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Original Article

The Prevalence of Hypertension and Associated Risk Factors in Older Adults in Gharyan, Libya

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ABSTRACT

Purpose: Hypertension, an important medical topic and public health issue, is a substantial risk factor for cardiovascular illnesses and other consequences in addition to being highly prevalent. The objective of this research were to determine the prevalence of hypertension in Gharyan older people (Libya) by looking at risk factors associated with the disease.

Methods: The cross-sectional survey of the community based on visits to households was carried out in Gharyan (Libya), which was conducted in May 2024 in Gharyan, Libya. The target number of participants for the study was 100, and they completed the questionnaires using simple statistics.

Results: Our study revealed that the prevalence of hypertension in our study population in Gharyan city, Libya, was about 49%. the association variables with hypertension prevalence were significantly higher mean age than without hypertension, (p value 0.0001). There was a significant association between hypertension and increasing age, low educational level, sedentary lifestyle, while they were non-significant for sex, marital status, employment, socioeconomic status, smoking, alcohol consumption, table salt intake, physical exercise, body mass index, and family history of hypertension.

Conclusions: Gharyan City had a medium prevalence of hypertension, with a risk factor for older adults.

Keywords: Hypertension patients, prevalence, and risk factor.

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INTRODUCTION

Hypertension, the most common cause of primary care visits, is also a distinct and treatable risk factor for cardiovascular diseases such as myocardial infarction, stroke, and renal failure.1 The number of adults with hypertension is rising, and the consequences associated with it cause 9.4 million deaths globally each year. Low-income countries are more likely to have hypertension than high-income ones. At 46% of persons 25 years of age and older, the African Region has the highest prevalence of hypertension, and this percentage is rising.[1]

According to the WHO, hypertension accounts for almost 50% of the cases of stroke and cardiovascular problems in patients. The occurrence of high blood pressure is predisposed by a long number of risk factors. High body mass index (BMI) is known to raise the risk of hypertension.[2]

In emerging nations, there have been reported epidemiological shifts in the incidence of hypertension (HTN) and related risk factors for cardiovascular disease (CVD). As hypertension (HTN) is linked to the development of coronary heart disease (CHD), stroke, and other vascular issues, it is a chronic condition that needs to be addressed. It is the most common CVD ailment and poses a serious risk to the public's health for those in the population undergoing a change in socioeconomic level. It is one of the primary risk factors for the death from CVD, accounting for 20-50% of cases.[3]

One of the primary modifiable risk factors associated with cardiovascular illnesses is hypertension, which is more common and more severe as people age. According to data from the US National Health and Nutrition Examination Survey (NHANES), 70% of older persons over 65 had high blood pressure. In 2019, the estimated number of persons worldwide who have hypertension between the ages of 30 and 79 was 1.27 billion, or 32% of women and 34% of men.[4]

With 38.1% of men and 35.5% of women suffering from adult hypertension in 2008, the African Region has the highest age-standardized prevalence of the condition worldwide. Sub-Saharan Africa (SSA) had some of the highest mean blood pressure values in the world between 1975 and 2015, a sharp increase. Based on estimates from systematic reviews and before-and-after research, the prevalence of hypertension has significantly increased over time in the same rural or urban populations throughout Africa.[5]

The causative effects of hypertension mainly affect low- and middle-income countries because of their nutritional status, changes in the population, and changes in epidemiology. Furthermore, epidemiological studies carried out in several low- and middle-income countries have shown how closely related non-communicable diseasesð specifically, diabetes mellitus, obesity, overweight, and hypertension-are to one another. Numerous factors also affect no communication illnesses, with socioeconomic status (SES) being one well-established component.[6,7] The aim of the study was to determine the prevalence of hypertension in Gharyan older people (Libya) by looking at risk factors associated with the disease.

MATERIALS AND METHODS

This cross-sectional survey of the community based on visits to households was carried out in Gharyan (Libya), which was conducted in May 2024 in Gharyan, Libya, and was collected through house visits. Inform them about the study to obtain their permission to participate. The supervisors of the data collection went to a few selected homes and explained the purpose of the study. Gharyan is a mountain city 75 km southwest of Tripoli (the capital city of Libya).

Collections Data and Analysis

The questionnaire employed in this study was validated, and the target number of the study was 100 participants and completed the questionnaires, and using simple statistics. The final questionnaire was included all the adult inhabitants of these households aged ≥ 20 years. Direct interviews were used to gather data, and a unique questionnaire created just for this purpose was used. Personal and sociodemographic data, including age, sex, marital status, degree of education, work status, and kind of occupation, were included in the questionnaire. It also asked about food, salt intake, alcohol use, smoking, physical activity, and family history of hypertension.

RESULTS

A total of 100 participants were collected and completed the questionnaire, and they were from Gharyan City (Libya). The researchers were interviewed and then answered the questionnaire, Table 1 showed the sociodemographic data of the participants were 37% of the age range of 40–60 years, followed by 35% with >60 years and 28% from 20–40 years. And the majority of participants were female, with having government work 62%, and then 16% had no occupation. Also, the most of participants were educational 52% from university, followed by 28% from secondary school, 56% of participants were married, and 24% were single. The socioeconomic status of 80% of participants was medium, followed by 15% being well.

Table 2 showed the association variables with hypertension prevalence were significantly higher mean age than without hypertension, (p value 0.0001). There was a significant association between hypertension and increasing age, low educational level, sedentary lifestyle, while they were non-significant for sex, marital status, employment, socioeconomic status, smoking, alcohol consumption, table salt intake, physical exercise, body mass index, and family history of hypertension.

DISCUSSION

Our study revealed that the prevalence of hypertension in our study population in Gharyan city, Libya, was about 49%. This prevalence was not high when compared with other studies in Iraq there was high prevalence of hypertension in Kurdistan.[1] According to the WHO African Region's indicated prevalence rate of 27%, the study participants had a significantly higher prevalence of hypertension (53.72%). This high prevalence rate may result from the updated definition of hypertension recommendations.[10]

This study found that hypertension prevalence increases with increasing age, or elderly people > 60 years. Additionally, the projected prevalence is extremely near to the south Asian elderly people's prevalence of hypertension over 65 years old.[11] This study showed a lot of risk factors associated with hypertension. Moreover, a larger incidence of hypertension may be caused by variables including dietary and lifestyle changes as well as the increasing prevalence of obesity.[10] And showed prevalence hypertension in female more than male, because the most of participants of study were female 64%. Another study examined the prevalence of hypertension in participants and the differences in hypertension between males and females in old Bangladeshi individuals. Overall, hypertensive individuals were found to be more common in women (56%) than in men (42%).[11]

Although the genetic basis of hypertension is still poorly known, and no research have been conducted on this topic in Africa or the Arab world, the high frequency of hypertension in previous studies may

Table 1. Sociodemographic data of the participants

Variables	N%
Age	
20-40	28
40-60	37
>60	35
Sex	
Female	64
Male	36
Occupation	
Government work	62
Private work	9
Housewife	10
Student	3
None	16
Education	
Illiterate	10
Primary	10
Secondary	28
University	52
Marital status	
Single	24
Married	56
Divorced	6
Widow	14
Socioeconomic status	
Poor	5
Medium	80
Well	15

Table 2. Association variables with hypertension prevalence.

Variable		Hypertension		Total %	P value
		Yes	No		
Age:	20-40	2	26	28	
	40-60	18	19	37	0.0001
	>60	29	6	35	
Sex:	Female	31	30	61	0.76
	Male	18	21	39	
Education:	Illiterate	10	0	10	
	Primary	7	3	10	0.001
	Secondary	12	15	27	
	University	20	33	53	
Marital status:					
	Single	8	16	24	0.72
	Married	21	35	56	
Employment:					
	Employed	28	32	60	0.56
	un Employed	21	19	40	
Socioeconomic status:					
	Poor	2	3	5	0.89
	Medium	40	40	80	
	Well	7	8	15	
Smoking:					
	Yes	5	8	13	0.415
	No	44	43	87	
Alcohol consumption:					
	No	48	51	99	0.305
	yes	1	0	1	
Table salt intake:		14	8		
	No	35	34	28	0.290
	yes			69	
Lifestyle:					
	Sedentary	27	20	47	0.0001
	Active	22	31	53	
Physical exercise:					
	No	41	38	79	0.260
	yes	8	13	21	
Body mass index:					
	Normal weight	14	18	32	
	Over weight	20	19	39	0.65
	Obesity	16	13	29	
Family history of hypertension:		14	14	28	0.900
	No	35	37	72	
	Yes				

be related to the genetic background in Libya. Blood pressure regulation may be significantly influenced by the expression of calcium/ calmodulin-dependent kinase IV (CaMKIV), which was previously believed to be restricted to the nervous system. This is because CaMKIV regulates the activity of endothelial nitric oxide synthase.[12]

This study increased the education level of universities, which resulted in a decrease in the prevalence of hypertension by about 33%, because most participants had a high level of education. In Ghana, the share of older persons without formal education was highest (53.24%), in line with another study on their educational background. Moreover, the prevalence of hypertension in older persons was 53.72%.[10]

The majority of participants, most of whom were married (56%), employed 60% with an 80% medium socioeconomic status, and all of them found non-significant hypertension prevalence in this study. For other association risk factors, smoking, alcohol consumption, and table salt consumption, this study found no significant hypertension prevalence; therefore, all participants were aware of those risk factors. Similarity, to other study in school teachers in Dhaka, Bangladesh, which found no prevalence hypertension with smoking or alcohol consumption. Due to the small percentage of alcoholics among teachers. alcohol usage was not a significant risk factor for HTN.[13] At the same time, the same study found the opposite with salt consumption in Bangladesh. Dietary habits were substantially correlated with the occurrence of HTN. More than 1.65 million fatalities worldwide were linked to cardiovascular diseases, with excess sodium consumption above a guideline threshold of 2.0 g per day. revealed that the Bangladeshi population's nutritional views, attitudes, and ingrained salt taste are all strongly correlated with salt use.[13]

The majority of participants had a significant lifestyle, so they had a higher prevalence of hypertension among sedentary people (27%), while 31% had no hypertension. These participants had a good activity lifestyle. All participants had non-significant about physical exercise, body mass index, and family history of hypertension. Additionally, less obvious strategies including stress reduction, isometric exercise, and reducing pollution exposure have lately been added to the well-known lifestyle interventions—dietary changes, moderation in alcohol use, quitting smoking, and aerobic exercise.[14] Given that there is evidence linking certain lifestyle factors to an increased risk of hypertension, leading a healthy lifestyle may help prevent the illness from developing. Compared to healthy participants without hypertension, those with hypertension scored significantly lower on the health-promoting lifestyle profile.[15]

There are multiple correlations between the prevalence of hypertension and family history. Positive family history was linked to a hypertension prevalence that was twice as high as that of people with negative family history in a nationwide screening programme, and this relationship was independent of weight.[16] This study, in contrast to several others, discovered connections between high blood pressure and inadequate physical activity, excessive sodium intake, and low fruit and vegetable consumption. Nevertheless, several further studies were unable to uncover any proof of a meaningful association between them and elevated blood pressure.[17]

CONCLUSIONS

Gharyan City had a medium prevalence of hypertension, with a risk factor for older adults. Hypertension was significantly associated with increasing age, education, and lifestyle. Furthermore, the government needs to put in place public policies and health programmes that help older people live better lives and lead healthier lifestyles older people. Future studies should take into account elements that can also contribute to the development of hypertension, such as the amount of red meat consumed, salt, and sleep duration.

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