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BMHN4001 Health and Exercise in Society

Obesity in Wales is rising – is the level of physical activity to blame?

Introduction

Obesity is estimated to cost the NHS in Wales around £73 million annually, but this number increases to £86 million if those in the 'overweight' bracket are also considered (Welsh Assembly government, 2011). Not only can this increase their own risk of developing conditions such as Coronary Heart Disease (Anderson, 2001) and diabetes (NHS, 2018. Brayner, 2021), their obesity can also affect their family members (Public Health Wales, 2020), and even have a knock-on effect to the greater public, as it increases demand within the NHS and partnered services in efforts to accommodate the pressures associated with obesity (Welsh Assembly Government, 2011).

Obesity as a health concern rarely exists alone; it can be initiated or even exacerbated by one of the many social determinants of health including (but not limited to): employment, housing, education, income, local and national Government policy, and alcohol & drug consumption (Mastroianni, 2019, WHO, 2022), and in return obesity can exacerbate the effects of those determinants further.

At a local authority level, the most recent imagery provides visual support that obesity in Wales is on the rise (Fig.1), largely in the areas experiencing higher levels of 'multilevel deprivation', a phrase to mean deprivation not limited to financial income; it can also mean employment, health, education, access to services, housing, community safety, and physical environment (Fig.2). Typically, these social determinants of health can act supportively or detrimentally towards each other, but those interwoven relationships were arguably put under further strain during the COVID 19 pandemic.

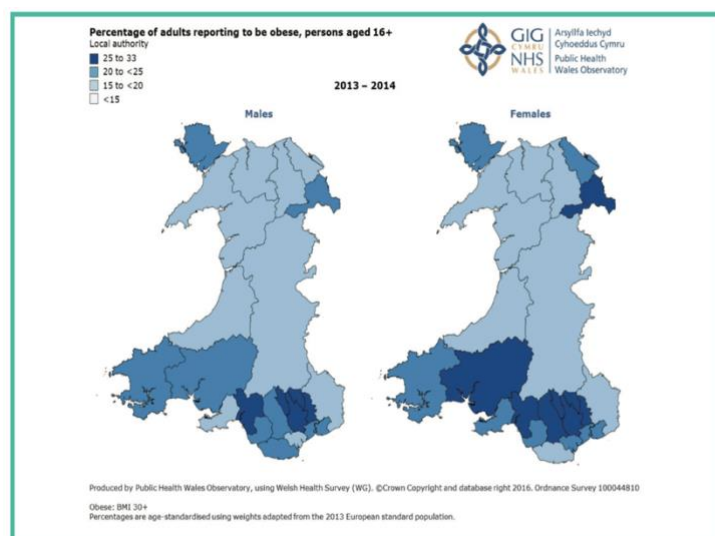


Figure 1. demonstrating the distribution of obesity in Wales (nhs.wales, 2018)

by Lower Level Super Output Areas

Rank

1 - 191	Most Deprived	10% most deprived
192 - 382	10-20% most deprived	
383 - 573	20-30% most deprived	
574 - 955	30-50% most deprived	
956 - 1909	50% least deprived	
	Least Deprived	

Local Authority Boundary ———

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November 2016

Prior to the COVID 19 pandemic in Wales, and as reported by then Health minister Vaughan Gething: “over 60% of the population is considered overweight or obese”, which equates to around 1.5 million people across the country, and this number was predicted to reach 64% by 2030 (Welsh Assembly Government. 2019). That same year it was also reported that around 53% of adults described themselves as ‘physically active’; a phrase as defined by the World Health Organisation as “any bodily movement produced by skeletal muscles that require energy expenditure” (Welsh Assembly Government, 2019). By the arrival of the 2019-2020 National Survey for Wales report just 12 months later and only halfway through the pandemic, the percentage of overweight and obese adults had already increased to 61%; roughly 40,000 more adults than the previous year (Welsh Assembly Government, 2020). That same year it was reported that the level of physical activity within adults had plummeted to just 22% (sport.wales, 2021).

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Discussion

The Social Determinants of Health, as defined by the Welsh Government, account for around 30-35% (WHO, 2022) of all health outcomes, and are as follows (Jones, 2019):

- Income
- Employment
- Health
- Education
- Access to Services
- Housing
- Community Safety
- Physical Environment

Together these determinants are intertwined to provide a holistic view of an individual's health, and one faltering determinant such as Unemployment can have a knock-on effect on income, which can potentially affect housing situations, and in turn impact one's physical health and mental health (Jones, 2019). It is in this vicious cycle that conditions such as Obesity and Overweight can arise, and physical activity levels can decrease, arguably exacerbating the issue further, and leading to an increased risk of developing or worsening conditions such as Coronary Heart Disease, Diabetes, Hypertension, and risk of Stroke (Anderson, 2001). As demonstrated by fig.1 and 2. There is a marked difference between those experiencing obesity and those being affected by their level of multiple deprivation, additionally there is researched evidence supporting the theory that those from lower socio-economic backgrounds are less likely to engage in physical activity (sport.wales, 2021).

Due to the studies conducted by the Welsh Government in 2019-22, it is clear the COVID 19 pandemic has been a catalyst to what were previously already gradually-increasing obesity numbers; the stresses the pandemic brought with it included employment uncertainty, lack of finance and isolation (Welsh Assembly Government 2019, 2020, sport.wales 2021).

The aforementioned studies have shown a correlation between the rise in obesity and the decrease in physical activity, but does this show causation? Arguably the studies show that inactive populations are more likely to be obese and overweight than those who are active, and there is no evidence that physical activity is in any way detrimental

to the already damaging effects of obesity (National Center for Chronic Disease Prevention and Health Promotion, 2019). In support of this, there is also evidence that shows a link between living a predominantly sedentary lifestyle and a higher risk of obesity (Martínez-González, 1999). Additionally, further evidence from Welsh Government shows that due to the COVID 19 pandemic and the subsequent instances of furlough, redundancies, business closures and the need for other to work from home Wales is currently experiencing its highest levels of sedentary lives (Public Health Wales 2020).

As yet, there is no reliable evidence making a case *against* forms of physical activity as a way to reduce the risk of obesity, but overwhelming evidence in support of it. A study conducted by Anderson et al shows that instances of Cardiovascular Disease are more frequent in those with obesity (2001), moreover some supporting studies such as that conducted by Scarborough et al presented evidence that prevention is much better than cure in reducing the risk of obesity-associated health conditions, such as Coronary Heart Disease (2011), and further studies conducted by the Centre for Disease Control and Prevention has identified lack of physical activity as being a risk factor for conditions such as Heart Disease, Type 2 Diabetes and some forms of Cancer (2019).

A report by Reid et al at the Faculty of Sport and Exercise Medicine UK even went so far as to identify physical activity as being safe and beneficial to the point of outweighing risks to those already experiencing long term health conditions potentially induced, but certainly exacerbated, by obesity (2021). In support of this, a study conducted by Public Health Wales showed that of those suffering with musculoskeletal conditions such as fibrositis and arthritis the number of individuals also suffering with obesity outnumbered those in a healthy weight bracket 2:1 (2018).

Interestingly, the study conducted by the Centre for Disease Control and Prevention also identified that physical activity has positive effects on sleep, improves cognitive ability, reduces dementia risk and improves self-esteem, all of which can have positive knock-on effects on Obesity (Centre for Disease Control and Prevention, 2019).

The importance of supporting the mental aspect of physical activity and obesity control is arguably just as important as the physical aspects, and should also be nurtured from a young age , as one study evidenced that some children are already experiencing the negative mental effects of living with obesity. These include bullying, low self-

esteem, and negative mental health patterns initiated at such a young age. (Hohwu, 2015)

Conclusion

As evidenced by numerous studies from various aspects, there is currently no evidence that maintaining a physically active lifestyle is any way a negative influence on obesity. Reports show time and time again that engaging in any form of physical activity positively impacts obesity directly by lowering BMI, but also improves any conditions that have been initiated or exacerbated by experiencing obesity, such as type 2 diabetes, Coronary Heart Disease and even positively affecting mental health. There is a clear link between a lack of physical activity, those experiencing obesity and those living in areas suffering multi-level deprivation, and so it is more important than ever to maintain green-space initiatives in order to make physical activity accessible to all.

Even to those not currently experiencing obesity, physical activity has proven beneficial to help lower the risk of developing it at all, and thus reducing the risk of contracting any obesity-related diseases.

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STUDENT FEEDBACK FORM

This section details the *extent* to which the assessment criteria are demonstrated by you, which in turn determines your mark. The marks available for each category of skill are shown. Lecturers will use the space provided to comment on the achievement of the task(s), including those areas in which you have performed well and areas that would benefit from development/improvement.

Generic Assessment Criteria	Marks available	Marks awarded
1. Engagement with Literature Skills		
	20	
2. Knowledge and Understanding Skills		
	50	
3. Cognitive and Intellectual Skills		
	20	
4. Practical Application Skills		
	0	
5. Transferable Skills for Life and Professional Practice		
	10	

Assessment Mark (Assessment marks are subject to ratification at the Exam Board. These comments and marks are to give feedback on module work and are for guidance only until they are confirmed.)	Late Submission Penalties (tick if appropriate)		%
	Up to 1 week late (40% Max)		
	Over 1 week late (0%)		