

# Assessment of Job – Related Physical Activities and Transportation of Nurses in Lagos State

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## Abstract

*This study examined job- related physical activities and transportation of nurses in Lagos state. The decline in human physical activity and high dependence on automation has posed a global health concern among various professions. Many nurses are of the opinion that job-related physical activities are enough to maintain physical fitness and health. The descriptive survey research design was adopted. Random selection of 180 female nurses from six public hospitals in Lagos state; out of which 172 constituted the respondents. The open ended questionnaire format was adopted. Data were analyzed using descriptive and inferential statistics. The result revealed that majority (69.8%) of the nurses are employed outside their homes; involvement in physical activity for a short period of time was significant; very few (5.2%) recorded high involvement in walking at work and this was significant. Most nurses had significantly (60.5%) moderate level of length of time travelling by means of transportation. Over 50% of the nurses had moderate involvement in walking and this was significant. Based on the findings, nurses should engage in walking as physical activity beyond the professional demand to enhance their physical, mental, physiological and psychological health.*

**Key Words:** Assessment, Job-related physical activities, Human physical activities,  
Transportation, Nursing Profession

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## Introduction

The importance of physical activity to the health of any nation cannot be overemphasized. Increasing physical activity is a societal not just an individual problem. The decline in human physical activity has posed a global health concern to various professions, most especially among nurses. Modern technology and automation have led to physical inactivity since machines now do most jobs previously done by manual labour. Most working class individuals especially women hire maids to help with their domestic work and use

public means of transport to and from work as well as other places.

Physical activity is any bodily movement produced by skeletal muscles which results in energy expenditure (World Health Organization. WHO, 2018). Choosemyplate (2017) has expressed physical activity as movements of the body that uses energy. Unstructured physical activities include walking, climbing stairs, gardening, and other childhood play, brisk pushing a stroller, playing soccer or dancing are all good examples of being active. Physical activity can be categorized into occupational, sports conditioning,

household chores, leisure activities,  
transportation (bicycling)  
entertainment (dancing)  
(Choosemyplate (2017)).

According to WHO (2018), the term “physical activity” should not be mistaken with “exercise”. Exercise is a sub category of physical activity that is planned, structured, repetitive, and purposeful in the sense that the improvement or maintenance of one or more components of physical fitness is the objective. Physical activity includes exercise as well as other activities which involve bodily movement and are done as part of play, work, active transportation, house chores and recreational activities.

Any physical activity that would enhance health and physical benefit should be of moderate or vigorous intensity. With vigorous activities, you get similar health benefits in half time it takes with moderate ones. Light intensity activities do not increase your heart rate, hence should not be counted as meeting physical activity needs -such activities as walking at a casual pace. Choosemyplate (2015), reported moderate physical activity types as walking briskly (about 3.5miles per hour), bicycling (less than 10 miles per hour), general gardening (raking trimming shrubs), Golf walking and carrying clubs), water aerobics, canoeing and tennis (doubles).

In addition, vigorous physical activities include Running /jogging (5miles per hour), walking very fast (4.5 miles per hour), bicycling (more than 10 miles per hour) heavy yard work, such as chopping wood, swimming (freestyle laps), aerobics, basketball (competitive) and tennis (singles). An individual can choose moderate or vigorous intensity activity or mix both each week. An activity could be vigorous, moderate or light based on the extent to which it makes your heart beat faster and you breathe harder.

Nursing profession is characterized with bedside and administrative activities to service both in and out patients. This profession is dominated by female offspring who are also preoccupied by household chores and other related activities. Many people were of the opinion that; job –related physical activities are enough for maintenance of physical fitness and health. Lela and Frantz (2012) stated that higher job-related physical activity such as walking (84%) was reported among nurses. They recommended a need for the promotion of leisure time physical activity among nurses as this would reduce the risk of back injury due to the high level of job-related physical activity.

Basically the job descriptions of registered nurses as stated by Career planner (2015) include –assessing patients “health problems and needs develop and implement nursing care plans and maintain medical record. It also involves administering nursing care to the injured, convalescent or disabled patients. They may advise patients on health maintenance and disease prevention or provide case management. Nursing are expected to maintain accurate, detailed reports and records, monitor, record and report symptoms and charges in patients’ conditions. They record patients’ medical information and vital signs. They modify patients’ treatment plans as medicated by patient’s responses and conditions. They consult with health care team member to assess, plan, implement and evaluate patients’ care plans. Nurses interpret and evaluate diagnostic tests to identify and assess patients’ condition.

According to Books.google (2008), variables of work place stress in nursing is excessive work load. Nursing profession also entails monitoring of all aspects of patients’

care, including diet and physical activity. They direct and supervise less skilled nursing/ health care personnel , or supervise a particular unit on one shift .They prepare patients for, and assist with examinations and treatments ( Career planner, 2015 ) . It has been observed that nurses have to juggle multiple tasks at work. It was also reported that nurses occupational physical activity levels largely consist of light-intensity physical activity interspersed with moderate-intensity tasks (Chapple, Verswijveren, Aibett, Considine & Ridgers, 2017).

Physical activity was positively correlated with both physical and mental components of nurses' health (Ming-Hui, 2008 ). Higher levels of physical activity participation were associated with lower levels of nursing stress. Lela and Frantz (2012) reported Yip (2001) who stated that participation in regular physical activity enhance the psychological well being of individuals, improves job-related fatigue and muscle pains by increasing and maintaining the musculoskeletal system in shape .

According to Healthcare/ Area Voices (2018), walking strengthens the heart and fight against disease. Walking also provides boost of energy during long working hours. They observed that an average nurse walks 4-5 miles per 12hour shift. Lela and Frantz (2012) were of the opinion that most of the nurses were found to be less active as far as transport and domestic- related physical domains are concerned. Majority of workers in Lagos State being a densely populated city goes to work by means of public transport rather than trek. Those private vehicle owners may sometimes prefer public transport due to bitter experience of heavy traffic. Salawu (2015) reported that the high demand for public transport service in Lagos is a direct consequence of the quality of urban living environment. American

Public Health Association, APHA (2018) stated that transport decisions that take place upstream affect our lives downstream. APHA speaks out for transportation projects that will promote more and better bicycling and walking.

Physically, nursing can be a taxing career. It typically requires quite a bit of physical activity such as walking, lifting patients stretching and bending and many require longer work days varied schedules. Nurses employed by hospitals for extended – hours facilities frequently work 12 hours shifts or work call duty. They may have to work night, weekend or even over the holidays (MomMD, 2015). Chen, Daraiseh, Davis and Pan (2014) reported nursing-related work activities as manual patient - handling, bedside care, care – coordination, and walking/standing activities. Their findings suggested that bedside care and walking / standing, other than manual patients' handling contributed to most of the level of acute fatigue recorded. However, Lela and Frantz, 2012 affirmed that harmful job-related physical activities are not recorded in their study.

It has been observed that physical inactivity has been increasingly growing and it has become a serious public health problem (Paulo, 2013). In the labour market, working hours have a negative effect both on professional life and also on the social, family life and physical activity level of individual. Nurses showed less healthy habits in exercise as a leisure activity, which reflected in high percentage of cases of overweight or obesity among women (Paulo, 2013). Also, Phiri, Draper, Lambert and Kolbe (2014) were of the opinion that nurses are overweight and are too slow in the wards. Poor physical activity level has been observed among nurses. This increases their health risk and may influence their health

promotion practices with patients. Health care professionals are often regarded as health role models for general society, their own physical activity habits may influence the quality of the service they provide (Blake, Stanulewicz and Megil , 2017). Among the seven factors of nursing stress, work load was rated the highest by the participants (Ming-Hui, 2017); this have affected the physical activity participation of nurses.

It has also been observed that most nurses go to work in public transport. Transportation decision can affect our lives downstream. People explore various means of transportation to get to work and other places on daily bases. Poor transportation decision to work can harm health (American Public Health Association (APHA), 2018). Physical activity is a crucial factor for health and general well-being. Nursing is a sensitive profession as they deal with human health and life. Also, the personal and physical health of nurses is key to effective job performance. Healthcare/Area Voices (2018) were of the opinion that, nurses have a unique job, and are capable of influencing hundreds of people every day. It is very important for nurses to always portray a lifestyle centered around not only on the health of others, but theirs as well. It is against this background that this study was designed to assess job-related physical activities and transportation of nurses in Nigeria particularly in Lagos State.

### Research Questions

The purpose of this study was to assess job-related physical activities and transportation of nurses in Lagos State. The following research questions were raised to guide the study. These include:

1) Are the nurses in Lagos State engaged in any paid or unpaid job outside the home?

- 2) Do the nurses in Lagos State carry out vigorous physical activities as part of work?
- 3) Is walking more prevalent and regarded as adequate physical activities by nurses in Lagos State?
- 4) What would be the intensity and duration of physical activities in the last 7 days by nurses in Lagos State?
- 5) What would be the transportation activities of nurses in Lagos State?

### Methodology

The descriptive research of the survey design was adopted. The target population was the nurses in Lagos State. Six public hospitals were selected purposively. one hundred and eighty (180) female participants, out of which thirty (30) from each hospital, were randomly selected irrespective of age, duty hour or unit. The Instrument was an open ended questionnaire designed to find out if participants actually engage in any paid or unpaid job outside the home. It examined the kinds of physical activities participants do as part of everyday life- at workplace, getting from place to place, exercise and sport. It also investigates the intensity (walking distance to work and at work, height of stairs climbed at work daily) and duration (how often and time spent daily) of the physical activities engaged in; and the means of transportation by participants. The time spent sitting at workplace and walking was not left out. The psychometric property of the instrument with extensive reliability was evaluated by asking ten nurses who were not part of the study to complete the questionnaire one week after the first administration using a test-retest design. The Pearson Product Moment correlation analysis yielded a reliability coefficient of  $r=0.78$ . Having consulted with the

universe of related literature in human physical activities and experts in the field, the validity of the instrument was ascertained.

A copy of the questionnaire was given to the participants on duty at each visit to the selected six public hospitals in Lagos state. One hundred and eighty (180) copies of the questionnaire were administered during a period of 3 weeks. Two trained research assistance were employed. One hundred and seventy two (172) copies of the questionnaire (96%) were recovered. Some of the nurses were off duty as at the time of recovery. It is assured that 4% subject

mortality could not affect the results of this study.

Data were analyzed using descriptive statistics of mean, standard deviation, frequency and percentages. This revealed the distribution of participants with paid or unpaid work outside the home, the intensity and duration of participants' activity level as low moderate or high. Inferential statistics of Chisquare ( $\chi^2$ ) was employed to elicit which particular activity is significant ( $p < 0.05$ ) as adequate physical activity engaged in, by nurses in Lagos state from each section.

## Results

**Table1: Frequency counts of nurses with a job or unpaid work outside the home.**

Item	Frequency	Percentage (%)
Have job/unpaid job outside the home	120	69.8
Don't have job unpaid job outside the home	52	30.2
<b>Total</b>	<b>172</b>	<b>100.0</b>

Table 1 above shows that majority of the nurses (69.8%) have job or any form of unpaid job outside their homes.

**Table2: Descriptive analysis of job related physical activities of nurses**

Item	N	Min	Max	Mean±std
Frequency of involvement VPA in the last 7 days	172	0	7	2.67±2.19
Length of time involved in VPA as part of work	172	.00	15.00	1.38±2.13
Frequency of involvement in MPA as part work in the last 7 days	172	0	8	2.31±2.15
Duration of time engaged in MPA	172	.00	30.00	2.49±4.99
Frequency of walking for at least 10mins as part of work in the last 7 days	172	0	8	2.92±2.69
Numbers of hours spent walking as part of work	172	.00	30.00	1.66±3.99

Table 2 above shows that the frequency of walking by nurses for at least 10minuities as part of work in the last 7 days had the highest mean of 2.92 with a standard deviation of 2.69. While the lowest mean of 1.66 with a

standard deviation of 3.99 in the number of hours spent walking as part of work was recorded by the participants respectively.

**Table3: Descriptive statistics of transportation related activities of nurses**

Item	N	Min	Max	Mean±Std
Frequency of traveling in a means of transportation	172	0	7	3.33±2.48
Length of time spent traveling by means of transportation	172	.00	7.00	1.21±1.36
Frequency of bicycling for at least 10mins to go to place of work	172	0	7	1.30±2.07
Duration of time spent bicycling at a time	172	.00	80.00	.499±1.24
Frequency of walking for at least 10mins from place to place in the last 7 days	172	0	7	3.42±2.62
Duration of time spent walking	172	.00	24.00	1.28±3.72

Table 3 above shows that the nurses recorded the highest mean of 3.42 with a standard deviation of 2.62 in frequency of walking for at least 10 minutes from place to place in the last

7 days preceding the study. The result indicates a low mean of 0.499 with a standard deviation of 1.24 in the duration of time spent bicycling respectively.

**Table4: Job related physical activities of nurses.**

Item	Low (%)	Moderate (%)	High (%)	X <sup>2</sup>
Frequency of involvement in vigorous physical activities in the last 7days	48 (27.9)	80 (46.5)	44 (25.6)	13.581*
Length of time involved in vigorous activities as part of work	89 (51.7)	65 (37.5)	18 (10.5)	48.500*
Frequency of involvement in moderate physical activities as part of work in the last 7days	59 (34.3)	85 (49.4)	28 (16.3)	28.407*
Duration of time engaged in moderate physical activities	131 (76.2)	31 (18.0)	10 (5.8)	145.826**
Frequency of walking for at least 10mins as part of work in the last 7 days	65 (37.8)	70 (40.7)	37 (21.5)	11.035*
Number of hours spent walking as part of work	146 (84.9)	14 (8.1)	12 (7.0)	205.721*

P < 0.05

Table 4 shows the various levels of involvement of nurses in physical activities as part of their daily work. Many of the nurses (46.5%) involved in a moderate frequency level of vigorous physical activities and it is significant. With regards to length of time the nurses engaged in vigorous physical activities as part of their work, table 4 shows that over 50% of the nurses were involved in physical activities for a short period of time and this was

significant. This implies that over 50% of the nurses had low level of involvement in physical activities with regards to length of time. Majority of the nurses (49.4%) had moderate duration of time engaged in moderate physical activities and this was significant. With regards to frequency of walking, very few of the nurses (21.5%) had high frequency level of involvement in walking at work.

**Table 5: Transportation related physical activity of nurses.**

Item	Low (%)	Moderate (%)	High (%)	X <sup>2</sup>
Frequency of traveling by a means of transportation	40 (23.3)	94 (54.7)	38 (22.1)	35.209*
Length of time spent traveling by means of transportation	42 (24.4)	104 (60.5)	26 (15.1)	59.209*
Frequency of bicycling for at least 10 minutes to go to place of work in the last 7 days	109 (63.4)	37 (21.5)	26 (15.1)	
Duration of time spent bicycling at a time	141 (82.0)	17 (9.9)	14 (8.1)	
Frequency of walking for at least 10 minutes from place to place in the last 10 days	51 (29.7)	90 (52.3)	31 (18.0)	31.407*
Duration of time spent walking	157 (91.3)	6 (3.5)	9 (5.2)	259.965*

P<0.05

Table 5 shows that over 50% of the nurses had moderate level of frequency of travelling by a means of transportation and this was significant; 60.5% of the nurses also had significantly moderate level of length of time spent travelling by means of transportation. With regards to frequency of time spent walking for at least 10 minutes from place to place, over 50% of the nurses had moderate level of involvement in walking and this was significant. With duration of time spent walking, 91.3% of the nurses in this study recorded low level and it was significant.

### Discussion

Less than 50% (46.5%) of the nurses in this study were involved in a moderate frequency level of vigorous activities as part of work in the last 7 days prior to this study and it is significant. This is contrary to Lela and Frantz (2012) who reported higher job-related physical activity (84%) among nurses. Majority of the nurses (49.4%) had moderate duration of time engaged in moderate physical activities and it is significant. Also, the fact that this study revealed that in

frequency of walking, very few of the nurses (21.5%) had high frequency level of involvement in walking as part of work indicated low level of job – related physical activities contrary to Lela and Frantz (2012) assertion. Phiri, Draper, Lambert and Kolbe (2014) opinion that nurses are overweight and are too slow in wards is in agreement with result of the study. They also reported that poor physical activities have been observed among nurses. Nursing stress has been attributed to high workload which might have adversely affected their physical activity participation level (Ming-Hui, 2017).

In this study also, over 50% of the nurses recorded moderate level of frequency and length of time of travelling with a means of transportation and it was significant. With regards to frequency of time spent walking for at least 10 minutes from place to place, over 50% of the nurses had moderate level of involvement in walking and it was significant. This is contrary to the view of Healthcare/AreaVoices, 2018, that an average nurse walks four to five miles in 12 hour shift. Walking

strengthen the heart and fight against diseases. They asserted that the fact that most nurses are overweight and obese 50% could be linked to their grassing habit. That is, the influx of food coming in and out of the break room.

## Conclusion

This study assessed job-related physical activities and transportation of nurses in Lagos state. Based on the findings, it is concluded that many of the nurses are involved in a moderate frequency level of vigorous physical activities at work and for a short period of time. Also, majority of the nurses had moderate duration of time engaged in moderate physical activities and recorded high frequency level of involvement in walking for at least 10 minutes at work. Majority of the nurses are involved in moderate level of length of time spent travelling by a means of transportation rather than walking.

## Recommendation

Nurses have a unique job. Their lifestyle is capable of influencing the life of their patients and everyone around them. Nurses should live up to the expectation of living an active and healthy lifestyle. Also, to enhance their personal health, nurses should engage in various moderate physical activities most especially walking, at both in and out- job environment. In order to maintain a holistic health, nurses should participate in physical activities at a level higher than what the profession demands.

## References

American Public Health Association (2018). Transportation and health. Topics and Issues. For Science. For Action. For health. Retrieved from <https://www.apha.org>.

Books.google. (2008). The relationship among work related stress, health status and physical activities. Retrieved from <https://books.google.com/books?isbn=0549527222>.

Blake, H., Atanulewicz, N., & Megil, F.M. (2017). Predictors of physical activity and barriers to exercise in nursing and medical students. *Journal of Midwifery and Woman's Health*. 72 (4).917-927. Retrieved from Wiley.com/doi/10.1111 Jan. 13181/full.

Career planner, (2015). Registered nurses job description, duties and jobs. Retrieved from <https://job-descriptions.careerplanner.com>

Chapple, S.E., Verswijveren, S.J.J.M., Aibett, B., Considine, J. & Ridgers, N.D. (2017). Nurses occupational physical activity levels: A systematic review. Retrieved from International Journal of Nursing Studies. 73. 52-62. <https://doi.org/10.1016/j.ijnvistu.2017.05.06>

Chen,J., Daraiseh, N. M., & Pan, W. (2014). Sources of work related acute fatigue in United States hospital nurses. *Nursing and Health Sciences*. 16 (11). 19-25. Retrieved from [www.chh.niu.edu](http://www.chh.niu.edu).

Choosemyplate. (2017). Physical activity. Retrieved from <https://www.choosemyplate.gov>.

Fernandes, J.da Costa., Potela, L.F., Bairro, T.G., Rotenberg,L., & Griep,R.H.W. (2013). Working hours and health behavior among nurses at public hospitals. *Revista Latino-Americana de Enfermagem*. 21(5)Ribeirao Preto ISSN 1518-8345. Retrieved from <http://dx.doi-org/10.1590/s0104-11692013000500013>

Healthcare/AreaVoices. (2018). 8 Shocking habits of nurses. Health



- and Fitness. Retrieved from [www.healthcare.areavoices.com](http://www.healthcareareavoices.com)
- Lela, M. & Frants, J.M. (2012). Physical activity among nurses in Kanombe military hospital
- African Journal of physiotherapy and Rehabilitation Sciences. 4(1-2). 72(4). 917-927.
- Retrieved from [https:// www.ajol.info](https://www.ajol.info)
- Ming-Hui,Y. (2017).The relationship among work related stress, health status and physical activity participation of nurses in teaching hospitals in Taipei, Taiwan. Retrieved from [sunzi.li b-hku.hk/er/detail/hkul/4343078](http://sunzi.li.b-hku.hk/er/detail/hkul/4343078).
- MomMD. (2018). Registered nurses job description. Retrieved from [https:// www.mommd.com](https://www.mommd.com)
- Paulo, S. (2013). Physical activity practice among undergraduate students in nursing. Actapaul.enferm.26(5) Retrieved from <http://dx.doi.org./10.1590/50103-2100201300050006>.
- Phiril, P., Draper, C.E & Kolbe T.L. (2014). Nurses lifestyle behaviours, health priorities and barriers to living a healthy lifestyle: a qualitative descriptive study. Retrieved from [https:// www.ncbi.nlm.nih.gov/pmc/articles /pmc4264254.s.e](https://www.ncbi.nlm.nih.gov/pmc/articles/pmc4264254.s.e).
- Salau,T. (2015). Public transportation in metropolitan Lagos, Nigeria: analysis of public transport users' socioeconomic characteristics. Journal of Urban Planning and Transport Research. 3(1). 132-139. Retrieved from <https://www.tandfonline.com>
- World Health Organization.( 2018). Global strategy on diet, physical activity and health. WHO/Physical activities. Retrieved from [WWW.Who.int](http://WWW.Who.int)
- Wikipedia. (2018). Physical exercise. Retrieved from [https:// en-m.wikipedia.org](https://en-m.wikipedia.org).