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ABOUT COVER

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AIMS AND SCOPE

The primary aim of World Journal of Diabetes (WJD, World J Diabetes) is to provide scholars and readers from various fields of diabetes with a platform to publish high-quality basic and clinical research articles and communicate their research findings online.

WID mainly publishes articles reporting research results and findings obtained in the field of diabetes and covering a wide range of topics including risk factors for diabetes, diabetes complications, experimental diabetes mellitus, type 1 diabetes mellitus, type 2 diabetes mellitus, gestational diabetes, diabetic angiopathies, diabetic cardiomyopathies, diabetic coma, diabetic ketoacidosis, diabetic nephropathies, diabetic neuropathies, Donohue syndrome, fetal macrosomia, and prediabetic state.

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EDITORIAL

Diabetes mellitus and comorbidities in elderly people from the Lugu community: A critical-reflective analysis

José Carlos Tatmatsu-Rocha, José Carlos Gomes-Pinto

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Abstract

Ageing has a close relationship with chronic non-communicable diseases, such as diabetes mellitus and high blood pressure. These pathologies are often associated with changes in eating habits and promote crucial physiological changes which act silently in the long term in the elderly population. Due to the speed of urban development and technological advances, there has been an increase in the population's life expectancy. However, it is essential to know the socio-demographic profile and prevalent comorbidities of the elderly population, which can provide a reliable and broad database to enable the outline of strategies and the promotion of efficient health policies. In this sense, the purpose of this editorial is to contribute to the debate surrounding the article that analysed epidemiological data from the Lugu community. Diabetes mellitus, hypertension and cardiovascular pathologies and their comorbidities were the most prevalent conditions in this community. Such data could contribute to develop public policies constructively and assertively, allowing investments in the prevention and treatment of these pathologies.

Key Words: Diabetes mellitus; Quality indicators; Health care; Hypertension; Comorbidity; Exercise

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Core Tip: Ageing and changes in eating habits promote significant physiological changes in a silent, long-term manner in the elderly population. Additionally, mapping risk groups and their primary cardiovascular and functional changes represents a considerable and legitimate challenge for screening local residents by establishing the prevalence of findings. The aim is to provide a robust and safe scientific database, capable of guiding health actions and research.

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INTRODUCTION

In this editorial, we comment on the article by Zhao et al[1] in the recent edition of the World Journal of Diabetes. This work encourages us to debate the level of importance of using screening and monitoring methods for specific populations, especially the elderly population, given the physiological changes intrinsically related to the ageing process^[2]. We focused on the data related to the selection of the participant's profile and their separation by analysis groups, as well as the intersections of body mass index (BMI) and waist-hip ratio as predictors of potential chronic non-communicable diseases. Western influences on lifestyle changes in the study country as well as possible and achievable screening methods were also considered. However, it is important to highlight that anthropometric data may vary according to the population studied, as in the recent study by Alemán-Mateo et al[3] who pointed out differences in BMI values in elderly people from the Caribbean and Latin America when compared to other continents. In this study, the BMI cut-off point (\geq 30 kg/m²) was considered to have low sensitivity for diagnosing obesity in the elderly in Latin America and the Caribbean region. Furthermore, the study by Chen et al[4] observed that the analysis of data such as waist circumference, weight-adjusted waist index, and waist-to-height ratio still offer no conclusive data among older Chinese adults. It is worth mentioning that these indices are considered predictors of obesity and the development of cardiovascular diseases (CVD) in elderly populations[5]. In the Lugu community, the BMI of the group with diabetes mellitus (DM) was higher than that of the non-DM group, configuring a tendency towards overweight in the diabetic population. However, in an epidemiological study[6], the rates of overweight and DM between China and the United States were compared, and it was observed that the BMI distribution in the United States was higher than in China. Interestingly, these same authors reported that the predicted total prevalence of diabetes was similar in the United States and China when comparing adults with the same BMI. Despite this, in the Lugu community, DM was diagnosed in 32.70% of 4816 elderly people. These data are well above the average found in the study by Yu et al[6] where the prevalence of diabetes in China was 7.8% (total adjusted by age), which is worrying given the comorbidities associated with diabetes.

OVERWEIGHT AND ITS IMPLICATIONS

Obesity is directly linked to lifestyle^[7], being influenced by the urbanization process in developing countries. Furthermore, it is known that regular physical activity can be a predictor of health conditions, being characterized as an efficient and cheap tool capable of modifying lifestyle and preventing some chronic non-communicable diseases such as DM[8]. Another important factor is observing the speed of urban and industrial development, which, in the midst of positive changes such as increased infrastructure and sanitation, are also capable of promoting changes in the lifestyle of the Chinese population, with a direct relationship between the levels of Chinese development and the considerable change in work habits as well as the increase in the supply and consumption of food sold by fast food lines[9]. There has been a progressive increase in food consumption outside of the home since the beginning of the 90s, as well as a greater supply of processed foods and fast-food franchises[9] in global proportions. Fast food nutrition is based on a model rich in carbohydrates, which are known to be pro-inflammatory. Hyperglycaemia promotes endothelial damage due to proinflammatory mediators that increase the expression of cell adhesion molecules (vascular cell adhesion molecule-1, selectin, and intercellular adhesion molecules-1)[10]. These molecules promote the adhesion of monocytes to endothelial cells. Once migrated to the endothelium, monocytes are differentiated into macrophages, culminating in the development and progression of atherosclerosis stimulated by the macrophage colony-stimulating factor[11]. However, a significant aspect to consider is that the study by Zhao et al[1] had a greater number of female participants. The predominant profile of most participants was high blood pressure and being over 60 years of age.

ALCOHOL ABUSE IN ELDERLY PEOPLE WITH DM

Another interesting aspect from the work of Zhao et al[1] concerns the high number of people who consumed alcohol more frequently (\geq 3 times) in the DM group than in the non-DM group. DM, CVD, and hypertension have been associated with alcohol consumption[12]. Alcohol is a popular psychoactive substance, and its recreational use plays a



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Figure 1 Ageing and its close relationship with behaviour, food, diabetes, hypertension and cardiovascular pathologies.

significant social role in the daily lives of people in most cultures. Therefore, public policies must be reevaluated in order to promote a broad debate among alcohol consumers, researchers, social movements, and health professionals[13]. In this sense, studies that analysed the extent to which the westernization of China has brought with it a change in socialization among the elderly population can, to some extent, provide answers to the high number of alcoholics within this age group (Table 1).

It is also important to note that heavy alcohol consumption may negatively impact glycaemic control among patients with type 2 diabetes, regardless of the use of antidiabetic agents in regional China. A cross-sectional study carried out in Nanjing Province[14] suggested that alcohol consumption could be used as a predictor in identifying DM patients with uncontrolled glycaemia[15]. In this sense, researchers were faced with a major challenge: Creating an efficient screening system for this population already identified as a risk group, as obesity and hypertension promote gradual physiological changes if they do not undergo significant therapeutic interventions, with DM being one of the outcomes[16]. As it is a silent condition and subject to many developments, the application of tracking systems for this population has a high level of relevance. The results regarding patient screening programs are not yet clear, but it is known that it is necessary to be careful not to generate adverse consequences that can bring psychological and financial impacts on participants in clinical approaches that aim to formulate a program capable of tracking the population, which would shorten the hyperglycaemic period before clinical diagnosis, reducing treatment time and macro and microvascular complications [16].

CONCLUSION

The high percentage of diabetes in the Chinese population, combined with functional comorbidities associated with the disease, underscores the attempt to implement a screening system for this specific population, particularly among the elderly, aiming to provide better prevention and treatment outcomes for this group. However, the results from using these systems are difficult to qualify, especially when applied to a country of continental dimensions and a large population (Figure 1).

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Table 1 Summary discussion				
Discussion				
Anthropometric data and DM	Zhao <i>et al</i> discuss the importance of using screening and monitoring methods for specific populations, especially the elderly population but lifestyle changes in the study countries as well as screening methods must be considered			
Overweight and its implications	Changes in the lifestyle of the Chinese population led to a greater supply of processed foods and fast-food franchises which are known to be pro-inflammatory culminating in the development and progression of atherosclerosis and other comorbidities			
Alcohol abuse in elderly people with DM	Westernization of China brought with it a change in socialization among the elderly population and high number of alcoholics within this age group. This generated adverse consequences such as psychological and financial impacts on this population			

DM: Diabetes mellitus.

Therefore, further studies in this direction could provide more data on the specificities of the population, identify their risk factors, and make interventions based on public policies more assertive and efficient. This could potentially position China as a significant provider of relevant information on how to design and manage strategies for population screening and intervention for other countries with similar characteristics.

FOOTNOTES

Author contributions: Tatmatsu-Rocha JC and Gomes-Pinto JC contributed to this article, writing and editing the manuscript and literature review; Tatmatsu-Rocha JC designed the overall concept and draft of the manuscript; Gomes-Pinto JC contributed to the discussion and conception of the manuscript; all authors have read and approved the final manuscript.

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