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Original Research Article

Knowledge and practice regarding diabetes and hypertension among elderly patients attending medicine out-patient department at Guru Nanak Dev Hospital, Amritsar

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ABSTRACT

Background: According to the WHO fact sheet 2015, non-communicable diseases kill 38 million people each year globally. This preliminary study was undertaken in order to bring about healthy ageing.
Methods: It is an observational study on 100 patients above 60 years of age belonging to the rural/urban community coming to the medicine OPD on a walk-in basis in the Government Medical College, Amritsar.
Results: Out of the total 100 patients, 56 were male and 44 were female. Their awareness level was recorded on a self-designed questionnaire. Although 70% of the patients had one or the other disease under study (i.e. diabetes mellitus, hypertension), yet surprisingly their knowledge was limited to the symptoms they suffered from rather than the disease per se.
Conclusions: As inferred from this study, the knowledge of the geriatric group about these diseases is limited, so there is an urgent need to create awareness among the patients and their family members as prevention will be far better than the cure in the long run.

Keywords: Diabetes, Hypertension, Knowledge, Elderly, Non-communicable diseases

INTRODUCTION

WHO defines geriatric population to be above 60 years of age.[1] While the world's older population has been steadily growing over time, it is the accelerated pace of ageing which distinguishes this development as a distinctly modern phenomenon. The rate of growth is rapid with both overall numbers and proportions of older people compared to younger people rising rapidly.

India has thus acquired the label of "an ageing nation." The demographic transition is attributed to the decreasing mortality and fertility rates due to the availability of better health care services.[2]

For seniors, good health helps ensure independence, security, and continued productivity in the later years. But non-communicable diseases (NCDs) such as cancer, cardiovascular disease, and diabetes can diminish seniors' quality of life, raise health-care costs, and increase pressure on family members who are responsible for their care. The burden of disease in low and middle income countries is rapidly shifting from infectious diseases to NCDs.[3] Healthy lifestyles and interventions to

reduce key NCD risk factors- including tobacco use, unhealthy diet, harmful use of alcohol, and physical inactivity- can reduce the prevalence of NCDs by as much as 70%.[4]

Failing health due to advancing age is complicated by non-availability to good quality, age-sensitive, health care for a large proportion of older persons in the country. In addition, poor accessibility and reach, lack of information and knowledge and high costs of disease management make reasonable elder care beyond the reach of older persons, especially those who are poor and disadvantaged.[5]

NCDs are the leading cause of death globally. In 2012 they caused 68% of all deaths (38 million) up from 60% in 2000. About half were above age 70 and half were women.[6] Globally, as of 2010, an estimated 285 million people had diabetes, with type 2 making up about 90% of the cases. According to the Indian Heart Association, India is the diabetes capital of the world with a projected 109 million individuals with diabetes by 2035.[7] High blood pressure is a major public health problem in India and its prevalence is rapidly increasing among both urban and rural populations. In fact, hypertension is the most prevalent chronic disease in India.[8] Among urban dwelling men and women in India, the prevalence of hypertension is 25.5% and 29% respectively whereas it is 14% and 10.8% respectively in rural communities.[10] Cardiovascular Diseases (CVDs) are the number one cause of death globally: more people die annually from CVDs than from any other cause. An estimated 17.5 million people died from CVDs in 2012, representing 31% of all global deaths.[9] The coronary heart disease burden alone among the 60 to 69 year population has risen from 1.88 million in 2000 to 5.34 million in 2015 in India and is further expected to increase to 17.9 million by 2030.[10]

Through this observational study, we want to find out the knowledge of the geriatric group about the non-communicable diseases and their risk factors to bring about "healthy ageing" which is not only related to medical advances but also to enable the aged to lead a stimulating life, be fully involved in society and have meaningful social relationships.

METHODS

Study protocol was approved by the institutional Ethics committee of Government Medical College, Amritsar. Study participants were chosen at random from patients attending medicine OPD Unit 3 on Wednesday and Saturday at Guru Nanak Dev Hospital, Amritsar from 1st January 2017 to 31st January 2017. A total of 100 participants with age more than 60 years were taken. Inclusion criteria for participants included: (1) age ≥60 years, (2) able to answer questionnaire. After taking the informed consent, information was gathered on a self-constructed questionnaire. Data analysis done using ratio, proportion, percentage and Chi square test.

RESULTS

In this study a total of 100 patients were enrolled out of which 55 were females and 45 males. Mean age of the subjects was 67.4 years with maximum being 90 years. Age distribution showed majority of them were in the age group 60-64 years (40%) (Table 1).

Table 1: Table showing demographic profile of participants.

Profile	Male	Female	Total
Age (years)			
60-64	17	23	40
65-69	08	13	21
70-74	12	12	24
75-79	03	03	6
≥80	05	04	9
Total	45	55	100
Marital status			
Married	38	37	75
Widow/widower	7	18	25
Total	45	55	100
Education level			
Illiterate	10	20	30
Primary	5	22	27
Middle	7	5	12
High school	12	4	16
Diploma	4	1	5
Above graduate	7	3	10
Total	45	55	100
Former occupation			
Employed	37	5	42
Unemployed	8	50	58
Total	45	55	100

Out of the total 100 subjects, 75% had their spouse alive while 25% had lost their spouse. There were more widows (72%) than widower (28%). Percentage of illiterate elderly was 30%. 27% had primary education, 12% middle education, 16% high school education, 5% had a diploma and 10% were educated to graduate and above graduate level. Illiteracy is high in females (36.3%) than males ((22.2%). Out of the total, 58% were formerly unemployed and only 42% were employed in some job (Table 1).

Out of total 100 elderly 42 were suffering from diabetes, 61 were suffering from hypertension (Figure 1).

On asking the patients whether they had heard about diabetes, hypertension or heart disease, 93 had heard about diabetes, 93 about hypertension and 87 about heart disease (Table 2).

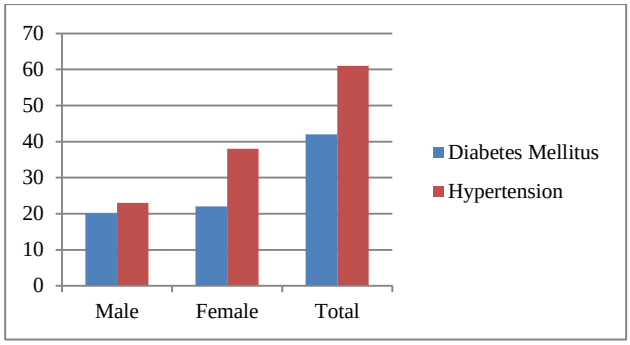

Figure 1: Figure showing number of patients suffering from diabetes and hypertension.

Table 2: Table showing knowledge about occurance of 3 non-communicable diseases.

Disease	No. of participants aware
Diabetes	93
Hypertension	93
Heart disease	87

Table 3: Table showing awareness about symptoms and complications of diabetes mellitus.

	Awareness present (%)
Symptoms	
Not aware of any	78
Polyuria	18
Polydipsia	14
Polyphagia	8
Complications	
Not aware of any	50
Kidney failure	22
Diabetic foot	13
Heart failure	7
Loss of vision	4
Eye damage	3
Poor wound healing	1

Table 4: Table showing awareness about the symptoms and complications of hypertension.

	Awareness present (%)
Symptoms	
Not aware of any	30
Headache	41
Dizziness	33
Anxiety	22
Complications	
Not aware of any	51
Heart attack	29
Stroke	10
Heart failure	5
Blurred vision	5

Table 5: Relation between knowledge of diabetes mellitus symptoms with presence of disease.

	Diabetics	Non-diabetics	Total
Know symptoms	25	15	40
Don't know symptoms	17	43	60
Total	42	58	100

χ^2 11.501; p significant at 0.05.

Table 6: Relation between knowledge of hypertension symptoms with presence of disease.

	Hypertensive	Non-hypertensive	Total
Know symptoms	52	20	72
Don't know symptoms	9	19	28
Total	61	39	100

χ^2= 18.58; p=significant at 0.01.

When the patients were asked to name the symptoms of Diabetes Mellitus (DM), 78% did not know any of the symptoms, 18 responded for polyuria, 14 for polydipsia and 8 for polyphagia (Table 3).

When asked about the complications of diabetes mellitus, 22% patients named kidney failure, 13% diabetic foot, 7% heart failure, 4% loss of vision, 3% eye damage and 1% responded poor wound healing while 50% elderly did not know any complication (Table 3).

When the patients were asked to name the symptoms of hypertension, 30% did not know any of the symptoms, 41 responded for headache, 33 for dizziness and 22 for anxiety (Table 4).

When asked about the complications of hypertension, 51% did not know any complication while 29% responded as heart attack, 10% as stroke, 5% as heart failure and 5% as blurred vision (Table 4).

When testing the knowledge of elderly about the predisposing factors for non-communicable diseases, 63% did not know any factor while 23% named stress as the leading factor, 14% named excess of oil intake in diet, 7% named alcoholism, 5% smoking, 2% obesity and 1% lack of exercise (Figure 2).

Table 5 shows the relation between knowledge of diabetes symptoms with the presence of disease. On applying chi-square test the p value is significant at 0.05 level. This explains that the persons suffering from the disease have more knowledge about the symptoms as they themselves are going through this problem.

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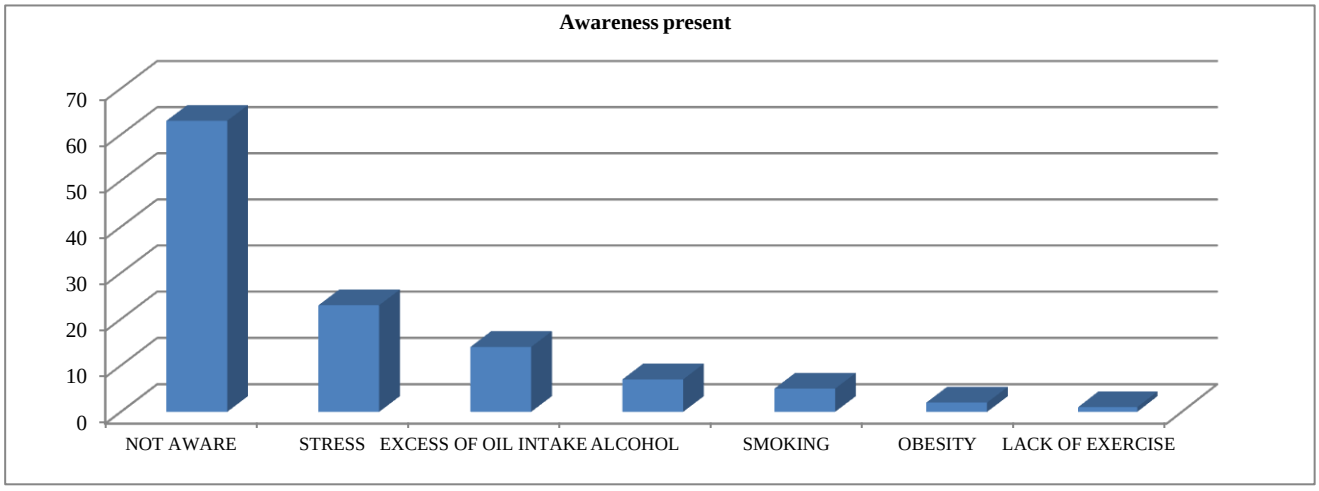

Figure 2: Knowledge about predisposing factors for the non-communicable diseases.

DISCUSSION

In India, sex ratio was as high as 1028 in 1951, then dropped to 938 (1971) and has again increased in the last 2 decades and reached upto 1033 in 2011. As per the Census 2011, there were 52.8 million females to 51.1 million males of age group more than 60 years.[11] In the elderly population there is higher ratio of females to males in general population and same is true in our study where male to female ratio is 1000:1222.

Age distribution of respondents in our study is consistent with the literature suggesting majority of the elderly in 60-69 years age group.

Illiteracy in India as per 2011 Census is 56.5% (males-40.9%, females-71.5%). In our study illiteracy rate was 30%, it was high in females (36.3%) than in males (22.2%), literacy is a big empowerment tool as it improves one's financial status, social status and knowledge which in turn affects various decisions taken by an individual.

Another problem of old age is the increased likelihood of losing one spouse as age advances. Females are more affected than males due to higher life expectancy in females. At this vulnerable stage of life, loss of spouse leads to increased sense of insecurity. As per 2001 Census, about half of elderly women were widowed while only 15% of elderly men were widowers. In our study, also there were more widows that is 72% and widowers were only 28%. Loss of one spouse affects physical and psychological health.

In our study, 78% elderly did not know any symptom of diabetes and 30% did not know any symptom of hypertension. Yapei song et al in their study found that correct rates of chronic disease knowledge varied from 29.5% to 90.2%.[12]

Assessing the knowledge about complications of diabetes and hypertension in our study it was found that 50% of elderly were not aware about any diabetes complications, 22% knew about kidney failure, 13% about diabetic foot, 7% heart failure, 4% loss of vision, 3% eye damage and only 1% knew about poor wound healing. 51% were not aware about any hypertension complications, 29% knew heart attack, 10% stroke, 5% heart failure and only 5% about blurred vision. Yapei song et al in their study found 66.6% participants knew stroke while only one third knew about nephropathy and retinopathy as complication for hypertension.[12]

In this study 63% of the elderly were not aware of any of the predisposing factor for the non-communicable diseases. In the study done by Yapei song et al about half of the participants did not know smoking, drinking alcohol, marital stains and lack of exercise were risk factors of hypertension and about 40% did not know high calorie diet or obesity were risk factors of diabetes mellitus.[12]

This study shows that knowledge of symptoms of the diabetes and hypertension is more in patients who are suffering from that disease and it is statistically also proved as shown in Table 5 and 6. This finding is consistent with the following two research studies. A study by Muninarayana et al on prevalence and awareness regarding diabetes mellitus in rural Tamaka, Kolar stated that out of 311 people studied, knowledge about awareness about complications of diabetes was only 26.8% among non-diabetics and 74.2% among diabetics.[13] A study by Ding et al on knowledge of

dibetes mellitus among diabetic and non diabetic patient in KlinikKesihatan Seremban stated that knowledge diabetes mellitus among patients with diabetes was significantly better than patients without diabetes.[14]

CONCLUSION

The most important conclusion that can be drawn from this study is that most of the participants knew the existence of these diseases but on further probing, majority did not know any symptom or complication of the diseases they knew the name of. They have just heared the name of the disease only. Furthermore, knowledge about the predisposing factors for NCD is also very limited. Also, those who had the disease (diabetes or hypertension) had better knowledge about the symptoms of the disease than the non-diabetics or non-hypertensives. So, efforts need to be made in the form of health awareness programs to create awareness about the causes, symptoms and complications of these diseases among the general population especially the geriatric group so that they can prevent themselves from the brunt of these diseases and also if the disease happens, they are able to practice self care to prevent the complications.

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REFERENCES

1. WHO. Proposed working definition of an older person in Africa for the MDS Project. WHO. Available at: http://www.who.int/healthinfo/survey/ageingdefnolder/en. Accessed on 1 June 2017.
2. Ingle GK, Nath A. Geriatric Health in India: Concerns and Solutions. Indian J Community Med Off Publ Indian Assoc Prev Soc Med. 2008;33(4):214–8.
3. Ageing_sg_2014_report.pdf. Available at: https://www.devstud.org.uk/downloads/study%20groups/ageing_sg_2014_report.pdf. Accessed on 1 June 2017.
4. index.pdf. Available at: http://www.paho.org/hq/index.php?option=com_docman&task=doc_view&gid=17752&Itemid=270. Accessed on 1 June 2017.
5. Help age India programme. Available at: http://www.helpageindiaprogramme.org/Elderly%20Issues/problems_of_the_elderly/index.html. Accessed on 8 June 2017.
6. Non-communicable disease. In: Wikipedia . 2017. Available at: https://en.wikipedia.org/w/index.php?title=Non-communicable_disease&oldid=788227546. Accessed on 4 June 2017.
7. Epidemiology of diabetes mellitus. In: Wikipedia. 2017. Available at: https://en.wikipedia.org/w/index.php?title=Epidemiology_of_diabetes_mellitus&oldid=788374798. Accessed on 3 June 2017.
8. Hypertension in India. Cadi. Available at: http://www.cadiresearch.org/topic/hypertension/hypertension-India. Accessed on 1 June 2017.
9. WHO. Cardiovascular diseases (CVDs). WHO. Available at: http://www.who.int/mediacentre/factsheets/fs317/en. Accessed on 9 June 2017.
10. World Heart Day 2015: Heart Disease in India is a Growing Concern, Ansari. food.ndtv.com. Available from: http://food.ndtv.com/health/world-heart-day-2015-heart-disease-in-india-is-a-growing-concern-ansari-1224160. Accessed on 23 June 2017.
11. ElderlyinIndia_2016.pdf. Available at: http://mospi.nic.in/sites/default/files/publication_reports/ElderlyinIndia_2016.pdf. Accessed on 1 June 2017.
12. Chronic Diseases Knowledge and Related Factors among the Elderly in Jinan, China. Available from: http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0068599. Accessed on 7 June 2017.
13. Muninarayana C, Balachandra G, Hiremath SG, Iyengar K, Anil NS. Prevalence and awareness regarding diabetes mellitus in rural Tamaka, Kolar. Int J Diabetes Dev Ctries. 2010;30(1):18–21.
14. Ding CH, Teng CL, Koh CN. Knowledge of diabetes mellitus among diabetic and non-diabetic patients in Klinik Kesihatan Seremban. Med J Malaysia. 2006;61(4):399–404.

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