

Chronic Conditions (related to Nutrition) in Australia

Zixuan Fan^{1,a}, Lijun Wang^{2,b,*}

¹Sydney School of Public Health, University of Sydney, NSW, Australia

²Shandong University of Traditional Chinese Medicine, Jinan, Shandong, China

^azfan9410@uni.sydney.edu.au, ^b275785088@qq.com

*Corresponding author

Keywords: Chronic Conditions, Obesity.

Abstract. Obesity is one of the major risk factors for chronic diseases. At present, obesity and overweight have become one of Australia's major public health problems. The data shows that two-thirds of adults in Australia are overweight and the rate of childhood obesity is increasing rapidly. Unhealthy eating habits, lack of exercise, sedentary and poor social environment all increase the risk of obesity. In response to these influencing factors, the Australian Government has proposed a number of interventions. This paper has analyzed the purpose, implementation process, and effectiveness of these interventions. Through stakeholder analysis, reasonable recommendations have been made to improve existing interventions, aim to further alleviate the problem of obesity and the high incidence of chronic diseases caused by obesity.

1. Introduction

Overweight and obesity have rapidly developed to one of Australia's major public health problems in recent decades. The data shows that the rate of obesity in Australian adults has rapidly increased from 19% in 1995 to 28% in 2014-15, which means that two out of three Australian adults are overweight or obese [1]. At the same time, the rate of obesity in children is also rapidly increasing and there is no tendency to ease. One-quarter of Australian children are obese or overweight at present [1]. In addition to children, low-income people have a high risk for obesity.

Obesity is a risk factor for chronic diseases, especially the major risk factors for cardiovascular disease, type 2 diabetes, musculoskeletal diseases and some cancers [1]. For example, obese people are 4 times more likely to develop diabetes than normal people [2]. In addition, the Australian government's report showed that the increase rates of obesity caused an economic loss of \$8.6 billion in 2011-2012, and future trends show that obesity will lead to more consumption of medical resources [3]. However, obesity can be prevented through a series of interventions; this article will identify potential solutions of this health issue by critically analyzing the risk factors of obesity and existing interventions.

2. Causes and contributing factors

Lack of vegetables, fruit intake and other dietary factors increase the risk of obesity. In 2011, 10% of the total disease burden in Australia was caused by dietary risk factors, the burden of disease caused by low fruit and vegetable intakes accounted for 2.0% and 1.4% of the total disease burden, respectively [4]. Excessive consumption of energy-intensive or malnourished foods also increases the risk of obesity, including high-fat or high-sugar foods, as well as most fast foods [5]. Energy is consumed through bodily function and physical activity. The lack of physical activity leads to the accumulation of energy that leads to energy imbalances, weight gain, and obesity and overweight [5]. In 2014-15, nearly one-third of Australian adults aged 18-64 were insufficiently active (less than 150 minutes a week), while 15% had no activity [6]. In addition, studies have shown that sedentary behavior is associated with health risks and proposes that increasing physical activity has a positive effect on controlling obesity and preventing chronic diseases.

Complex social and environmental factors also influence the occurrence of obesity, including physical, economic, political, and sociocultural factors. People interact various services with schools, workplaces, families, supermarkets, and community on a daily basis; these settings are influenced by the government, industry and the society [3]. All of these factors can affect people's environment and influence their energy balance by inhibiting or encouraging a healthy diet and physical activity patterns. In addition, the educational level and economic ability of individuals related to the environment will also affect people's healthy lifestyle and the occurrence of obesity.

3. Previous interventions

The Australian government has made many efforts to improve obesity, such as menu labelling regulations in New South Wales. During the evaluation, it was found that the kilojoules purchased by people decreased significantly (from 3,355 kJ to 2,836 kJ) [7]. Regulations also regulate advertisements for unhealthy foods. The Children's Television Standards 2009 restricts the promotion of unhealthy foods to children through television [8]. The Australian government has also intervened on food taxes and prices, the goods and services tax (GST) is not levied on healthy foods such as fruits, vegetables and fish, which is more in line with the principle of liberalism than the policy of increasing the sugar tax in Europe and the United States [9]. In the community environment, the National Healthy School Canteens project, which began in 2008, guides how school canteens provide healthier food and beverages [10]. Another national initiative at the same time is the Healthy Workers project, aims to help people achieve healthier lifestyle behaviors through workplace health promotion programs [11]. In addition, health promotion approaches have also played a role, such as the Health Star Rating system; however, studies have shown that it has not fully exerted its advantages due to the imprecise algorithm for rating stars and the low awareness of people [12].

4. Potential solutions

The Australian government has recognized the severity of the obesity issue and conducted a series of interventions at the individual, community, social, and environmental levels. Obesity is closely related to the individual's choice of lifestyle behavior, but the complex social and environmental factors also affect people's choice of lifestyle behavior. Therefore, individuals should not take full responsibility for their choices. Although classical liberalism believes that the government should be neutral and the public generally resists paternalistic interventions, it cannot say that these interventions must be wrong. The author of this article believes that in accordance with the ethical requirements, a weak paternalistic policy can be used to promote people's health behavior. 'Harm to others' principle should also be applied. For example, parents' unhealthy behaviors can lead to unhealthy lifestyles among children and increase their risk factors for obesity. The following will put forward some specific interventions for schools, supermarkets, workplaces, urban planning and public education.

Health risk factors exist throughout the life cycle, physical indicators during childhood and adolescence can affect health indicators in adulthood [13]. Through a series of interventions for children and adolescents in schools, developing their good eating habits and exercise habits is a long-term and effective intervention to reduce obesity. Specific interventions include 'crunch and sip' policy, which requiring children to eat fruits and vegetables every day and prohibiting unhealthy food such as snacks and candies at school [14,15]. Increasing students' daily outdoor practice activities, such as increasing the number and time of physical education classes. Calculate the results of a health check into sports test scores, obese and overweight students will receive lower scores. In addition, studies have shown that children are more sensitive to the health knowledge they learned in school, and the children's health behaviors also affect their parents' lifestyle behaviors [16].

Implementing a series of interventions in the workplace can change the lifestyle behavior of Australian adults. For example, adding stand-up desks in workplaces could reduce the risk of obesity caused by sedentary lifestyle [17]. To create good physical activity conditions for employees, such as

the addition of showers, changing rooms and gymnasiums in the workplace encourage employees to use their spare time or lunch time for physical activities [18]. The addition of restrooms in the workplace and the provision of free fruit and vegetable salads help increase the intake of fruit and vegetables for employees. Employers must consider the welfare of their employees. Reducing health risk factors can benefit for employers because it can increase employee productivity, reducing absenteeism due to illness, and increasing morale [19].

While reducing the GST of healthy food, the government should increase the enforcement of menu label regulations and star rating systems, improving the star rating evaluation algorithm [19]. At present, supermarkets in Australia have gradually become the food suppliers, so supermarkets should take more responsibility for prevented obesity [20]. The government can conduct a series of interventions on supermarkets, such as requiring supermarkets to increase the nutritional content of their own branded products, reduce the sugar, salt, and fat content of their products. The potential solutions are reducing discounts and promotions for unhealthy foods, labelling healthy stars in packaging bags, marking unhealthy foods and beverages in product brochures and suggested which healthy products can be used to replace to help people get healthier foods.

Urban planning is also one of the effective interventions, such as increasing the number of parks and gymnasiums or adding fitness equipment in parks [21]. The number of junk food stores and candy stores in each district should be limited around the school. Increasing opportunities for physical activity and reducing exposure to unhealthy foods can effectively control obesity risk factors. In addition, using billboards and online media for health promotion, popularizing health knowledge, and organizing health promotion activities are also potentially effective solutions for controlled obesity.

5. Potential collaborations

Solving the obesity problem not only requires personal effort and government intervention, but also requires public cooperation among stakeholders. It needs the participation and cooperation of various fields and levels in society to responded the government's initiatives, fulfilled their responsibilities and obligations, and jointly contributed to reducing the obesity rate. General practitioners and health workers are obliged to provide guidance for healthy lifestyles. Schools should be responsible for cultivating the health awareness of children and adolescents. Supermarkets should provide people with healthier food. Employers should actively provide employees with a healthier workplace. Communities should try to provide people with a healthier community environment. Social media should also strive to promote health knowledge rather than advertising unhealthy foods.

6. Benefits of acting/conclusion

Although the governments of various states in Australia have adopted different measures to intervene in obesity, the duration of the plans and the results of the reports have been different, and the obesity rate in Australia has not declined. This article proposes specific interventions for different industries and fields. It mainly aims to change people's life habits by influencing people's social and living environment, avoids the conflict between paternalism and liberalism, which making policies more acceptable to the public. Distributing responsibility for reducing obesity rates to different industries and sectors can also reduce government economic pressure. In addition, strengthen the links and cooperation between the state governments, strengthen the state government accountability system could improve the implementation and supervision of interventions, and prevent obesity rates from rising in societies that generally respect individual liberalism.

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