

ICMR - National Institute of Pathology



NEWS Letter



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The Power of Prevention Standing Up Against the Diseases of Sedentary Lifestyle

Neihenuo Chuzho

'Those who think they have not time for bodily exercise will sooner or later have to find time for illness.' **Edward Stanley**

The word 'sedentary' was borrowed by the English speakers from the French word 'sedentaire' in the 16th century, which in turn is derived from the Latin word 'sedentarius', meaning, 'of one that sits'. A person who tends to spend too much time sitting is said to be living a sedentary life and a lifestyle with little or no physical activity is called a sedentary lifestyle. This is contrary to human nature. Humans are meant to move as evident in the nomadic lifestyles of our ancestors. Yet, today, we live in the most sedentary era *Homo sapiens* have ever experienced and there is a fundamental mismatch between the way our bodies are built and the conditions we subject our bodies to. The human body is built and designed to move. For instance, there are over 360 joints and nearly 700 skeletal muscles that enable easy and fluid movement of our body; there are about 95-100 billion neurons or nerve cells in our body which benefit from our movement; and to be able to circulate properly, our blood depends on us moving around. The lack of physical activity causes muscle atrophy, i.e. shrinking and weakening of the muscles, and results in metabolic, hormonal and neural changes in the body. Hence, humans ideally should be moving around much more than sitting down.

To think of sitting as an unhealthy behaviour seems absurd. This may be because most of us typically associate unhealthy behaviour to smoking, alcohol consumption, excessive eating and the likes or because simply sitting down seems like a harmless activity and it is, as long as it is not for long stretches of time. Unfortunately, the nature of some jobs may compel a person to sit for long hours throughout the day. So, it is possible that a person may be living a sedentary lifestyle out of compulsion. However, with the rapid advancements in science and technology in the 20th and 21st century, sedentary lifestyle is no longer just a problem restricted to those who work behind desks in offices. Technology has heavily altered our way of life to an extent that sitting and toying with our gadgets for hours on end has become a new 'normal' of our times.

Activities like watching television, playing video games, using a mobile phone/computer, browsing and social networking have become an integral part of our existence. All these activities are carried out either sitting or lying down. On top of these, we have become used to many facilities which reduces physical and muscular activities from mixer grinders to washing machines to elevators, accelerators, cars and airplanes. All these correspond to increasing amount of time spent being inactive for a good part of our waking day. According to the World Health Organization (WHO), 60 to 85% of the population worldwide does not engage in enough physical activity. Modern conveniences such as options to pay our bills online or the privilege of online shopping, all adds to our sedentary hours. Eventually, sedentary lifestyle puts us at a risk for serious health problems both physical and mental and is the reason behind many preventable causes of death.

A sedentary lifestyle can wreak havoc on our health Sedentary lifestyle resulting in a diseased state and potential death was known as far back as the 600 BC when Susruta included exercise in his recommendations to prevent and treat diseases. For centuries, it is known that lack of exercise can result in weight gain and obesity. However, till the 1950s, there was sceptical response when researchers first hypothesised that men engaged in active work are less likely to develop coronary artery diseases than men who are not engaged in active work. The scepticism was put to rest by the groundbreaking work done in 1940s and 1950s by Morris Jerry and his group. By performing large scale survey, Morris and others first reported that the sedentary drivers of London's double-decker buses have higher rates of cardiovascular disease than the conductors who climb the stairs. Morris and his group extended this study to other occupations and found that people engaged in sedentary jobs (like receptionists) suffer from more heart attacks compared to those who were on active jobs (like the postmen who delivered the mail on foot). Today, it is well established that to a large extent, sedentary lifestyle is the mother to most of the health problems.

A sedentary lifestyle can contribute to or be a risk factor for a number of diseases including hypertension, stroke, obesity, migraines, osteoporosis, scoliosis and spinal disc herniation (low back pain). According to a report by John Hopkins Medicine, physical inactivity may increase the risk of type 2 diabetes and certain cancers. In fact, worldwide it is estimated that a sedentary lifestyle is responsible for 10% of breast cancer and 10% of colon cancer case. All these diseases are non-communicable diseases (NCDs) and according to World Health Organization, NCD ailments are rapidly replacing communicable diseases like diarrhea and tuberculosis. Recently, Indian Council of Medical Research (ICMR) reported that as per the Global Burden of Diseases Study 2016 Estimate, 61.8% of all deaths in India were due to NCDs. Sedentary lifestyle contributes significantly to NCD ailments and it is reported that almost 23% are at a risk of premature death due to such diseases. A Lancet report by Lee et al. in 2012 provided strong evidence that physical inactivity shortens life expectancy and that diseases of sedentary lifestyle causes one in ten deaths. They also estimated that not doing enough physical activity causes 5.3 million deaths a year, while smoking is responsible for around 5 million deaths per year. The comparison between smoking and inactivity prompted some experts to declare that, 'sitting is the new smoking'.

Sedentary lifestyle not only causes physical illness but also profoundly impacts our mental health. Long hours of inactivity are reported to cause anxiety and depression. Long Zhai and his group from the Qingdao University Medical College, Shangong tied too much sitting at the computer or lying around watching TV to risk of depression. In 2015, Teychenne et al. highlighted the surge of anxiety disorders in the recent years and attributed it to sedentary living. They reported a positive association between sitting time and anxiety symptoms and suggested that exercise and time spent in nature does the mind and body good. Exercise causes the release of chemicals or hormones call endorphins which relieve stress and pain, making person feel invigorated. Interestingly, laughter is also reported to stimulate endorphin production in our body.

Nowhere is it more true that 'prevention is better than cure,' than in the case of diseases of sedentary lifestyle. It is said that one of the worst things one can do to the body is to do nothing. Our modern technologies have got us to a point where we can get throughout the day without getting up. Hence, to keep sedentary lifestyle diseases at bay, one has to make a conscious effort to shift from a sedentary lifestyle to an active one. It might sound like a cliché but certain ordinary behaviours like taking the stairs instead of the lift or elevator and walking to and fro while talking on the phone can do wonders for our well-being. According to health experts, 150 minutes of moderate level of exercise or 75 minutes of vigorous exercise per week actively reduces the risk of developing sedentary lifestyle diseases. Taking a membership in a gym or sports club can help beat the diseases of sedentary lifestyle. However, being physically active throughout the day is reported to have tremendous health benefits over a routine exercise at one particular time of the day. A recent report by the American Heart Association highlighted the dangers of sedentary lifestyle and warned that even bursts of exercises may not undo the health effects of excessive sitting and in this light, avoiding a sedentary lifestyle becomes extremely important.

The advances in modern science have given us greater chances of combating different diseases and disorders and yet, even though we live longer than ever before, we suffer additional longevity with rising levels of chronic diseases due to our sedentary lifestyles. Ultimately, death is fate we all share but nobody consciously wants to get there in a hurry! It is true that premature death is caused by numerous other factors like infectious diseases, accidents and even the dreaded environmental pollution. However, physical inactivity remains one of the leading risk factor for global mortality. According to the WHO Department of Health Statistics and Informatics, a sedentary lifestyle can lead to a significant amount of NCD deaths and by 2030, NCD ailments are expected to cause more than three-fourths of all deaths. Some diseases can be eliminated through early diagnosis or good treatments but it is only through prevention that most diseases can be effectively eliminated. The simple action of disrupting our sitting time by getting up and moving around is a powerful medicine as Hypocrates aptly puts it, 'walking is man's best medicine'. Health is the greatest wealth we have and no amount of material possession can compare to it. We must do what is best for our health: move more, sit less.

Reference Sources:

- Booth, F. W., Roberts, C. K., & Laye, M. J. (2012). *Lack of exercise is a major cause of chronic diseases. Comprehensive Physiology*, 2(2), 1143-1211.
- Paffenbarger, R. (2000). *Jerry Morris: pathfinder for health through an active and fit way of life. British Journal of Sports Medicine*, 34(3), 217.
- Teychenne, M., Costigan, S. A., & Parker, K. (2015). The association between sedentary behaviour and risk of anxiety: a systematic review. BMC Public Health, 15:513
- Young, D. R., Hivert, M. F., Alhassan, S., Camhi, S. M., Ferguson, J. F., Katzmarzyk, P. T., & Yong, C. M. (2016). *Sedentary behavior and cardiovascular morbidity and mortality: A science advisory from the American Heart Association. Circulation*, 134(13), e262-e279.
- Zhai, L., Zhang, Y., & Zhang, D. (2015). *Sedentary behaviour and the risk of depression: a meta-analysis. Br J Sports Med*, 49:705-709.
- <https://www.cdc.gov/physicalactivity/basics/pa-health/index.htm>
- <http://www.health.org.uk/sites/health/files/AHealthierLifeForAll.pdf>
- <https://www.lifespanfitness.com/workplace/resources/articles/health-risks-of-a-sedentary-lifestyle>
- <http://www.mymedicalmantra.com/ncds-responsible-for-58-lakhs-deaths-in-2016-health-ministry-informs-lok-sabha/>
- <http://www.who.int/mediacentre/factsheets/fs385/en/>

* The views expressed are purely those of the authors.

INSTITUTIONAL ACTIVITIES

CONFERENCES/PROCEEDINGS/SEMINARS/ ATTENDED

1. NIP celebrated 'Swachh Bharat Abhiyan' on 29.9.2017. An Essay Competition and Poster Competition was organized and pledge regarding swachhta was taken by staff of NIP.
2. Anti corruption day was celebrated at NIP on 2nd Nov. 2017.
3. NIP was celebrated "Hindi Day" on 13th Dec.2017. An essay competition was organized at NIP library by NIP Staff.

Promotions and New Joinings at NIP :

- **Dr. Nasreen Z. Ehtesham** joined as Director-In-Charge w.e.f.1st Nov. 2017.
- **Dr. Aroonima Misra** joined as Scientist 'C' w.e.f. 23rd May 2017
- **Ms. Sunita Ahuja** promoted as Administrative Officer w.e.f. 9th Aug.2017
- **Mr. V.S. Rawat** promoted as Accounts Officer w.e.f. 9th Aug. 2017.
- **Mr. Mangey Ram** promoted as Section Officer w.e.f. 12th Sept. 2017.
- **Mr. Subhash Babu** promoted as Section Officer w.e.f. 12th Sept. 2017.
- **Ms. Pinky**(15th May 2017), **Mr. Makhan Singh** (17th May 2017)and **Mr. Baldev Bhaskar** (15th May 2017), joined as LDC.

Farewells

- ***We bid farewell to Dr. Poonam Salotra, Director-In-Charge on her superannuation on 31st Oct. 2017.***
- ***We bid farewell to Ms. R. Saratha, Administrative Officer on her superannuation on 28th Feb 2017.***
- ***We bid farewell to Mr. Raja Ram, Accounts Officer on his superannuation on 31st July 2017.***

LIBRARY ACTIVITIES

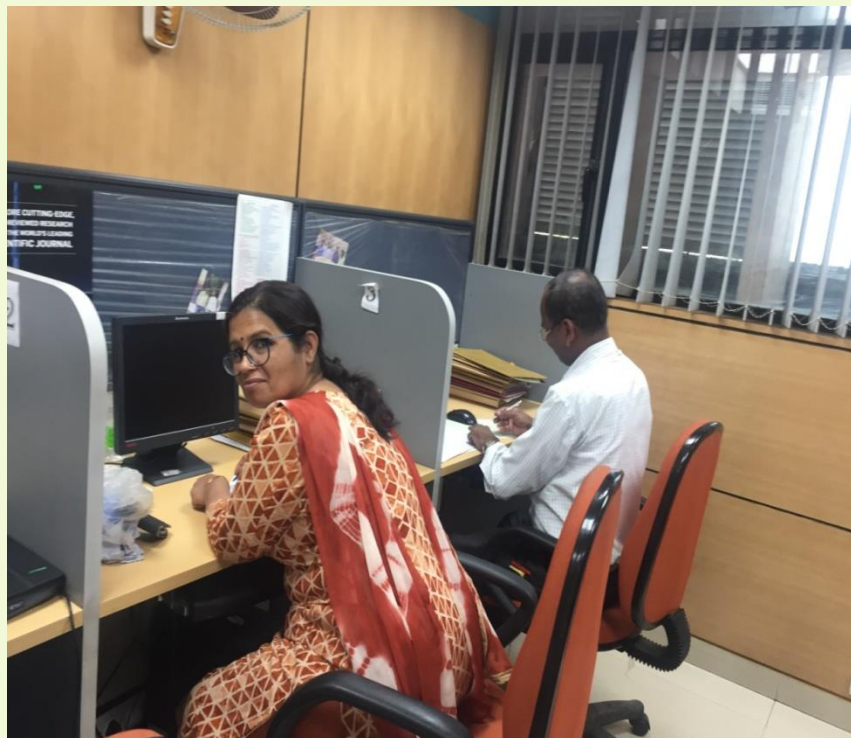
- i. NIP Library Conducted one day training/ Hands on for WEB OF SCIENCE at Journal Club.
- ii. Librarian's Day was celebrated at NML, Ansari Nagar attended by Mrs. Anita Sharma, ALIO and Mrs. Sangeeta Batra, Jr. Librarian on 10th Aug. 2017.
- iii. Mrs. Anita Sharma, ALIO and Mrs. Sangeeta Batra, Jr. Librarian attended one day National Conference on E-resources in Health Science- Role of ERMED Consortium at NML, New Delhi on 21st December 2016.
- iv. Mrs. Anita Sharma, ALIO and Mrs. Sangeeta Batra, Jr. Librarian attended two days training workshop on ICMR Library & Information Professionals on 11-12th Aug 2016 at National Institute of Virology (ICMR), Pune



NIP was celebrated 'Swatch Bharat Abhiyan' on 29-9-2017 at NIP



An essay competition was organized on Hindi Day at NIP Library on 13-12-2017.



Bharat Swatch Samaj

Saumya Choudhary

"When there is both inner and outer cleanliness it approaches godliness" Mahatma Gandhi Cleanliness is very important in our life from all aspects. "Cleanliness" although a very simple word with equally simple meaning 'the state or quality of being clean or being kept clean' is easiest to preach but hardest to practice.

Going further back in time; Indian society traditionally had certain attitude against manual labor that have led to a lack of cleanliness in India. Anyone who has been to India will notice how dirty it is. Although this fact embarrasses a lot of educated Indians; it is a fact that cannot escape notice. The unfortunate thing is that India's dirtiness cannot be written off due to its poverty, as there are plenty of other poor societies that are cleaner than India.

No historical monument in India is free from the graffiti posted by unscrupulous Indian visitors who are more interested in recording their arrival than in safekeeping and maintaining our rich heritage that has been left to us by our ancestors. There is no public wall in India to be found free of the dirty-red of pan spit; a unique feature, found only in India.

Every nook and cranny of our country houses plastic litter or half-eaten corn and ground nut leftovers. We are the same Indians who while travelling or living outside India would take care not to drop even a toffee wrapper on the roadside. We are the same Indians who would blindly follow traffic rules in other countries but will jump it off in our country. We are the same people who stand [patiently and silently in long queues to get a bottle of whisky but grumble to stand in queue at hospitals.

We are the very ones who love to keep our own house and surroundings clean but wouldn't mind dumping our waste into our neighbor's compound. This is the irony of Indians.

But the blame cannot be entirely put on the public. The lack of amenities like public toilets and waste bins is also responsible for all these misdeeds. It is in light of these facts that government of the country from time to time has launched various schemes and campaigns for cleanliness; be it total sanitation scheme; central Rural Sanitation Programme; Accelerated Rural Water Supply Programme; Nirmal Bharat Abhiyan and Swachh Bharat Abhiyan to name a few.

We even cannot even imagine that as per the most recent swachhta status Report that as per the most recent swachhta status report of 2015, more than half of the rural Indian Population (52.1/-) of the country still defecates in open. Around 1000 children below age of five every day in India die from diarrhea; hepatitis causing pathogens; encephalitis and other sanitation related diseases, according to the report of United Nations Children's fund (2015). Central Bureau of Health Intelligence, Ministry of Health and Family Welfare has reported; on an average; 30 million persons in rural area suffer from sanitation related diseases; 5 of the top 10 killer diseases of children aged 1-4 in rural areas are related to water and sanitation.

Much to our dismay; India agonized the most economic burden of poor sanitation. In terms of total cost; India suffers the most with US \$ 106.7 billion wiped off GDP in 2015. It is almost half of the total global losses and 5.2 % of the nation's GDP.

Despite the grim situation; we still can battle it out with few corrective measures:

1. To create awareness among rural population about benefits of cleanliness.
2. Equal participation of communities, NGOs, researchers; academics; corporate and the private sector and government at all levels of public schemes.
3. By having more and more public toilets as well bins closely placed
4. Political polarization in country like India is very important. Politicians at the international; national and local levels must put sanitation at the top of their agenda and reflect this in national planning and costing. It can be best understood by examples of state of Kerala and Sikkim.

Not only sanitation but also management of solid and liquid waste is also important and demands equal concern

The cleanliness drive in India needs to be carried out at a war footing to reduce the economic burley as well the mortality rate amongst children of 1-4 age group.

So, its high time that stop chants and change attitude towards cleanliness.

To conclude; India is our country. Our hope and it is our responsibility to keep it clean and tidy. Carrying a chocolate wrapper half-a-kilometer with us till we find bin-to dispose it off wouldn't cost us much of energy or trouble. Just like we don't spit at the wall of our house; it is our moral duty not to do so on roads and walls of our surrounding. Our surroundings and our way of life is the impression that our guest and our younger generation will convey of. Let us gift them a clean India. Let each one be the other one's guide and together help clean as in "Healthy Society; a Healthy India will Reside."

(FIRST Position under Swachh Bharat Abhiyan Essay Competition, NIP)

The happiest people in the world
are not those who have no problems,
but those who learn to live
with things that are less than perfect.

