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Original Research Article

A cross-sectional study on non-communicable morbidity among bank employees of Davangere City

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ABSTRACT

Background: Bank employees are an occupational group of people, experiencing both sedentary life-style and high level of stress in terms of handling financial aspects in their workplace. Thus, making bank employees vulnerable to develop non- communicable diseases. So far, very few studies have been done on bank employees to highlight the magnitude of Non-communicable morbidity and its risk factors. Hence, this study was undertaken to estimate the prevalence of non-communicable morbidity among the bank employees of Davangere city.
Methods: A cross-sectional study was conducted among 390 bank employees of Davangere city. All the study subjects were selected by using probability proportionate to size technique. Data was collected by using pre-tested, semi-structure questionnaire. Height, weight, hip circumference, waist circumference and blood pressure were measured and recorded. Data was analyzed by using MS Excel and Open-Epi Info software version 2.2. Statistical test employed was chi-square and weightage of risk factors was calculated by mean.
Results: The prevalence of hypertension, diabetes and obesity was 30.3%, 2.1% and 31.8% respectively.
Conclusions: This study highlights the burden of non-communicable morbidity among bank employees.

Keywords: Bank employees, Non-communicable morbidity, Prevalence, Risk factors

INTRODUCTION

Non-communicable diseases, mainly cardiovascular diseases, cancers, diabetes and chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma), are the leading causes of death in both developed and developing countries. Of the 56 million global deaths in 2012, 38 million, or 68%, were due to non-communicable diseases.[1] NCD related deaths are projected to increase from 38 million in 2012 to 52 million by 2030.[2] The greatest increase will be in the WHO regions of Africa, South-East Asia and the Eastern Mediterranean, where they will increase by over 20%.[3]

India is also experiencing a rapid health transition with an increasing burden of NCDs causing significant morbidity and mortality. In India, NCDs are estimated to account for 60% of total deaths. In India, Cardiovascular diseases contribute to 45% of all NCD deaths followed by chronic respiratory diseases (22%), cancers (12%) and diabetes (3%).[4]

Common, preventable risk factors underlie most NCDs. Most NCDs are the result of four particular behaviours: tobacco use, physical inactivity, unhealthy diet and the harmful use of alcohol.[5] In addition to these risk factors, work-related stress at workplace is also an important risk factor for NCDs.[6]

Certain occupations predispose individuals to sedentary lifestyles and some of these are characterized by sitting for long periods of time. Workers of financial institutions (banks) spend the greater part of the day sitting down due to the nature of their work. They are also involved in

handling financial matters at their workplace. Thus, the job of bank employees is both sedentary and involves high level of stress at workplace; thereby they are at higher risk of non-communicable morbidity mainly hypertension, diabetes and obesity.[7] Very few studies have been done globally as well as in India to highlight the magnitude of non-communicable morbidity particularly among bank employees. With this view, this study was undertaken to estimate the prevalence of non-communicable morbidity and to identify its appropriate risk factors among bank employees.

METHODS

A cross sectional study was carried out for a period of 1 year from January 2016 to December 2017, for which ethical clearance was taken from the institutional ethics committee. The sample size was estimated using the formula $n = 4pq/L^2$. In India, NCDs were responsible for 53% of deaths, hence "p" was taken as 53%. "L", which is the permissible error in the estimate of p was set at 10%. Using the above-mentioned statistical formula which considers 95% confidence limits and a non-response rate of 10%, the sample size was estimated to be 390.

Enumeration of bank employee staffing pattern was done based on the nature of work and designation. There are 18 nationalized banks with 44 branches and 16 Co-operative banks with 38 branches in Davangere city. There are 1067 bank employees with 306 officers (including managers), 467 clerks (including assistants and cashiers) and 294 messengers/sweepers/guards. The bank staff pattern size varied from bank to bank and also from branch to branch. The number of bank employees varied from minimum four to maximum thirty in numbers. All the study subjects were enlisted and serially numbered according to three groups separately. The required number of study subjects was selected by using probability proportionate to size technique. All banks were covered till required sample size was reached with respect to officers, clerks and others.

The data was collected by history taking and general health check-up. One bank was covered per week on all working days from Monday to Friday. Saturday, Sunday and general holidays were excluded. The permission was obtained from managers or concerned authorities either in the form of written or verbal consent before conducting health check-up in the bank premises. After establishing rapport and explaining the data collection procedure to the subjects an informed verbal consent was obtained from each individual and data was collected using a Predesigned, semi structured questionnaire by Interview method.

Statistical analysis: the data was analysed by descriptive statistics. Chi-square test and Fisher's exact test was used to find out the association between two attributes and $p<0.05$ was considered to be statistically significant.

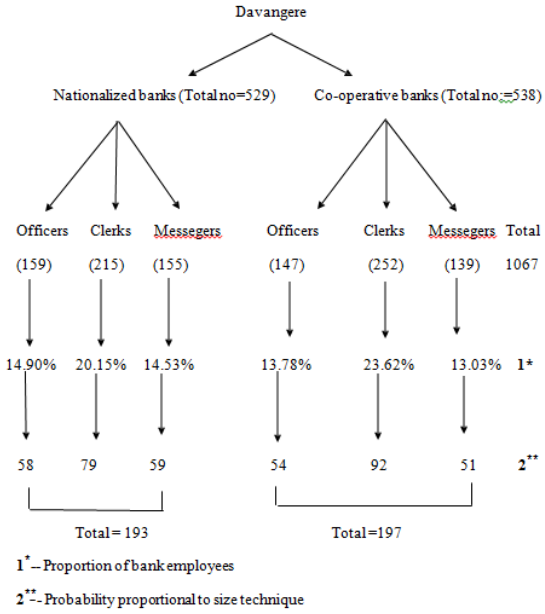

Figure 1: Sampling frame for selection of bank employees.

RESULTS

Table 1 shows distribution of bank employees according to age and gender. A total 390 bank employees, 6 (1.5%) were in the age group of 25-29 years, 25 (6.4%) were in the age group of 30-34 years and 78 (20%) were in the age group of 35-39 years. Out of the 390 subjects, 81.8% were males and 18.2% were females. Mean age of bank employees was 45.1 years.

Table 1: Distribution of bank employees according to age and gender.

Age group (years)	Males		Females		Total	
	N	%	N	%	N	%
25-29	4	1.3	2	2.8	6	1.5
30-34	20	6.3	5	7.0	25	6.4
35-39	56	17.6	22	31.0	78	20.0
40-44	74	23.2	12	16.9	86	22.1
45-49	55	17.2	18	25.4	73	18.7
50-54	62	19.4	9	12.7	71	18.2
55-60	48	15.0	3	4.2	51	13.1
Total	319	100	71	100	390	100

Table 2 shows the prevalence of hypertension according to age. Hypertension was not found in the age group of 25-39 years. The prevalence of hypertension among 40-44 years age group was 17.8%, 45-49 years of age was 23.7%, 50-54 years of age groups was 28% and 55-60 years of age group was 30.5%. As the age advances, prevalence of hypertension increases and this was found statistically significant. Mean age of developing HTN was 50.6 years. Figure 2 shows the prevalence of hypertension according to designation. The prevalence of

hypertension among officers, clerks and others was 55 (46.6%), 50 (42.4%) and 13 (11%) respectively. The prevalence of hypertension increased with increased grade of designation. This difference was found statistically significant

(x^2=27.9; df= 2; p=0.000)

Table 2: Prevalence of hypertension according to age.

Age groups (yrs)	N	Cases	%	
25-29	6	0	0	
30-34	25	0	0	x^2 =99.11 df=6 p=0.0001
35-39	78	0	0	
40-44	86	21	17.8	
45-49	73	28	23.7	
50-54	71	33	28.0	
55-60	51	36	30.5	
Total	390	118	100.0	

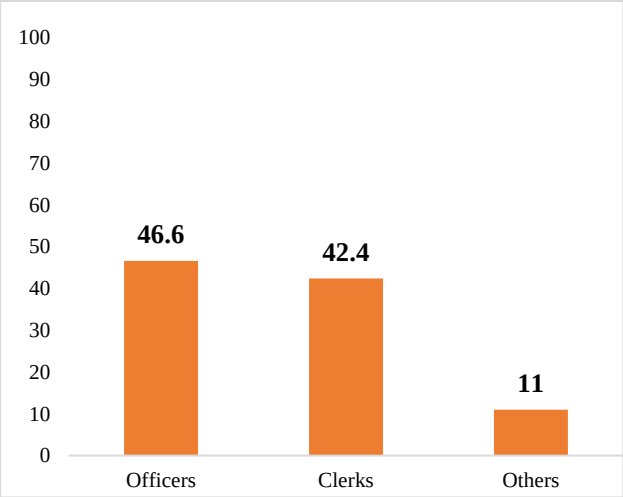

Figure 2: Simple bar diagram showing prevalence of hypertension according to designation.

Table 3 shows prevalence of diabetes according to age. Diabetes was not found in the age group of 25-39 years. The prevalence of diabetes among 40-44 years of age group was 5.1%, 45-49 years of age was 28.6%, 50-54 years of age groups was 31.6% and 55-60 years of age group was 34.7%. As the age advances, prevalence of diabetes increases and this was found statistically significant. Mean age of developing diabetes was 52.1 years.

Table 4 shows prevalence of obesity according to age. The prevalence of obesity among 25-29 years of age group was 0.8%, 30-34 years of age was 4%, 35-39 years of age groups was 10.5%, 40-44 years of age group was 17.7%, 45-49 years of age was 18.5%, 50-54 years of age groups was 22.6% and 55-60 years of age group was 25.8%. As the age advances, prevalence of obesity increases and this was found statistically significant. Mean age of developing obesity was 48.2 year.

Table 3: Prevalence of diabetes according to age.

Age groups (yrs)	N	Cases	%	
25-29	6	0	0	
30-34	25	0	0	
35-39	78	0	0	
40-44	86	5	5.1	X^2= 120.2 df=6; p=0.0001.
45-49	73	28	28.6	
50-54	71	31	31.6	
55-60	51	34	34.7	
Total	390	98	100.0	

Table 4: Prevalence of obesity according to age.

Age group (yrs)	No:	Cases	%	
25-29	6	1	0.8	
30-34	25	5	4.0	X^2= 36.44 df=6 P=0.00001
35-39	78	13	10.5	
40-44	86	22	17.7	
45-49	73	23	18.5	
50-54	71	28	22.6	
55-59	51	32	25.8	
Total	390	124	100.0	

DISCUSSION

The present study shows that the prevalence of hypertension increases as the age advances and this was found statistically significant. Prevalence was more i.e., 30.5% in the age group of 55-60 years age group. The prevalence of hypertension among officers, clerks and others was 46.6%, 42.4% and 11 % respectively. The prevalence of hypertension increased with increased grade of designation. These differences were found statistically significant.

Similar findings were reported by Momin MH et al.[8] In this study the prevalence of hypertension was found to increases with increased age. Prevalence was more among males (32.5%) compared to females (23.1%). With increased seniority and socio-economic status, hypertension was found to increase. These differences were found statistically significant. In the present study the prevalence of diabetes was more in the age group of 55-60 years (34.7%). As the age advances, prevalence of

diabetes increases and this was found statistically significant.

In a study conducted by Parashar et al, it was reported that the prevalence of diabetes was more in the age group of >45 years.[9]

In the present study, the prevalence of obesity in the age group of 50-54 years of was 22.6% and 25.8% in the age group of 55-60 years. As the age advances, prevalence of obesity increases and this was found statistically significant.

In a study conducted by Hirani S et al it reported that the prevalence of obesity was more in the age group of 45 years and above.[10]

CONCLUSION

Nearly one-third of study subjects were hypertensive and obese. Nearly one- fourth of study subjects were diabetics. An increasing trend was observed for these conditions with advancing age. Also, there were an increasing trend of NCD morbidity with increased grade of designation.

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