

## Lifestyle and Obesity among Children during COVID-19 Pandemic

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### Abstract

The COVID-19 and obesity are pandemics that adversely influence the health and well-being of children. This paper was intended to review the most important literature regarding the lifestyle and obesity among children during COVID-19 pandemic. The electronic searching was carried out in three databases: Google scholar, CINHALL, and PubMed. The COVID-19 pandemic rises risk factors of obesity by decreased level of physical activity associated with academic, environmental and social changes, also increased level of stress. There is a need for concentrated efforts to provide support to children and their families to address the damaging effects of COVID-19 pandemic and obesity of children.

**Keywords:** Obesity; COVID-19; Life Style

### Introduction

Changes in the life system during the COVID-19 pandemic affected anxiety level, boredom and isolation due to home confinement, which led to psychological effects that caused an increase in the intake of unhealthy foods, which caused weight gain, as well as food closures that caused unavailability of healthy foods [1].

The way of life imposed on all societies by the COVID-19 pandemic was one of the biggest challenges that the whole world faced in 2020. This experience was unique to all over the world's inhabitants, which affected various lifestyles, as health patterns were affected by the imposition of comprehensive bans and a long period of time. A healthy lifestyle is the key that helps all family members because when we build a healthy lifestyle, we present a more positive role model for all of our family members especially children in order to create a better environment for them to grow up. By helping them to follow a healthier lifestyle to contribute to luxury and enjoyment of life present and in the future [2-7].

Responses to the COVID-19 pandemic induced main lifestyle changes comprising staying at home and physical distancing. The schools were closed, and the child losses were access to healthy foods, physical activity, a safe place to be and their social links and usual habits. Possible negative consequences of school closure, as discussed in this review, threaten the health of children, especially children with obesity.

### Aim of the Study

This paper was intended to review the most important literature regarding the lifestyle and obesity among children during COVID-19 pandemic.

### Method

#### Search methods

The electronic searching was carried out in three databases: Google scholar, CINHAL, and PubMed. The Keywords used were: Obesity, COVID-19, lifestyle. The studies that focused on the topic of lifestyle and obesity among adolescents after COVID-19 pandemic were published in English were included in this review. Whereas, studies published before 2010 were excluded.

#### Study selection and search outcome

The full search produced 500 records. When the duplicates excluded, 250 records were screened depend on abstract and title. Next, 150 records were excluded, and 100 records move in full text evaluation for eligibility criteria. Lastly, 58 studies incorporated in the review (Figure 1) [8-65].

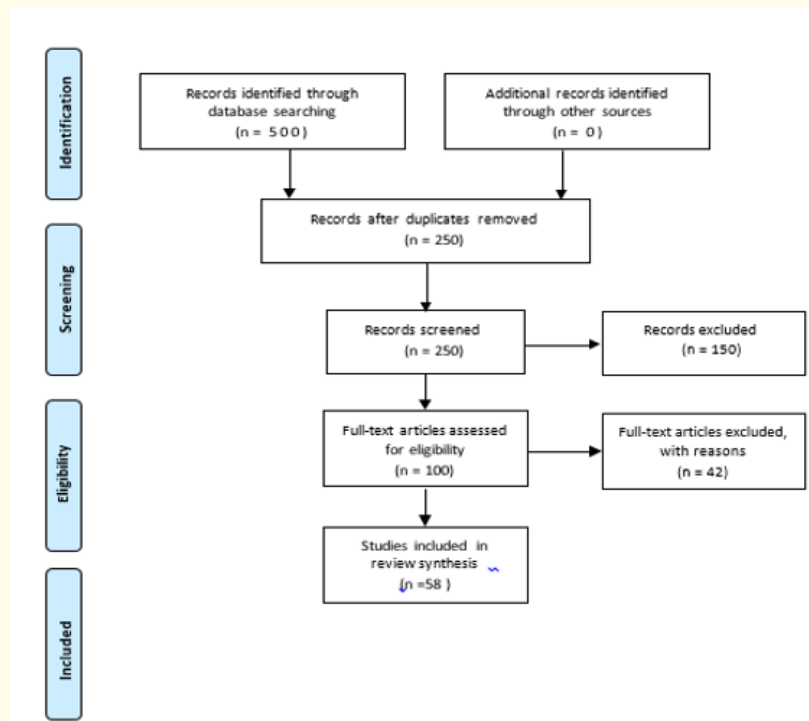


Figure 1: PRISMA flow chart.

### Results

#### Prevalence of obesity

Among the studies incorporated in the review, data were obtainable from various countries (United States, Sri Lanka, Spain, Italy) [8-11], and ten referred to the Jordan [12-22]. The majority of them were cross-sectional. From the reviewed studies in term of prevalence of obesity, three studies identified (n = 3,086) children, adolescents and young adults from 5 to 25 years old [12,16,22], and one study was considered study with age admixture (n = 368) [9].

Regarding the prevalence of obesity, among school students aged 13 - 16 years, the prevalence of overweight and obesity was 24.4%, with 8.7% obese and 15.7% overweight. It was significantly higher among female students, students who lived in urban areas and those with working parents [12]. Whereas among young adults up to 25 years' old, about 50% of the students were overweight and about 14.7% were obese [16]. While 12% of the school students in the age (14 - 18 years) were 13% were obese and 12% overweight. The prevalence of obesity was about 20 among those eating snacks three times each day, and the prevalence of overweight was 12% among those who did no regular physical activity [22].

#### The COVID-19 and obesity

About 4 of the reviewed studies focused on the impact of COVID-19 on gaining of weight, data were obtainable from Jordan [23] and United States [24-26]. The majority were conducted in reference to the lockdown of COVID-19 and some referred to the COVID-19 pandemic.

#### Healthy food

Two of the reviewed studies focused on the impact COVID-19 pandemic on access to food for children and food insecurity [27,28]. One of these studies was conducted in reference to the lockdown of COVID-19.

#### Level of physical activity

Around twenty-one studies discussed issues associated with level of level of physical activity [29-50], with some studies were conducted in reference to the lockdown of COVID-19.

#### Interventions toward COVID-19 pandemic and obesity

About fourteen studies discussed Interventions to address the damaging effects of COVID-19 pandemic and obesity [51-65].

### Discussion

According to the findings of the current review, obesity is on the rise in low- and middle-income countries, particularly in urban settings [8]. In Europe, the prevalence of obesity is higher in the Mediterranean and East European countries; however, the United States and several Latin American countries present even higher prevalence of obesity [9]. In Spain, over the last 15 years there has been an increase of 2.2% in the prevalence of obesity. The currently estimated prevalence of obesity and global weight overload (overweight or obesity) for the Spanish population is 14.5% and 53.5%, respectively; the proportion of subjects with obesity is higher in the regions of the southeast of the country; thus Andalusia is notable as being amongst the highest, with values reaching 21.5% [10,11]. In Jordan, a number of studies have been conducted, proving and demonstrating the high prevalence of obesity [12-22].

The COVID-19 and obesity are pandemics that adversely influence the health and well-being of youngsters [23,24]. Globally, many countries applied school closure as a policy to decrease the burden on the health systems and COVID-19 spread [25]. Consequently, it is expected that COVID-19 will have unfavorable health and social consequences, especially for children and for people living in poverty [26]. Schools closure can affect children and their capability to have healthy weight. According to a recent study, schools closure has been related to weight gain particularly for African Americans, Hispanics and overweight teenagers [26].

Regarding the healthy food, schools offer access to healthy food for many children. For example, according to recent statistics above, 14.7 million children join school breakfast programs and around thirty million children obtain lunch from the National School Lunch Program in the United State [27]. The COVID-19 pandemic changed the access to food for children and increased food insecurity [28].

The COVID-19 pandemic rises risk factors of obesity by decreased level of physical activity associated with academic, environmental and social changes, furthermore, increased level of stress. Children being quarantined at home will have limited access to physical activity support environments [29]. And, it will place obese children at risk for progress of the disease [30]. Also, within the family, parents will struggle to make sure healthy behaviors of family members [31-49], particularly for children at risk for more increase in weight [50].

Concentrated efforts to provide support to children and their families to address the damaging effects of COVID-19 pandemic and obesity of children are needed. Resources such as the internet may be used to support obese children to reach a healthier lifestyle. Family and the parents have to be included in any designated interventions [51-64]. In addition, there is a need for policy interventions to control marketing of unhealthy food products over the internet [65].

### Conclusion

The COVID-19 and obesity are pandemics that adversely influence the health and well-being of youngsters. School closure can affect children and their capability to have healthy weight. The COVID-19 pandemic increases risk factors of obesity. The health care professionals must highlight the obesity risks and offer prevention approaches, confirming also participation of family and the parents in any designated interventions.

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