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Dr. Sanjay R Agashe
H.O.D., Department of Physical Education and Sports, S.N. Mor College, Tumsar, Bhandara, Maharashtra, India

Corresponding Author:
Dr. Sanjay R Agashe
H.O.D., Department of Physical Education and Sports, S.N. Mor College, Tumsar, Bhandara, Maharashtra, India

Impact of physical activity on the people's health: A comprehensive study

Dr. Sanjay R Agashe

Abstract
A healthy Life paves the way for a better society. The society in which people are hale and healthy will be in the forefront to take part in the nation building process. In this globalized world which is very busy and keeps the people on their heels all the time, people find less time for physical activity. So, it has a severe impact on the Health of the general public. Leave alone older ones, even the young are suffering from stress, obesity, Diabetes, joint pains, cardiac issues, and other related problems. The Government spending on health is also not satisfactory, especially in countries like India. So, Public awareness among people to tackle these health issues is the best solution. Physical activities regularly will reduce the risk of all these problems and keep the people happy.
The present study attempts to discuss the need of physical activity and the burden it reduces on public health, considering the growing health expenditures.

Keywords: Healthy life, public health, public awareness, physical activity

Introduction
WHO defines physical activity as any bodily movement produced by skeletal muscles that requires energy expenditure. Physical activity refers to all movement including during leisure time, for transport to get to and from places, or as part of a person's work. Both moderate- and vigorousintensity physical activity improve health.
Popular ways to be active include walking, cycling, wheeling, sports, active recreation and play, and can be done at any level of skill and for enjoyment by everybody.
Regular physical activity is proven to help prevent and manage noncommunicable diseases such as heart disease, stroke, diabetes and several cancers. It also helps prevent hypertension, maintain healthy body weight and can improve mental health, quality of life and well-being.
Physical activity is a very important and necessary component for a healthy life. Exercising for some time everyday keeps us healthy and away from ailments. A healthy body will keep us active and reduce the risks that we face. It also reduces the medical expenditure and in the process saves the money. It also improves the quality of life. The quality of life not in the sense of being rich or luxurious but in the sense of being healthy. It is related to the status and the ability to lead the life independently. Physical activity improves health related quality in our lives by having a positive impact on the psychological well-being and also boosting the physical functioning. Among many benefits of physical activity, it also reduces disability, impact, or severity of coronary heart disease, diabetics, hypertensions, swelling in the joints, and also problems related to arthritis.
Physical activity is generally defined as an activity that is linked to any type of bodily movement or action, whereas, exercise is a systematically structured and planned activity and is taken up with a motive and a fitness goal in mind. Both these normally refer to muscular activities, heavy or light, and that may be aerobic, as in activities such as walking, jogging, and running, or anaerobic as in activities such as weight lifting and other gym-related activities. Physical fitness can be related to the cardio fitness, respiratory ease, and other related components such as strength, balance, flexibility, and body composition. Normally sedentary individuals who lack physical activity show signs of exercise-related health disorders. A sedentary individual can usually be recognized, by comparing the relative activity levels of others. The Oxford dictionary of sports science and medicine defines a sedentary individual as

one who is "relatively inactive and has a lifestyle characterized by a lot of sitting." Relatively, they are prone to health related problems due to lack or insufficient physical activity.

How much of physical activity is recommended?

WHO guidelines and recommendations provide details for different age groups and specific population groups on how much physical activity is needed for good health.

WHO recommends

For children under 5 years of age

In a 24-hour day, infants (less than 1 year) should:

- Be physically active several times a day in a variety of ways, particularly through interactive floor-based play; more is better. For those not yet mobile, this includes at least 30 minutes in prone position (tummy time) spread throughout the day while awake;
- Not be restrained for more than 1 hour at a time (e.g., prams/strollers, high chairs, or strapped on a caregiver's back);
- Screen time is not recommended.
- When sedentary, engaging in reading and storytelling with a caregiver is encouraged; and
- Have 14-17h (0-3 months of age) or 12-16h (4-11 months of age) of good quality sleep, including naps.
- In a 24-hour day, children 1-2 years of age should:
- Spend at least 180 minutes in a variety of types of physical activities at any intensity, including moderate- to vigorous-intensity physical activity, spread throughout the day; more is better;
- Not be restrained for more than 1 hour at a time (e.g., prams/strollers, high chairs, or strapped on a caregiver's back) or sit for extended periods of time.
  - For 1 year olds, sedentary screen time (such as watching TV or videos, playing computer games) is not recommended.
  - For those aged 2 years, sedentary screen time should be no more than 1 hour; less is better. • When sedentary, engaging in reading and storytelling with a caregiver is encouraged; and • have 11-14 h of good quality sleep, including naps, with regular sleep and wake-up times.

In a 24-hour day, children 3-4 years of age should:

- Spend at least 180 minutes in a variety of types of physical activities at any intensity, of which at least 60 minutes is moderate- to vigorous-intensity physical activity, spread throughout the day; more is better;
- Not be restrained for more than 1 hour at a time (e.g., prams/strollers) or sit for extended periods of time.
  - Sedentary screen time should be no more than 1 hour; less is better.
- When sedentary, engaging in reading and storytelling with a caregiver is); encourage; and
- Have 10-13h of good quality sleep, which may include a nap, with regular sleep and wake-up times.
- For more information World Health Organization. Guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age. Children and adolescents aged 5-17 years
- Should do at least an average of 60 minutes per day of moderate-to-vigorous intensity, mostly aerobic, physical activity, across the week.
- Should incorporate vigorous-intensity aerobic activities, as well as those that strengthen muscle and bone, at least 3 days a week.
- Should limit the amount of time spent being sedentary, particularly the amount of recreational screen time.

Adults aged 18–64 years

- Should do at least 150–300 minutes of moderate-intensity aerobic physical activity;
- Or at least 75–150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week
- Should also do muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups on 2 or more days a week, as these provide additional health benefits.
- May increase moderate-intensity aerobic physical activity to more than 300 minutes; or do more than 150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week for additional health benefits.
- Should limit the amount of time spent being sedentary. Replacing sedentary time with physical activity of any intensity (including light intensity) provides health benefits, and
- To help reduce the detrimental effects of high levels of sedentary behaviour on health, all adults and older adults should aim to do more than the recommended levels of moderate- to vigorousintensity physical activity

Adults aged 65 years and above

- Same as for adults; and
- As part of their weekly physical activity, older adults should do varied multicomponent physical activity that emphasizes functional balance and strength training at moderate or greater intensity, on 3 or more days a week, to enhance functional capacity and to prevent falls.

Pregnant and postpartum women

All pregnant and postpartum women without contraindication should:

- Do at least 150 minutes of moderate-intensity aerobic physical activity throughout the week
- Incorporate a variety of aerobic and muscle-strengthening activities
- Should limit the amount of time spent being sedentary. Replacing sedentary time with physical activity of any intensity (including light intensity) provides health benefits.

People living with chronic conditions (hypertension, type 2 diabetes, HIV and cancer survivors)

- Should do at least 150–300 minutes of moderate-intensity aerobic physical activity;
- Or at least 75–150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week
- Should also do muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups on 2 or more days a week, as these provide additional health benefits.
- As part of their weekly physical activity, older adults should do varied multicomponent physical activity that emphasizes functional balance and strength training at

moderate or greater intensity, on 3 or more days a week, to enhance functional capacity and to prevent falls.
- May increase moderate-intensity aerobic physical activity to more than 300 minutes; or do more than 150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week for additional health benefits.
- Should limit the amount of time spent being sedentary. Replacing sedentary time with physical activity of any intensity (including light intensity) provides health benefits, and
- To help reduce the detrimental effects of high levels of sedentary behaviour on health, all adults and older adults should aim to do more than the recommended levels of moderate- to vigorousintensity physical activity.

Children and adolescents living with disability:
- Should do at least an average of 60 minutes per day of moderate-to-vigorous intensity, mostly aerobic, physical activity, across the week.
- Should incorporate vigorous-intensity aerobic activities, as well as those that strengthen muscle and bone, at least 3 days a week.
- Should limit the amount of time spent being sedentary, particularly the amount of recreational screen time.

Adults living with disability
- Should do at least 150–300 minutes of moderate-intensity aerobic physical activity;
- Or at least 75–150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week
- Should also do muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups on 2 or more days a week, as these provide additional health benefits.
- As part of their weekly physical activity, older adults should do varied multicomponent physical activity that emphasizes functional balance and strength training at moderate or greater intensity, on 3 or more days a week, to enhance functional capacity and to prevent falls.
- May increase moderate-intensity aerobic physical activity to more than 300 minutes; or do more than 150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week for additional health benefits.
- Should limit the amount of time spent being sedentary. Replacing sedentary time with physical activity of any intensity (including light intensity) provides health benefits, and
- To help reduce the detrimental effects of high levels of sedentary behaviour on health, all adults and older adults should aim to do more than the recommended levels of moderate- to vigorousintensity physical activity.
- It is possible to avoid sedentary behaviour and be physically active while sitting or lying. E.g. Upper body led activities, inclusive and/or wheelchair- specific sport and activities.

In general, the three dimensions of physical activity are frequency, duration, and intensity. Frequency is generally termed as the number of times an activity is performed in a specific time slot or frame. Duration is the complete amount of time taken in performing an activity continuously over a session or accumulated over a specified time, may be a day or a week. Intensity is the energy expended during a specific activity. When it comes to the measurement of the intensity of any physical activity, it is relative to the individual's capacity and can be accurately measured only in scientific or laboratory settings. However, some measurements were taken based on the questionnaires. Although some of the data thus obtained are subject to self-reported bias, much of the data was proved to be fairly accurate and was very much useful in distinguishing active people from inactive ones. With such data at a macro level and implementing certain steps at microlevel and creating awareness among people the increase in physical activity can be shown as a god indicator of good health.

The types of physical activities to be taken up and the intensity of these activities to assess the health outcomes and obtain positive outcomes may vary. However, such data will be useful to have or frame a general opinion on various physical activities that can be taken up to reduce negative health symptoms. Aerobic activities such as running, jogging, or brisk walking that help improve the cardiorespiratory functioning will help in preventing coronary heart diseases. Activities such as bicycling or swimming that cause less strain to the joints and increase joint lubrication and flexibility are helpful in the prevention or delaying the progression of arthritis and related ailments. It decreases the pain, improves self-efficacy and physical function. The intermediate changes in blood pressure causing hypertension, the changes in serum cholesterol, and the impact of diabetes all can be reduced with physical activity. The improved body composition due weight loss will impact insulin sensitivity and glucose tolerance and so a positive impact. Adults should take up vigorous activity such as running for at least 20 min on 3 or more days/week or activities of moderate intensity such as brisk walking for at least 30 min on 5 or more days/week. Apart from these flexibility and muscle strengthening activities should be taken up on 2 days/week. Studies have proved that there will be improved health condition if physical activity is taken up on a regular basis.

The health of the people is the responsibility of the state. The government should take care of the medical facilities, but with the fast growing demands, it is becoming difficult for the governments to take care of all the health-related problems. On the part of the government, they should create awareness among the people on the positive impact of physical activity on health and how can the expenditure be reduced if the people are healthy. The decision to be active is an individual choice, but there are certain factors that support active lifestyles. From the government side, they should provide activity friendly structures such as safe green spaces, walking, and jogging tracks and enable people to use them. Such structural changes will have effect on the overall physical activity and also aim at change in individual behavior. The general public also must look for natural remedies than medicine for some disorders that can be controlled. Hence, all of us should work together for a healthy society.

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