Original Article

Physical Inactivity and its Associated Disease Prevalence Among Civil Servants in Accra, Ghana: A Retrospective Study

[1]Gyening K.N., [1]Laast J.K., Pambo P[2] , [1]Torgbenu E.L., and [1]Yarfi C

[1]University of Health and Allied Sciences, Ho, Ghana.
(Department of Physiotherapy and Rehabilitation Sciences).
[2]Civil Service Polyclinic, Accra, Ghana.

ABSTRACT

Background: Disease prevalence has been documented in many professions across the world with varying prevalence rates. Studies have been done on disease prevalence among nurses, market women and traders, however, little is found on disease prevalence among the civil servants working at the Ministries in Ghana.

Objectives:

1. To determine the disease prevalence among Ghanaian civil servants who patronize the civil service polyclinic, Accra.
2. To determine the age distribution of disease prevalence among civil servants at the Ministries.
3. To determine the gender distribution of disease prevalence among civil servants at the Ministries.

Study design: A retrospective study design was used for this study.

Methods: Records of civil servants were reviewed from the data storage system of the civil service polyclinic from January 2014 to December 2017. A sample size of 135 records was found eligible and included in the study as appropriate.

Results: Out of a total of 135 sampled for the study, 56.3% were females, and 43.7% were males. The ages of the sampled population ranged from 27 to 70 years with a mean age of 52 years. Hypertension was more prevalent among the civil servants' with a record of36.4%, followed by diabetes mellitus accounting for 19.1%. Prevalence of hypertension and diabetes were higher in females (59.3%) than in males (40.7%) and also increased with increasing age.

Conclusion: Hypertension and diabetes are more prevalent among Ghanaian civil servants at the Ministries who patronize the civil service polyclinic. Preventive measures aimed at curbing high incidence rate of above conditions are advised.

INTRODUCTION

The civil service forms a major component of the public services of Ghana (1) and civil servants in Ghana form the largest employees of the working population and therefore any ill health among this category of the population will mean a loss to the national economy. It is therefore appropriate that strategies geared towards health promotion become a concern to the health ministry and all its stakeholders. Civil servants are exposed to a higher risk of developing metabolic syndrome and obesity by nature of the sedentary lifestyle of their work and unhealthy eating habits (2, 3).

Disease prevalence has been documented in many professions across the world with varying prevalence rates. Studies have been done on disease prevalence among nurses, market women and traders, however, little is found on disease prevalence among the civil servantsworking at the

Ministries in Ghana. Civil servants in many parts of the world including Ghana, have been investigated on the disease pattern affecting them, but there is scanty research publication documented on both general and particular health conditions of civil servants at the Ministries in Accra presenting to the civil servants polyclinic, Accra.It is therefore expected that this current study will add to knowledge on the prevalence of disease conditions among civil servants at the Ministries who seek healthcare at the civil service polyclinic. Findings from this study will help stakeholders in the public service and civil service polyclinic tailor implementation programmes aimed at curbing disease condition that may be prevalent among the sampled population. It is in this regard that the study aimed to determine disease prevalence among Ghanaian civil service workers at the Ministries who patronize the civil service polyclinic in Accra, Ghana.

METHODS

The study was carried out at the civil service polyclinic in Accra, Ghana. The clinic is situated at the ground floor of the civil service House in Accra which serves Ghanaian civil service workers at the Ministries. The civil service polyclinic is located on the 28th February Road, Ministries, Accra. There are currently thirty-four (34) Ministries within the civil service in Ghana.

Procedure for Data Collection

A retrospective study design was used to review records of clients from the data storage system of the civil service polyclinic from January 2014 to December 2017.Folders on all clients who presented to the civil service polyclinic from January 2014 to December 2017 and met the inclusion criteria were retrieved from the data storage system totaling 204. Proportionate stratified random sampling method was used to select a sample of 135 clients' folders using Yamane's formula (4).

Data was collected from the electronic database and folders of clients. Folders were reviewed independently. For each folder, the age, gender and medical diagnoses was obtained and documented. In order to avoid documenting multiple cases over the period under study, individual folder numbers were sorted and filtered.

Inclusion criteria

The study involved Ghanaian civil service workers who presented to the civil service polyclinic from January 2014 to December 2017 from age 18 years to 70 years and who had completed records.

Exclusion criteria

1. Non-Ghanaian civil servants who attend the civil service polyclinic.
2. Civil servants who do not work at the Ministries.

Data Handling, Storage and Analysis

To ensure confidentiality, privacy and anonymity, all data was obtained using a data retrieval form or tool which captured exact client data needed for the study. Client's folders were assigned identification numbers or codes which were used in place of client's names in order to provide confidentiality. Direct availability of bio-data was avoided throughout the study. Data obtained was entered electronically and safely secured with a password to prevent access by unauthorized persons. Data collected was entered into an excel spread sheet and analyzed with IBM SPSS statistics 22 software. All folders used during the data collection procedure were kept in the records room of the clinic under lock and key throughout the duration of the study.

Ethical Considerations

Ethical approval for the study was obtained from University of Health and Allied Sciences Research and Ethical Committee with protocol identification number UHAS-REC/A.5 [58] 17-18 and administrative approval was also sought from the management of the civil service polyclinic before the study was started.

RESULTS

A four year retrospective study was carried out at the civil service polyclinic; Accra and a total of 135 clinic folders were sampled for the study, with age's ranging from 27 to 70 years. Among the sampled population, majority of them were females 76(56.3%) whereas 59(43.7%) of those sampled were males. A total of 45.9% sampled had their ages between 46-60 years with a mean and median age of 52 and 54 years respectively. The occupation of those sampled were grouped into three categories; directors (the highest grade made up of senior administrators and managers), professional staff (those not in managerial positions) and clerical staff (secretarial and records staff).

Table 1: Variable Distribution Among Sample

Variable	n (%) of sample
Gender	
Male	59(43.7)
Female	76(56.3)
Age group(years)	
<31	3(2.2)
31-45	31(23.0)
46-60	62(45.9)
>60	39(28.9)
Weight(kg)	
<60	10(7.4)
60-79	69(51.1)
80-99	45(33.3)
>100	11(8.2)
Systolic	
<121	47(34.8)
121-140	58(43.0)
140-160	19(14.1)
160-180	9(6.7)
>180	2(1.5)
Diastolic	
<81	77(57.0)
81-90	35(25.9)
91-100	19(14.1)
101-110	3(2.2)
>110	1(0.7)
Mean age(±SD)	52(9.9)
Mean weight (±SD)	78(15.9)
Mean systolic (±SD)	132(21.8)
Mean diastolic (±SD)	82(11.5)

Data is presented as figures (n) and percentages in parenthesis

The professional staff constituted the largest, followed by clerical staff and directors respectively as shown in **table 1.**

Each of the 135 folders' of participantssampled for the study presented with at least one (1) disease condition and at most four (4) disease conditions. Hypertension constituted the largest disease condition reported with a prevalence of 36.4%, followed by diabetes mellitus (19.1%). Hypertension, Diabetes Mellitus (DM), Osteoarthritis, Upper Respiratory Tract Infection (URTI) and malaria, were prevalent among cardiovascular, metabolic, musculoskeletal, pulmonary and infectious diseases respectively. Cerebrovascular accident (CVA) and dermatitis were the only conditions reported among Central Nervous System (CNS) and skin disorders respectively as shown in **table 2.**

Table 2: Frequency of Diseases Reported

DISEASES	FREQUENCY *n* (%)
CARDIOVASCULAR	
Hypertension	86(36.4)
Anemia	1(0.4)
METABOLIC	
DM	45(19.1)
Dyslipidemia	2(0.8)
MUSCULOSKELETAL	
Osteoarthritis	15(6.4)
Lumbar Spondylosis	10(4.2)
Myalgia	13(5.5)
PULMONARY	
Asthma	2(0.8)

Data is presented as figures (n) and percentages in parenthesis

The diseases most presented by the sampled population were Hypertension (HPT), Diabetes Mellitus (DM), Malaria, Osteoarthritis (O.A), Myalgia, Lumbar Spondylosis and Upper Respiratory Tract Infections (URTI). The

prevalence of hypertension, diabetes, osteoarthritis, myalgia and lumbar spondylosis were higher among females with percentages of 59.3%, 62.2%, 73.3%, 53.8% and 70.0% respectively, as compared with their male counterparts with percentages of 40.7%, 37.8%, 26.7%, 46.2% and 30.0% respectively. The age groupsfrom 46 to 60 years, dominated diseases reported mostly by the study population, constituting 55.8%, 53.3%, 66.7%, 61.5%, 80.0% and 50.0% among hypertension, diabetes, osteoarthritis, myalgia, lumbar spondylosis (LS) and upper respiratory tract infections respectively.

Table 3: Sociodemographic Distribution Of Diseases Most Reported

	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Variables	**HPT**	**DM**	**MALARIA**	**O.A**	**MYALGIA**	**LS**	**URTI**
Gender							
Male	35(40.7)	17(37.8)	10 (50)	4(26.7)	6 (46.2)	3(30.0)	5(50.0)
Female	51(59.3)	28(62.2)	10 (50)	11(73.3)	7 (53.8)	7(70.0)	5(50.0)
Age groups(yrs.)							
<31	0 (0.0)	0 (0.0)	3 (15.0)	0 (0.0)	0 (0.0)	0 (0.0)	1(10.0)
31-45	18(20.9)	7 (15.6)	12 (60.0)	2 (13.3)	4 (30.8)	0 (0.0)	2(20.0)
46-60	48(55.8)	24(53.3)	2 (10.0)	10(66.7)	8 (61.5)	8(80.0)	5(50.0)
61+	20(23.3)	14(31.1)	3 (15.0)	3 (20.0)	1 (7.7)	2(20.0)	2(20.0)
Occupation							
Clerical	15(17.4)	6 (13.3)	5 (25.0)	4 (26.7)	2 (15.4)	3(30.0)	2(20.0)
Directors	10(11.6)	4 (8.9)	5 (25.0)	0 (0.0)	1 (7.7)	0(0.0)	3(30.0)
Professional	61(70.9)	35 (77.8)	10 (50.0)	11 (73.3)	10 (76.9)	7 (70.0)	5(50.0)

DISCUSSION

In this study, prevalence of hypertension among civil servants working at the Ministries, Accra was 36.4%. A study by Addo and colleagues(5) reportedthe prevalence of hypertension to be 27.4% among civil servants at the Ministries in Ghana. The prevalence of hypertension in this study was higher among females than males with percentages of 59.3% and 40.7% respectively. This finding conforms with study by Musa and colleagues (6) where hypertension was more prevalent (41.4%) in females than males (38.2%) as wellas studies by Oladimeji et al (7), Angaw et al (8) and Ajani et al (9) where hypertension was more prevalent among females than males in ministry civil servants in Kaduna State, Nigeria, Addis Ababa, Ethiopa and Lagos, Nigeria respectively.

The prevalence of hypertension was found to increase with increasing age with the age ranges 46 to 60 yearsrecording the highest percentage of 55.8%. Findings in this study agrees with findings by Addo et al (5) which reported an increase in prevalence of hypertension with increasing age among civil servants at the Ministries in Accra, Ghana. Studies by Oladimeji et al (7), Angaw et al (8) and Ajani et al (9) also reported similar findings among civil servants in Kaduna State, Nigeria, Addis Ababa, Ethiopa and Lagos, Nigeria respectively. This could partly be as a result of physiological change of blood vessels associated with ageing. It could also be due to reduction in physical activity level as one ages and the sedentary nature of the civil service work.

Diabetes mellitus was next to hypertension among diseases reported with a percentage of 19.1%. This finding is in line with a study conducted among public servants in Nadowli district, Ghana which showed an overall prevalence of hypertension/diabetes to be 20% (10). A study on civil servants in Uyo metropolis, South Eastern Nigeria by Ekpenyong et al (11) also reported a high prevalence of diabetes (10.5%). The findings in this study may be associated with poor eating and dietary habits, low physical activity and other risk factors such as family history. It will be appropriate that further studies aimed at exploring knowledge of civil servants on health promotion is carried out to help policy formulation regarding the health needs of these participants.

It was also recorded that the prevalence of diabetes was higher in females (62.2%) than their male (37.8%) counterparts. Although prevalence of diabetes in this study was higher than 10.5% as reported by Ekpenyong et al(11) on civil servants in Uyo metropolis, South Eastern Nigeria, both studies were similar in that, theyreported a high prevalence of diabetes in females than males. Findings in this study may be attributed to poor eating and dietary habits and patterns, low level of physical activity, obesity, stress and luck of adequate sleep due to

waking up early and arriving late die to traffic in Accra.

The higher prevalence of these non-communicable diseases (hypertension and diabetes) among civil servants at the Ministries in Accra may be due to these risk factors; poor eating and dietary habits, inactivity, overweight and obesity, excessive consumption of alcohol and hypercholesterolemia. These civil servants have a regular source of income (they earn salaries and wages) and as such patronize junk foods while at work, consume high dense energy foods and drinks, consume excessive amounts of alcohol after work and on weekends coupled with the sedentary in nature of their work with low physical activity levels place them at a greater risk of developing these diseases of civilization.

CONCLUSION

Hypertension and diabetes mellitus were the most prevalent diagnosed conditions among civil servants who patronized the civil service polyclinic at the Ministries. The prevalence of hypertension among the civil servants was 36.4% and that of diabetes was 19.1%. Females reported higher disease conditions than their male counterparts. The prevalence of hypertension and diabetes was also high with increasing age.

Limitation (s) of the study

With respect to the retrospective approach in data collection (where data was extracted from patient's folder), health parameters such as weight was only recorded in folders with body mass indexes and heights of patients recorded in very few folders hence nothing was reported on obesity, a non-communicable disease condition.It was also realized that, causes of these chronic conditions were limited in the records and hence researchers were unable to report on this. This notwithstanding, it is worthy to note that findings of this study will add to knowledge and help strategize to improve the lives of civil servants in Ghana.

RECOMMENDATION

1. Findings in this study indicate the necessity in conducting further research to ascertain risk factors contributing to these non-communicable diseases prevalent among civil servants in Ghana. A prospective study aimed at studying the physical activity levels among the study participants will add to knowledge and help strategize programmes to assist civil servants to live a healthy life. There should be a development of an intervention programme tailored to suit civil servants in Ghana to address their health needs.
2. Civil servants should be educated on the modifiable risk factors of non-communicable diseases and strategies to address these risk factors. There should be professionals such as physiotherapists and dieticians stationed at the civil service polyclinic to educate civil servants on healthy eating, cessation of smoking and excessive alcohol consumption in order to be physically active.

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