

HEALTH PROBLEMS AND EFFECTS ASSOCIATED WITH PROLONG SITTING AMONG BANKERS IN ILORIN METROPOLIS, KWARA STATE

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ABSTRACT

This study examined the health problems associated with prolong sitting among bankers in Ilorin metropolis, Kwara State. In this study, the common health problems; the possible effect of prolong sitting and reasons for bankers' prolong sitting were also examined. To work on the study 150 bankers were recruited using a simple random sampling technique. A researcher-designed questionnaire was used for data collection. Collected data were analysed using descriptive statistics to answer the research questions while the inferential statistics were used to test the hypotheses at 0.05 level of significance. Findings from this study revealed that the common health problems of prolong sitting among bankers were hip pain, upper/lower back pain and strained neck, chronic body pain, inflexible spine, sore shoulders, weight gain, among others; sitting for long hours results to waist circumference, back pain, neck/shoulder pain and rheumatic disorder while excessive work load, high target, negligence of associated risk and job insecurity were reasons for prolong sitting among bankers in Ilorin. There was no statistically significant difference in the health problems of bankers who sit for long hour based on years of employment but significant difference existed in the health problems of bankers who sit for long hours based on positions they held in banks.

Keywords: Health problems, prolong sitting, bankers.

1. INTRODUCTION

The rise in technology has made sitting the most common posture employed by all. The world today is designed such that we sit much of the time. This type of lifestyle of sitting and being sedentary for periods of more than an hour or two at a time has impacted on our health and well-being. Many terms have been coined to describe the growing pandemic of sitting individuals such as the 'chair born society' as well as 'the actively sedentary individuals'. The term "Sitting Disease" has also been coined by the scientific community and is commonly used when referring to metabolic syndrome and the ill-effects of an overly sedentary lifestyle. However, the medical community does not recognize Sitting Disease as a diagnosable disease at this time. According to Wilmot, Edwardson and Achana (2012), Adults typically spend between 50 and 60% of their waking hours in sedentary postures. The duration of sedentary postures increases significantly amongst those with sedentary jobs (Healy, Matthews, Dunstan, Winkler, & Owen, 2011). Medical researchers have long warned that prolonged sitting is dangerous, associated with a significantly higher risk of heart disease, diabetes, obesity, cancer, and depression, as well as muscle and joint problems. Some have gone on to say that the office chair is worse than smoking and kills more people than HIV/AIDS.

Researchers have opined that even working out vigorously before or after work may not compensate for extending sitting. An occupational environment often requires prolonged sitting time, and occupational sitting is a major contributor to total daily sitting time among office workers (Bennie et al., 2015). In some occupations, such as call center work, banking and transportation, workers can spend more than 80% of work hours in seated positions (Toomingas, Forsman, Mathiassen, Heiden, & Nilsson, 2012). The average office worker sits for about 10 hours a day. Furthermore, sedentary work is often performed in a static posture for long continuous periods, which is regarded as a cause of discomfort and pain in the musculoskeletal system, such as the upper limbs, neck and back (Vieira, & Kumar 2004). Knowing how challenging life can be with health concerns, promoting overall health and well-being becomes very germane.

According to Mercola (2015), the human body is designed for regular movement but many people spend the bulk of their day sitting still. While a brief period of sitting here and there is natural, a long period of sitting everyday can seriously impact health and shorten life. It is not that sitting is inherently dangerous, but the danger is in the number of hours used in sitting. Levine (2015) opined that at the molecular level, the body was designed to be active and on the move all day. When one stops moving for extended periods of time, it is like telling your body it is time to shut down and prepare for death. According to the Edward and Laskowski (2018), any extended sitting- such as at a desk, behind a wheel and in front of a screen can be harmful. Edward and Laskowski (2018) analysed 13 studies of sitting time, where it was revealed that those who sat for more than 8 hours with no physical activity had a risk of dying similar to the risks of dying posed by obesity and smoking. According to the Harvard School of Public Health, Sitting for more than eight hours a day has been associated with a 90% increased risk of type 2 diabetes.

Prospective studies by Katzmarzyk (2014), and van der Ploeg, Chey, Ding, Chau, Stamatakis and Bauman (2014) reported that standing is linked to lower all-cause and cardiovascular disease mortality. Although sitting and standing both involve low levels of energy expenditure, standing requires more muscle activity in the lower extremities than sitting (Hamilton, Hamilton, & Zderic 2007). According to Duviver et al., (2013), even short bouts of light muscle activity can decrease cardio-metabolic risk factors. Da Costa and Vieira (2010) posited that in light intensity office work, performing computer work and postures outside of neutral position are particularly identified as problematic for musculoskeletal tissues. Viera and Kumar (2004) opined that there is no posture that can be comfortably maintained for long periods of time. Prolonged sitting posture can lead to static loading of the lumbar spine, the muscles and joint tissues, and consequently cause discomfort, pain or even injury when overload occurs. In the office environment, workers may restrict their body movement and postural changes due to job requirements and confined workstations. Continuous sitting at work is one such restriction that is commonly observed in various offices. Nigerian Bankers work long hours, starting each day's job early in the morning and sometimes closing as late, as midnight; working from 12-15 hours and more daily which may even extend to weekends. The nature of the bank work and the working environment can have negative impacts on the health of the banker. Posture problems from sitting or standing too long in a static position, vision difficulties from gazing into a computer screen for prolonged periods of time, musculoskeletal disorders, unhealthy eating habits, stress problems resulting from overwork, mental health issues caused by job insecurity, harassment, abuse, bullying, friction etc. are just some of the health effects or defects that can ensue because of working in a Nigerian bank. The work-related stress generated through these adverse working conditions can have negative effects on individuals' health: stress related disorders involve enormous human suffering and large costs to society in terms of mental strain, stress related diseases, such as depression and heart disease, and absenteeism. Long-term exposure to job stress has been linked to an increased risk of musculoskeletal disorders and depression as well

as syndromes such as burnt out, and many contribute to a range of other debilitating disease. The impact of psychosocial risks and work related stress on the health outcome of workers is multidimensional. Apart from their direct consequences on an individuals' physiological, psychological and behavioral capabilities, the productive capacity of the worker is equally affected. It is only a healthy worker that can contribute optimally to the organizations objectives and successes. According to Whiteman (2017), scientist have found that there is an increase in waist circumference associated with prolong sitting. In a study of 4,757 people, aged 20 and older, who spent a long time sitting, it was reported that those who took a lot of breaks had smaller waistlines than those who did not take breaks (Chan, 2011). A high waist circumference is associated with an increased risk for type 2 diabetes, high blood pressure and cardiovascular disease.

Low back pain is a major problem for office workers. Bankers are usually required to sit for long hours in front of a computer. O'Sullivan, O'Dea, Dankaerts, O'Sullivan, Clifford, and O'Sullivan (2010) stated that when people adopt poor postures during prolonged sitting, they have a considerably increased risk of experiencing low back pain. No matter how comfortable one gets sitting down, the back still does not like long sitting sessions. Sitting puts more pressure on your spine than standing and the toll on your back health is even worse if you are sitting hunched in front of a computer. It is estimated that 40% of people with back pain have spent long hours at their computer each day.

Grondin, Triano, Tran and Soave (2013) reported that as little as half an hour of prolonged sitting has been linked with an increased level of low back discomfort and sitting time for more than six hours per day at work has been associated with chronic low back pain in office workers. Gao (2017) reported that in office work, sitting is the predominant static posture and musculoskeletal symptoms are commonly reported in relation to neck-shoulder disorders for example, tension neck syndrome and trapezius myalgia. According to Weon, Oh, Cynn, Kim, Kwon and Yi (2010), a forward head posture can be a resultant adaptation among office workers, and a positive relationship has been reported between neck flexion and musculoskeletal symptoms in the neck and trapezius region. As muscles adapt to being held at lengthened or shortened lengths over time, such prolonged static postures may result in muscle imbalance, leading to structural damage and pain (Weon et. al., 2010). When performing intensive computer work, prolonged, low level static muscular contractions can cause accumulation of metabolites and muscle fatigue, and even muscle ischemia or necrosis (Gao, 2017). According to Edward and Laskwoski (2018), sitting behind your desk all day is bad for your health and experts have long been advising people to stand at their workstations for about 15 to 30 minutes per hour to get health benefits.

Bank workers sit for a long period of time attending to customers or working on the computer. They only go for short breaks during which they still sit to have their lunches. They rarely go for breaks outside of the banking premises. They are among the workers that spend more than eight hours at work. Hence their sitting time becomes a thing of concern because of the morbidities and mortality attached to sitting for long hours daily. The problem is actually with sitting for long period of time at a stretch. According to Bumgardner (2018), the risks associated with sitting long periods of time are still there regardless of whether the sitter got the recommended amount of moderate and vigorous intensity exercise the rest of the day. Thus, this study was designed to document health problems and effects associated with prolong sitting among bankers in Ilorin Metropolis of Kwara State.

2. METHODS AND MATERIALS

2.1 Research Design and Sample

The study adopted a descriptive research design. The population comprised all bank workers in Ilorin metropolis. There were around 1,650 bank workers at the time of data collection.

The study was delimited to first generation banks and does not include microfinance banks. Field survey revealed a total of 18 banks in Ilorin each with varying number of branches. A multistage sampling technique of purposive, random and proportionate sampling was employed to select 150 bankers.

2.2 Tools for the Study

A researcher-structured questionnaire was used to elicit responses from the respondents. The questionnaire items were structured in a four-response-type (Likert's Scale).

2.3 Data Collection and Analysis

The copies of questionnaire were administered during banking operations after seeking the consent of the branch manager for general administration. The consent of the respondents was also sought. Statistics employed for data analysis were frequency counts, Standard deviation and percentage for describing the respondents. Inferential statistics of independent *t*-test and Analysis of Variance (ANOVA) were used at 0.05 level of significance.

3. RESULTS

Table 1: Awareness of the effect of prolong sitting

Awareness	Frequency	Percentage
Yes	111	74.0
No	39	26.0
Total	150	100.0

As revealed in Table 1, majority of bankers i.e. 111 which comprises 74.0% of the total selected bankers were aware of the effect of prolong sitting.

Given that the questionnaire items were structured in a four-response-type, items whose mean scores were closed to 4.0, 3.0, 2.0 and 1.0 were remarked as very common, common, less common and not common respectively. The summary statistics is presented in Table 2.

Table 2: Common health problems of bankers who sit for long hour

S/N	Effects of Sitting for long hours	Mean	Rank	Remarkd
9	Hip Pain	3.79	1 st	Very Common
8	Upper and Lower Back Pain	3.72	2 nd	Very Common
6	Strained Neck	3.69	3 rd	Very Common
11	Chronic Body Pain	3.41	4 th	Common
10	Inflexible Spine	3.09	5 th	Common
7	Sore shoulders	2.83	6 th	Common
1	Weight Gain	2.74	7 th	Common
4	Weakened Muscles	2.64	8 th	Common
14	Prolong Headache	2.61	9 th	Common
2	Poor Blood Circulation	2.56	10 th	Common
12	Foggy Brain	2.52	11 th	Common
15	Vision or Eye Problems	2.44	12 th	Less Common
3	Heart Disease	2.41	13 th	Less Common
13	Anxiety and Depression	2.31	14 th	Less Common
5	Diabetes	2.27	26 th	Less Common
16	Breathing Disorder	2.42	16 th	Less Common
17	Loss of Concentration	2.22	17 th	Less Common

As shown in Table 2, hip pain, upper/lower back pain and strained neck were very common health problems of prolong sitting among bankers. In the same vein, chronic body pain, inflexible spine, sore shoulders, weight gain weight gain, weakened muscles, prolong headache, poor blood circulation and foggy brain were common health problems of prolong sitting among bankers while vision or eye problems, heart disease, anxiety and depression, diabetes, breathing disorder, loss of concentration were less common health problems of prolong sitting among bankers in Ilorin, Kwara State.

A cut-off score of 2.50 was used as the baseline for determining participants' responses since the questionnaire items were structured in a four-response-type. Therefore, items found with mean scores equal or above 2.50 were 'Affirmed' as possible effect of prolong sitting while items with mean scores below 2.50 were remarked otherwise.

Table 3: Descriptive statistics of possible effect of prolong sitting among bankers

S.N.	Items	Mean	S.D.	Remark
Waist Circumference and Prolong sitting				
1	Sitting for long hours can cause food not to digest, hence leading to accumulation of fat around the waist.	3.73	1.29	Affirmed
4	Sitting long hours weakens the abdominal muscles leading to weight gain around the waist	3.42	2.41	Affirmed
2	Sitting down after you have eaten causes abdominal contents to compress, slowing down digestion and leading to weight accumulation in the belly	2.68	1.62	Affirmed
3	When one sits for long hours, insulin metabolism is affected leading to weight gain in the abdomen region	2.59	2.19	Affirmed
Back Pain and Prolong sitting				
5	Sitting for long hours causes low back pain	3.71	2.27	Affirmed
8	No matter how comfortable the chair is, sitting for very long causes the lower back to ache	3.18	2.17	Affirmed
6	When one sits for long period, there is too much pressure on the spine which causes back pain	3.09	1.69	Affirmed
7	Sitting as little as half an hour at a stretch causes back pain	1.79	1.83	Disaffirmed
Neck/Shoulder Pain and Prolong sitting				
10	Office work requires one to sit with a forward head posture for long hours which strains the neck and shoulder	3.46	1.28	Affirmed
12	When performing intensive computer work, prolonged, low level static muscular contractions can cause muscle fatigue around the neck and shoulder.	3..22	1.24	Affirmed
11	As the muscles of the neck/shoulder adapt to being held at lengthened or shortened lengths over time, the posture may result in muscle imbalance and lead to structural damage and pain.	2.71	1.39	Affirmed
9	Sitting long hours causes tension in the neck	2.63	1.74	Affirmed
Rheumatic Disorder and Prolong sitting				
15	Sitting for long hours causes stiffness of the joints.	3.48	1.67	Affirmed
14	Excessive amounts of sitting causes wear and tear to the joints	3.19	1.39	Affirmed
13	Proprolong sitting causes hip pain	2.94	2.18	Affirmed

As shown in Table 3, all the items (except item 7) were affirmed as the possible effects of prolong sitting among bankers. This indicates that sitting for long hours results to *Waist Circumference* by making food not to digest, hence leading to accumulation of fat around the waist; weakening the abdominal muscles leading to weight gain around the waist; causing abdominal contents to compress, slowing down digestion and leading to weight accumulation in the belly; and when one sits for long hours, insulin metabolism is affected leading to weight gain in the abdomen region.

Also, bankers affirmed that sitting for long hours results to *Back Pain* as one sits for long period, there is too much pressure on the spine which causes back pain. However, sitting

as little as half an hour at a stretch does not cause back pain. In the same vein, sitting for long hours leads to *Neck/Shoulder Pain* as bank office work requires one to sit with a forward head posture for long hours which strains the neck and shoulder; when performing intensive computer work, prolonged, low level static muscular contractions can cause muscle fatigue around the neck and shoulder; as the muscles of the neck/shoulder adapt to being held at lengthened or shortened lengths over time, the posture may result in muscle imbalance and lead to structural damage and pain as well as causes tension in the neck. More so, it was affirmed that prolong sitting causes *Rheumatic Disorder* which causes stiffness of the joints; wear and tear to the joints as well as hip pain

Table 4: Descriptive statistics of reasons for prolong sitting among bankers

S.N.	Reasons for prolong sitting	Mean	Rank	Remark
1.	Excessive work load	3.43	1 st	Affirmed
3.	High target	3.27	2 nd	Affirmed
5.	Negligence of associated risk	2.59	3 rd	Affirmed
4.	Job insecurity	2.51	4 th	Affirmed
2.	Weekend work	2.31	5 th	Disaffirmed

Table 4 reveals that excessive work load, high target, Negligence of associated risk and job insecurity were reasons for prolong sitting among bankers in Ilorin metropolis while weekend work was disaffirmed.

Table 5: ANOVA summary of the difference in health problems of bankers who sit for long hour based positions

Variables	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	431.319	5	86.264		
Within Groups	9584.345	144	2.995	28.803	0.000
Total	10015.664	149			

*Significance at $p < 0.05$

As shown in Table 6, the F -value of 28.803 with a p -value of 0.000 computed at 0.05 alpha level. Since the p -value of 0.00 obtained is less than 0.05 level of significance, the null hypothesis one is rejected. This thus implies that there is a statistically significant difference in difference in the health problems of bankers who sit for long hour based on positions ($F_{\{5, 144\}} = 28.803, p < 0.05$). Sequel to the establishment of a significant difference between the means, further test was carried out on the various combinations of means to find out where the difference occurred. The test was conducted using Duncan's Post Hoc procedure at 0.05 alpha level. The Post-hoc is a statistical procedure used to determine which of the multiple groups actually made the difference.

Table 5b: Duncan's post-hoc pair-wise comparisons showing the difference in health problems of bankers who sit for long hour based positions

Respondents	N	Subset for alpha = 0.05		
		1	2	3
Bank Marketing Rep.	32	12.68		
Managers	8		27.73	
Internal auditors	8		28.27	
Loan officers	12		28.41	
Customers Care	22			32.68
Cashiers	68			33.19
Sig.		.94	1.00	1.00

Table 5b shows that the statistical difference noted in Table 5 was contributed by cashiers and those in customer care with the highest mean score 33.19 and 32.68 respectively followed loan officers, internal auditors and managers with the mean scores 28.41, 28.27 and 27.73 respectively while bank marketing representatives had the least mean score 12.68. Thus, cashiers and those in customer care experienced more health problem from prolong sitting than loan officers, internal auditors and bank managers while bank marketing representative seemed to feel less health problem resulting from prolong sitting.

Table 6: ANOVA summary of the difference in health problems of bankers who sit for long hour based years of employment

Variables	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	261.241	3	87.080		
Within Groups	9618.327	146	65.879	1.322	0.71
Total	9815.593	149			

*Insignificance at $p > 0.05$

As revealed in Table 7, the F-value of 1.322 with a p-value of 0.71 computed at 0.05 alpha level. Since the p-value of 0.71 obtained is greater than 0.05 level of significance, the null hypothesis three is not rejected. This thus implies that there is no statistical difference in the health problems of bankers who sit for long hour based on years of employment ($F_{(3, 146)} = 1.322, p > 0.05$).

4. DISCUSSION

Findings from this study revealed that majority of the bankers sampled were aware of the effect of prolong sitting. Despite the fact that bankers are aware of the effect of prolong sitting, they tend to sit for 6 to 10 hours per day. This could be attributed to the excessive work load, high target, Negligence of associated risk and job insecurity surrounding the banking sector in Nigeria. This is in line with Grondin, Trino, Tran and Soave (2013) who reported that as little as half an hour of prolonged sitting has been linked with an increased level of low back discomfort and sitting time for more than six hours per day at work has been associated with chronic low back pain in office workers while Laskowski (2018) submitted that sitting behind desk all day is bad for health and experts have long been advising people to stand at their workstations for about 15 to 30 minutes per hour to get health benefits. Bank workers sit for a long period attending to customers or working on the computer. The only go for short breaks during which they still sit to have their lunches. They rarely go for breaks outside of the banking premises. They are among the workers that spend more than eight hours at work. Hence their sitting time becomes a thing of concern because of the morbidities and mortality attached to sitting for long hours daily. The problem is with sitting for long period at a stretch. Also, findings showed that the common health problems of prolong sitting among bankers were hip pain, upper/lower back pain and strained neck, chronic body pain, inflexible spine, sore shoulders, weight gain, weakened muscles, prolong headache, poor blood circulation and foggy brain. These outcomes corroborate Bumgardner (2018) whose study indicated that the risks associated with sitting long periods of time were still there regardless of whether the sitter got the recommended amount of moderate and vigorous intensity exercise the rest of the day. Gao (2017) reported that in office work, sitting is the predominant static posture and musculoskeletal symptoms are commonly reported in relation to neck-shoulder disorders for example, tension neck syndrome and trapezius myalgia. According to Weon, Oh, Cynn, Kim, Kwon and Yi (2010), a forward head posture can be a resultant adaptation among office workers, and a positive relationship has been reported between neck flexion and

musculoskeletal symptoms in the neck and trapezius region. As muscles adapt to being held at lengthened or shortened lengths over time, such prolonged static postures may result in muscle imbalance, leading to structural damage and pain (Weon et al., 2010).

In addition, this study revealed that sitting for long hours results to Waist Circumference, Back Pain, Neck/Shoulder Pain and Rheumatic Disorder. This indicates that sitting for long hours causes Waist Circumference by making food not to digest, hence leading to accumulation of fat around the waist; weakening the abdominal muscles leading to weight gain around the waist; causing abdominal contents to compress, slowing down digestion and leading to weight accumulation in the belly; and when one sits for long hours, insulin metabolism is affected leading to weight gain in the abdomen region.

Also, bankers affirmed that sitting for long hours results to Back Pain as one sits for long period, there is too much pressure on the spine which causes back pain. However, sitting as little as half an hour at a stretch does not cause back pain. In the same vein, sitting for long hours leads to Neck/Shoulder Pain as bank office work requires one to sit with a forward head posture for long hours which strains the neck and shoulder; when performing intensive computer work, prolonged, low level static muscular contractions can cause muscle fatigue around the neck and shoulder; as the muscles of the neck/shoulder adapt to being held at lengthened or shortened lengths over time, the posture may result in muscle imbalance and lead to structural damage and pain as well as causes tension in the neck. More so, it was affirmed that prolong sitting causes Rheumatic Disorder which causes stiffness of the joints; wear and tear to the joints as well as hip pain. This agrees with Viera and Kumar (2004) whose study revealed that there is no posture that can be comfortably maintained for long periods of time. Prolonged sitting posture can lead to static loading of the lumbar spine, the muscles and joint tissues, and consequently cause discomfort, pain or even injury when overload occurs. In the office environment, workers may restrict their body movement and postural changes due to job requirements and confined workstations. Continuous sitting at work is one such restriction that is commonly observed in various offices. In the same vein, Whiteman (2017) found that there is an increase in waist circumference associated with sitting specifically, a 0.02millimeter increase for every one-hour sitting.

Furthermore, the result of this study indicated that there was a statistically significant difference in the health problems of bankers who sit for long hours based on positions. Thus, cashiers and those in customer care experienced more health problems from prolong sitting than loan officers, internal auditors and bank managers while bank marketing representative seemed to experience the least health problem. This study showed that there was no statistical difference in the health problems of bankers who sit for long hour based on years of employment.

5. CONCLUSION

Based on the findings, the study concluded that:

- Despite majority (74.0%) of the bankers sampled being aware of the effect of prolong sitting, they continued the habit.
- Common health problems of prolong sitting among bankers were hip pain, upper/lower back pain and strained neck, chronic body pain, inflexible spine, sore shoulders, weight gain weight gain, weakened muscles, prolong headache, poor blood circulation and foggy brain.
- Sitting for long hours results to Waist Circumference, Back Pain, Neck/Shoulder Pain and Rheumatic Disorder.
- Excessive work load, high target, Negligence of associated risk and job insecurity were reasons for prolong sitting among bankers in Ilorin.

There was a statistically significant difference in the health problems of bankers who sit for long hour based on positions ($F \{5, 144\} = 28.803, p < 0.05$). Thus, cashier and those in customer care experienced more health problem from prolong sitting than loan officers, internal auditors and bank managers while bank marketing representative seemed to less health problem resulting from prolong sitting.

There was no statistical difference in the health problems of bankers who sit for long hour based on years of employment ($F \{3, 146\} = 1.322, p > 0.05$).

With respect to the findings of this study, the following recommendations are proffered:

- Bankers should always walk around or do a bit of light stretching and exercise for at least 10 minutes in every hour to many of the negative effects of prolong sitting
- Bankers should set a timer to ensure they get out of chair for at least a few minutes every hour
- Bankers should periodically change the working surface so as to vary their position with respect to the comfortability of the body. This is helpful to all the problems chairs stasis can bring
- Bankers should be allowed to stand up while performing jog for a few minutes so as to improve blood sugar regulation
- Bankers should support their chairs with inflated balls, various forms of lumbar to maintain a healthy sitting posture and back health.

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