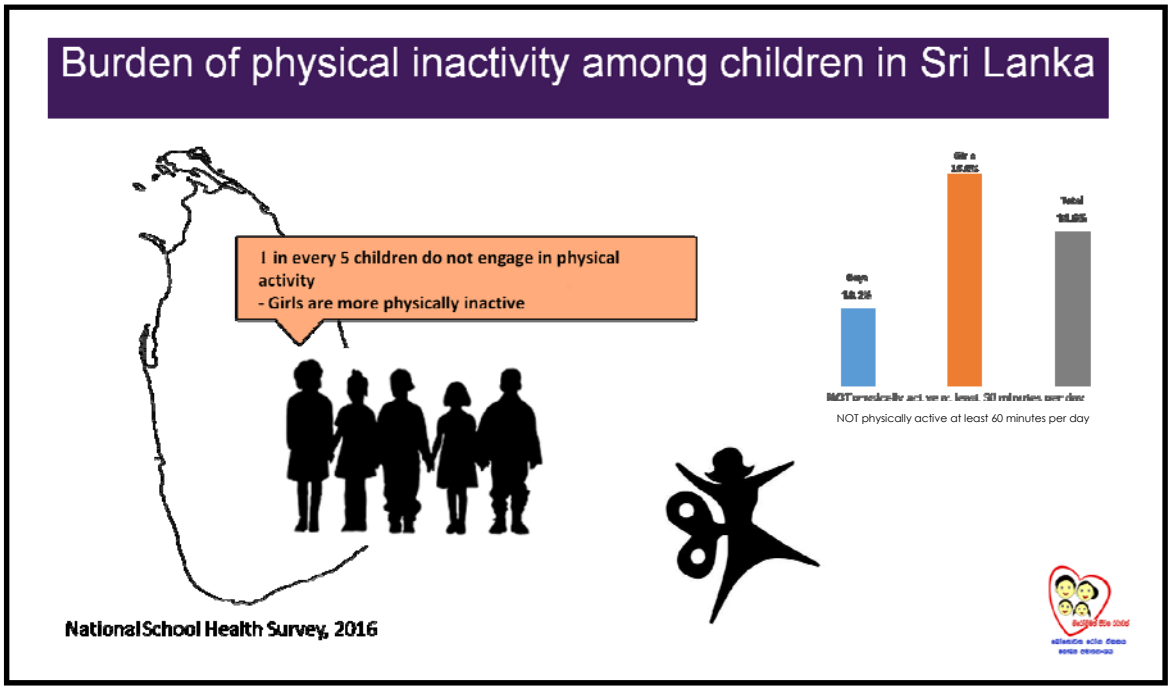
Burden of physical inactivity among adults in Sri Lanka (Slide No. 11)



This slide shows the burden of physical inactivity among the Sri Lankan adults (above 18 years). Emphasize the following:

- 1 in every 3 persons in Sri Lanka does not engage in physical activity
- Females are more physically inactive compared to males

Burden of physical inactivity among children in Sri Lanka (Slide No. 12)



This slide shows the burden of physical inactivity among children in Sri Lanka

Emphasize the following:

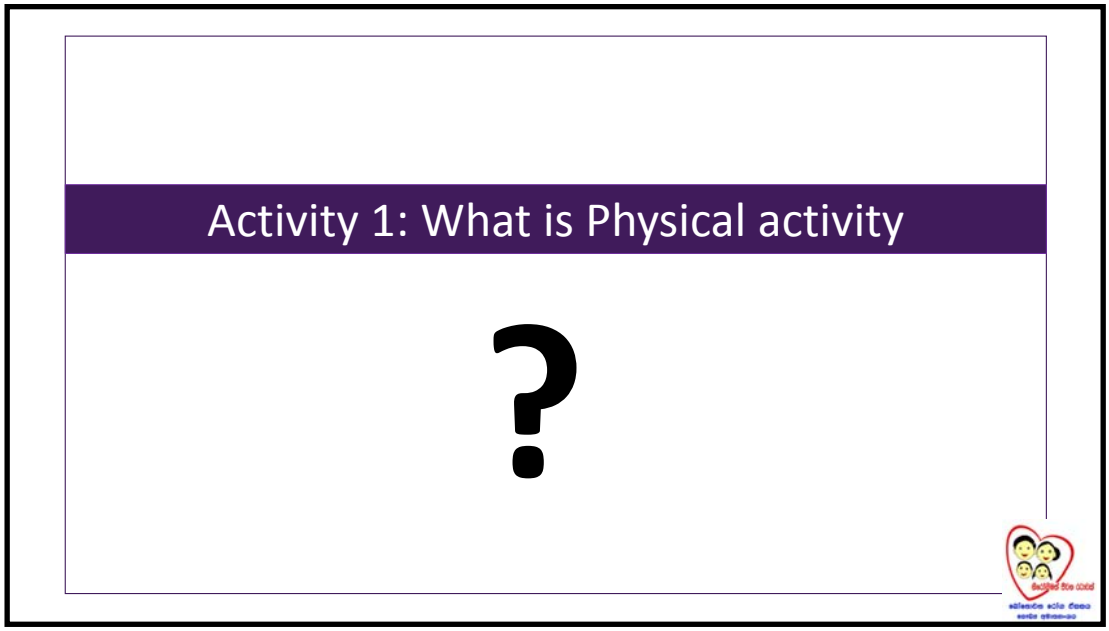
- 1 in every 5 children does not engage in physical activity at least 60 minutes per day
- 4 out of 10 children spend more than 3 hours seated, per day

*** Please note that the trainer has the liberty to use any other appropriate approach in addition to this approach (Slide No. 5-12), based on the audience and their culture.**

Physical activity and Exercise

What is physical activity? (Slide No. 13)

Activity 1: Maximum time to be spent on this slide: 5min



The objective of the Activity 1 is to make the participant think of the following:

1. What is physical activity?
2. The difference between physical activity and exercises

Ask the participants to respond to the following questions:

1. "What is meant by physical activity?"

2. "Please give some examples"

- Write down the answers in the flip chart/white board

- Go to the next slide

Physical activity and exercise (Slide No. 14)

Ask the participants to select images that indicates physical activity and exercises from this slide

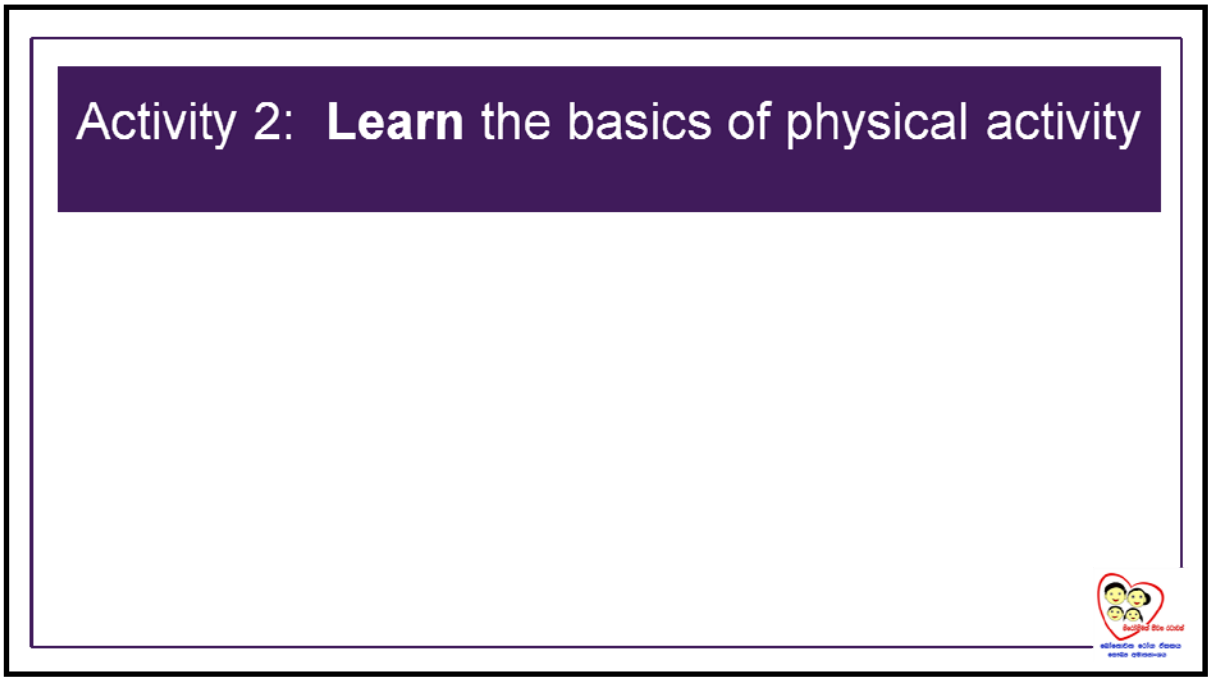
-Divide the flip chart/white board into two columns for physical activity and exercises.

Ask the participants to tell their answers

- Write down the answers accordingly (write as the participants' answer, no need to correct them now. This will be further discussed again later)

Activity 2: Learn the basics of physical activity (Slide No. 15)

Maximum time to be spent on this activity: 10min



Follow the steps and the instructions given below in conducting this group activity.

Step1. **Ask the participants to form a circle.**

Step 2. **Ask each participant to demonstrate any physical activity they perform in their day to day life (for at least 5min) e.g: climbing stairs, sweeping, dancing, playing with kids, lifting weight, walking, jogging, washing the vehicle, mopping, making the beds, scraping coconuts**

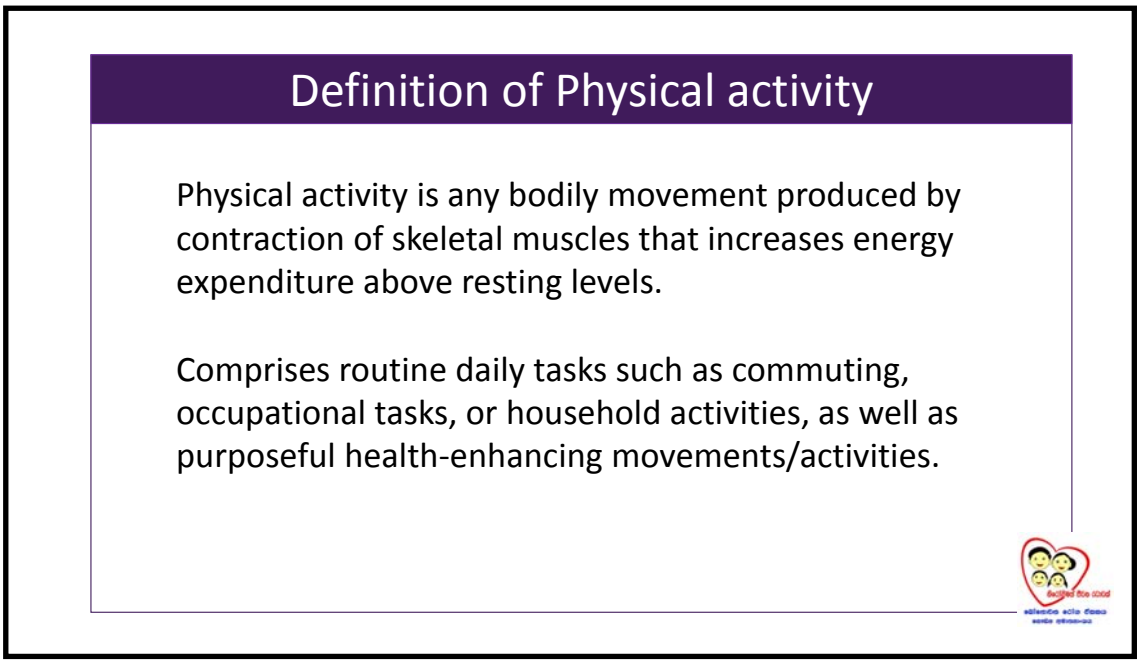
Step 3. **While doing the physical activity ask the participants:**
"What happened to the breathing and heart rate while performing the activity?"
"Which groups of muscles or part(s) of the body were used?"

Step 4. **Write the responses on the flip chart/white board**

The objective of Activity 2 is to make the participants understand that:

1. Their day to day activities are also considered as physical activity.
2. However, based on the intensity of the particular activity, its effectiveness on the cardio-respiratory endurance differs (This will be further discussed later)

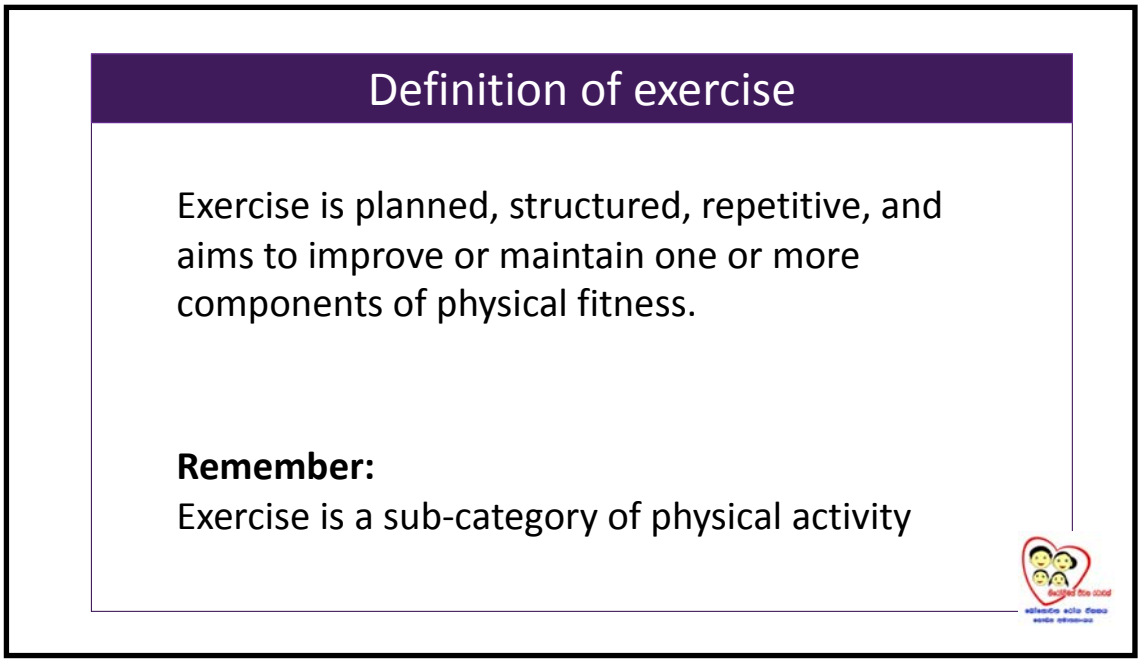
Definition of physical activity (Slide No. 16)



Explain the definition of physical activity to the participants:

- Physical activity is defined as any bodily movement produced by contraction of skeletal muscles that increases energy expenditure above the resting levels – including activities undertaken while travelling, work related activities, carrying out household chores, playing and engaging in recreational pursuits.

Definition of Exercise (Slide No. 17)



Explain the definition of exercise to the participants:

- Exercise is planned, structured, repetitive, and aims to improve or maintain one or more components of physical fitness.

Make the participants understand that;

- The term "physical activity" is distinct from "exercise", which is only a subcategory of physical activity

Physical activity and exercise (Slide No. 18)

This slide is same as the slide No. 14, which the participants used to select images that indicates physical activity from exercises.

- Reflect on the answers that the participants have given for slide No. 14 (written on the flip chart/white board).

- Ask the participants to reflect the definitions of physical activity and exercise, and check whether they have correctly identified images that indicate physical activity and exercise and discuss.

Answers are given in the Table below:

Image No.	Description of the image	Physical activity/exercise
1	Cycling	Exercise
2	Washing clothes	Physical activity
3	Playing with kids	Physical activity
4	Sweeping	Physical activity
5	Jogging	Exercise
6	Gardening	Physical activity

Sedentary behaviour

Activity 3: Identifying sedentary behaviour (Slide No. 19)

Maximum time to be spent on this activity : 5min

Ask the participants

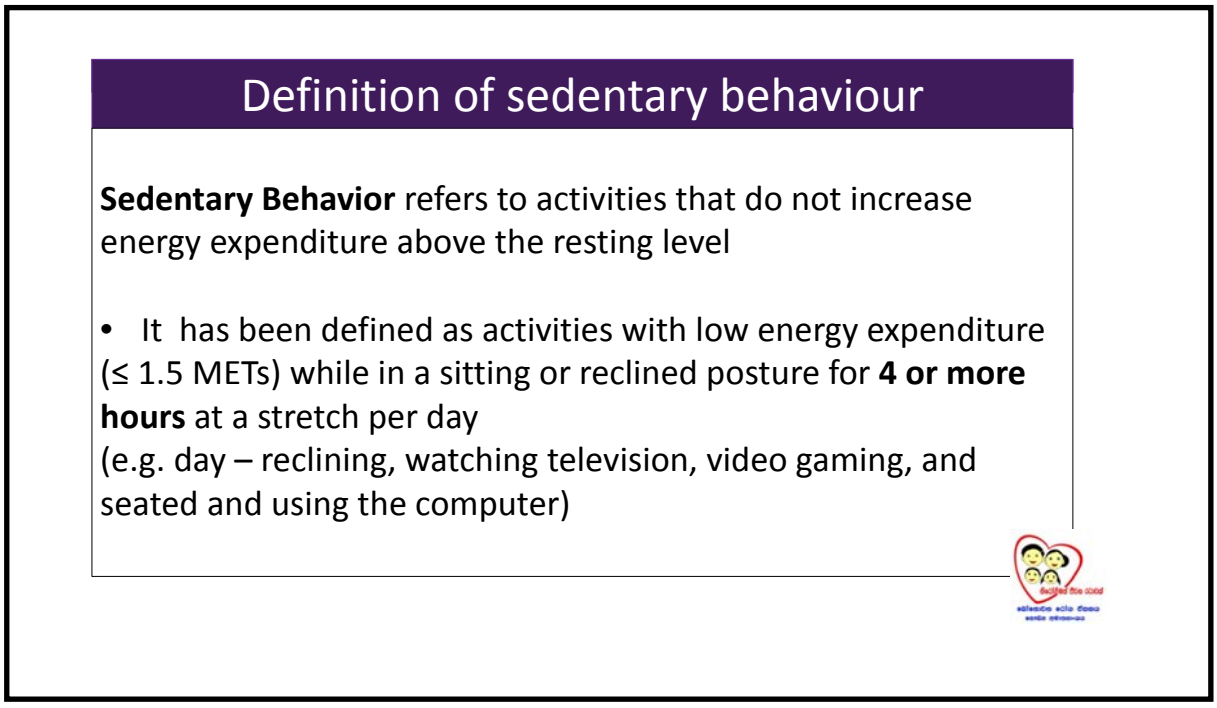
- **"What do you think of/ perceive by these images?"**
- **"Do you think these images show a physical activity?"**

Ask them to reflect on the definition of physical activity and discuss

The objective of Activity 3 is to make the participants understand that:

- Many of their day to day activities include sitting for a significant period (e.g. for one to two consecutive hours)
- These activities will not increase their energy expenditure above the resting level

Definition of sedentary behaviour (Slide No. 20)

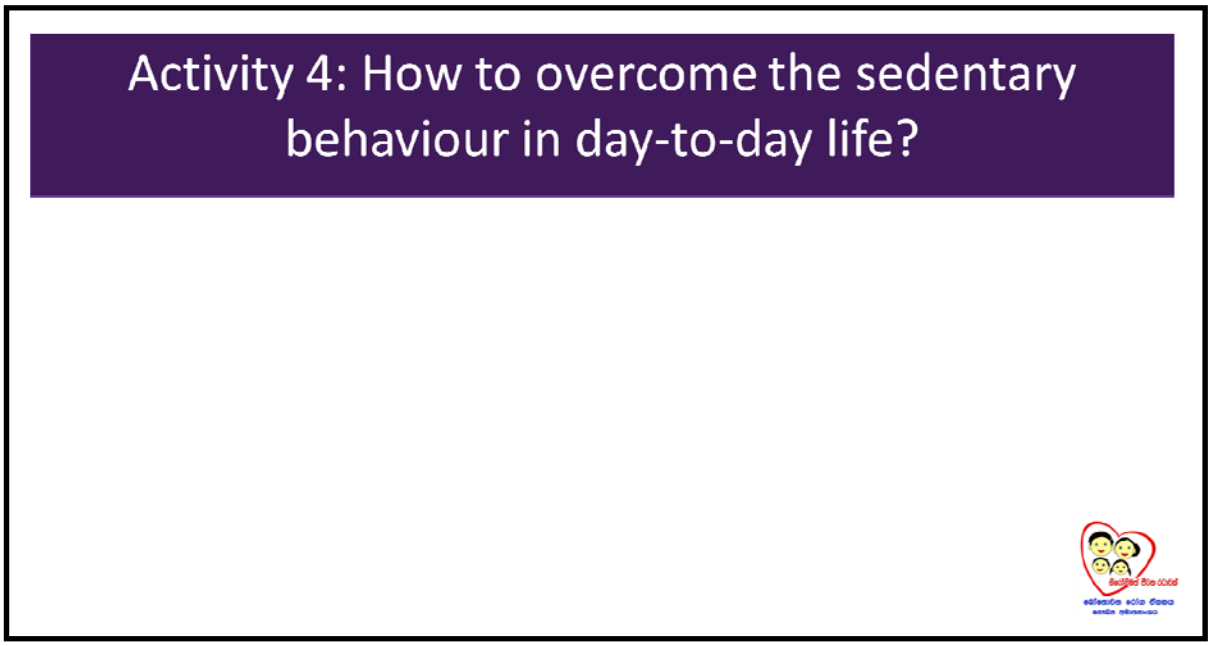


Explain the definition of sedentary behaviour to the participants

- Sedentary behaviour is defined as activities with low energy expenditure while in a sitting or reclined posture for **4 or more hours** at a stretch per day.

Activity 4: How to overcome the sedentary behaviour (Slide No. 21)

Maximum time to be spent on this activity : 5min



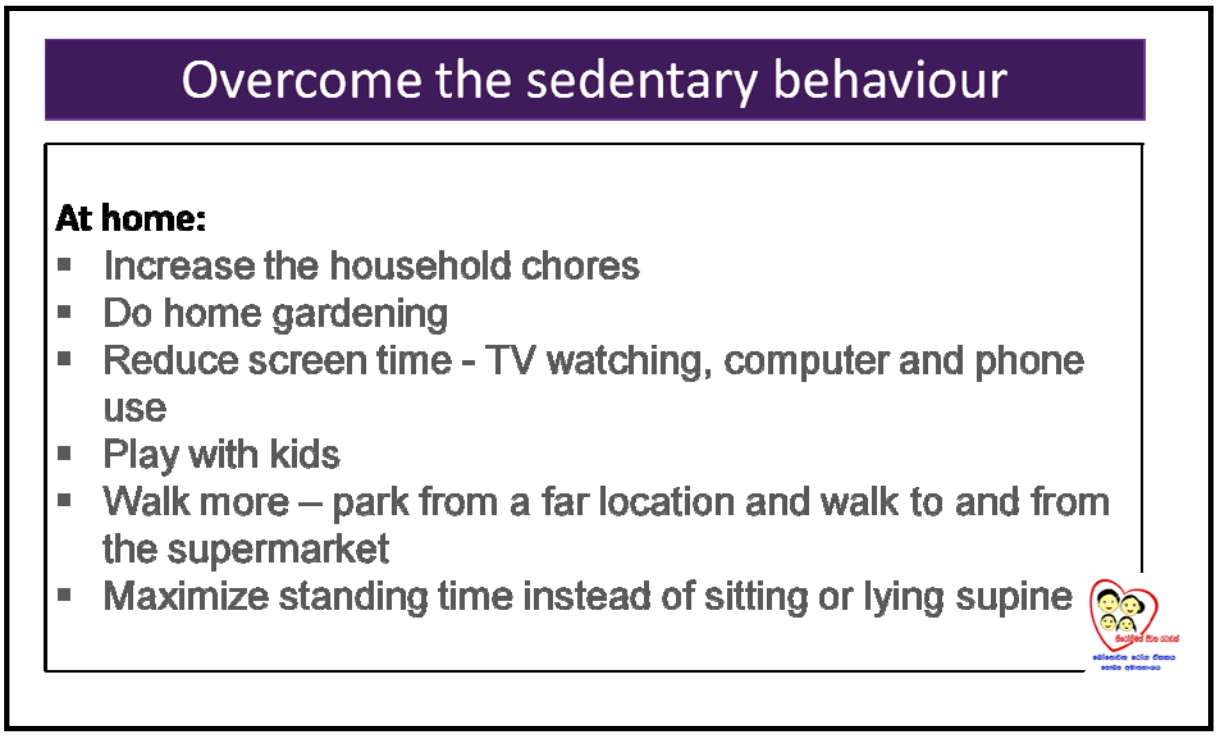
The objective of Activity 4 is to make the participants understand that:

- They can easily overcome the sedentary behaviours during their day-to-day activities at home, work place, schools (for children) and during travelling, by doing very simple things.
  (e.g. take the staircase instead of using the elevator, get down one bus halt before and walk the rest to reach the destination, do the household chores, play with kids)

Ask the participants to reflect on the definition of sedentary behaviour and ask from them:

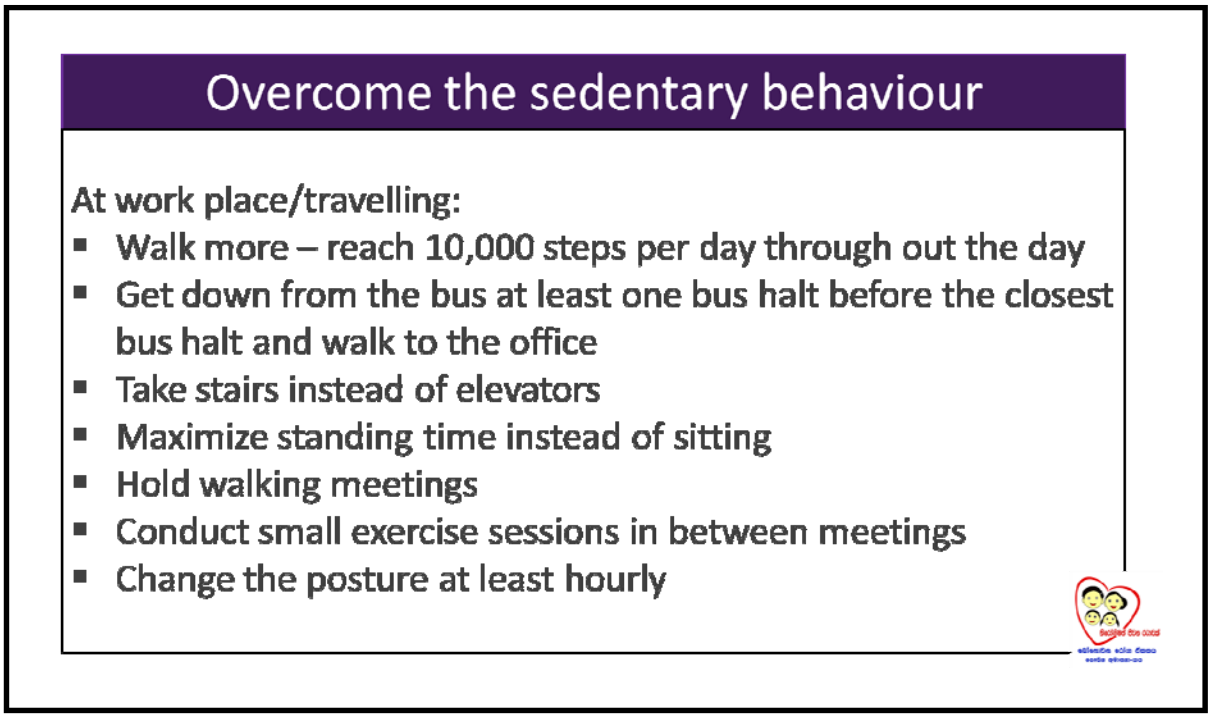
- **"How can we overcome the sedentary behaviour in day to day life?"**
  Discuss their answers based on different settings e.g. home, work place, school (for children)

Overcome the sedentary behaviour (Slide No. 22)



This slide gives few examples of how the sedentary behaviour could be overcome at home.

Overcome the sedentary behaviour (Slide No. 23)

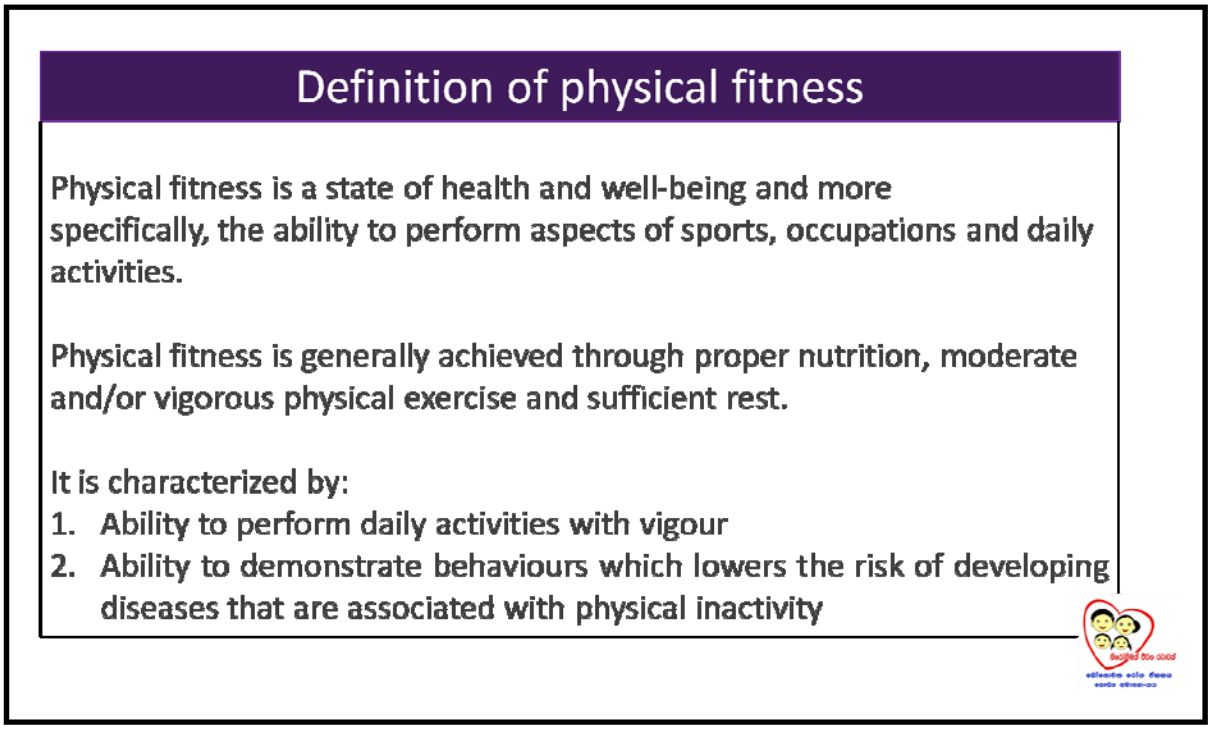


This slide gives few examples of how the sedentary behaviour could be overcome at the workplace and during travelling.

- Make the participants understand that the physical activity can be easily improved during the daily routine.

Physical fitness

Definition of Physical fitness (Slide No. 24)



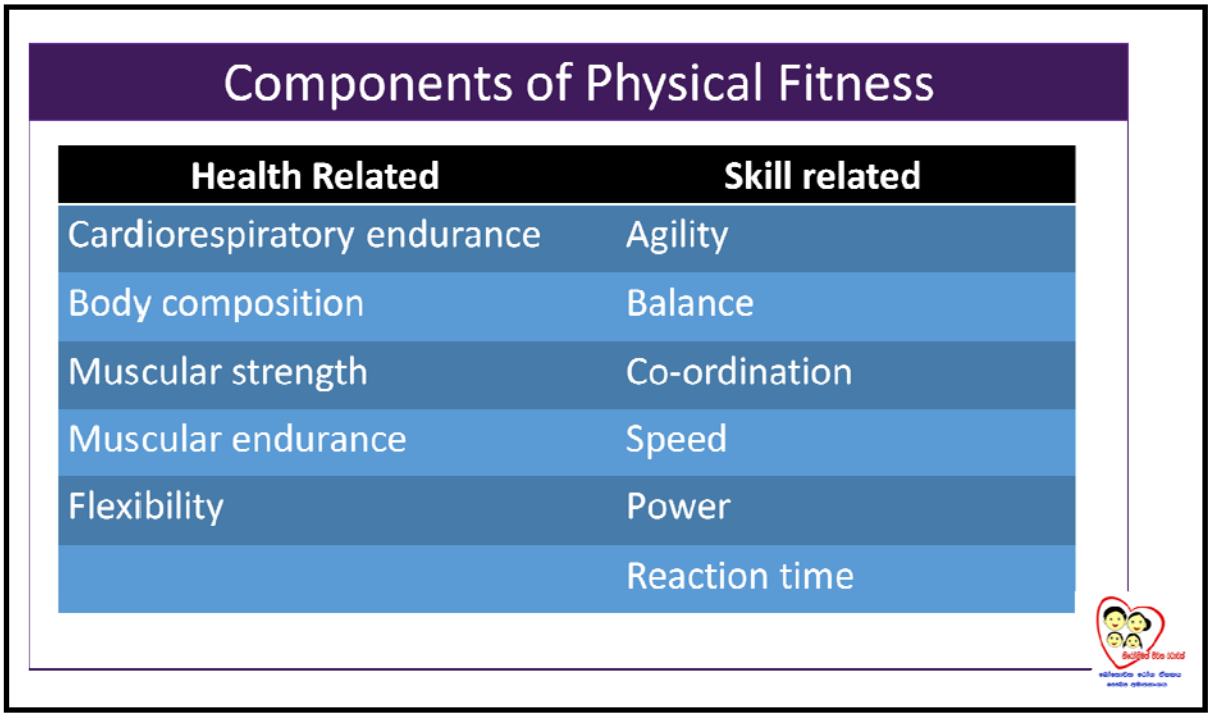
Explain the definition of physical fitness to the participants

- Physical fitness is a state of health and well-being and, more specifically, the ability to perform aspects of sports, occupations and daily activities.

- Physical fitness is generally achieved through proper nutrition, moderate and/or vigorous physical exercise and sufficient rest.

- It is characterized by:
  1. The ability to perform daily activities with vigour
  2. The ability to demonstrate behaviours which lowers the risk of developing diseases that are associated with physical inactivity

Components of Physical fitness (Slide No. 25)



Physical fitness was described above (Slide No. 24) as a state of health and well-being and, more specifically, the ability to perform aspects of sports, occupations and daily activities.

The components of physical fitness can be divided as 'health related' and 'skill related' and are listed in this slide.

The descriptions of these components are given in the following Table:

Component	Description
Health related components of physical fitness:	
Cardio respiratory endurance	The ability to deliver oxygen and nutrients to tissues, and to remove wastes, over sustained periods of time e.g. aerobic exercises such as brisk walking, jogging, swimming
Body composition	The makeup of the body in terms of lean mass (muscle, bone, vital tissue and organs) and fat mass
Muscular Strength	The ability of a muscle to exert force for a brief period of time. eg: strengthening exercises such as lifting a weight, push ups, squats, pull ups
Muscular endurance	The ability of a muscle, or a group of muscles, to sustain repeated contractions or to continue applying force against a fixed object e.g. strengthening exercises such as lifting a weight, push ups, squats, pull ups
Flexibility	The ability to move joints and use muscles through their full range of motion e.g. flexibility exercises
Skill related components of physical fitness:	
Agility	The ability to rapidly change the position of the entire body with speed and accuracy
Balance	The ability to control the body position, either stationary or while moving
Co-ordination	The ability to use the senses, such as sight and hearing, together with body parts in performing motor tasks smoothly and accurately
Speed	The ability to perform a movement within a short period of time
Power	The rate at which one can perform work
Reaction time	Relates to the time elapsed between stimulation and the beginning of reaction to it

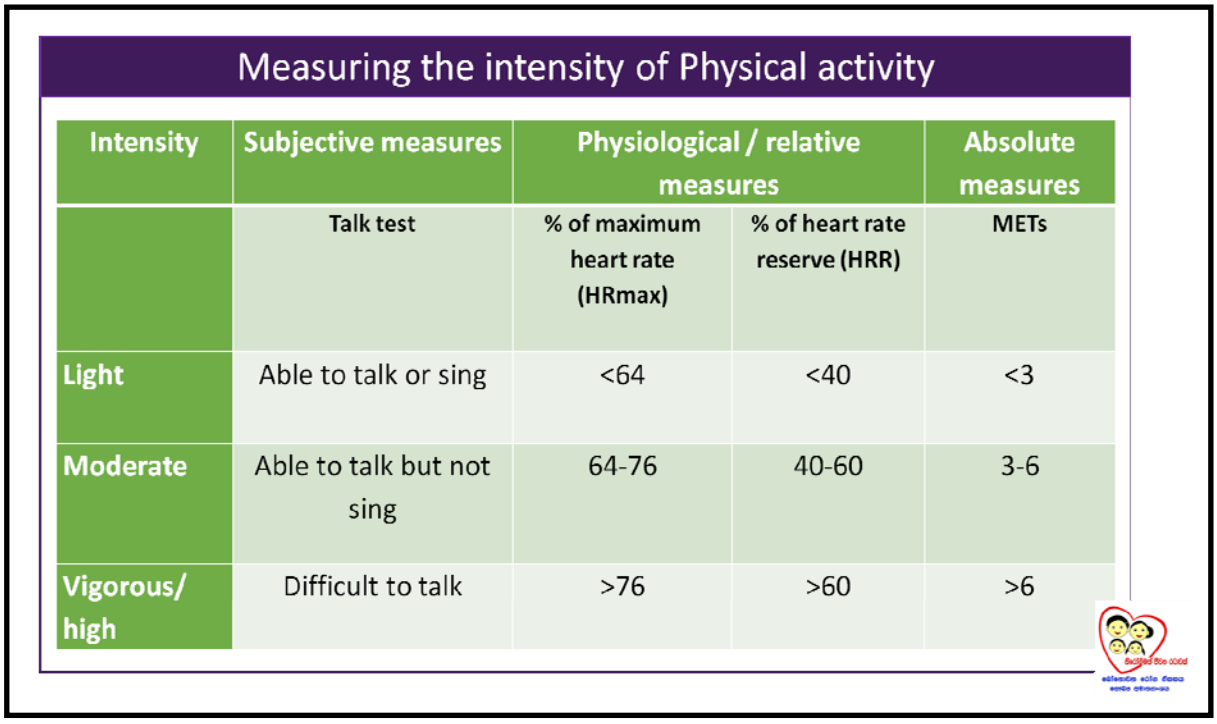
- However, our aim is to improve the health-related components of physical fitness among the public
- As a result of improving the health-related components of physical fitness, skill related components of physical fitness increase as well.

To achieve physical fitness, it is necessary that physical activity is performed at a certain intensity level.

Physical activities are classified as light, moderate and vigorous based on the intensity that the activity is performed.

Intensity levels of physical activity

Measuring the intensity of physical activity (Slide No. 26)



This slide explains how to measure the intensity levels of an activity based on subjective measures, physiological measures and absolute measures. The description of the subjective measurement is given below.

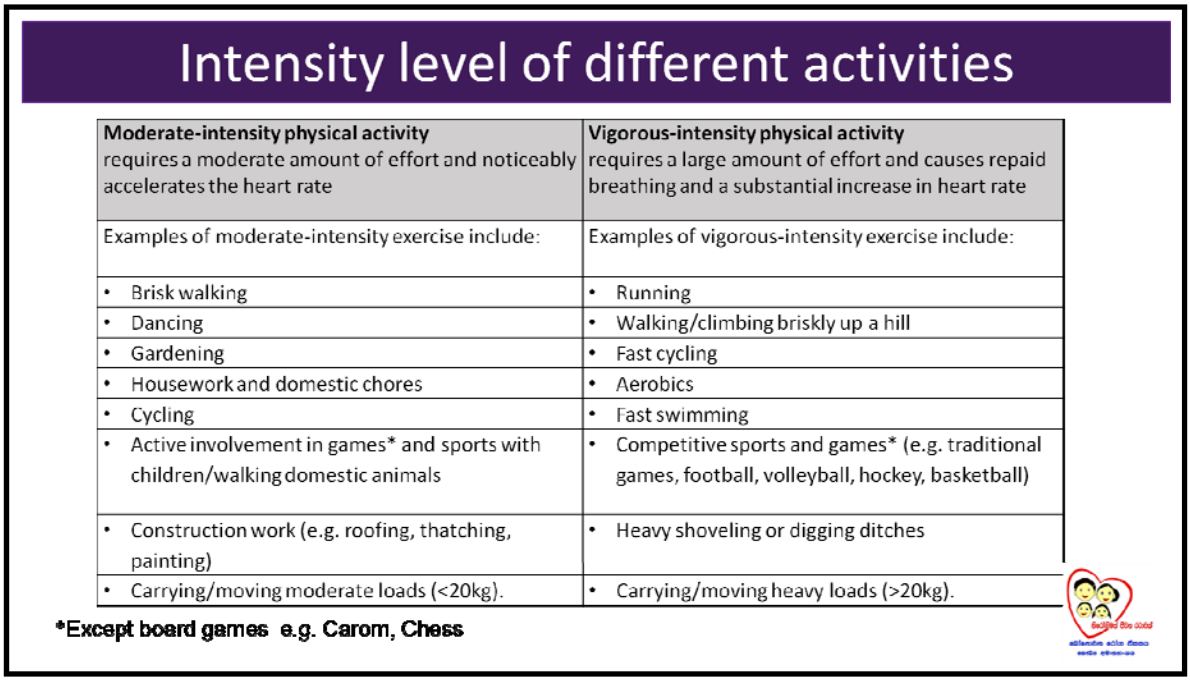
Talk test:
The easiest method or subjective measurement of the intensity of an activity is by the talk test.

Explain to the participants how to measure the intensity of an activity by the talk test

- If the individual is able to talk and sing while doing a certain physical activity, that indicates that the particular physical activity is of light intensity.
- If the individual is able to talk but finds it difficult to sing while doing a certain physical activity, that indicates that the certain activity is of moderate intensity.
- If the individual finds difficulty in talking while doing a certain physical activity, it indicates that the certain activity is of vigorous intensity.

Description of the physiological and absolute measures of measuring the intensity of an activity is given in Annex II.

Intensity level of different activities (Slide No. 27)



This slide lists out different physical activities of moderate and vigorous intensity.

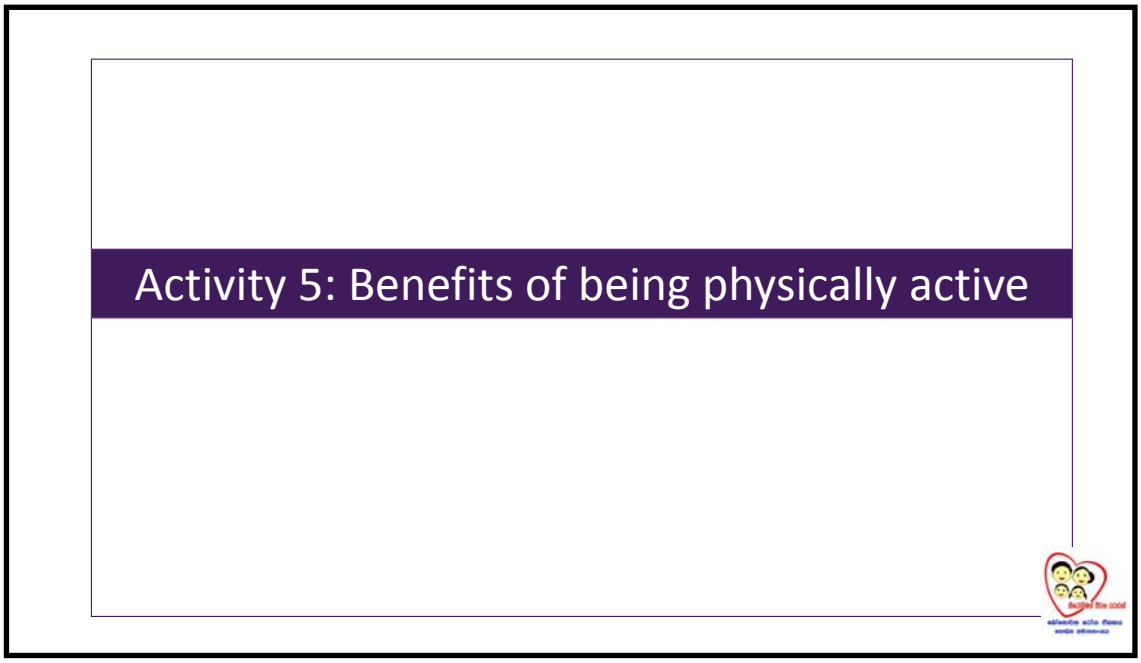
- Ask the participants to reflect back to the activity of their choice that they performed under Activity 2 and the changes to the heart rate and breathing during that activity.
- Make them understand the intensity level of that particular activity they performed.
- Explain the participants why we promote moderate and/or vigorous physical activities:

  Because moderate and/or vigorous physical activities improve cardio-respiratory endurance and therefore reduces the risk of NCDs such as Cardiovascular diseases.

Benefits of physical activity

Activity 5: Benefits of being physically active (Slide No. 28)

Maximum time to be spent on this activity : 5min



The objective of Activity 5 is to make the participants understand that:

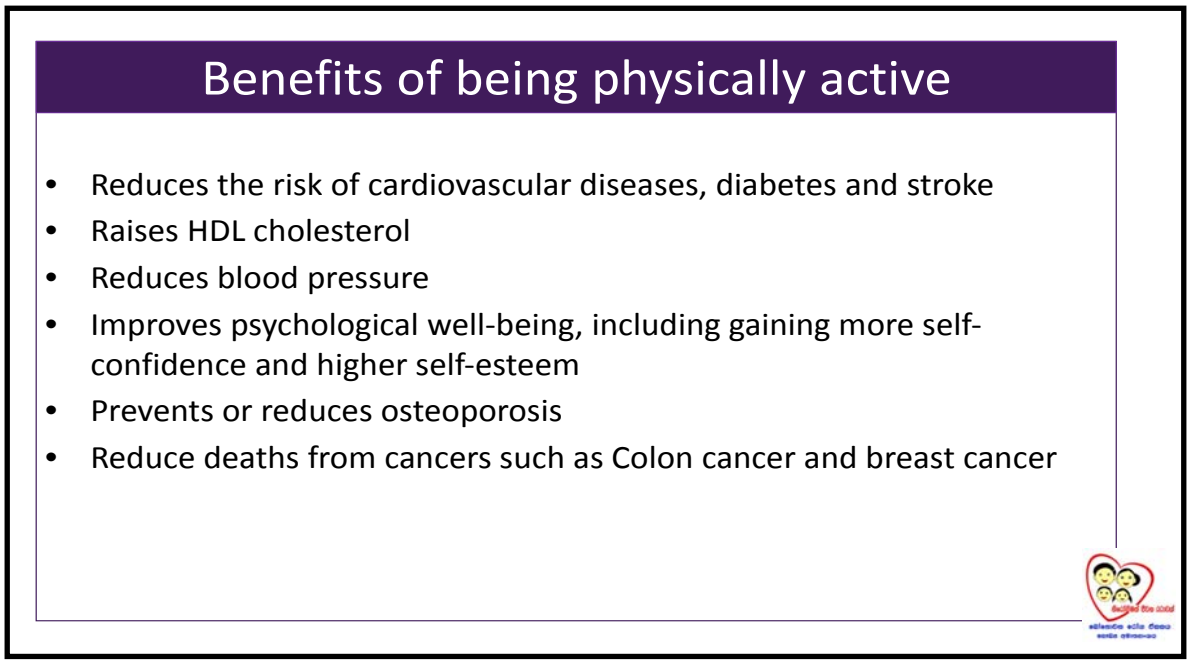
- There are several benefits that an individual could gain by being physically active

Ask the participants to respond to the following and note their answers in the flip charts:

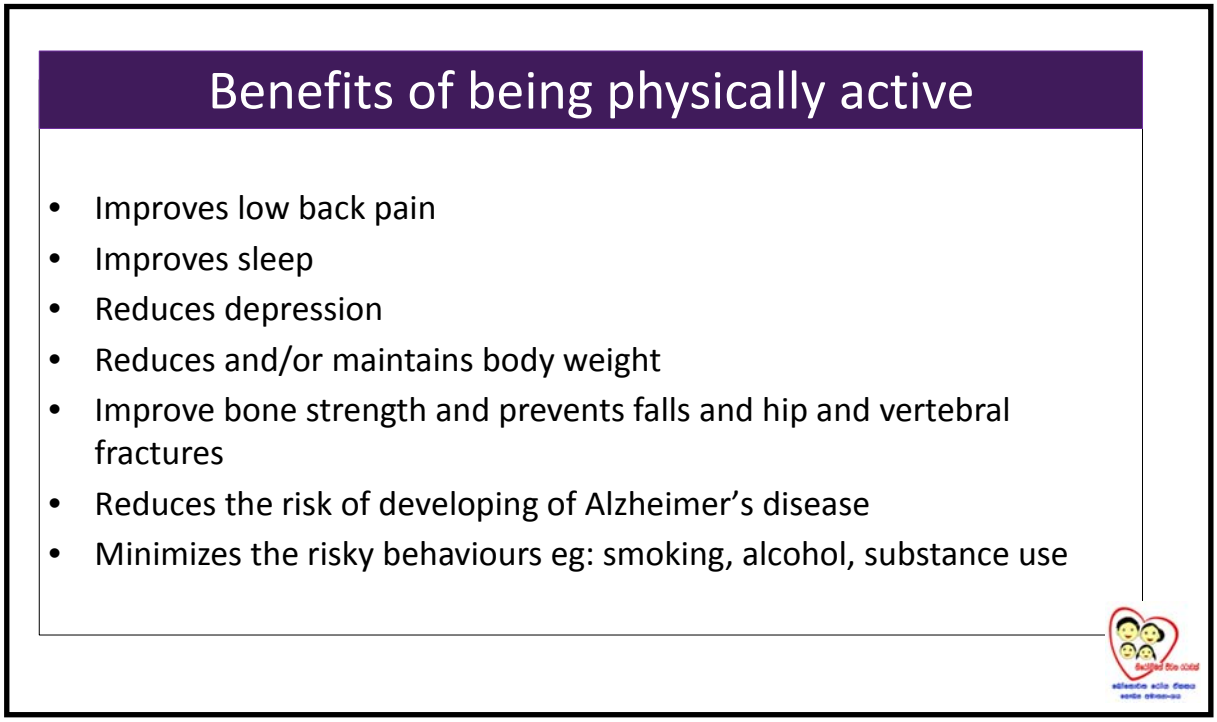
- **"What are the benefits of being physically active?"**

Benefits of being physically active (Slide No. 29 and 30)

Slide No. 29



Slide No. 30

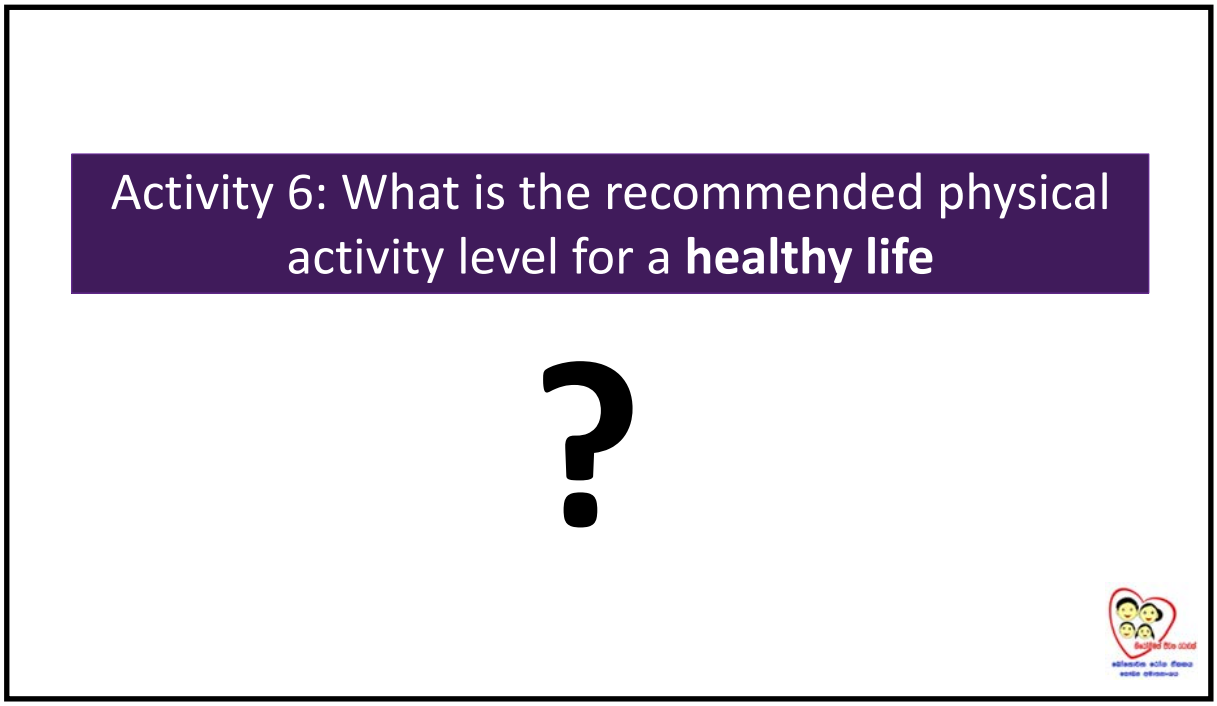


Slides No. 29 and 30 give the various benefits that an individual could gain by being physically active.

Physical activity recommendation

Activity 6: What is the recommended physical activity level for a healthy life? (Slide No. 31)

Maximum time to be spent on this activity: 5min



The objective of Activity 6 is to make the participants understand that:

- There is a recommended physical activity level for a healthy life
- This recommendation includes the frequency, intensity, type and the duration of exercise that one has to perform to be healthy

Ask the participants to briefly respond to the following questions and note their answers in the flip chart/ white board:

- **"Do you know the recommended physical activity level for a healthy life? (In terms of Frequency, Intensity, type and duration of exercise)"**
- **If YES, discuss the components (frequency, intensity, type and duration of exercise)**
- **If NO, explain the audience about the basic physical activity recommendation**

Recommendation:

- At least 150 minutes of moderate-intensity **aerobic** (endurance or cardio-respiratory) physical activity throughout the week,
  or
- At least 75 minutes of vigorous intensity physical activity throughout the week,
  or
- An equivalent combination of moderate and vigorous intensity activity throughout the week.

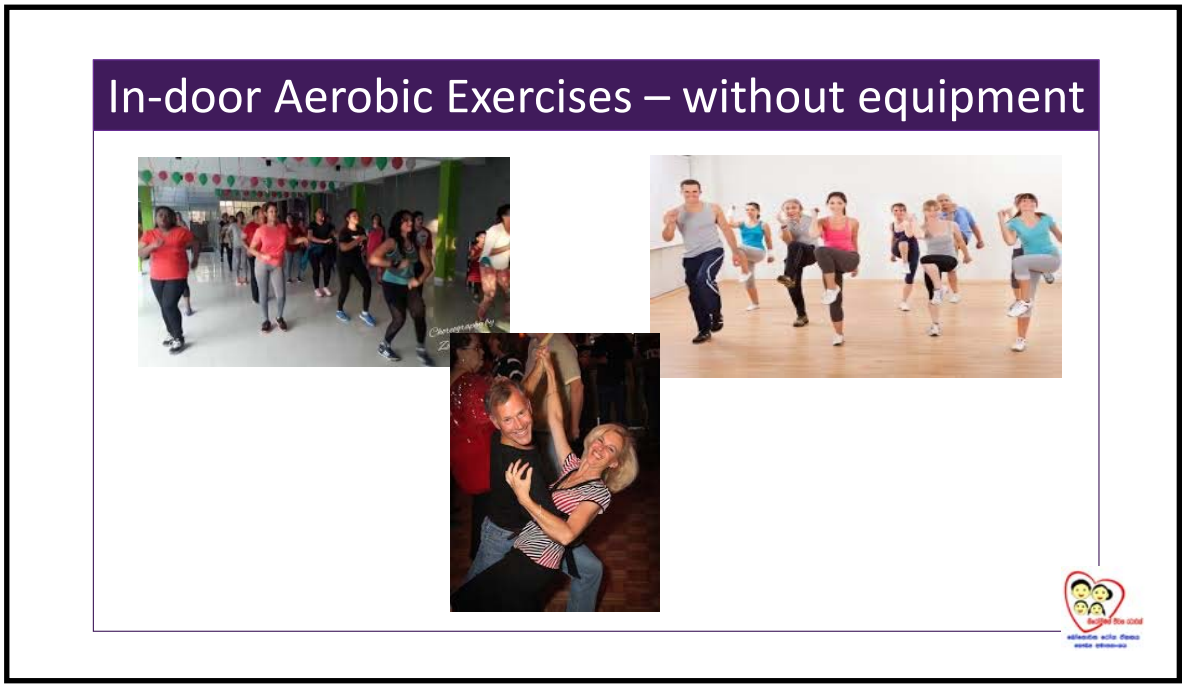
Emphasize the following:
Those who cannot start with the moderate intensity physical activity, should start with mild intensity physical activity and gradually progress to moderate intensity physical activity.

Aerobic exercises (Slide No. 32, 33 and 34)

Out-door Aerobic Exercises (Slide No. 32)

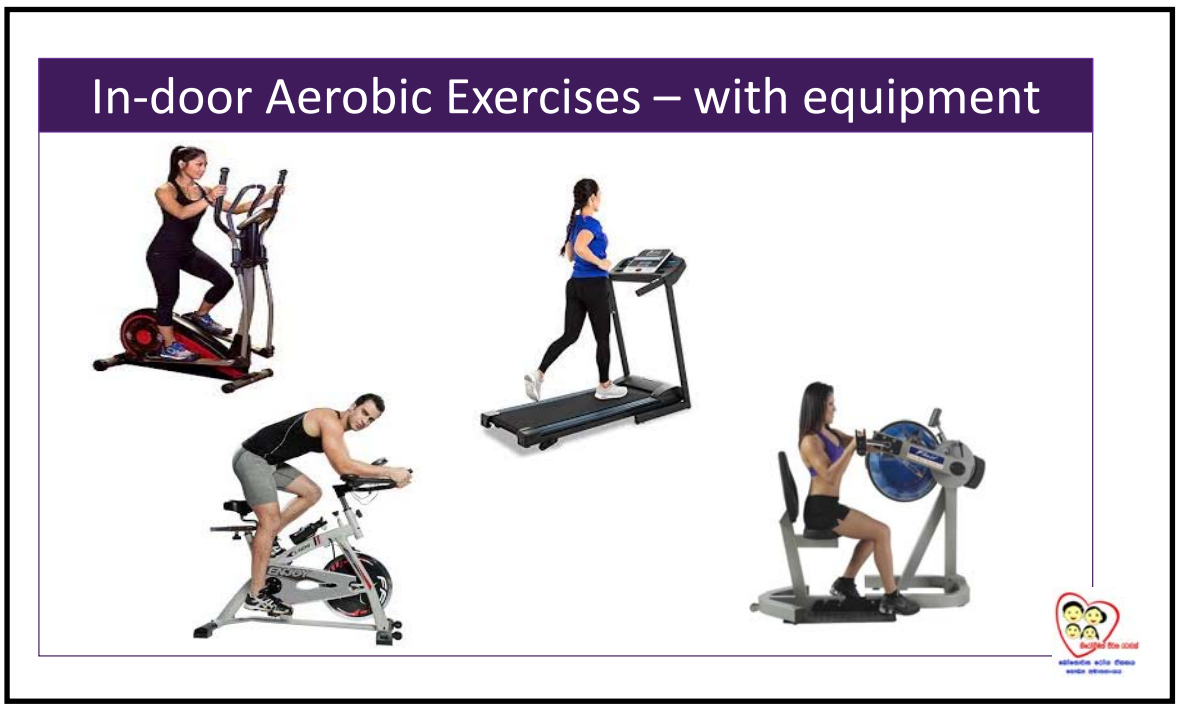
This slide shows few examples of out-door aerobic exercises such as walking, swimming, jogging and hiking

In-door Aerobic Exercises– without equipment (Slide No. 33)



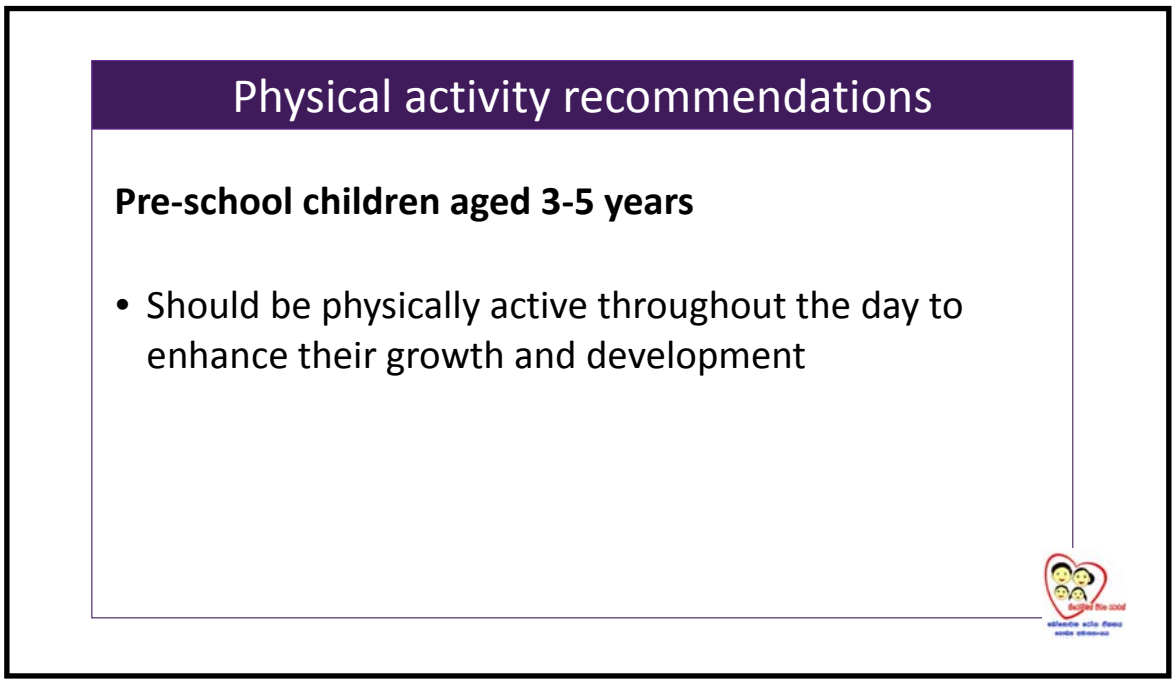
This slide shows few examples of in-door aerobic exercises such as Zumba and dancing (of any form)

In-door Aerobic Exercises – with equipment (Slide No. 34)



This slide shows few examples of in-door aerobic exercises performed with gym equipment such as the treadmill, cross-trainer, stationary cycling and ergometer.

Physical activity recommendations: Pre-school children aged 3-5 years (Slide No. 35)

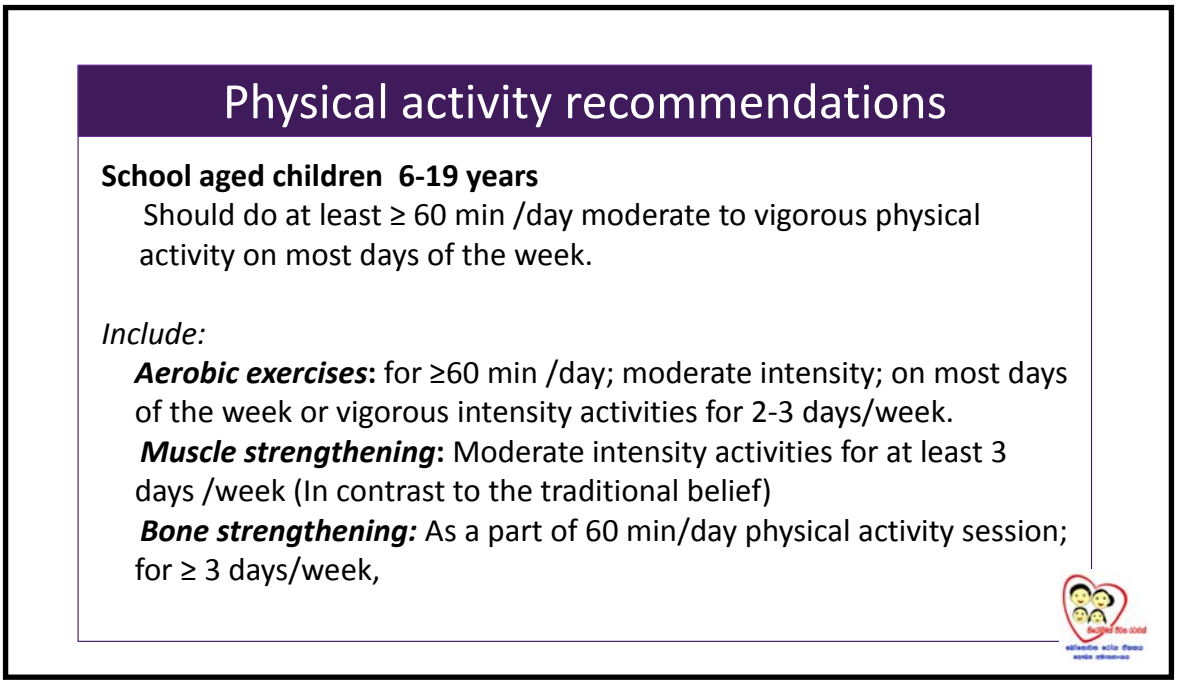


Physical activity recommendations for children aged 3-5 years are given in this slide.

Emphasize the following:

- Pre-school children of 3-5 years should be physically active throughout the day.

Physical activity recommendations: School aged children 6-19 years (Slide No. 36)



This slide gives the physical activity recommendations for school aged children aged 6-19 years.

Emphasize the following:

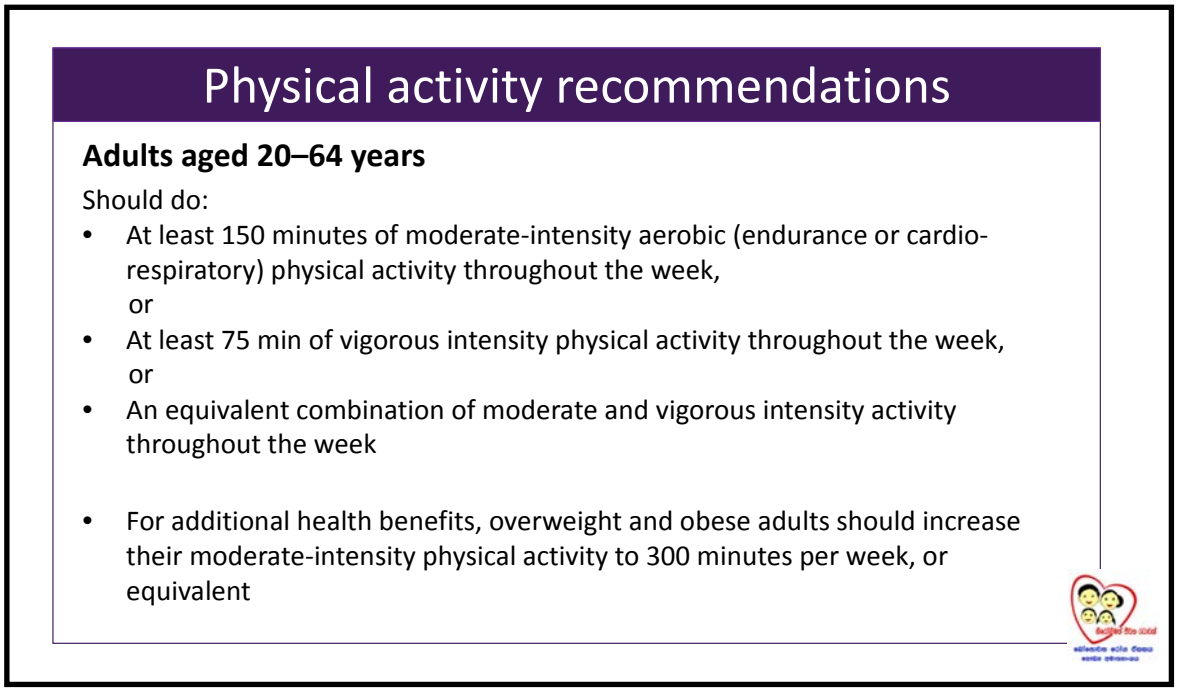
- School aged children should be physically active for at least 60 min/day on most days of the week.
- Contrary to the traditional belief, moderate intensity muscle strengthening exercises are recommended for adolescents.
- Muscle strengthening exercises e.g. squats, push-ups, pull-ups, lunges, planks (These exercises will be discussed below)
- Bone Strengthening exercises e.g. jumping jacks, skipping, hopping, climbing

Physical activity for school aged children (Slide No. 37)

This slide shows images of several physical activities for school aged children such as out-door games (cricket, foot ball), skipping, swimming, running and dancing (of any form)

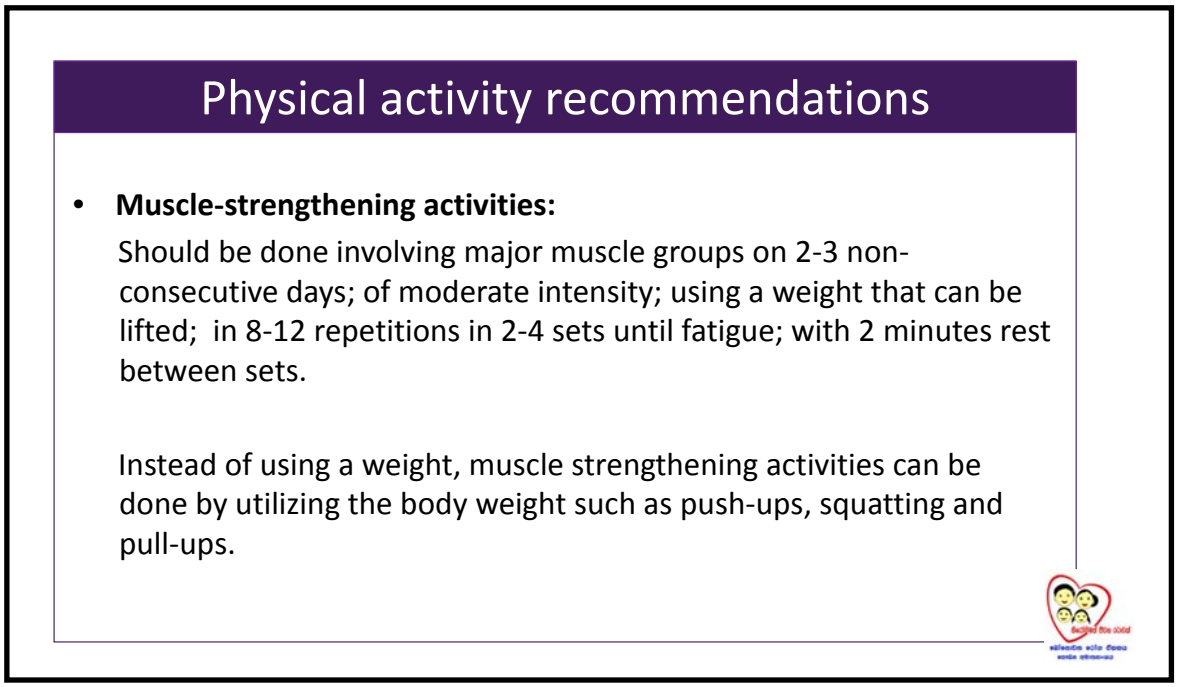
Physical activity recommendations: Adults aged 20-64 years (Slide No. 38, 39 and 40)

Slide No. 38



This slide gives the recommendation for the aerobic exercises for adults aged 20-64 years.

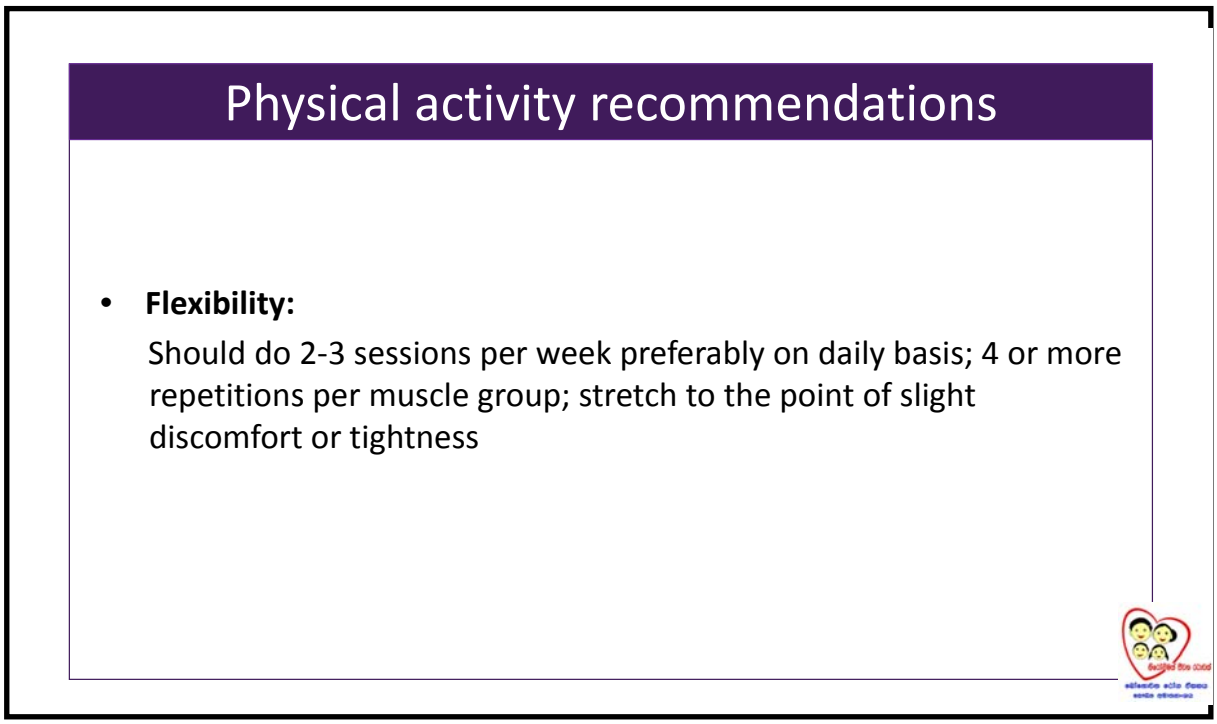
Slide No. 39



This slide shows the recommendation for the muscle strengthening exercises for adults aged 20-64 years.

- Emphasize on the muscle strengthening activities that can be done using the body weight such as squatting, push-ups and pull-ups.

Slide No. 40



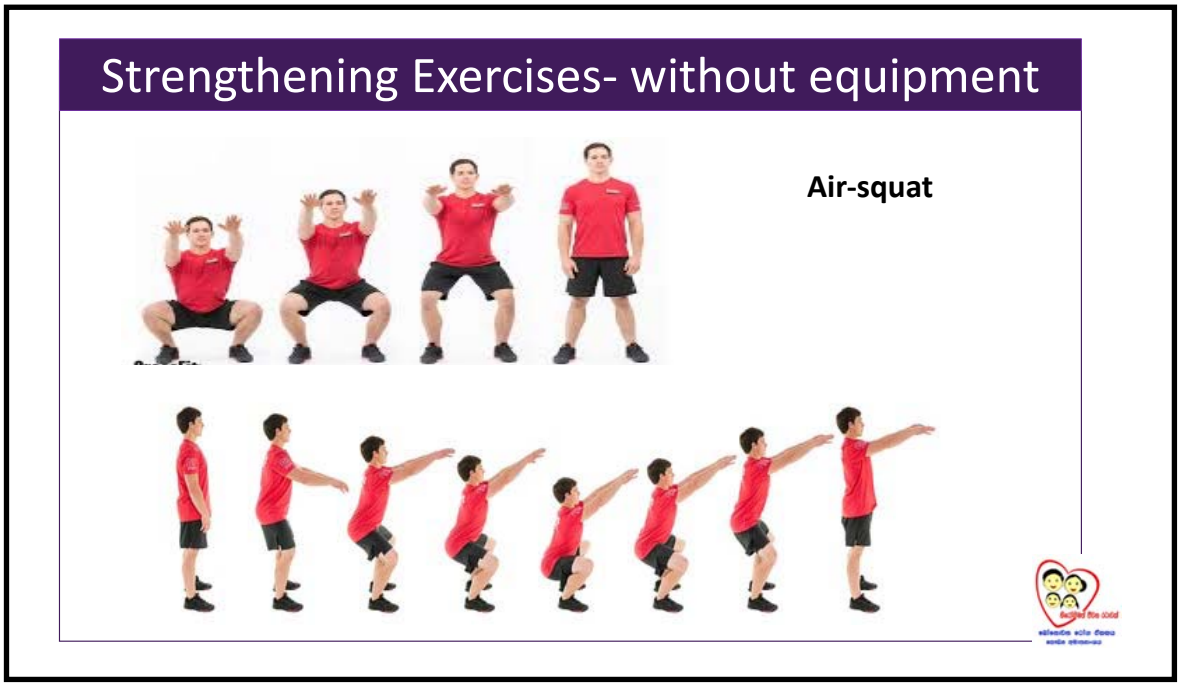
This slide shows the recommendation for the flexibility exercises for adults aged 20-64 years.

- Examples for aerobic exercises were given in Slide No. 32-34.
- Examples for muscle and bone strengthening will be given in the next slides (Slide No. 41 – 45).
- Examples of flexibility exercises will be given in the Slide no. 46

Strengthening exercises (Slide No. 41-45)

The slide No. 41, 42 and 43 show strengthening exercises that could be done using only the body weight, without using any equipment.

Strengthening exercises – without equipment: Air squat (Slide No.41)



This slide shows images related to the air squat.

- Demonstrate to the participants how to do the air squat
- Ask the participants to do the air squat
- Check each participant for the correct technique

Strengthening exercises– without equipment: Australian Pull-ups and push-ups (Slide No. 42)

This slide shows images related to Australian pull-ups and push-ups

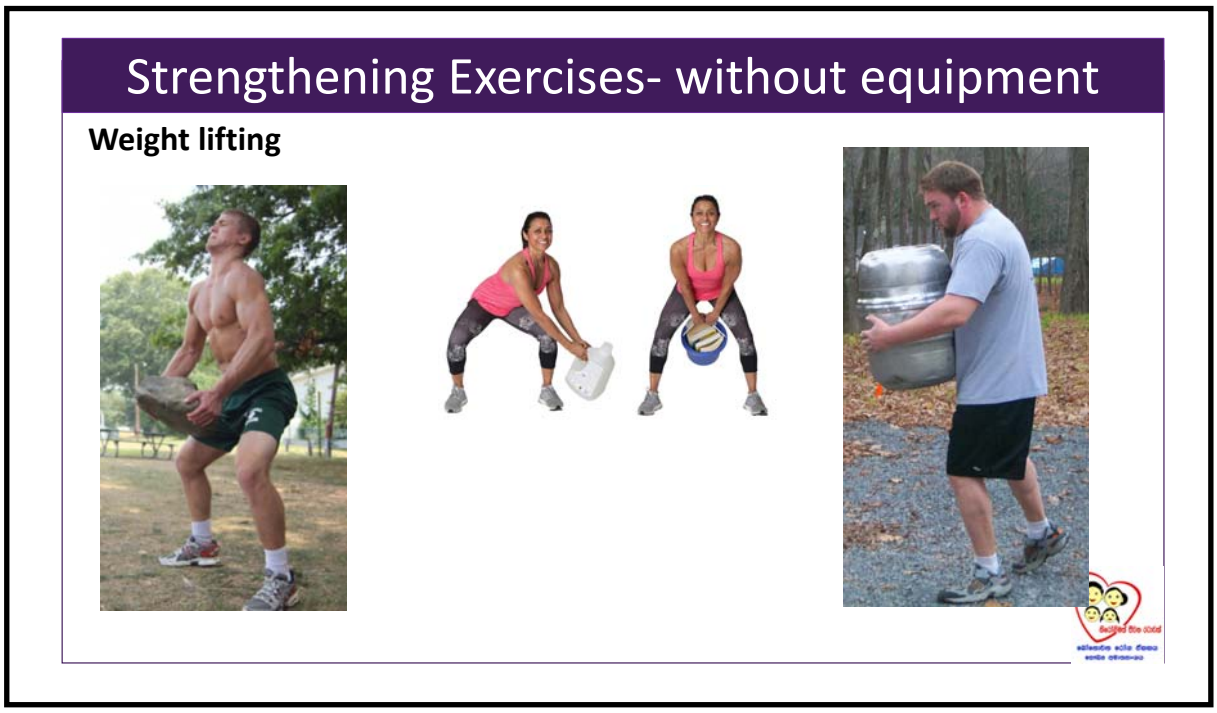
- Demonstrate to the participants how to do pull-ups using a table and push-ups
- Ask the participants to do the pull-ups and push-ups
- Check each participant for the correct technique in pull-ups and push-ups separately

Strengthening exercises – without equipment (Slide No. 43)

This slide shows images related to some other strengthening exercises

- Demonstrate to the participants how to do the dead lift, over-head press with any weight, leg raise, slide planks and bridge exercises
- Ask the participants to do these exercises within their limits
- Check each participant for the correct technique for each exercise type, separately

Strengthening exercises – without equipment: weight lifting (Slide No. 44)



This slide shows images related to weight lifting.

Emphasize the following:
They can start with any weight or object that is feasible for them and then gradually the weight can be increased.

Strengthening exercises: with equipment (Slide No. 45)

This slide shows images related to strengthening exercises that can be performed using Gym equipment.

Examples for flexibility exercises are given in the next slide.

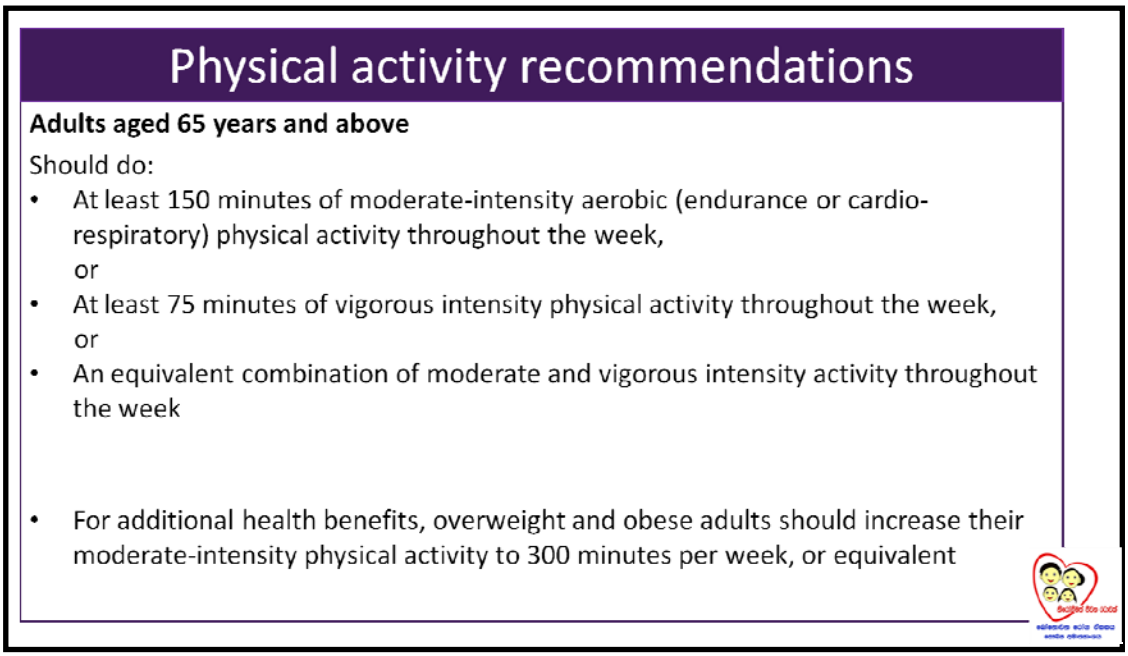
Flexibility Exercises (Slide No. 46)

This slide shows images related to flexibility exercises

- Demonstrate to the participants how to do the flexibility exercises
- Ask the participants to do the flexibility exercises
- Check each participant for the correct technique

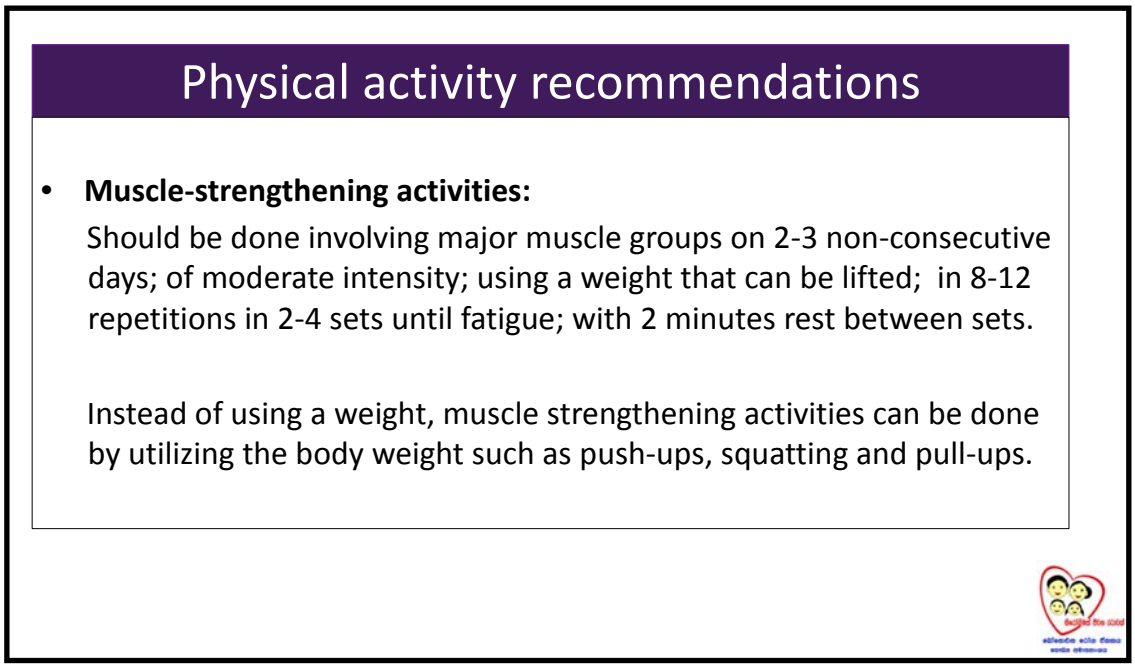
Physical activity recommendations: Adults aged 65 years and above (Slide No. 47,48 and 49)

Slide No. 47



This slide shows the aerobic physical activity recommendations for adults aged 65 years and above.

Slide No. 48



This slide shows the recommendation for the muscle-strengthening activities for the adults of 65 years and above.

Slide No. 49

Physical activity recommendations

- **Flexibility:**
  Should do 2-3 sessions per week preferably on daily basis; 4 or more repetitions per muscle group; stretch to the point of slight discomfort or tightness

- **Balance:**
  Those with poor mobility should perform physical activity to enhance balance and prevent falls, 3 or more days per week

This slide shows the recommendation for the flexibility and balance exercises for adults aged 65 years and above.

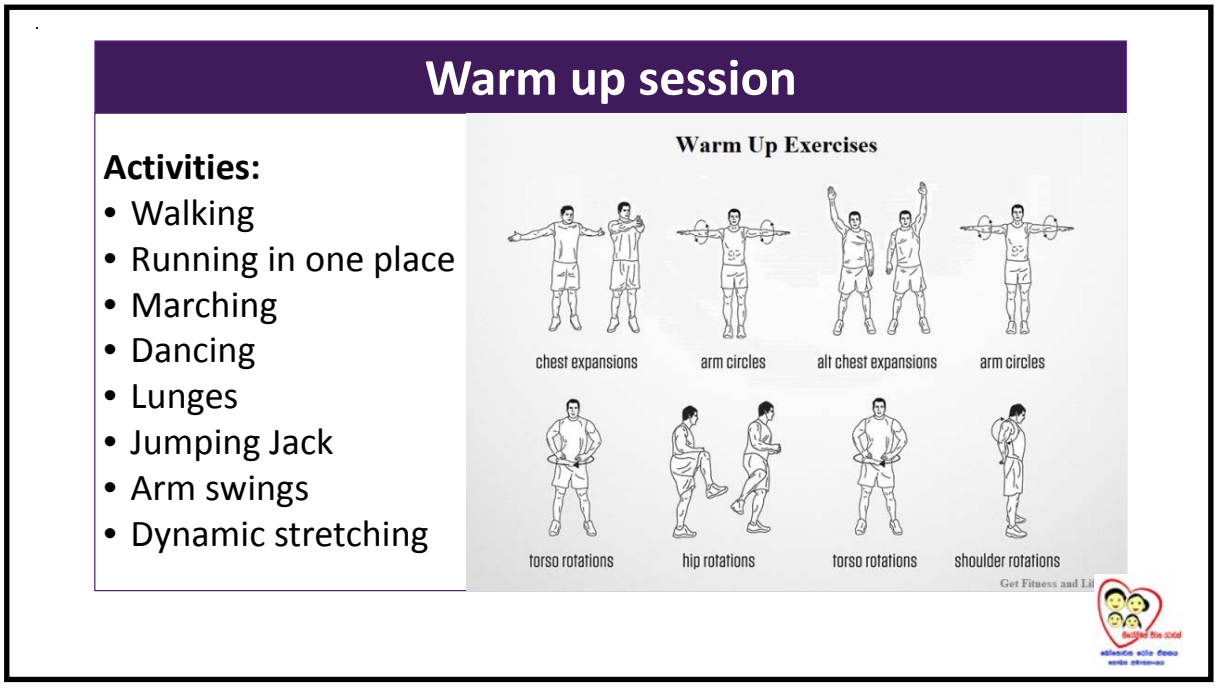
Balance exercises (Slide No. 50)

Balance Exercises

This slide shows images related to balance exercises

- Demonstrate to the participants how to do the balance exercises
- Ask the participants to do the balance exercises
- Check each participant for the correct technique

Warm up session (Slide No. 51)



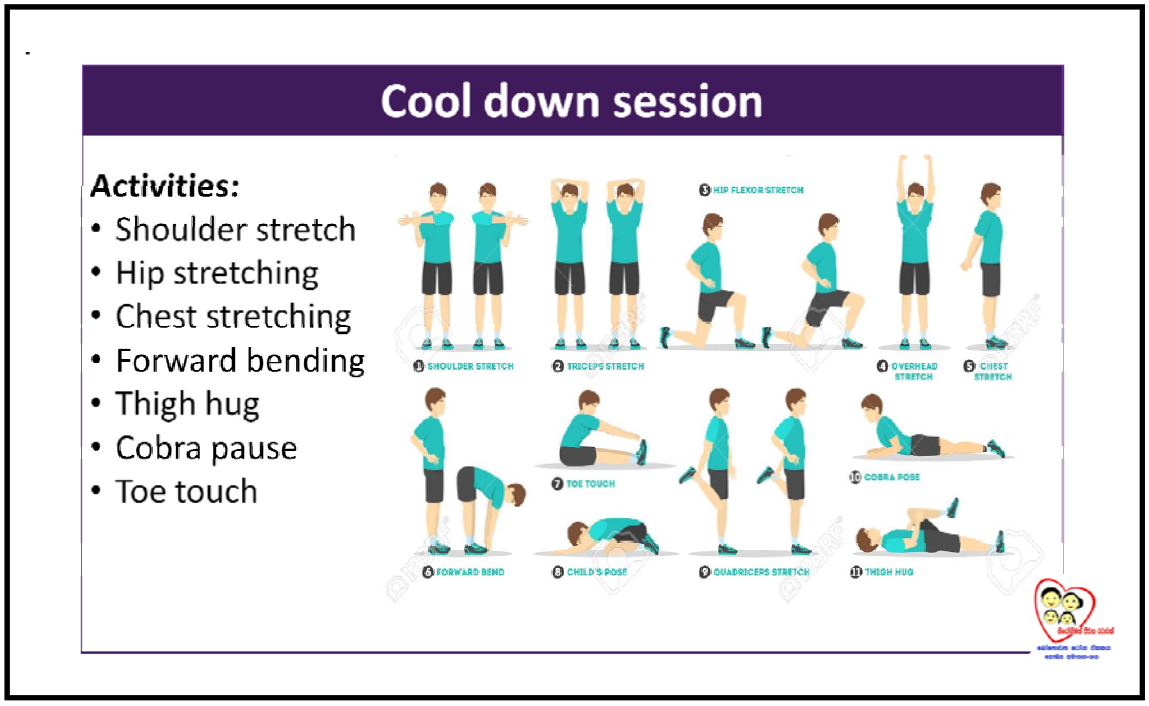
Prior to physical activity sessions, it is recommended each individual to do warm up exercises.

- The warm-up will slowly prepare the body for exercises by gradually increasing the heart rate and circulation, loosen joints and increase blood flow to muscles. Stretching the muscles will prevent injuries.

Few activities that can be done during the warm up session is given in the slide 51.

- Demonstrate to the participants how to do the warm up session
- Either one exercise or a mixture of exercises (from the given examples) can be used
- Ask the participants to do the warm up session for 5 minutes
- Check each participant for the correct technique

Cool down session (Slide No. 52)



It is recommended each individual to do cool down exercises following an exercise session.

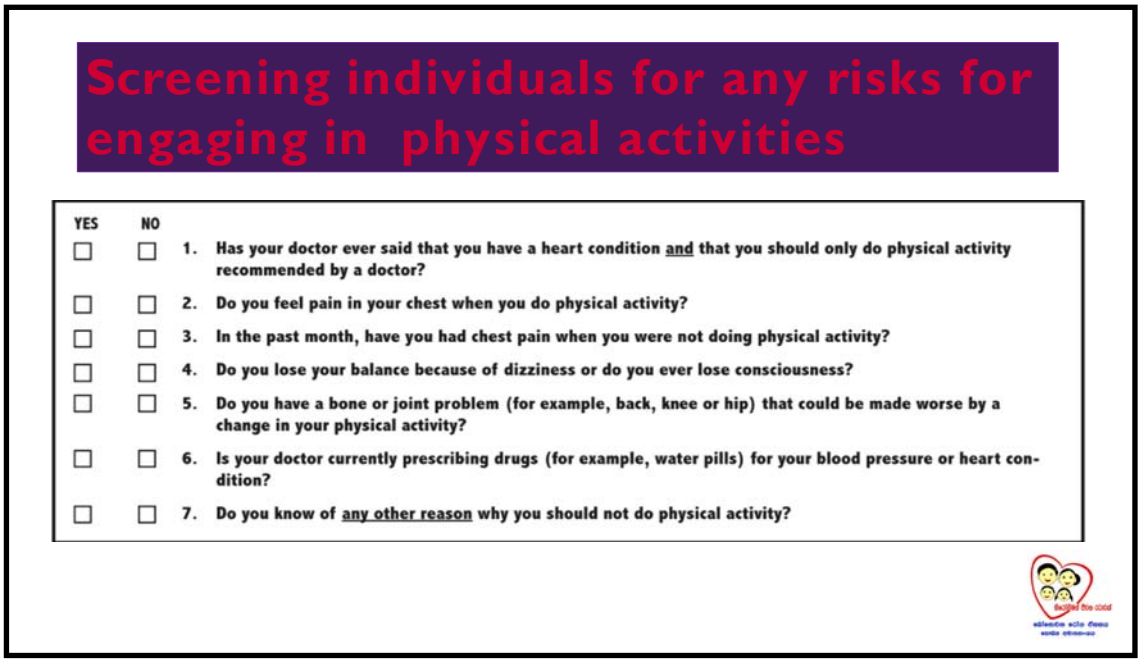
- Cool down helps the body to transit from exercise to a steady state of rest. Goal of cool down is to reduce the heart rate, breathing rates, gradually cool the body temperature, restore physiologic system to baseline.

Few activities that can be done during the cool down session is given in the slide 52.

- Demonstrate to the participants how to do the cool down session
- Ask the participants to do the cool down session for 5 minutes
- Check each participant for the correct technique

Physical activity readiness questionnaire (PAR-Q)

Screening individuals for any risk for engaging in physical activities (Slide No. 53)



- Each and every individual have to be assessed for any risks of engaging in physical activities.
- This slide shows the Physical Activity Readiness questionnaire (PAR-Q) that can be used to assess the risk of individuals for engaging in physical activities.
- The PAR-Q should be applied prior to the exercise session.

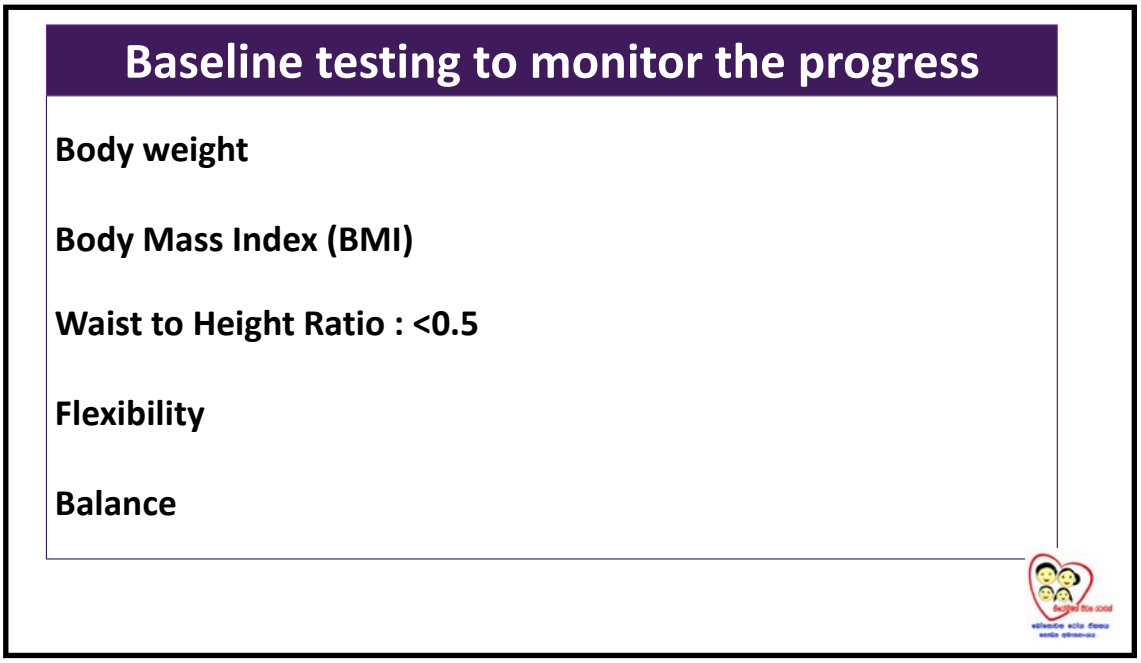
- If the answer is YES to even a single question of PAR-Q: The particular individual has to be referred to the Sports Medicine Unit or to a Medical Officer certified for Exercise Prescription for detailed assessment

- For patients already diagnosed with a Non Communicable disease, please refer to the dietary and physical activity guidelines for selected Non Communicable Diseases, published by the Directorate of Non Communicable Diseases, Ministry of Health

❖ **If there is any person who needs detailed evaluation based on the PAR-Q, please advise accordingly and refer to the relevant specialist.**

Baseline testing

Baseline testing to monitor the progress (Slide No. 54)



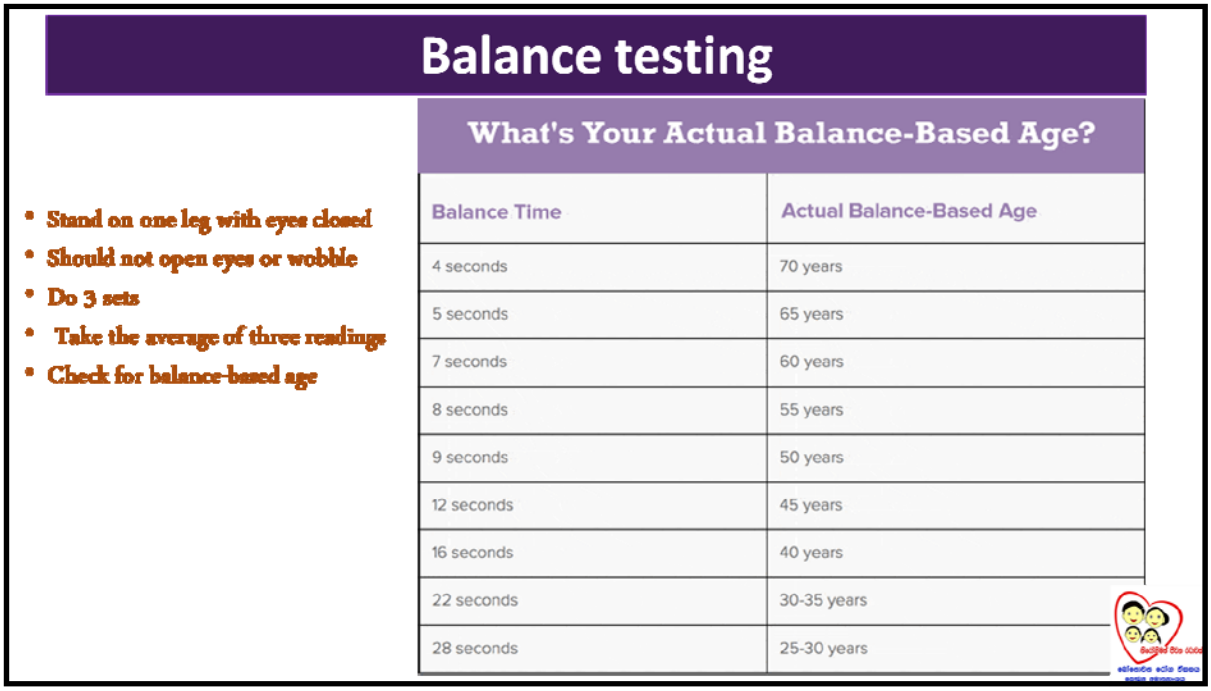
The progress of the individuals taking up physical activity can be monitored by using several methods as indicated in the slide 54.

Through these measures, the physical fitness of the individual that has taken up physical activity will be measured. Thus, the individual's cardio-respiratory fitness, muscle strength, balance and flexibility will be assessed.

- The easiest and practical method of assessing the progress would be by assessing the body weight and BMI at any setting.

- The most practical method of assessing the flexibility of the client would be to assess the ability to touch his/her own toes while seated with fully extended Knees (The standard method to check the flexibility is the 'Sit and Reach Test' which is given in Annex III)

Balance testing (Slide No. 55)



This simple test tests the actual Balance-Based Age of an individual

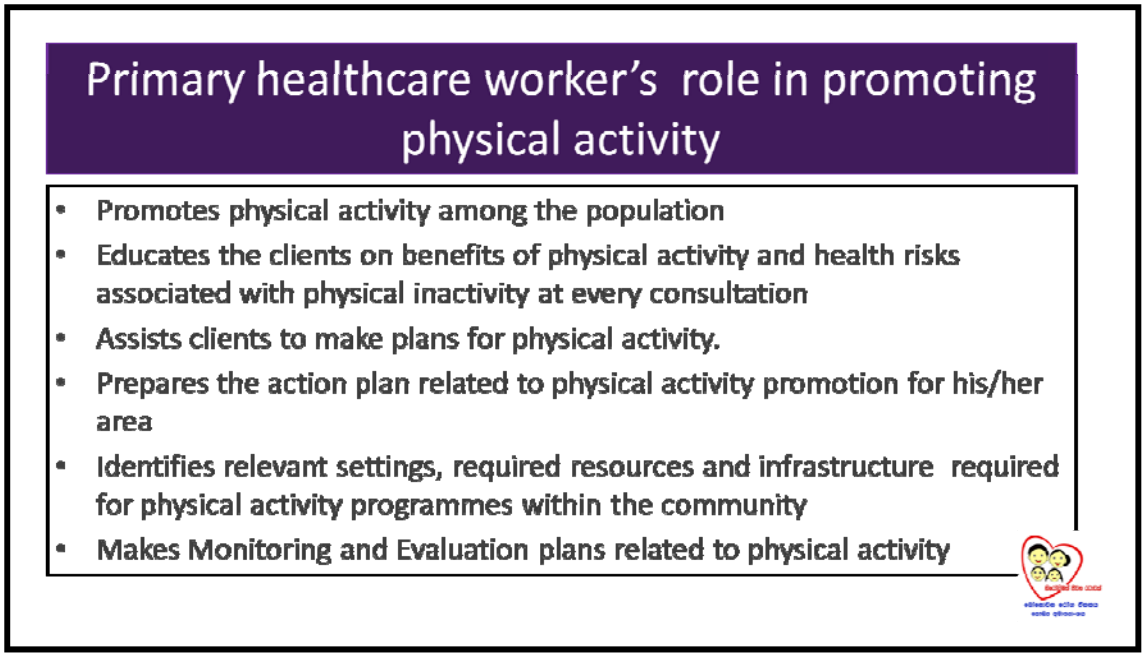
- Ask the participants to stand up and make pairs
- Ask one person from each pair to stand up in one leg with his/her eyes closed, while the other person keeps a check on the time
- The person standing in one leg should not either open the eyes or wobble while standing
- The individual who keeps the time should record the maximum time period that his/her partner kept standing in one leg (without wobbling).
- Repeat the same for 3 times (alternate the legs)
- Ask them to take the average of the three readings
- Check for the balance-based age from the table given in the slide
- Ask them to repeat the same for the other person of the pair.

So far, the importance of being physically active, the recommendations for physical activity for the different age groups and the related activities have been discussed.

It is essential to understand the role of the primary healthcare worker in promoting physical activity among the population.

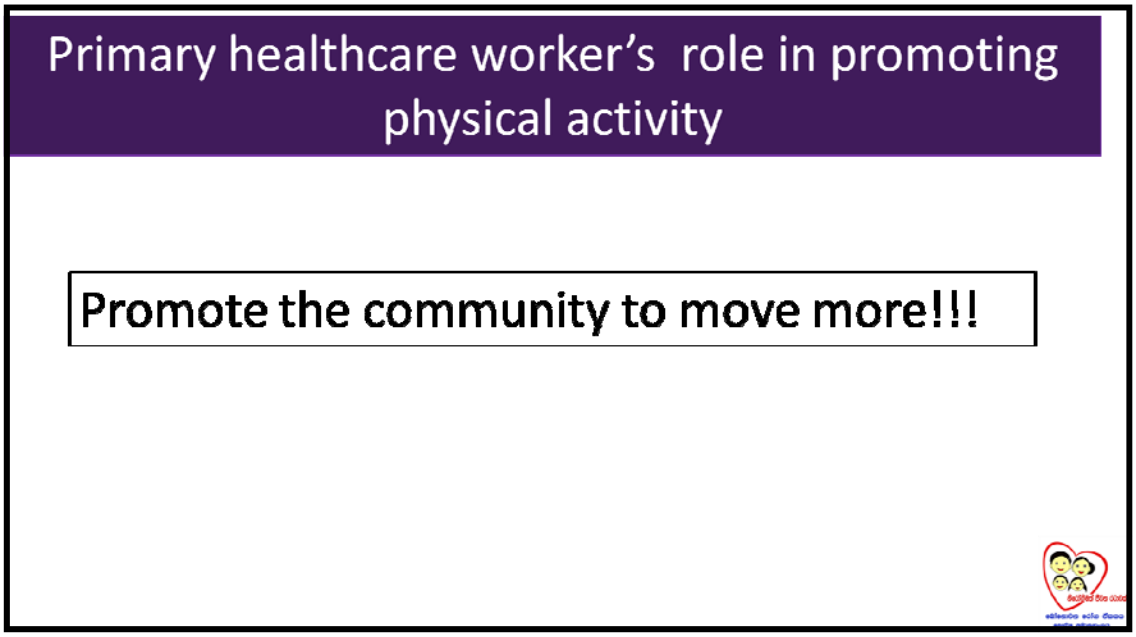
Role of primary healthcare worker to promote physical activity

Primary healthcare worker's role in promoting physical activity (Slide No. 56)



Explain the participants, their role in promoting physical activity with this slide.

Primary healthcare worker's role in promoting physical activity (Slide No. 57)



Emphasize the following:

- The primary healthcare worker should promote the population to be more active rather than being sedentary

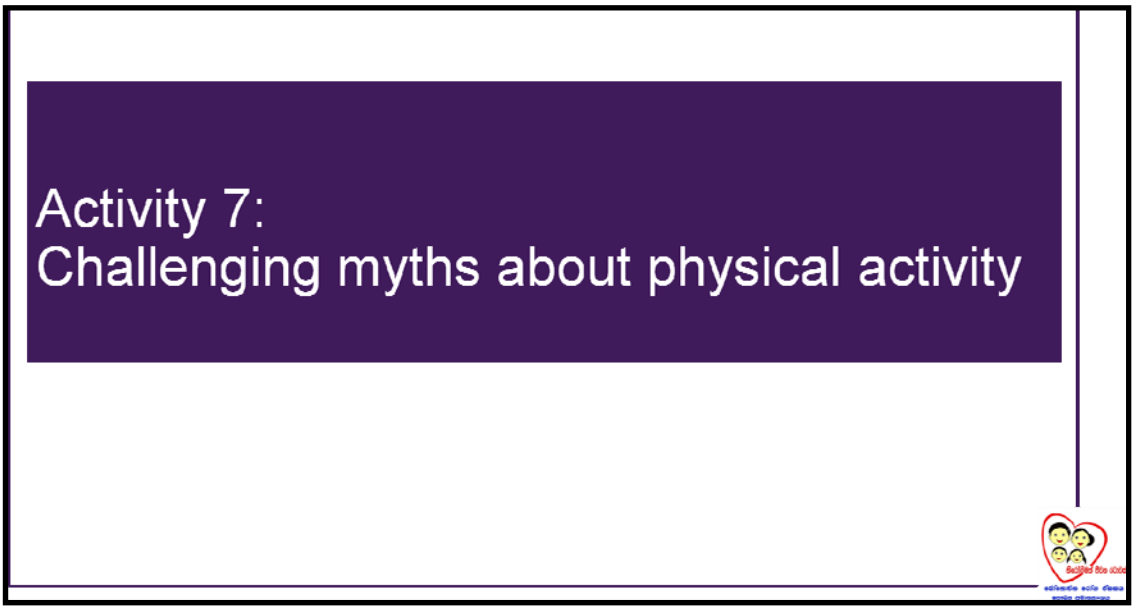
Major challenge that the primary healthcare worker would face while promoting physical activity among the population is various myths about physical activity.

This challenge will be addressed by the Activity 7.

Challenging myths about physical activity

Activity 7: Challenging myths about physical activity (Slide No. 58)

Maximum time to be spent on this activity: 30 min



The objective of Activity 7 is to make the participants understand that:

- There are several myths related to physical activity
- They have to reason out these myths in the process of promoting physical activity among the population

Follow the steps and the instructions in conducting this group activity.

Role play

Step1. Place two chairs in front of the group, one marked red and the other blue (Use Red and Blue cards or papers to mark the chairs)**.**

Step 2. Invite two participants to take the seats.

- The red chair is the "hot seat" (The Client). The blue chair is the "Cool seat" (primary healthcare worker)
- The participant in the red "hot seat" will pose resistance or express unsupportive views on physical activity by reading the following challenge statements (Challenge statement cards/paper will be given by the trainer).
- The person in the blue chair (The Healthcare worker) will provide a counter-response to clarify and address the challenge.

Give the list of following statements to be used by the person in the red seat to challenge the person in the blue seat. Encourage the person to use any other statements as well.

1. A little bit of exercise is not enough
2. I don't need to lose weight, so I don't need to be physically active
3. Being physically active is too expensive. It takes equipment, special shoes and clothes... and sometimes you even have to pay to use sports facilities
4. Children by nature have so much energy. They hardly stay still. There's no need to spend time or energy teaching them about physical activity. They are already so active
5. Too late to start to be physically active now
6. Women – no need of strengthening exercises
7. Continuous exercising for 30 min. is a must
8. Need a particular place like a ground, track or gym
9. Daily activities /chores are enough
10. If I am lean I do not need to exercise
11. Since I exercise, I do not need to control my diet

Allow the person in the blue seat to respond to clarify and address the challenge. Request the other participants in the group for their feedback on the response. Use the following model responses to educate the group about handling the challenges.

Answers to the challenge statements

1. **A little bit of exercise does not make any difference:** *As little as 30 minutes a day on most days of the week is good for your health. Any exercise is better than none. For example, regular walking has been shown to reduce the risk of heart disease.*

2. **I don't need to lose weight, so I don't need to be physically active:** *Physical activity has benefits for everyone, regardless of your shape or size. A full-body workout that includes all of the major muscle groups, cardiovascular activity and flexibility will help you manage stress, give you more energy, and improve blood pressure and cholesterol levels. Improvements to your overall health are likely to happen before you notice any significant changes to your physical appearance*

3. **Being physically active is too expensive. It takes equipment, special shoes and clothes...and sometimes you even have to pay to use sports facilities:** *You can be physically active even without going to a sports facility and it is not necessary to use equipment always.*

4. **Children by nature have so much energy. They hardly stay still. There's no need to spend time or energy teaching them about physical activity. They are already so active:** *Each day children and adolescents aged 6–19 years should accumulate at least 60 minutes of moderate- to vigorous-intensity physical activity to ensure healthy development. However, physical activity levels are decreasing among young people in countries around the world, especially in poor urban areas.*

This decline is largely due to increasingly common sedentary ways of life. For example, fewer children walk or cycle to school and excessive time is devoted to watching television, playing computer games, and using computers and mobile devices, often at the expense of time and opportunities for physical activity and sports and they consume unhealthy food. Physical education and other school-based physical activities have also been decreasing. Importantly, patterns of physical activity and healthy lifestyles acquired during childhood and adolescence are more likely to be maintained throughout the lifespan. Consequently, improving physical activity levels in young people is imperative for the future health of all populations .

5. **Too late to start to be physically active now:** *It is never too late to start. Even if you are starting after your 60's for the first time in your life, it could bring you health benefits. Proper risk assessments and appropriate prescription is what you need to start.*

6. **Women – no need of strengthening exercises:** *Women will gain the health benefits from strengthening exercises, as it is proven to improve the bone mineral density and prevents breast cancer.*

7. **Continuous exercising for 30 min. is a must:** *Not at all. Exercise can be done in 10 min. bouts to reach the daily requirement of 30 min.*

8. **Need a particular place like a ground, track or gym:** *Even home or workplace could be used to be active.*

9. **Daily activities /chores are enough:** *If done according to the recommended intensity and duration and type, yes it's enough. However, most of the time it is not monitored.*

10. **If I am lean, I do not need to exercise:** *Even though you are lean, if you do not involve in physical activity, your cardio-vascular risk is high for developing a NCD. In addition, being lean and physically inactive, will result in poor bone health, especially among females.*

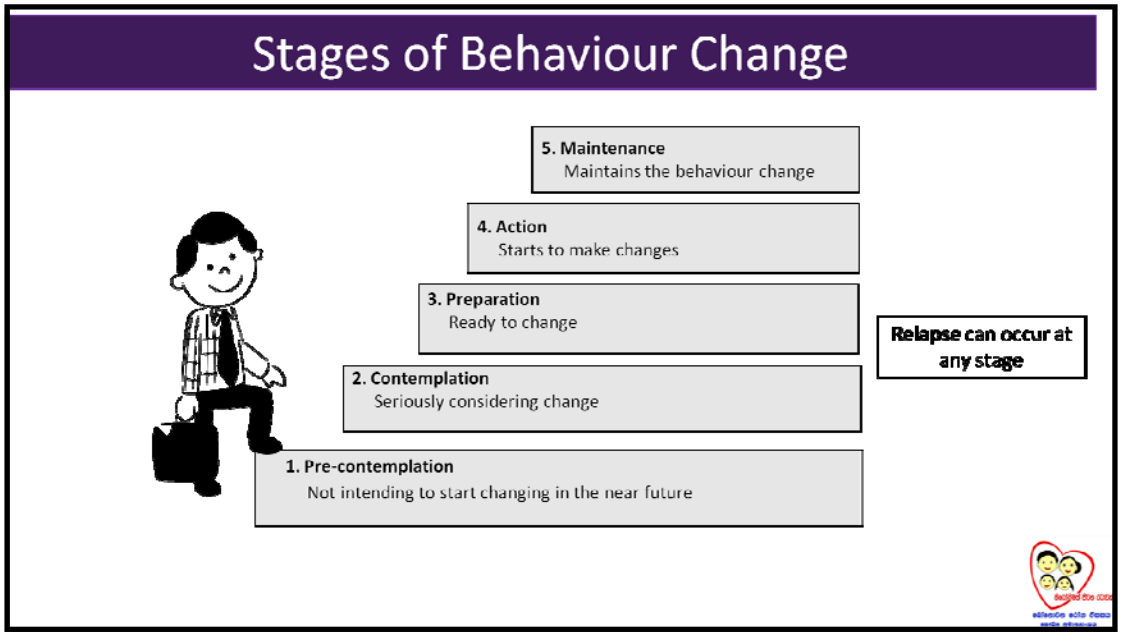
11. **Since I exercise, I do not need to control my diet:** *You gain weight more through your diet than the calories you burn through regular exercise.*

To promote physical activity, the health worker should understand the stages of change model, which will help them to understand which stage of change that the client is currently in.

The stages of behaviour change are given in the Slide No. 59.

Stages of behaviour change

Stages of behaviour change (Slide No. 59)



Reducing health risks may require changes to be made in some behaviours.
Behaviour change is a complex issue, and various models have been used to help understand it.

The "stages of change" model shown in the slide, and described below (also known as the "trans theoretical model of health behaviour change") is one such example.

According to this model, behaviour change is not a one-off event but rather a set of different stages through which a person moves. Identifying a patient's/client's current stage within the change model, can help the primary healthcare worker to target a brief intervention toward their needs.

Behaviour change takes time and different people go through the stages at various speeds; some may remain indefinitely at one stage.

Even though a person intends to start or maintain a new behaviour, for a range of reasons they may move back to an earlier stage, which is called 'Relapse'.

Relapse into an old behaviour does not necessarily mean a failure to change. Many people who eventually adopt a new behaviour make several attempts before it is maintained over the long term.

The stages of behaviour change are described below:

1. **Pre-contemplation stage**
   - The person is not intending to start changing in the near future
   - May not be aware that the current behaviour is a problem
   - May be in denial
   - May not feel confident about his/her ability to change

2. **Contemplation stage** (This stage can last for years)
   - The person is seriously considering change
   - Recognizes the current behaviour as a problem
   - Starts to consider the pros (benefit/rewards) and cons (risks/consequences)
   - May have mixed feelings about making changes; may see costs as outweighing the benefits

3. **Preparation stage**
   - The person is ready to change
   - Collects information about the problem and options to address it
   - May experiment with small changes
   - May have concerns about possible failure

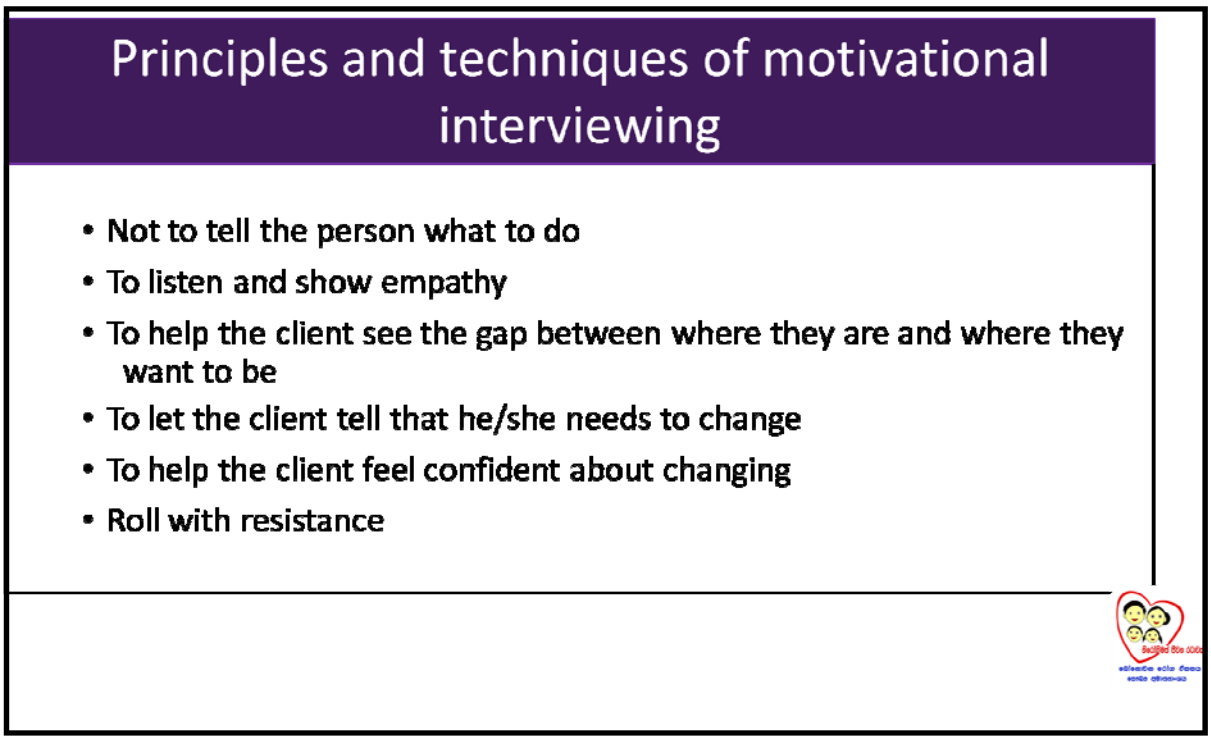
4. **Action**
   - The person starts to make changes

5. **Maintenance**
   - The person maintains the behaviour change

6. **Relapse/recycling**
   - This is not a stage and can occur at any point.
   - Returns to any of the previous behaviours
   - May feel disappointed, frustrated or tired
   - Primary healthcare worker should understand the principles of Motivational Interviewing to motivate their clients to change their current behaviour.

Motivational interviewing

Principles and techniques of motivational interviewing (Slide No. 60)



In motivational interviewing, the primary healthcare worker does not try to convince the client to change. Instead, he/she guides the clients to reach conclusions by themselves and draws out the internal motivations that are unique to the person.

Most people experience some uncertainty/unsureness or have "mixed feelings" about changing their current behaviour. They have some reasons to change and some reasons for staying the same, and may therefore remain "caught in the middle", unable to change. Motivational interviewing encourages people to explore these mixed feelings so that they can move toward a positive change.

Motivational interviewing meets people where they are in the stages of behaviour change. This means gaining an understanding of the person and their circumstances so that the healthcare worker can adapt the communication approach to the person's current behaviour change stage.

A comprehensive explanation of motivational interviewing is beyond the scope of this module. However, the next section summarizes some key principles and communication techniques for motivational interviewing. Further reading is suggested at the end of the module.

Key principles for motivational interviewing

The following principles can be used to guide the overall approach of motivational interviewing.

(1) Not to tell the person what to do

Telling people what to do can result in resistance. The client should be the one to decide that they need to change and how they will do it. In motivational interviewing, rather than taking the role of an advising expert, the healthcare worker becomes a partner. The counsellor and the client will work as a team towards the goal of behaviour change.

(2) Listen and show empathy

In motivational interviewing, the client does most of the talking. The healthcare worker listens and shows that they understand the patient's situation, without judging or criticizing. Empathy can be described as "getting into the person's skin" to understand how they think and feel and see the world. Empathetic listening creates an environment of acceptance and respect, that helps the client to be open and explore the reasons for their current behaviour and options for change.

(3) Help the client see the gap between where they are and where they want to be

This is also called "developing discrepancy". By asking questions about the client's goals and values, and then about the behaviour and its consequences, the healthcare worker helps the client to see the difference between their life as it is now (with the behaviour and its consequences) and the way they want their life to be.

(4) Let the client tell you that they need to change

Rather than telling the client that they need to change, the healthcare worker draws out the client's thoughts and feelings, helping them to find their own reasons for change and ways to start the change process.

(5) Help the client to feel confident about changing

If a person is convinced of the need for change, but does not feel confident about succeeding, they may not even make an attempt to change. The client needs to believe that the change is possible. This is called self-belief or self-efficacy. The healthcare worker can support self-efficacy by highlighting previous successes or strengths that the client may already have.

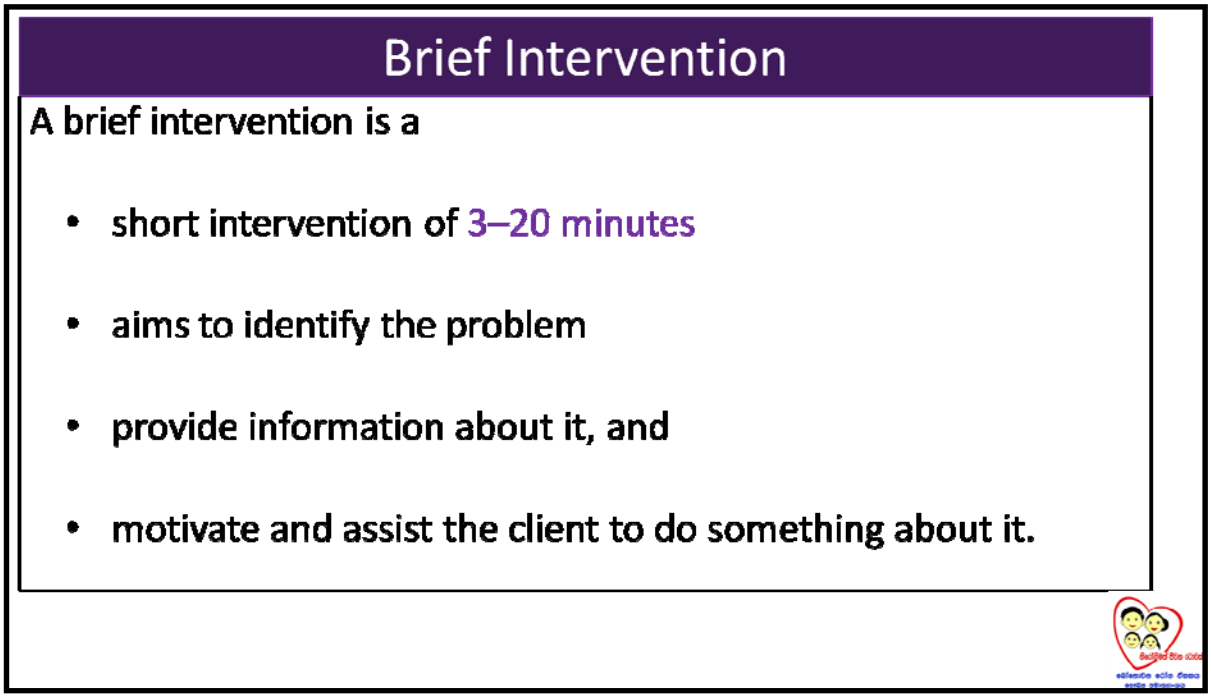
(6) Roll with resistance

During a counselling session, a client might show resistance to change in different ways, for example, by interrupting, becoming defensive or appearing to lose interest. This is an indication that the healthcare worker needs to adapt the communication approach. Direct confrontation or argument should be avoided. Rolling with resistance means acknowledging the resistance and adjusting to it, for example, by expressing understanding of the client's point of view, acknowledging personal choice and control, and redirecting the conversation.

Primary health-care workers play an important role in helping the clients change their unhealthy behaviours and maintain healthy behaviours. Short interactions with the clients between 3 and 20 minutes, called brief interventions would help the healthcare workers.

Brief interventions

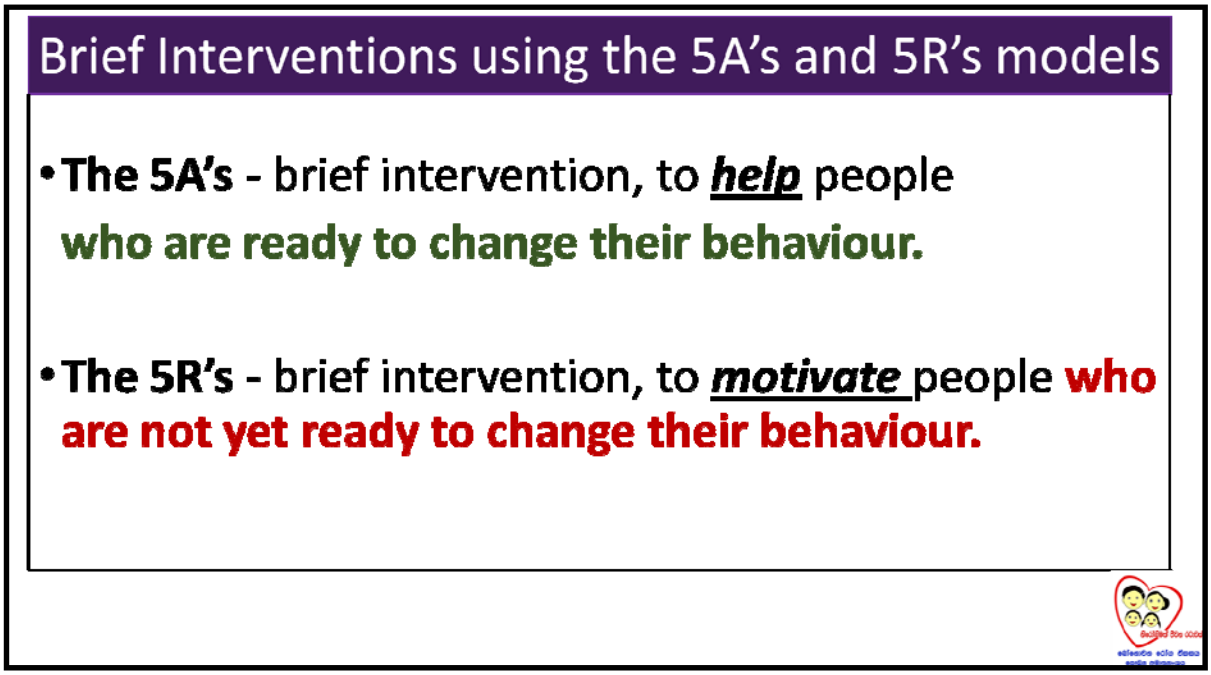
Brief interventions (Slide No. 61)



Thus, a brief intervention aims to identify a real or a potential problem, provide information about it, and motivate and assist the client to do something about it.

These brief interventions can be conducted utilizing two key models.

Brief interventions using the 5A's and 5R's models (Slide No. 62)

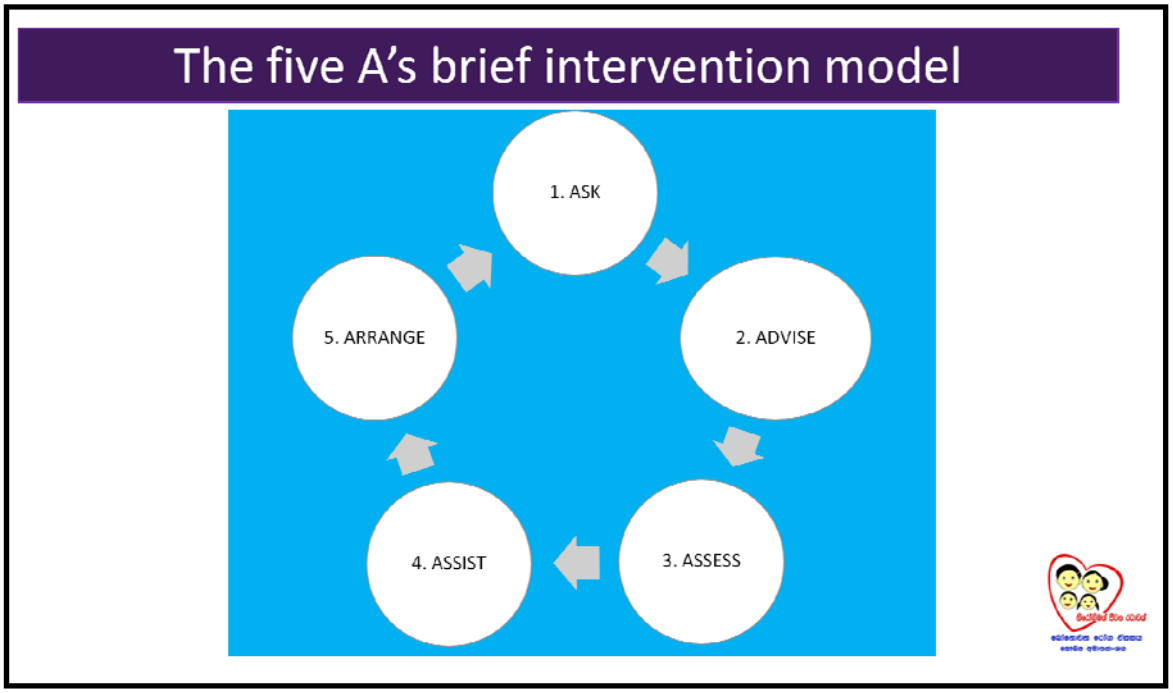


The 5A's (Ask, Advise, Assess, Assist, Arrange) brief intervention - ***helps*** people who are ready to change their behaviour while,

The 5R's (Relevance, Risks, Rewards, Roadblocks, Repetition) brief intervention - helps to ***increase motivation*** among those who are not yet ready to change.

Description of the 5A's model is given below.

The 5A's brief intervention model (Slide No. 63)



How to do the 5A's brief intervention

The 5A's summarize what a healthcare worker can do to help someone who is ready to change.

Ask: The Healthcare worker will ask questions on the most important aspects of the behavioural risk factor(s) from the client.

Advise: Healthcare worker would provide the minimum key messages to all clients.

Assess: Healthcare worker finds out whether the client is ready for additional information and assistance.

Assist: Provides more in-depth counselling and assistance.

Arrange: Provides referral and follow-up actions.

Explain and educate the participants on how to use 5A's brief intervention model to increase physical activity, using the following model given in the Table.

General theoretical framework for how to do the 5A's brief intervention

<table>
<tr><th>5A's</th><th>What to say/do and how to say/do it</th></tr>
<tr><td>Ask</td><td>Ask the client about the physical activity level at every visit
Ask in a friendly way, without being judgmental
Keep the questions simple
Record the information in the patient's medical record/notes

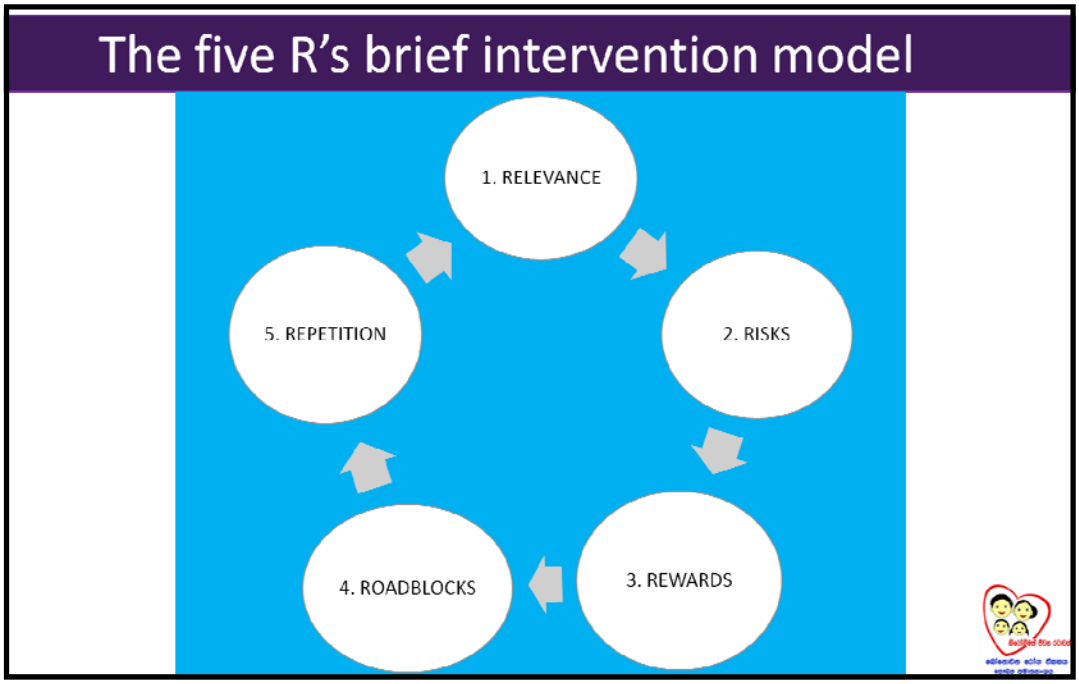
e.g. "In the past week, how many days have you been physically active for a total of 30 minutes per day or more? For example: walking, cycling, cleaning, gardening, climbing stairs, dancing or playing sport"</td></tr>
<tr><td>Advise</td><td>• All adults should do at least 2 1/2 hours (150 minutes) of physical activity per week.
• This can be spread over short sessions throughout the day and week, starting from as little as 10 minutes per session.
• Being more active can start in small ways which are part of daily life. This can include going for a walk, playing with children, gardening and domestic chores.
• Advantages of physical activity:
◊ Reduces the risk of heart attack and stroke or of developing hypertension, diabetes and cancer
◊ Can help to control blood pressure, cholesterol and diabetes
◊ Helps with weight loss and weight control
◊ Helps to prevent and manage depression
• Emphasize on some physical activity is better than none</td></tr>
<tr><td>Assess</td><td>Assess the client's readiness to start making a change by asking two questions:
1. Are you ready to be more physically active?
2. Do you think you will be able to succeed in increasing your activity levels?

<table><tr><td>Question 1</td><td>Yes</td><td>Not sure</td><td>No</td></tr><tr><td>Question 2</td><td>Yes</td><td>Not sure</td><td>No</td></tr></table>
Any answer in the shaded area indicates that person is not yet ready to change. In this case, the effort needs to be made to increase motivation for change. At this stage, the healthcare worker may change into 5R's model to motivate the individual to increase the physical activity levels.

Answers in the white area suggest that you and the patient/client can move on to the next step.</td></tr>
</table>

5A's	What to say/do and how to say/do it
Assist	Help the person to develop a plan to start increasing physical activity. Provide practical counselling: • Help the patient/client to identify areas of their daily life where they could start to increase their activity levels. • Help to identify activities that they would enjoy doing • Help to identify possible challenges and suggest how to overcome them • Provide social support • Encourage the person to talk with family, friends and work colleagues about their efforts to increase activity levels • Provide health education materials and information on additional resources.
Arrange	• Refer to specialist support services if needed and available • Follow up: decide the timeline and method and schedule the next appointment • Ask about successes and challenges For those who have become more physically active: ◊ Congratulate them on their success For those experiencing challenges: ◊ Remind them to view the process as a learning experience and that it takes time to establish new habits ◊ Review circumstances, discuss ways to address challenges and encourage recommitment to their plan. ◊ Link with more intensive support if available. Remind all patients/clients of any additional support and resources that are available

The five R's brief intervention model (Slide No. 64)



How to do the 5R's brief intervention

The 5R's (Relevance, Risks, Rewards, Roadblocks, Repetition) are areas that should be addressed in a brief intervention to help people who are not ready to change at this time.

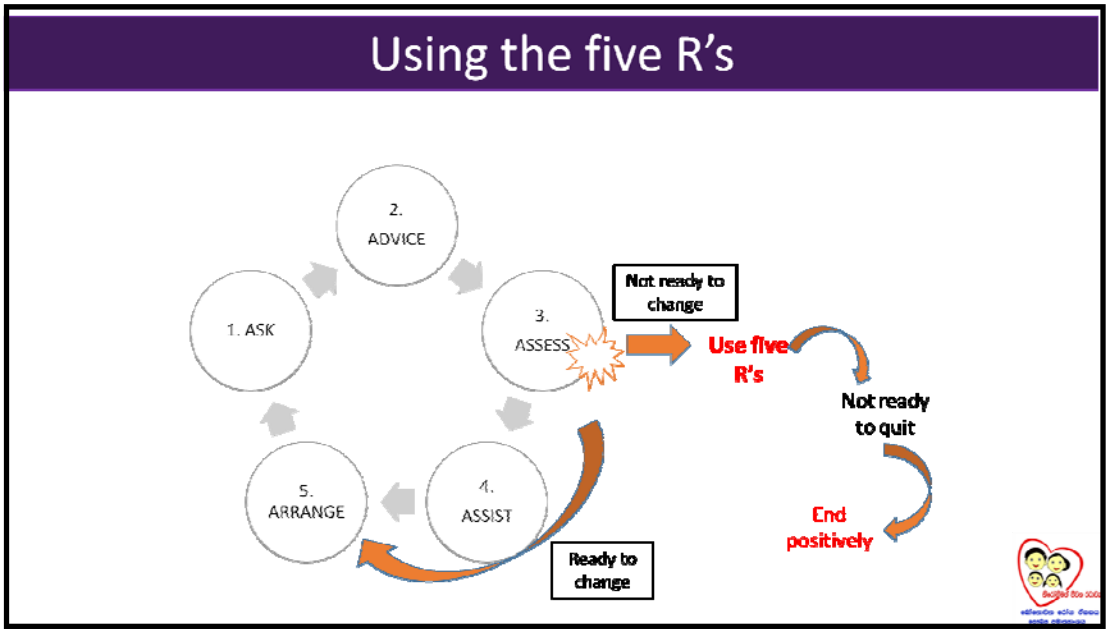
These people are in the pre-contemplation or contemplation stage of behaviour change. If the person does not want to change or does not think that the change is important, focus on the risks and rewards.

If they are considering the change but do not feel confident about being able to achieve it or have mixed feelings about it, focus more time on roadblocks. The sample questions are given in the table.

Sample questions for a 5R's brief intervention to motivate for being physically active

5R's	What to say/do
Relevance	*What kind of effects do you think your current physical activity level is having on your life and health?*
Risks	*What do you understand about the risks to your health by being physically inactive?* Go over the list of risks of physical inactivity and ask the person if they are concerned about any of these.
Rewards	*Can you think of any benefits that could happen if you made some changes to your physical activity level?* Go over the benefits of being physically active, specially highlighting the ways in which it could address the concerns previously mentioned.
Roadblocks	*Have you ever tried to change your level of physical activity in the past?* *Are there things that make it difficult to change your physical activity levels?* *Can you think of ways to reduce these difficulties?* Acknowledge the challenges and encourage the person to think of various options to address them
Repetition	Now that we have had a chat, let's see if you feel differently. 1. *Would you like to make changes to your physical activity levels, to help you achieve a healthy life?* 2. *Do you think you have a chance of successfully making changes to your physical activity levels?* If the person remains unwilling to start making changes to their physical activity levels at this time, end the discussion in a positive way, assure them of your support and invite them to return for further discussion if they change their mind. Provide health education materials. At the next follow-up visit, ask again if they feel ready to make changes to their physical activity levels.

Using the 5A's and 5R's (Slide No. 65)



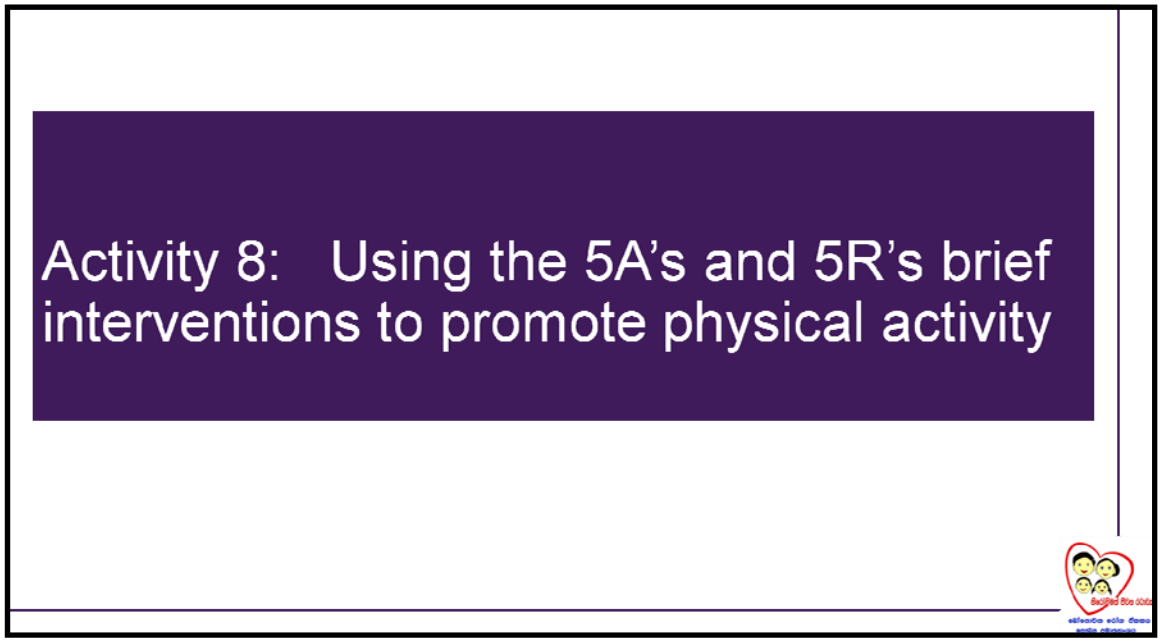
This slide summarizes the process of utilizing 5A's and 5R's brief intervention models for behaviour change of a client.

While applying 5A's model, identify whether the client is ready to change his/her behaviour at that moment or not, at the "Assess" stage.

- If the client is ready to change the current behaviour, continue to other stages of 5A's behaviour change model.
- If the client is not ready to change his/her current behaviour, use the 5R's model of brief intervention.

Activity 8: Using the 5A's and 5R's brief interventions to promote physical activity (Slide No. 66)

Maximum time to be spent on this activity: 30 min



The objective of Activity 8 is to make the participants understand that:

- Clients can be at different stages of behaviour change related to physical activity
- How they can utilize 5A's and 5R's brief interventions to promote physical activity among the population

Role-play: 5A's and 5R's interventions to increase physical activity

ASK THE LEVEL OF PHYSICAL ACTIVITY

Step 1. Ask for two participants to volunteer for the role play. The first volunteer will act as a primary health care worker and the second volunteer as a client / patient.

Step 2. Instruct other participants to observe the session.

Step 3. Ask the health care worker to use the 5 A's model and ask questions about the level of physical activity on a typical day, adapting the examples to local context.

Step 4. After the session, ask the participants to share the good practices observed and suggestions for improvement in the ASK session. Thank the health care worker volunteer.

ADVISE PROVIDING A CLEAR, FRANK AND PERSONALIZED MESSAGE

Step 5. Ask the patient / client volunteer to stay in the role play and invite the third volunteer to come forward.

Step 6. Ask the third volunteer to advise the client / patient to improve physical activity level based on the information elicited in the ADVISE session.

- Instruct other participants to observe the session.
- Using the algorithm, the health care worker provides clear, frank and personalized advice on improving the level of physical activity (If the client is achieving the recommended level of physical activity, encourage them to continue).
- After the session, ask the participants:

o to note the good practices and provide suggestions for improvement in the ADVICE session;

o to determine if the advice provided was clear, frank and personalized;

o to list the personalized messages that were used well by the health counsellor to advise the patient / client.

Step 7. Thank the health care worker volunteer and ask the patient volunteer to remain in the front.

ASSESS READINESS TO CHANGE

Step 8. Invite a fourth volunteer to come forward.

Step 9. Ask the fourth volunteer to ASSESS the level of motivation for improvement of physical activity.

Step 10. Instruct other participants to observe the session.

- The healthcare worker assesses readiness to make changes to a healthier physical activity level.
- Client expresses the readiness to increase the physical activity level.

ASSIST AND ARRANGE

Step 11. Ask the client to continue the role play.

Step 12. Invite a fifth health care worker volunteer. Ask the health care worker volunteer to ASSIST and provide practical counselling on physical activity.

Step 13. After the session, ask the participants:

- to share the good practices observed in the ASSIST and ARRANGE sessions;
- to provide suggestions for improvement in the ASSIST and ARRANGE sessions.

Step 14. Thank the fifth health care worker volunteer and invite a sixth volunteer to come forward.

Step 15. Ask the client volunteer to stay in the role play.

Step 16. Ask the participants to discuss the following questions:

- What goals were set for physical activity with the patient?
- How did the health-care worker encourage the patient?
- How were patient's obstacles discussed?
- Which led to the health-care provider making arrangements for the follow-up visit?

PROVIDING 5'RS BRIEF INTERVENTION TO INCREASE MOTIVATION

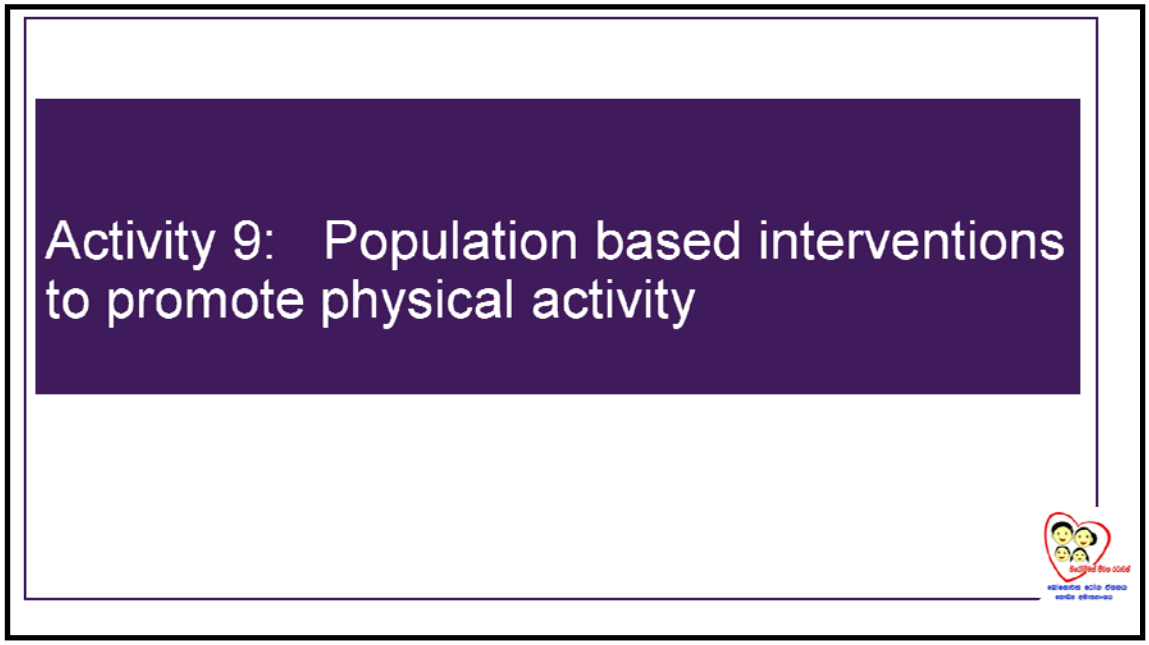
Step 17. Ask the client volunteer to continue the role play.

Step 18. Invite a sixth health care worker volunteer. The health care worker asks questions to assess the readiness of the client to improve the physical activity level.

- This time, the client does not show readiness to change.
- The health care worker uses the 5R's framework to enhance the motivation of the patient.
- Instruct the other participants to observe the session.

Step 19. After the session, ask the participants:

- to share the good practices observed;
- to list suggestions for improvement in the 5R's session to successfully motivate the patient.



Step 1. Discuss the existing initiatives in the communities of the participants, to improve physical activity.

Step 2. Ask the participants to propose innovative initiatives to promote physical activity in their communities. Describe how they would ensure maximum participation and support from the communities.

Reference (Slide No. 68)

This slide provides references for further reading.

Annex I

Sports Medicine Units in Sri Lanka

	Unit	MOIC	Contact No.
1	NHSL - Colombo	Dr. N. Sankalpana	0772908552
2	TH Kalubowila	Dr. U. Wijesiri	0712415354
3	LRH	Dr. P. Kandulawa	0112693711
4	BH Mulleriyawa	Dr. Tharanga Liyanagunawardhana	0718589979
5	DGH Gampaha	Dr. Kavinda Wijesingha	0710716426
6	TH Ragama	Dr. Malindani Dilanthika	0772658008
7	GH Kaluthara	Dr. Ashoka Premadasa	0718663937
8	TH Kurunegala	Dr. U. Madahapola	0777808610
9	TH Batticaloa	Dr. M. Puhaim	0772355786
10	NH Kandy	Dr. W. A. N. J. Wijethunga	0773749292
11	TH Peradeniya	Dr. R. A. N. D. Ranawaka	0774361289
12	TH Karapitiya	Dr. Himan De Silva	0777555681
13	BH Matara	Dr. Susantha Paris	0777395263
14	BH Hambanthota	Dr. D. V. C. Chanaka	0774100734
15	TH Jafna	Dr. Ariwuchelvam	0777570092

Annex II

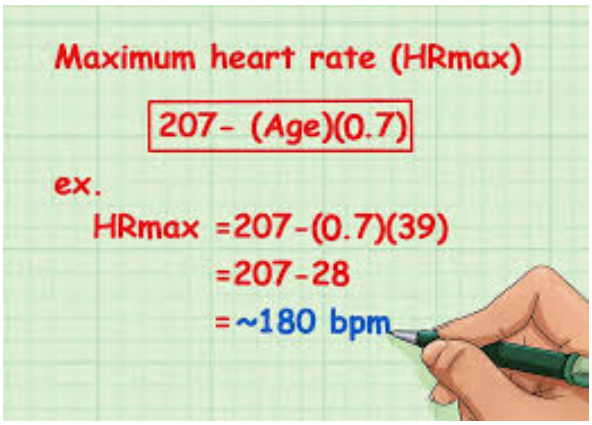
Physiological and absolute measures of measuring the intensity of physical activity

Physiological measures

1. Percentage of maximum heart rate (HRmax)

Calculating the percentage of maximum heart rate is one of the physiological measures that is used to assess the intensity of a physical activity.

Standard procedure of calculating the HRmax



For the ease of calculation, the following method can be applied:

- Multiply the age by 1 instead of 0.7
- Deduct the value from 220 instead of 207

e.g. if the client is 40 years old, 220 - (age)(1)
i.e. 220 - 40 = 180 beats per minute
therefore, the HRmax of that individual is 180 beats per minute

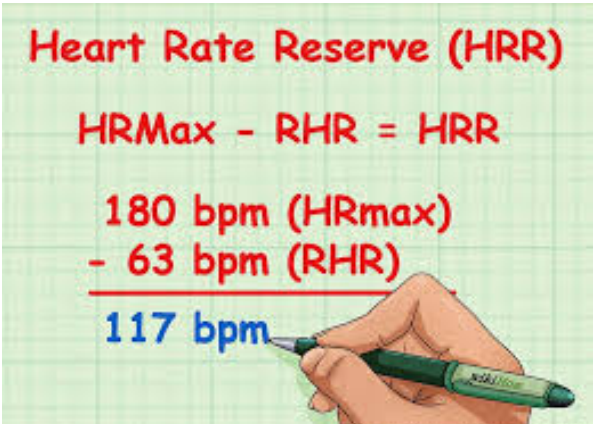
- The HRmax is the maximum heart rate that a particular individual can achieve during a maximum exercise session
- The Targeted Heart rate for an individual is calculated based on the intensity of the work out.
- Thus, in a light intensity physical activity, the target heart rate should be less than 64% of the HRmax of the individual.
- Thus, in a moderate intensity physical activity, the target heart rate should be 64 - 76% of the HRmax of the individual.
- Thus, in a vigorous intensity physical activity, the target heart rate should be more than 76% of the HRmax of the individual.

2. Percentage of Heart rate reserve (HRR)

This is another physiological measure of assessing the intensity of a physical activity performed.

- Heart rate reserve is calculated by subtracting the individual's heart rate at rest (RHR) by the HRmax

- How to calculate the HRR is given below:



As per the image given above, the resting heart rate of this particular individual is 63 beats per minute, and the HR max is 180 beats per minute. Thus, this individual can increase the heart rate by 117 beats per minute (the heart rate reserve) to achieve the HR max, which is the maximum heart rate that a particular individual can achieve during a maximum exercise session

- Thus, in a light intensity physical activity, the target heart rate should be less than 40% of the HRR of the individual.

- Thus, in a moderate intensity physical activity, the target heart rate should be 40-60% of the HRR of the individual.

- Thus, in a vigorous intensity physical activity, the target heart rate should be more than 60% of the HRR of the individual.

Absolute measures

Metabolic equivalent of task (MET)

One Metabolic equivalent of task (MET) is considered as the energy cost of sitting quietly, which is equivalent to 1kCal/kg/hour. (A MET is also defined as the oxygen uptake in ml/ kg/min; with 1 MET equals to the oxygen cost of sitting quietly, equivalent to 3.5ml/kg/ min).

- Explain the participants that with increase in the intensity of the activity performed, the amount of calories burnt increases (compared to the amount of calories burnt while sitting quietly), thus, the MET value increases.

Annex III

Sit and Reach Test for Assessing the Flexibility

The sit and reach test is used to assess the flexibility of an individual.

In an ideal setting a sit and reach box (Figure 1) is used for this purpose.

Figure 1

Procedure:

1. The individual has to be seated on the floor with fully extended knees (shoes removed) as shown in the image.
2. The soles of the feet are placed flat against the reach box.
3. Then, the individual should reach forward along the measuring line on the box as far as possible.
4. Ensure that both hands are at the same level; one hand not reaching further forward than the other.
5. The individual must hold the position for 1-2 seconds until the distance is recorded.
6. The level of the feet is marked as Zero, and the length is measured to the nearest centimeter.
7. The average value out of three measurements should be taken

As an alternative, a step of a staircase can be used as a sit and reach box as shown in Figure 2.

Figure 2.

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Facilitator Guide for Training of Trainers' Session

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