

# Exercise's Advantages for Developing Nations

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## Abstract

The population of rising countries is more likely to suffer chronic diseases due to the disparity between the preventive adaptation and the feedback effects of technological advancement. This new « epidemic » is a major concern for the public health due to the costly undertaking to reimburse medical expenses.

**Keywords:** health; sport; emerging countries

## 1. Epidemiological shift

Infectious infections, especially those that are water-borne, have long been the hallmark of poor nations. Mortality and morbidity were mostly caused by infectious diseases that were made worse by undernourishment or malnutrition. A growing number of nations, such as the Maghreb, are being impacted by the emergence of non-transmissible diseases, while some are still comparatively exposed to transmissible diseases, as highlighted by the rapid spread of AIDS. Approximately 60% of all causes of death are caused by type 2 diabetes, obesity, hypertension, and cancer, all of which are on the rise. According to estimates from the World Health Organization, non-communicable illnesses account for 17 million deaths globally in 2002; if the issue is not addressed promptly, that number might rise to 25 million by 2020. Smoking, adopting a sedentary lifestyle, and altering food habits are blamed for 80% of cardiovascular deaths.

## 2. Modernism and its aftereffects

The advancement of technology has given households access to resources that increase comfort and minimize effort. The accessibility of materials and equipment like computers, washing machines, televisions, and cars, which are becoming more and more within the capabilities of the common person, encourages customers to use them excessively, exacerbating the problem of sedentary lifestyles.

People in emerging nations are moving from rural to urban areas, partly to avoid the monotony of rural living and partly to give their children access to long-term education that is only available in densely populated areas. This condition, which was frequently brought about by the colonial powers' departure, has caused a significant shift in lifestyle choices, with the following effects: The consequences of which are not always advantageous. Indeed, the changes imposed by the urbanization of populations have led to a number of physical and mental disorders.

-The availability of technical instruments promotes sedentary lifestyles, which cause people to exert less and less effort. For their professional and/or social activities, city people commute by car, either alone or in groups. The growing use of electro-technical equipment (TV, computer, washing

machine, etc.) promotes inactivity, exacerbating the negative effects of a sedentary lifestyle.

- As women gain independence and enroll in professional schools, their eating habits also shift, leaving less time for cooking. New eating patterns that favored quick food resulted from this. Traditional home cooking was gradually supplanted by fast food as it got more and more popular (sweet, salty, and fatty) and more reasonably priced (a pizza frequently costs less than a ready-made dinner). Due to the newcomers' abandonment of farming, there was a shortage of

-The abandonment of farmland by the new city dwellers led to both a scarcity of fresh vegetables and fruit and a rise in their price, encouraging families to consume quicker, less expensive dishes.

Pollution in urban centers was exacerbated by overcrowded factories and an increasingly dense and often ageing car fleet. Added to this atmosphere imposed by technological development is smoking, which, despite negative publicity, affects a significant proportion of the population and younger and younger. The desire to assert oneself as an adult, for some, and stress for others, are the main causes of smoking.

- Stress is one of the key risk factors of modern life. The relatively abrupt change in the way of life of emerging populations, with the increasingly strong influence of the social environment compared to the family and traditional context, weighs heavily on the minds of citizens who suffer the after-effects of the conflict between generations and their respective frames of reference.

Technological change, which is leading to a reduction in the workforce, combined with a strong demand for employment on the part of newly urbanized people, is exacerbating the phenomenon of unemployment and the stress that goes with it.

## 3. The negative consequences of idleness

All organs experience relative maladjustment as a result of a sedentary lifestyle, with the musculoskeletal and cardiovascular systems suffering

the most. By 2022, 15% of diabetes cases worldwide and about a million deaths were attributed to physical inactivity, according to a WHO research on non-communicable illnesses.

The following are the consequences of the sedentary lifestyle brought about by technology emancipation:

- Decreased muscle strength, which becomes worse with age and causes arthropathy and tendinopathy to start early, which makes a person dependent. This weakening and atrophy of the muscles also frequently results in imbalance issues, which in turn causes a high rate of fractures, especially to the femoral neck.
- Increased atheromatous risk, leading to ischemic accidents affecting the heart (infarction) or other organs (stroke).
- A delay in intestinal transit that increases the amount of time that feces and their toxins come into contact with the intestinal wall.

The condition known as "chronic" constipation promotes the growth of colon cancer.

The primary causes of death and morbidity among non-communicable diseases are the repercussions of physical inactivity, as previously discussed. There are further negative impacts that should be mentioned, especially for individuals with respiratory (asthma) and metabolic (diabetes) conditions, where the maladaptation brought on by a sedentary lifestyle causes disruptions (difficulties breathing, frequent asthma attacks, and unstable blood sugar levels).

Childhood obesity and development issues can result from inactivity.

#### 4. Objectives of physical activity

The main aim of programming regular physical activity is prevention. Prevention is likely to act on several levels, depending on whether the subjects concerned are healthy, at risk or ill: we speak of primary, secondary and tertiary prevention.

- Primary prevention helps prevent the onset of risk factors (obesity, cholesterol, triglycerides, etc.). Regular physical effort mobilizes muscular masses whose repeated contraction requires an energy supply that comes essentially from carbohydrates and lipids, two sources of energy that contribute to risk factors.
- In order to prevent the subsequent disease, secondary prevention entails managing the risk factors that have emerged (for example, making sure hypercholesterolemia does not cause a cardiovascular accident).
- Tertiary prevention focuses on the patient, who can prevent problems (such as cardiovascular difficulties in diabetics) by scheduling appropriate physical exercise.

#### 5. Benefits of physical activity

Frequent physical activity offers several well-established advantages. All organs are impacted, either directly or indirectly, by the changes, which significantly improves the person's physical and general health, whether they are well or not.

- Physical exercise increases respiratory efficiency at the pulmonary level by improving ventilatory amplitude and lowering respiratory frequency.

Increased alveolar-capillary exchanges at this level permit a higher intake of oxygen.

- The outcomes are more remarkable at the cardiovascular level, where there has been a discernible increase in the heart pump's efficiency. Indeed, cardiac output.

-alterations brought about by an increase in systolic ejection volume (SEV), which increases maximal output ( $F_{cmax} \times SEV_{max}$ ) and allows the body to function more efficiently at rest (lower resting heart rate).

By strengthening the collateral blood network, exercise also improves the circulatory surface. The organs receive more oxygen and other nutrients as a result of these impacts. Frequent exercise also lowers peripheral vascular resistance, which lowers blood pressure and improves blood pressure stabilization. Last but not least, there is a decreased chance of atheromatous deposits on vascular walls, which considerably lowers the risk of heart attacks and strokes.

- There has been a noticeable improvement in transit on the digestive front, reducing the amount of time that fecal toxins come into contact with the intestinal wall. Exercise in this manner aids in lowering the risk of colon cancer.

- Regular physical activity contributes to the development or maintenance of muscle strength, which in turn lowers the incidence of imbalance and the subsequent bone damage that affects musculoskeletal structures. By decreasing tendon microaggressions and cartilage wear, this increase in strength also delays the onset of early tendinopathy and arthrosis. The preventive advantages of stretching exercises, which support the maintenance of ideal flexibility, are equally advantageous to the latter.

- The psychological advantages are evidently felt on a mental level, as evidenced by the decreased levels of tension and the appearance of a little pleasure brought on by endorphin release. Following a training session, the person experiences a psychological sense of relief from the day's stress and a sense of wellbeing.

#### 6. Suggested physical activity

Experts agree that the physical activity should be endurance-type exercise, meaning it should be long-term and medium-intense. It is advised to work out for 30 to 45 minutes, three to five times a week. The heart rate should be raised by the planned effort to between 60 and 70 percent of the maximum heart rate, which can be found using the formula  $\text{max frequency} = 220 - \text{age}$ . The most popular forms of exercise for this kind of activity include cycling, running, brisk walking, and swimming; individuals with hip, knee, or ankle osteoarthritis prefer the latter.

Combining muscle-strengthening and -maintenance workouts is also advised to counteract the detrimental effects of muscular inactivity, maintain optimal strength and avoid balance issues that may result in trauma. Stretching should be done in addition to these muscle-strengthening activities to maintain optimal flexibility and assist prevent tendinopathy.

#### 7-The fundamentals of physical education

Although physiological changes brought about by physical training are good for one's health, these benefits are short-lived if one chooses to stop exercising. The "physiological principles of training" are as follows: a Principle of progressive load, which implies raising the workload as the body adjusts; a Principle of overload, which suggests adding an additional load to daily activities (dressing, moving around, etc.) through physical exercise.

- The load individualization principle, which calls for recommending a load tailored to each person's unique physical state.
- The principle of load specificity, which suggests selecting exercises based on the intended goal (for example, endurance to prevent chronic diseases);
- The principle of reversibility, which highlights the necessity of sustained, regular physical activity in order to maintain the advantages gained.

#### 8. Conclusion

It is now widely acknowledged that physical activity has a critical role in preventing non-communicable diseases and its aftereffects. Lowering risk factors by engaging in consistent, modified exercise helps to regulate or

reduce the "chances" of contracting the ensuing illnesses and avoid complications. Sedentary lifestyles affect people of all ages in emerging nations because of the accessibility of products associated with technology advancement (children, adults of both sexes). The empowerment of women has made it possible for them to enter the workforce and higher education, mostly due to the ease with which international television networks may be accessed.

Women are less available for home tasks because of their increased social life involvement. Consequently, families are compelled to people alter their eating habits and go to fast-food restaurants, which are progressively taking the place of homemade meals. People in emerging countries are taking the easy route and giving up their traditional habits due to the availability of fast food for the average consumer and the abandonment of rural areas and farms. This is causing a significant disruption in culinary customs.

The advent of new technologies and the rural exodus have changed the way people live, making rising populations more susceptible to chronic illnesses like diabetes and cardiovascular disease. Obesity is more common in youngsters because of the overindulgence in sugary and fatty foods in schools and fast food restaurants. Obesity has long been viewed as a sign of excellent health in sub-Saharan countries.

A new strategy for managing FOMS has emerged as a result of managers' increasing knowledge of the risks associated with non-transmissible diseases. This strategy is centered on encouraging physical activity and a well-balanced diet.

The ability to watch international TV channels through satellite dishes has improved the awareness of growing people regarding the dangers of an imbalanced diet and sedentary lifestyle.

of outward indications of health, upending established customs. The emancipation of women has made it possible to better educate communities by allowing some habits to be questioned and increasing the likelihood that they would adopt the new policy of preventing so-called modern-day disorders. This is because women now have easier access to studies.

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