

ISSN : 2395-4132

THE EXPRESSION

An International Multidisciplinary e-Journal

Bi-Monthly Refereed & Indexed Open Access e-Journal



Impact Factor 3.9

Vol. 4 Issue 4 August 2018

Editor-in-Chief : Dr. Bijender Singh

Email : editor@expressionjournal.com

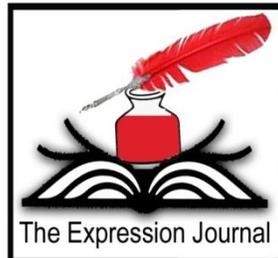
www.expressionjournal.com

The Expression: An International Multidisciplinary e-Journal

(A Peer Reviewed and Indexed Journal with Impact Factor 3.9)

www.expressionjournal.com

ISSN: 2395-4132



EFFECT OF LONG HOURS SITTING ON THE HUMAN BODY AND HOW PHYSIOTHERAPY HELPS IN CURING ITS NEGATIVE EFFECTS

Dr. Tarun Dhull (MPT)

**Assistant Professor, Baba Mastnath University,
Asthal Bohar, Rohtak**

.....

Abstract

The evolution of man promoted the adoption of the sitting position for long periods, inducing biomechanical and physiological changes in the body. Sitting is an inactive conduct. Long sitting include sitting or leaning back, with practically no vitality use. Working environment sitting is characterized as time spent in inactive conduct at work. Prolonged, unbroken time spent in sitting is normal now days due to the type of lifestyle we have adopted at our home, workplace and transport. Long sitting has many side effects on a human body. The side effects of long sitting can be cured by regular exercise, massage and heat treatment etc. Modern lifestyle has become the cause of many diseases. Human beings have become lazy these days and they do not want to come out of their comfort zone that's has brought many problems. This research is basically related to study the impact of long sitting on human body and how physiotherapy can help in curing such negative effects.

Keywords

Inactivity, Sitting Habits, Lifestyle, Cure, Role of Physiotherapy.

.....

Vol. 4 Issue 4 (August 2018)

Editor-in-Chief: Dr. Bijender Singh



EFFECT OF LONG HOURS SITTING ON THE HUMAN BODY AND HOW PHYSIOTHERAPY HELPS IN CURING ITS NEGATIVE EFFECTS

Dr. Tarun Dhull (MPT)

**Assistant Professor, Baba Mastnath University,
Asthal Bohar, Rohtak**

.....

Introduction

Inactive conduct alludes to exercises that require low vitality consumption and where sitting or lying is the overwhelming stance. An inactive way of life (extended periods sitting) is a sort of way of life with almost no physical action. A man carrying on with an inactive way of life is regularly sitting or resting while occupied with an action like perusing, mingling, watching TV, playing computer games, or utilizing a cell phone/PC for a significant part of the day. Carrying on with an inactive way of life can be risky to your wellbeing. The less sitting or resting you do amid the day, the better your chances for carrying on with a solid life.

In the event that you stand or move around amid the day, you have a lower danger of early demise than if you sit at a work area. On the off chance that you carry on with an inactive way of life, you have a higher shot of being overweight, rising type 2 diabetes or coronary illness, and encountering dejection and tension.

An inactive way of life is characterized as a sort of way of life where an individual does not get normal measures of physical action. Physical inertia is viewed as the inability to meet the suggestions of the Center for Disease Control (CDC), expressing that an individual ought to take an interest in at least 150 minutes of moderate exercise, or 75 minutes of a livelier regimen. Most wellbeing experts are likewise in assertion that strolling 10,000 steps every day (around 5 miles) is the perfect objective to set for enhancing wellbeing and diminishing the wellbeing dangers caused by inertia. As indicated by the World Health Organization (WHO), 60 to 85% of the population worldwide does not take part in enough movement. Making physical inertia is the fourth driving danger factor for worldwide mortality.

How does an inactive lifestyle lead to health problems?

The danger of building up an endless sickness is subject to the BMR. A low metabolic rate makes a man overweight or the body of a man with low BMR tends to amass fat effortlessly making them bulky and their BMI is high thus driving them into developing heart diseases,

The Expression: An International Multidisciplinary e-Journal

(A Peer Reviewed and Indexed Journal with Impact Factor 3.9)

www.expressionjournal.com

ISSN: 2395-4132

strokes, diabetes, cancers and even dejection. A man driving an inactive way of life has a low BMR as they don't use the vitality from the nourishment when very still contrasted with on the off chance that they move about thus the vitality that originates from the nourishment they ingest gets stored as fat around the organs of the body making them work less and bringing about incessant disorders. At the point when this fat gets deposited on the walls of the blood vessels it prompts increment of pressure of blood stream causing about High blood pressure or Hypertension. Alongside inactive conducts when a man ingests unhealthy nourishments, for example, processed food, desserts, junk or fried foods, he is at more serious hazard to develop incessant disorders or even unexpected passing.

Different kinds of sedentary habits which have negative effects on health are mentioned below:

1. Sitting in front of the TV prompts fattiness as you tend to indulge on low quality nourishments and as your sweet hungers increase when your body doesn't change over the fat in the sustenance you take into vitality.
2. Sitting Jobs can likewise prompt cardiovascular disorders and obesity as the nourishment you take gets hid away as fat and the fat gets aggregated in the walls of the arteries prompting various heart issues.
3. Sleeping excessively can make dull working of your brain and lead untimely schizophrenia developments in an individual's life and furthermore prompt dejection and self-destructive inclinations in individuals who sleep for over 10 hours per day.
4. Appliances – a lot of utilization of devices tend to make us reliant on them prompting lessened physical movement and thus resulting overweight and different sicknesses.
5. Video games – kids who invest excessive energy in video games have a tendency to create unsocial conduct and attention deficit hyperactivity issues and different other mental sick health issues.
6. Sitting for Long Hours without reason or notwithstanding when not at work will make an individual a "Couch Potato" and the truly a lazy individual resulting to overweight which in itself is a disorder even some colon cancers have been observed to be related with sitting for quite a while.
7. Home Makers– Moms or ladies who are home these days with house keepers around and scarcely any work to complete have a tendency to develop major immune disorders like Osteoporosis or PCOD's (Polycystic ovarian Disorders) because of less physical movement and gorging since they are alone at home more often.

Need of the study

Contrasted with our parents or grandparents, we are investing much amount of time in conditions that limit physical action as well as require delayed sitting—at work, at home, and in our cars and communities. Work sits, schools, homes, and public spaces have been (and keep on being) re-built in manners that limit human movement and muscular activity. These progressions dually affect human conduct: individuals move less and sit more because of which numerous illnesses occurs in human body. Therefore in this research the researcher has done investigation on the long sitting effects and how physiotherapy helps in curing it.

Vol. 4 Issue 4 (August 2018)

Editor-in-Chief: Dr. Bijender Singh

The Expression: An International Multidisciplinary e-Journal

(A Peer Reviewed and Indexed Journal with Impact Factor 3.9)

www.expressionjournal.com

ISSN: 2395-4132

Objectives

The objective of this research is to study the impact of long sitting on human body and to find out that how physiotherapy helps in curing the same.

Research Methodology

This study depends on both primary and secondary information gathering technique. In this study the primary information is gathered by enclosing questionnaire and the sample of 100 respondents is gathered and the secondary information is gathered from the different books, articles and journals.

Review of Literature

Choi et al. (2005) depict the idea, causes, counteractive action and control techniques of "diseases of comfort". Diseases of comfort have developed as a cost of living in an advanced society. Albeit mechanical advances add to the comfort, convenience, or joy of living, they likewise present general medical issues. They have unexpected reactions. The TV and PC diversions broaden the long stretches of indoor inactive stimulations. Kids are snared on to TVs and PCs for extended periods of time, rather than playing physical games in the school grounds or in neighborhood play areas and parks. Gangadharan (2007) watches an irony in the wellbeing area of Kerala. It is an irony of high illness and low mortality. The state performance in the wellbeing area has been exceptional contrasted with whatever is left of the states in India. Notwithstanding, Kerala overwhelms every single other state on account of disorders particularly perpetual ailments. Among the incessant ailments, cardiovascular ailment, cancer, hypertension and diabetes are rising as the extreme medical issues of the state. To him, inactive way of life, absence of physical movement and obesity increment the danger of chronic diseases. He cautions that the irony of high illness and low mortality is to be seen critically in connection to high financial progression of Kerala to make wellbeing for everyone, a reality sooner rather than later.

Morrill and Chinn (2004), see that weight results from a vitality awkwardness calorie intake in excess of calories exhausted by physical movement and metabolic procedures. Conduct factors incorporate inactive ways of life and utilization of excess calories and reflect natural factors that impacts behavior conduct and accordingly energy intake and energy output. The inherent condition (e.g. side strolls and transportation framework) can energize or debilitate physical action and the nourishment condition (e.g. food accessibility and marketing) can empower or dishearten utilization. Deficient physical action isn't constrained to grown-ups. Regardless of many authorized state physical training programs, just around one portion of the youngsters take an interest in some type of incredible physical movement. Sitting in front of the TV adds to overweight in youngsters. Both the authors see that notwithstanding physical movement, generally speaking calories utilization assumes a crucial job in the epidemic. Between 1971-1974 and 1999-2000, normal day by day energy intake expanded from 2,450 kilo calories to 2,618 kilo calories for men and from 1542 kilo calories to 1,877 kilo calories for ladies. Increment in utilization of "junk food" with negligible dietary benefits particularly soda drinks is thought to contribute significantly to the epidemic among youngsters. Kids and young people are consuming more food from home, drinking all the more soda drinks and snacking all the more as often as possible. Junk food is omnipresent and has reshaped diets less in the United States.

The Expression: An International Multidisciplinary e-Journal

(A Peer Reviewed and Indexed Journal with Impact Factor 3.9)

www.expressionjournal.com

ISSN: 2395-4132

Kamtsios and Digelidis (2008) inspected the mentality of youngsters with various Body Mass Index (BMI) towards exercise, self-observation and lesson fulfillment in physical training and interest in physical action. Seven hundred and seventy five individuals living in sub-urban and urban territories of Greece matured 11-12 years took an interest in the study. The outcomes demonstrated that when contrasted with students with typical Body Mass Index (BMI), the obese and overweight students had bring down scores in exercise fulfillment, negative perspectives of their body and decreased levels of physical movement. Additionally, the outcomes demonstrated that obese and overweight students adopted more inactive day by day habits, for example, numerous long periods of TV viewing and PC utilization. The aftereffect of the study suggests the requirement for school intervention with the end goal to empower more advantageous conduct and habits.

Data Analysis

Impact of long sitting on human body

Weight Gain

It's a well known fact that an inactive way of life can prompt expanded weight gain. A lot of sitting has been appeared to diminish lipoprotein lipase (LPL) movement, which can negatively affect the body's capacity to consume fat. This prompts expanded fat stores and energizes the utilization of carbohydrates (rather than fat) for fuel, and therefore, the body will keep on increasing fat even while consuming a low-calorie diet.

Poor Blood Circulation

Another undeniable yet frequently disregarded outcome of inactive sitting is poor blood circulation. Prolonged sitting time can back off your flow and cause blood to pool in the legs and feet, which can prompt varicose veins, swollen lower legs, or even hazardous blood clots like deep vein thrombosis (DVT).

Heart Disease

At the point when our body consumes less fat and blood circulation is poor, there's an expanded chance of unsaturated fats blocking the arteries in the heart. This connects inactive sitting to lifted cholesterol levels, hypertension, and cardiovascular sickness. In Fact, an study has demonstrated that men who spend over 10 hours seven days riding a car or more than 23 hours seven days staring at the TV had 82% and 64% more serious danger of experiencing heart diseases contrasted with the individuals who invested essentially less energy in these two exercises.

Weakened Muscles

Sitting throughout the day releases and debilitates the muscles in the body, especially those in the midsection and lower body. Also, without solid legs and glutes, our lower body winds up unfit to hold us up when taking a seat or keep us stable when strolling and bouncing, putting us in danger of injury. As it's been said, on the off chance that you don't utilize it, you lose it.

Diabetes

As per a recent report of 2017 that analyzed the connection among diabetes and aggregate sitting time, there is a higher danger of diabetes in physically inactive individuals, with delayed

Vol. 4 Issue 4 (August 2018)

Editor-in-Chief: Dr. Bijender Singh

The Expression: An International Multidisciplinary e-Journal

(A Peer Reviewed and Indexed Journal with Impact Factor 3.9)

www.expressionjournal.com

ISSN: 2395-4132

sitting being a noteworthy contributing variable. This is on account of diminished muscle mass and strength which can result in brought down insulin sensitivity, which implies that the cells react slower to insulin (the hormone in charge of directing glucose levels). The lower is the body's sensitivity to insulin, the higher the frequency of diabetes.

Posture Problems

Besides making our muscles more helpless against worsening, delayed sitting and slumping causes an assortment of issues for your neck, shoulders, back, and hips. Your neck and shoulders bend and solidify, your spine loses its flexibility as it asorb pressure, and your pelvis rotates the wrong way, particularly on the off chance that you don't utilize an ergonomic seat or as of now have awful posture in any case.

Chronic Body Pain

The more you sit and keep up awful posture, the more probable you are to encounter constant pains in regions, for example, your neck, shoulders, back, hips, and legs. Back pain is a common medical issue in the U.S. furthermore, is viewed as a standout amongst the most well-known occupation related disorders. In fact, as per a National Health Statistics Report by the Center for Disease Control (CDC), more than 50% American adults (125 million) have some kind of musculoskeletal pain issue—pain in the lower back, sciatica, neck, joints, and in addition other related conditions—while 20.3% revealed having lower back pain.

Brain Damage

With all the mental work you're doing at the workplace, you'd figure your mind would be in tip-top condition. In any case, in case you're sitting the entire time, the mind will be not able get enough blood and oxygen, which it needs to work ideally. Subsequently, your brain work still backs off, and you don't get the chance to streamline your brain powers. Furthermore, when it doesn't get enough glucose energy, brain cells may get damaged.

Anxiety and Depression

Another mental illness of delayed sitting is anxiety and depression. It's anything but difficult to make sense of why: the individuals who sit throughout the day don't get the opportunity to enjoy the health and state of mind boosting benefits that accompany exercise and remaining fit. At the same time, being before the PC or TV throughout the day limits sun exposure and social collaboration, which prompts nutrient D inadequacy and solid sentiments of loneliness.

Cancer

Maybe the scariest reaction of delayed sitting is the danger of getting lung, colon, bosom, uterine, and endometrial cancers. The correct relationship isn't clear, however it could be because of the way that inactive conduct can help the creation of insulin in the body, which energizes cell development. On the other hand, customary physical action has a tendency to have a cancer prevention agent impact in the body because of its capacity to diminish oxidative pressure. Conceivable cancer dangers can likewise be connected to weight gain, changes in hormone levels, metabolic brokenness, and aggravation—which can all be exacerbated by inactive conduct.

How physiotherapy helps in curing diseases

It can help bad knees

Vol. 4 Issue 4 (August 2018)

Editor-in-Chief: Dr. Bijender Singh

The Expression: An International Multidisciplinary e-Journal

(A Peer Reviewed and Indexed Journal with Impact Factor 3.9)

www.expressionjournal.com

ISSN: 2395-4132

Physiotherapy combined with medication was similarly as effective as arthroscopic medical procedure in treating osteoarthritic knees. "Numerous ligament joints are helped by working on flexibility and strength," says study co-author Dr. Robert Litchfield. Physiotherapists can frequently remove the knee pain by recognizing a reason, for example, muscle snugness around the knee, and treating it with exercises or stretching. "We'll complete a biomechanical evaluation taking a look at everything from muscle snugness to shortcoming to how joints move—if they move excessively or too little," clarifies physiotherapist Greg Alcock, clinical and research coordinator at the Fowler Kennedy clinic. "Based on that, we'll recommend a suitable course of action that may incorporate exercise to calm[the excited joint or muscle] or address the factors contributing to the problem." If the problem derives from an imbalanced stride, physiotherapists can prescribe orthotics (shoe embeds that right arrangement issues). "Physiotherapists are good at looking at the entire picture, while surgeons might just look at the joint,".

It teaches breathing techniques

The entire approach doesn't stop with the musculoskeletal framework (the joints and muscles we use to stand and walk). Physiotherapy likewise addresses conditions in the autonomic sensory system—the automatic muscles and nerves that control our organs. Patients with asthma or sleep apnea, for instance, can be treated via cardiovascular physiotherapists, who may utilize breathing control works out—a basic one might be blowing up a balloon—or focus on enhancing the mobility of chest and neck muscles through stretching and strengthening programs.

It can relieve pelvic floor disorders

One quickly developing region of training utilizes physiotherapy strategies to address pelvic floor issue, which can happen when pelvic muscles tighten, shorten or fall into spasm after pregnancy, childbirth or abdominal surgery. "The pelvic floor muscles are engaged with sexual function and bladder and bowel function, and they help support the spine and stomach organs," clarifies physical advisor Robin Christenson, the originator of Womanology, an integrative treatment center in Irvine, Calif. Dysfunctions can manifest in conditions, for example, painful intercourse, urinary or bowel incontinence, or general stomach or groin pain. "These issues don't appear on MRIs or ultrasounds," says Christenson. She commonly utilizes a massage technique called "trigger point discharge" straightforwardly on the influenced pelvic floor muscle to relieve the spasm. She additionally incorporates core reinforcing exercises and relaxation methods through Pilates.

It combats obesity

Another field is "lifestyle" physiotherapy, for example, preventive health care and management of chronic pain. Winnipeg physiotherapist Lia Arniel regularly works related to doctors to treat obese patients, to a limited extent by making it easier for them to work out. "We instruct them about the physical impact that excess weight has on the musculoskeletal framework—the physical spine of our bodies," she clarifies. Notwithstanding tending to issues, for example, sore knees and tendonitis through customary physiotherapy strategies, physiotherapists can configuration customized practice programs that won't overburden vulnerable joints. Notwithstanding something as basic as helping patients select shoes with the correct help and

Vol. 4 Issue 4 (August 2018)

Editor-in-Chief: Dr. Bijender Singh

The Expression: An International Multidisciplinary e-Journal

(A Peer Reviewed and Indexed Journal with Impact Factor 3.9)

www.expressionjournal.com

ISSN: 2395-4132

molding can get inactive patients moving once more. Comparative standards apply when working with patients whose mobility has declined because of ageing or the side-effects of chemotherapy.

It can relieve chronic pain

Contingent upon the reason, a program of physiotherapy can ease chronic pain by strengthening the muscles that encompass difficult joints or muscles. A Danish study of ladies with osteoporosis whose chronic pain was connected to spinal pressure cracks found that patients utilized essentially less pain medication and revealed enhanced personal satisfaction after only 10 weeks of a physiotherapy program intended to enhance balance and settle the lumbar spine.

It can cure back pain

Problems, for example, poor posture, muscle strain or joint inflammation can cause back pain. Treatment will rely upon the source of the issue, yet some regular standards apply. Paul Van Wiechen, chief of activity physiology exhorts a three-fold approach: weight management (to lessen weight on joints), muscle strengthening (to enhance versatility and diminish repeat) and "re-patterning" of muscles. That includes changing the coordination of the considerable number of muscles in a specific area, typically through a progression of dynamic exercises. "There are around two dozen muscles in and around the lower back that extremely matter," he clarifies. "Strengthening two or three doesn't have as quite a bit of an impact as showing every one of the 24 how to work together."

Conclusion:

More than one-portion on an average individual's day is spent being inactive— sitting, watching TV or working at a PC. Individuals who sit excessively consistently are at an increased risk of diabetes, heart disorders, cancer and shorter life expectancies. Physiotherapy is one of the ways in which can help in curing sickness without medicines. Be that as it may, long sitting ought to be kept away from and regular exercise ought to be done or else it can bring down our age to half. Long sitting kills simply like smoking kills.

References

1. Biddle SJH, Pearson N, Ross GM, Braithwaite R. Tracking of sedentary behaviours of young people: A systematic review. *J Preventive Medicine* 2010;51(5):345–351.
2. Carter J, Wiecha J, Peterson K, Nobrega S, Gortmaker S. *Planet Health: An Interdisciplinary Curriculum for Teaching Middle School Nutrition and Physical Activity {Second Edition}*. Human Kinetics, Illinois, 2007.
3. Chinapaw MJM, Proper KI, Brug J, van Mechelen W, Singh AS. Relationship between young peoples' sedentary behaviour and biomedical health indicators: a systematic review of prospective studies. *J Obesity Reviews* 2011;12(7):e621–e632.
4. Dunstan D, Howard B, Healy G, and Owen N. Too much sitting – A health hazard. *J Diabetes Research and Clinical Practice* 2012; 97(3) 368–376.
5. Graff M, North K, Monda K, Lange E, Lange L, Guo G, Gordon-Larsen P. The combined influence of genetic factors and sedentary activity on body mass changes from adolescence

Vol. 4 Issue 4 (August 2018)

Editor-in-Chief: Dr. Bijender Singh

The Expression: An International Multidisciplinary e-Journal

(A Peer Reviewed and Indexed Journal with Impact Factor 3.9)

www.expressionjournal.com

ISSN: 2395-4132

- to young adulthood: the National Longitudinal Adolescent Health Study. *J Diabetes/Metabolism Research Reviews* 2011; 27(1): 63–9.
6. Hamilton D, Zedric T. Role of low energy expenditure and sitting in obesity, metabolic syndrome, type 2 diabetes and cardiovascular disease. *J Diabetes* 2007; 56(11): 2655–2667.
 7. Hands B, Chivers P, Parker H, Beilin L, Kendall G, Larkin D. The associations between physical activity, screen time and weight from 6 to 14 years: The Raine Study. *J Science & Medicine in Sport* 2011. 14(5): 397–403.
 8. Heart Foundation, Sitting less for children, information sheet, National Heart Foundation of Australia, 2011, viewed 8 September 2014,
 9. Ludwig D et al. Relation between consumption of sugar-sweetened drinks and childhood obesity: a prospective, observational analysis. *Lancet* 2001; 357:505–508.
 10. Pate R, O'Neill J, Lobelo F. The evolving definition of 'sedentary'. *J Exerc. Sport Sci. Rev* 2008. 36(4): 173–178.
 11. Rasberry C, Lee S, Robin L, Laris B, Russel L, Coyle K, et al. The Association Between School Based Physical Activity, Including Physical Education, and Academic Performance: A Systematic Review of the Literature. *J Preventive Medicine* 2011; 52 (Suppl 1):S10–S20.
 12. Salmon J, Healy G, Hume C, et al. Associations of sedentary time accumulation with weight status in children. Presentation at the Australian and New Zealand Obesity Society Conference, Melbourne, 2009.
 13. Sank L. Dental nutrition. *J Nutrition Issues* 1999, Abs, 19:1–2.
 14. Sedentary Behaviour Research Network, Letter to the Editor: Standardized use of the terms 'sedentary' and 'sedentary behaviours'. *J Applied Physiology, Nutrition, and Metabolism* 2012; 37(3): 540–542.
 15. Sharif I, T Wills, Sargent J. Effect of visual media use on school performance: a prospective study. *J Adolescent Health* 2010; 46(1): 52–61.
 16. Skaczkowski G, Bariola E, Balint, A. Prevalence of diet, physical activity and sedentary behaviours, among Tasmanian secondary school students in 2011 and trends over time. Centre for Behavioural Research in Cancer: Cancer Council Victoria, 2013.
 17. Strong WB, Malina RM, Blimkie CJR, Daniels SR, Dishman RK, Gutin B, et al. Evidence Based Physical Activity for School-age Youth. *J of Pediatrics* 2005;146(6):732–737.
 18. Telama R. Tracking of Physical Activity from Childhood to Adulthood: A Review. *J Obesity Facts* 2009; 2(3):187–195.
 19. Tremblay M, Colley R, Saunders T, Healy G, Owen N. Physiological and health implications of a sedentary lifestyle. *Appl. Physiol. Nutr. Metab* 2010; 35:725–740
 20. Viner R, et al., Longitudinal risk factors for persistent fatigue in adolescents. *Arch Pediatr Adolesc Med* 2008; 162(5): 469–75.