

## **COMPARISON OF APPROACHES TO REDUCE AND PREVENT FROM CHILDREN OBESITY WITHIN THE CONTEXT OF UK AND POLAND**

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**Abstract.** The problem of obesity relates to adults as well as children and teenagers. In the last decade it has become a crucial public health problem all over the world. It has been acknowledged by various organisations and bodies globally, nationally, and regionally, such as for example: World Health Organisation, European Union Commission, national governments, National Health Service, and other non-governmental institutions, as well as media. The paper focuses on two case studies on children obesity prevention and reduction activities in the example of two selected European countries: the United Kingdom, and Poland. Findings for the analysis were obtained from variety of sources such as: various literature, reports of Organisation of Economic Cooperation and Development (OECD), World Health Organisation (WHO), National Health Service (NHS) – National Obesity Observatory, British Broadcasting Corporation (BBC), Chief Sanitary Inspectorate (Główny Inspektorat Sanitarny – GIS). The results highlight the significance of understanding the current situation regarding obesity and the future trends of this problem, emphasising that investment in programmes and activities to fight it and prevent from it will bring benefits to countries and societies from an individual perspective as well as globally.

**Key words:** childhood obesity, UK, Poland

### **INTRODUCTION**

It has been observed over the last three decades that the obesity epidemic has become a staggering reality. This problem concerns not only adults but starts with even very young children and teenagers [Mazur et al. 2006, Lob-Corzilius 2007, DeMattia and Denney 2008, Huberty et al. 2010]. Growing obesity trends can be observed both in de-

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veloping and developed countries globally. It has been claimed by the Overseas Development Institute [Obesity quadruples..., 2014] that 1 in 3 people worldwide is overweight, whereas according to the Health at a Glance Report [2013] 1 in 5 children suffers from overweight problem, including obesity.

According to the World Health Organisation there was a huge worldwide prevalence of childhood overweight and obesity starting from the level of 4.2% in 1990, reaching the level of 6.7% in 2010, with a prognosis of 9.1% in 2020 [De Onis et al. 2010, cited in Engelman 2014].

Within the European Union (EU) countries similar trends can be noticed, however, differences can be observed among some of the countries. According to OECD data [2013] the highest proportion of obese adult population can be found in the UK, which as of 2009 amounted to 1 in 4. In Italy it amounted to 1 in 10. In terms of obesity amongst children in the EU it can be noticed in Greece and Italy – about 40% of children. In the UK around 1 in 4 children suffer from obesity, and in Poland this amounts to 1 in 6 children.

The overweight and obesity problem was acknowledged by WHO and EU Commission, as well as respective governments of each country. Several initiatives and actions have been undertaken to address the social awareness of the problem and to imply methods to prevent and fight against the growing obesity. Within the specific governmental National Programmes Preventing Overweight and Obesity, which are treated as civilisation diseases, a number of other local governmental and non-governmental organisations and bodies were involved by giving their support.

## LITERATURE REVIEW

### Overweight and obesity studies

Within the academic literature to date, there has been a number of studies investigating the problem of overweight and obesity both globally and in a specific context of a selected country. Obesity has been acknowledged as a worldwide problem for both developed and developing countries in the case of not only adults but also young children and teenagers.

It is worth explaining what is meant by ‘overweight’ and ‘obesity’. According to OECD [2013] ‘overweight and obesity are defined as excessive weight presenting health risks because of the high proportion of body fat. The most frequently used measure is based on the body mass index (BMI), which is a single number that evaluates an individual’s weight in relation to height (weight/height with weight in kilograms and height in metres). Based on the WHO classification, adults with a BMI between 25 and 30 are defined as overweight, and those with a BMI over 30 as obese’. According to British NHS [2014], BMI is a measure of whether you’re a healthy weight for your height. They distinguish among overweight (a BMI of 25 to 29.9), obese (a BMI of 30 to 39.9), and severely/morbidly obese (a BMI of 40 or above). In Poland GIS adopts definitions of ‘overweight’ and ‘obesity’ in line with OECD.

There are high levels of concern about childhood obesity, with obese children being at higher risk of poorer health both in the short and longer terms [Butland et al. 2007,

cited in Rees et al. 2011]. This is alarming because BMI in childhood is associated with a number of diseases and health problems, for example: type 2 diabetes, arterial hypertension, fat metabolism, coronary heart disease, breathing difficulties, orthopaedic handicaps, mental health problems, such as low self-esteem, depression, quality of life, body dissatisfaction, behavioural problems, and premature death in adulthood [Lob-Corzilius 2007, Griffiths et al. 2010, Park et al. 2012].

### **Diet linked to income and time impoverishment. Consumption of fastfoods and high level of sugar and fat**

The respective literature and research points out a number of reasons, which contributed to such a rapid development of overweight and obesity globally. One of the main reasons, which could be indicated are the changes in the nutritional and physical activity habits of people. Today's diet typically contains a high proportion of fat and protein with a considerable decrease of fiber consumption. In terms of drinks consumers tend to choose sweetened ones, for example Coca-Cola. This usually results in high caloric intake of energy-dense foods, which fail to reduce hunger sensations [Lob-Corzilius 2007].

The reason why consumers decide to select such unhealthy option is usually caused by the relatively low cost of such food. However, this is not the only motive, as this option is not selected exclusively by families of the poorer end of the society but also the medium and of high socio-economic background.

We live in very busy times where we tend to suffer from 'time poverty', meaning that we spend many hours working, which results in the reduction of cooking time at home. Families consume meals together very rarely, even it has become accepted that each family member consumes meals alone at different times, which suit them the best. Quite often fast food is perceived as 'time saver' and is selected as an option by families and also some institutions, like for examples schools, giving children no other option.

All of these changes have been found to be associated with a loss of control in food intake. Even the characteristic of meal being a pleasant social or family event has lost its traditional meaning as the number of joint meals becomes smaller.

### **Change of lifestyle – lack of physical activities, watching TV, playing computer games**

Besides the changes in nutritional habits, also daily physical activities and recreational activities have changed dramatically over the past two generations [Lobstein et al. 2004]. Montignac [2010] claims that the obesity at children is caused by low physical activity, long time watching TV and playing video games.

The development in modern technology (TV, PC, notebook etc.) and the motorisation has greatly contributed to a decrease in physical activity. In the past children were more physically active whereas at present majority of them would have a TV, and PC in their bedroom and would spend many hours being passive. Also the greater use of cars for individual transportation contributed to less physical activity as children are quite often being chauffeured to school rather than walked. Also as a result of urbanisation and a greater traffic a safe use of bicycles and space for running is limited. There is also a decrease in playgrounds where children could spend time actively.

This clearly creates imbalance of energy intake and energy expenditure, which contributes towards obesity [Lobstein et al. 2004].

The results from the Freiburg Children Study [Blinkert 2001, cited in Lob-Corzilius 2007] show some of these issues in the case of Germany. Looking at the data from 1960 it can be seen that more children than cars existed in cities, but this changed considerably in 1990, where there were more than four times as many cars as children. It can be also concluded from the findings of this study that the less dangerous the children's recreational area outside of the apartment was, the more time the children spent outdoors without their parents' supervision. However, when there were no such recreational areas, the amount of media consumption, especially in the afternoon, increased resulting in less physical activity. This led to lower energy expenditure, and gaining on weight.

Ellaway et al. [2005] conducted a study in 8 selected European cities. Their aim of research was to investigate the association between the residential environment and the prevalence of extreme obesity. The results indicated clearly that the more parks and greenery in the area and the cleaner the neighbourhoods were the three times higher was the level of physical activity and 40% lower the likelihood of overweight and obesity was. However, for those who stated that their residential environment contained a lot of litter and had only few green areas, the prevalence of being overweight or obese amounted to as much as 50% or even higher and the likelihood of physical activity was reduced by about 50%.

## METHODOLOGY

The aim of the paper is to analyse the problem of children obesity and investigate programs and activities which are designed to prevent and to reduce obesity in the example of the UK and Poland. The objectives of the research were to look at the issues from the worldwide perspective, than narrow it down to the EU, and in the end purely focus on the UK and Polish context. The up-to-date literature on obesity and overweight was analysed thoroughly. The statistical data on overweight (including obesity) among children, prevention and reduction issues of the children obesity activities aspects in Poland and the UK were taken from the official sources such as: reports of the Organisation of Economic Cooperation and Development (OECD), World Health Organisation (WHO), National Health Service (NHS) – National Obesity Observatory, British Broadcasting Corporation (BBC), Chief Sanitary Inspectorate (Główny Inspektorat Sanitarny – GIS). In order to analyze the problem the authors applied descriptive and comparative methods as well as appropriate statistical methods.

## RESEARCH ANALYSIS

At present the problem of overweight and obesity is faced by the whole society without any exceptions, such as age, gender or nationality. To a higher degree this issue is prevalent amongst children and teenagers. Overweight or obese children are in a higher risk to suffer from health problems in their adulthood. This can result in orthopaedic

and psycho-sociological problems, such as for example: low self-esteem, depression or a lower quality of life. Obese people are in a high risk of heart diseases and problems with blood circulation, type 2 diabetes, cancer, breathing difficulties and bone-joints issues [Narodowy program... 2009, Health at a Glance 2013].

Table 1 presents an overview of overweight and obesity among children of 2010 or latest years. This data was obtained from control measurements and self-reports collected amongst 15 year old boys and girls. The data presented in the table indicate that on average 23% of boys and 21% of girls from OECD countries suffer from the issue of being overweight (including obesity). Obesity index derived from self-reports indicates 18% for boys and 11% for girls from OECD countries. However, the self-reported data indicates underestimation of the observed tendencies.

Table 1. Overweight (including obesity) among children, 2010 (or latest years)

Specification	Measured overweight (including obesity) among children, 2010 (or latest years)			Self-reported overweight (including obesity) among children, 2009–2010	
	Various ages			15-year-olds	
	Age range	Boys (%)	Girls (%)	Boys (%)	Girls (%)
1	2	3	4	5	6
Greece	10–12	44	38	28	13
Italy	8–9	36	34	22	11
New Zealand	13–17	34	34	–	–
Slovenia	10–12	32	23	23	13
United States	5–17	30	30	34	27
Mexico	5–17	28	29	–	–
Hungary	10–12	28	23	19	11
Portugal	7	27	29	19	15
Chile	6	26	27	–	–
Spain	10–12	26	24	19	12
Canada	5–17	25	24	24	17
Korea	5–17	25	20	–	–
Israel	16–19	24	20	–	–
Finland	12	24	19	17	11
China	0–18	24	16	–	–
Japan	12–14	23	17	–	–
Luxembourg	18	23	22	22	12
UK (England)	5–17	22	26	12	11
Australia	2–16	22	24	–	–
Ireland	7	21	23	16	12
India	5–17	21	19	–	–
Iceland	14–15	21	13	20	13
Germany	5–17	20	20	18	10
Switzerland	6–13	19	17	14	7
Austria	8–12	18	18	19	11
Russian Federation	7–11	17	17	10	6

Table 1 cont.

1	2	3	4	5	6
Netherlands	10–12	17	15	11	5
Belgium	10–12	17	14	15	9
Poland	7–18	17	11	17	10
Denmark	5–8 and 14–16	16	20	10	8
Sweden	7–8	16	18	17	7
Estonia	7	16	16	16	9
Czech Republic	7	16	15	19	10
France	6–15	15	15	13	7
Slovak Republic	6–16	15	15	15	7
Brazil	10–15	15	15	–	–
Norway	10–12	15	14	17	11
Turkey	11–18	13	19	17	6
South Africa	14–18	11	29	–	–
Indonesia	6–12	11	8	–	–
OECD33	×	23	21	18	11

Source: Health at a Glance 2013 – © OECD 2013.

According to the data obtained from control measurements, the obesity problem is more often faced by boys rather than girls. The highest differences can be observed in Slovenia, China, and Ireland. Simultaneously, above 30% of boys and girls in Greece, Italy, New Zealand, and the USA suffer from obesity. In Turkey and South Africa girls presented higher indices of obesity than boys. Similar tendencies can be observed when looking at the data obtained from self-reports. One in four children in the UK and 1 in 6 children in Poland suffer from overweight (including obesity). However, the problem of obesity is encountered more often by boys in Poland (17% of boys) and girls in the UK (26% of girls).

## CASE STUDY – POLAND

The obesity problem is faced quite often not only by adults but also children all over the world, including Poland. In order to fight against this epidemic a number of international initiatives took place. Poland has also joined them actively. In response to the guideline of 57th World Health Assembly, which was implemented by the Polish government, as well as in support of the European Commission initiative promoting healthy nutrition and physical activity at the UE level, presented in the Green Book, Poland implemented National Programme Preventing from Civilisation Illnesses [Narodowy program... 2009].

Since 1992 every 4 years the Mother and Child Institute, as a part of international project, performs Health Behaviour School-aged Children (HBSC) controlled measurement, which examines health behaviour of children and asks children and teenagers to perform self-tests on the body mass. The Report HBSC 2010 indicate that, 18.3% chil-

dren at the age of 11–12 suffer from overweight, and 3.4% are obese<sup>1</sup>. In the range of 13–14 years old – 14.9% are overweight, and 3.4% obese, whereas among 15–16 year old children – 11.6% are overweight, 2.7% are obese. In the group of 17–18 years old teenagers 10.9% are overweight, and 2.5% are obese. The problem of overweight and obesity are faced more often by boys than girls [Problem nadwagi.... 2011].

The results of research made by The Children's Memorial Health Institute (CMHI)<sup>2</sup>, indicate that 18.6% of the examined boys and 14.5% of the examined girls suffer from overweight, including obesity. Within the range of 7–18 years old the proportion of Polish children suffering from excessive body mass amounts to 20%. For the last 10 years a tendency of levelling the proportion between overweight and obese children in cities and in the country has been observed. Before that this issue was mainly faced by teenagers in cities [Oblacińska 2013].

The examinations performed by CMHI enabled to estimate the links between causes of the obesity problem among children and teenagers. The results indicate that the most commonly the obesity problem is faced by children who live in cities above 500 thousand inhabitants, especially in the case when both parents are working, and in the country, where parents are farmers. Financial prosperity is also a factor which can be linked to obesity, however this issue is almost never faced by the really high earners. The excessive body mass can be also linked to being in possession of an own room, computer, and television, as well as being the only child. Children who do not walk to school, but are chauffeured by their parents, are usually also more inclined towards overweight and obesity.

20% of boys, who are the only child in the family, suffer from being overweight. Such problems occur twice less in the case of boys who have three brothers or sisters. In the case of girls such difference is smaller but also significant. 15% of girls, who are the only child in the family, suffer from being overweight, and 9% of those who have brothers or sisters. The results also indicate that overweight and obesity is 'contagious'. Bad eating habits are spread very easily among children, so if a child is surrounded by similar age children, who have excessive body mass, after some time the child also starts putting on weight. This can be also observed in the case of children, whose parents suffer from overweight or obesity problem.

The strategies to prevent from obesity are usually undertaken by public authorities with support from several governmental and non-governmental organisations. In order for these activities to be efficient they should include: education policy, health policy, transport and urban policy, audiovisual and media policy, fiscal policy, as well as social policy [Osiecka-Chojnacka 2012].

Chief Sanitary Inspector (Główny Inspektorat Sanitarny) and the Polish Federation of Food Industry (Polska Federacja Producentów Żywności Związek Pracodawców – PFPZ), following the recommendations of the World Health Organization (WHO) in the range of diet, physical activity and health, as well as following the recommendations of the European Commission White Book, titled 'A Strategy for Europe on nutrition, overweight and obesity related health issues' for 7 years have led all-Poland education programme

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<sup>1</sup>According to the referential values IOTF.

<sup>2</sup>Instytut „Pomnik – Centrum Zdrowia Dziecka”.

‘Keep fit!’, which promotes a balanced diet and physical activity among schoolchildren and teenagers.

The BOŚ Foundation, as a part of their activities, led an educational programme ‘Actively for Health’. The aim of this Programme is mainly focused on the extensive and complex education on healthy style of life, in particular healthy nutrition and physical activity. The Foundation organised social campaigns on Polish obesity. The first one in 2010 was entitled ‘It’s rubbish fattening children’ („To śmieci tuczą dzieci”), and in 2012 ‘I-You-Eat’ („Ja-ty-jemy”), which uses very skilfully a play of words implying putting on weight. These campaigns emphasise the problem of obesity and promote healthy nutrition.

Another educational initiative, as a part of fight against obesity among children, was the EU Campaign ‘Eat it, Drink it, and Move it – The Tasty Bunch!’ („Smakuj, pij i ruszaj się!”). The financial sources came from the EU Budget. This campaign aims at promoting the following EU Programmes ‘Fruit at School’ and ‘Milk at School’, which are important initiatives to support balanced diet and healthy eating habits among children. As a part of the EU Campaigns on healthy nutrition ‘The Tasty Bunch’ („Smakoszki”) 173 schools in the whole Europe were paid a visit. During 8 weeks ‘superheroes’ of the Tasty Bunch performance went through Belgium, Northern France, Great Britain, Ireland, Estonia, Lithuania, and Poland, organising competitions and various parties.

## CASE STUDY – UK

In the last decade a rapid increase in children obesity could be observed among western countries, in particular in the UK. In order to tackle the issue the National Child Measurement Programme (NCMP) was implemented in the UK to help monitor changes in average body size amongst children who are starting or about to leave primary education [Rees et al. 2011].

According to National Obesity Observatory [NOO 2010] data, in 2008/2009 this classified almost 1 in 10 (9.6%) children aged 4–5 as obese and, for 10–11 year olds, almost 1 in 5 (18.3%).

HSE 2011 report [Eastwood 2013] shows that around 3 in 10 boys and girls aged 2–15 were classed as either overweight or obese (31 and 28% respectively), which is very similar to the HSE 2010 findings (31% for boys and 29% for girls). In 2011/2012, the NCMP data show that around 1 in 10 pupils in Reception class (aged 4–5 years) were classified as obese (9.5%) which compares to around a fifth of pupils in Year 6 (aged 10–11 years) (19.2%). Also, 13.1% of pupils in Reception class and 14.7% of pupils in Year 6 were reported as being overweight. Obesity prevalence was significantly higher in urban areas than in rural areas for both school years, as was the case in previous years.

In terms of physical activity HSE 2011 report indicates that in 2011, 43% of 5–16 year olds’ main method of getting to and from school is walking, while the main method for 33% of this age group is being driven to school in a car. Only 2% used a bike to travel to school as their main mode of transport. In 2011/2012, 80% of 5–15 year old children reported they had done some form of competitive sport in the last 12 months. Over three



quarters (77%) had taken part in a competitive sport in school, whilst 37% had taken part outside of school. In terms of diet in terms of 5–15 year old boys, 16% consumed 5 or more portions of fruit and vegetables daily in 2011. Whereas for girls aged 5–15 the figure amounted to 20%.

That awareness has influenced not only researchers to analyse the obesity causes and recommend solutions to improve the situations, but also governments and a number of governmental and non-governmental organisations to create and implement policies, programs, and actions to prevent from of childhood obesity.

In the UK a number of actions were undertaken to fight obesity. The White Paper describes a new approach for public health in England and sets out examples of national level action to help tackle obesity. This includes: continuing to run the National Child Measurement Programme, to enable the local areas have information about levels of overweight and obesity in children, making consumers aware of healthier food choices through the Change4Life3 programme, as well as collaborating close with businesses and other partners via the Public Health Responsibility Deal regarding a healthy diet.

In October 2011, the Department of Health published ‘Healthy Lives, Healthy People: A call to action on obesity in England’ which explains in more detail how obesity will be tackled in the new public health and NHS systems. In 2011, the UK Chief Medical Officers (CMOs) published revised guidelines for physical activity. To tackle physical inactivity outside school, it was decided that initiatives such as the Change4Life continue to be driven forward (in conjunction with tackling obesity and healthier eating), for example through the 2012 Games4Life summer campaign. Current government also prepared diet recommendations suggesting the families that everyone should eat plenty of fruit and vegetables (at least 5 of a variety each day, which was the spread actively by media, especially TV adverts), plenty of potatoes, bread, rice and other starchy foods, some milk and dairy foods, meat, fish, eggs, beans and other non-dairy sources of protein. Foods and drinks high in salt, fat and sugar should be consumed infrequently and in small amounts [Eastwood 2013].

It needs to be also stressed that the media are also very active in tacking the issue of obesity in the UK. They are very active in communicating stories about the nation’s expanding waistlines to the public. According to Hilton et al. [2012], there was a considerable rise in the amount of publications focusing on the obesity issues in the UK in the last decade. According to their study, between 1996 and 2010 a total of 2,414 articles on obesity were published in 7 newspapers they selected for their research in comparison to before 2000 when were less than 40 newspaper articles per year published on obesity.

Moreover, there are a lot of TV programmes discussing these issues and advising how to eat and live healthily and showing real stories of people who lead unhealthy life, which lead either to obesity or anorexia, creating a social awareness. Moreover more and more adverts on healthy life promotion could be seen on TV and heard on radio.

It also should be stressed that some of the global food corporations became active in fighting obesity by formulating some of their processed food products toward healthier options and promoted them in their marketing campaigns. For example, McDonalds gives now a salad as an option for healthy eating.

## CONCLUSION AND RECOMMENDATIONS

Overweight and obesity amongst adults, children, and teenagers are becoming an even bigger problem of the 21st century population. Both Poland and the UK joined the group which included countries facing obesity problem among children, which needs to be actioned immediately. The worldwide literature as well as measurements performed on global level and by individual countries, proved that obesity in childhood leads to obesity on adulthood, and is strongly linked with development of civilisation diseases.

Strategies to fight and prevent from obesity are created by the World Health Organisation, the European Union, and individual countries. Public authorities of each country implement these Programmes with support of governmental and non-governmental institutions, for example: in Poland: Mother and Child Institute, Chief Sanitary Inspector, the Polish Federation of Food Industry, and BOŚ Foundation; and in the UK: National Obesity Observatory, National Health Service, Department of Health, and many others.

All of these Institutions undertake several educational and prophylactic actions, such as: measurements on obesity among children and teenagers, promoting healthy nutrition, physical activity and creating conditions to do sport activities. At the same time the media actively support these actions by making them more visible to the public, leading their own educational programmes, which emphasise obesity problem and the methods of fight against it.

It would be worth performing an analysis on a bigger sample of countries and see which of their individual isolated actions to fight and prevent from obesity have been most successful so they could be implemented on a larger scale.

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## **PORÓWNANIE METOD ZMNIEJSZANIA I ZAPOBIEGANIA OTYŁOŚCI WŚRÓD DZIECI W WIELKIEJ BRYTANII I POLSCE**

**Streszczenie.** W ostatniej dekadzie otyłość zarówno dorosłych, jak i dzieci oraz młodzieży stała się zasadniczym problemem zdrowia publicznego na całym świecie. Zostało to potwierdzone przez różne organizacje i instytucje na całym świecie na poziomach krajowym i regionalnym. Wśród tych instytucji można wyróżnić, na przykład: Światową Organizację Zdrowia, Komisję Unii Europejskiej, rządy krajowe, państwowe służby zdrowia i inne instytucje pozarządowe, a także media. Artykuł skupia się na dwóch studiach przypadku na temat działań mających zmniejszać oraz zapobiegać otyłości wśród dzieci na przykładzie dwóch wybranych krajów europejskich: Wielkiej Brytanii i Polski. Dane do analizy uzyskano z różnych źródeł: literatury przedmiotu, doniesień Organizacji Współpracy Gospodarczej i Rozwoju (OECD), Światowej Organizacji Zdrowia (WHO), Narodowego Obserwatorium Otyłości (National Health Service – NHS), British Broadcasting Corporation (BBC), Głównego Inspektoratu Sanitarnego (GIS). Wyniki podkreślają znaczenie zrozumienia obecnej sytuacji w zakresie otyłości i przyszłych trendów tego problemu. W artykule podkreślono, że inwestycje w programy i działania, aby walczyć i zapobiegać otyłości wśród dzieci, przyniosą korzyści dla poszczególnych państw i społeczeństw zarówno z indywidualnego punktu widzenia, jak i całego świata.

**Słowa kluczowe:** otyłość u dzieci, Wielka Brytania, Polska

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