

COVID-19 Outbreak Negatively Impacted Nigerian Secondary School Students Lifestyles

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ABSTRACT

Introduction: COVID-19 pandemic and lockdown period may have serious negative effects on education in secondary schools. The aim of the present study was to investigate the effects of COVID-19 pandemic on lifestyles of Nigerian secondary school students.

Materials and Method: 135 senior and 152 junior secondary school students were included in the study. Data was collected by using a survey about their lifestyle changes during COVID-19 pandemic.

Results: Nigerian secondary school students reported a decrease in their duration of study and interaction, an increase in duration of internet use and both on-and off-line games during the pandemic lockdown. Also, they reported an increase in their duration of exercise and a decrease in their duration of sport. Additionally, students reported an increase in their both duration of sleeping and in their body weights.

Conclusion: There are some negative lifestyle changes due to the COVID-19 pandemic. The long-period lockdown may be harmful on the lifestyles of students. Governments should take into consideration the scientific reports.

Key words: Lifestyle, Isolation, Lockdown, COVID-19

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INTRODUCTION

During the COVID-19 pandemic lockdown process, due to the #stayathome decree, a sudden and radical change has occurred in the habits and lifestyles of the people, with a drastic reduction of any form of socialization [1].

Physical distancing and self-isolation strongly impacted citizens' lives, affecting in particular eating habits and everyday behaviors. Game industry leaders have supported The World Health Organization (WHO)'s "help slow the spread of COVID-19" message with an online

social media campaign (#PlayApartTogether) [2] and unsurprisingly, significant increase in digital consumption such as online gaming has reported recently [3,4]. Furthermore, the fairly big changes in food consumption preferences were reported [5]. Also, in another study, there was a significant decrease in family incomes and a significant increase in family expenditures during the pandemic outbreak [6].

Psychological stress during COVID-19 pandemic can cause fear and worry among people about their health and financial conditions, and loss of support services they rely on. It can also cause changes in sleeping or eating patterns, sleeping problems, concentration difficulties, and exacerbate chronic health problems, mental health conditions, usage of tobacco, alcohol, and other substances [7]. Evidence from recent

studies suggests that current pandemic-related coping strategies may harm mental health, such as decreased well-being and increased posttraumatic stress disorders, depression and anxiety symptoms [8,9], insomnia, and anger [10-12]. Besides, fear of the disease and social isolation may lead to stress reactions that could develop into other psychological disorders [13].

It can be easily predicted that psychologically students will be affected by pandemic lockdown processes that can change the lifestyles of secondary and tertiary school students and even teachers. In a previous study, it has been reported that having relatives with COVID-19, increased anxiety levels in college students due to its adverse impact on economic and daily life, and also delays in academic activities [14].

The first case of COVID-19 in Nigeria was recorded on March 10, 2020 [15]. According to most recent data, Nigeria has reported about 60,000 cases and more than 1100 deaths among its nearly 200 million citizens [16]. However, COVID-19 risk in Nigeria is very high and the country has limited capacity to respond to a sudden health risk [17]. The European Union has contributed 50 million euros [18] and International Monetary Fund has approved 3.4 billion dollars to strengthen the Nigerian COVID-19 response [19]. With a constant increment in numbers, all tertiary educational institutions were closed with an order of the Ministry of Education by March 20, 2020, and the government announced the initial lockdown of big cities on March 30, 2020 [5,17].

The present study aimed to investigate the possible negative effects of COVID-19 pandemic lockdown on the lifestyles of Nigerian senior and junior secondary school students.

MATERIALS AND METHOD

Participants

Participants were students of Nigerian Tulip International College. 135 students from senior secondary school and 152 students from junior secondary school volunteered to participate. Data was collected by using a survey.

The experimental protocol was by following international ethical standards. The study was performed per under the Helsinki Declaration (1975, revised in 1996-2013) [20]. It was a descriptive cross-sectional study. The aims and

objectives of the study were explicitly explained to the participants before the commencement of the study. All participants and their parents voluntarily gave written informed consent to participate in the study.

The survey was administered to students during 20 minutes free time after exam preparation classes. The survey was conducted after 1 week of students' resumption for the external exams.

Statistical analyses

Statistical analysis was performed using the software SPSS for Windows, version 26. The Chi-Square Test was applied in order to find out and compare the rates (percentages) of chances in the lifestyle of Nigerian junior and senior secondary school students during COVID-19 pandemic lockdown. A p-value of less than 0.05 was considered statistically significant.

RESULTS

Students reported a statistically significant decrease in their duration of study during COVID-19 pandemic (Chi-square=21.9, p=0.00). Of 287 students, 143 (49.83%) have reported a decrease, and only 88 (36.66%) have reported an increase in their durations of study (Table 1 and Figure 1).

Students reported a statistically significant increase in their duration of internet use during COVID-19 pandemic (Chi-square=149.57, p=0.00). One hundred and ninety-six participants (68.29%) have reported an increase, and only 38 (13.24%) have reported a decrease in their durations of internet use (Table 1 and Figure 1).

Students reported a statistically significant decrease in their durations of interaction during COVID-19 pandemic (Chi-square=53.05, p=0.00). One hundred sixty-two students (56.45%) have reported a decrease, and only 56 (19.51%) have reported an increase in their durations of interaction (Table 1 and Figure 1).

Students reported a statistically significant increase in their duration of online games during COVID-19 pandemic outbreak (Chi-square=55.67, p=0.00). One hundred and eight students (36.963%) have reported an increase, and only 77 (26.83%) have reported a decrease in their duration of online games (Table 1 and Figure 1).

Students reported a statistically significant increase in their duration of offline games during COVID-19 pandemic (Chi-square=70.51, p=0.00). Ninety-six students (33.45%) have reported an increase, and only 80 (27.8%) have reported a decrease in their duration of offline games (Table 1 and Figure 1).

Students reported a statistically significant increase in their duration of exercise during COVID-19 pandemic (Chi-square=38.11, p=0.00). One hundred and forty-four participants (50.17%) have reported an increase, and only 70 (24.39%) have reported a decrease in their duration of exercise (Table 1 and Figure 1).

Students reported a statistically significant decrease in their duration of sport during COVID-19 pandemic (Chi-square=105.25, p=0.00). Of 287 students, 153 (43.4%) have reported a decrease, and 49 (17.07%) have reported an increase in their duration of sport (Table 1 and Figure 1).

Students reported a statistically significant increase in their duration of sleeping at the

time of COVID-19 pandemic (Chi-square=58.17, p=0.00). Of 287 participants, 172 (59.93%) have reported an increase, and 68 (16.6%) have reported a decrease in their duration of sleeping (Table 1 and Figure 1).

Students reported a statistically significant increase in their body weights at the time of COVID-19 pandemic (Chi-square=96.61, p=0.00). Of 287 participants, 110 (38.33%) have reported an increase, and 85 (29.62%) have reported a decrease in their body weights (Table 1 and Figure 1).

DISCUSSION

Pandemics of infectious diseases, such as COVID-19, are associated with psychological and mental problems. Besides, the pandemic has significantly changed normal activities all over the world [21].

A study in China reported that about 70% of the respondents spent more time looking at screens, whereas about 30% reported an increased

Table 1: Changes (number and percentage) in the lifestyles of Nigerian secondary school students during COVID-19 pandemic lockdown process.

	Decrease (50%)	Decrease (25%)	No Change	Increase (25%)	Increase (50%)	Chi-Square	p
Duration of Study	37 (30.3)	56 (19.5%)	56 (19.5%)	47 (16.4%)	42 (14.3%)	21.9	0
Duration of internet use	21 (7.3%)	17 (5.9%)	53 (18.5%)	64 (22.3%)	132 (46%)	149.57	0
Duration of interaction	86 (30%)	76 (26.5%)	69 (24%)	25 (8.7%)	31 (10.8%)	53.05	0
Duration of online games	48 (16.7%)	29 (10.1%)	102 (35.5%)	42 (14.6%)	66 (23%)	55.67	0
Duration of offline games	40 (13.9%)	40 (13.9%)	111 (38.7%)	34 (11.8%)	62 (21.6%)	70.51	0
Duration of Exercise	34 (11.8%)	36 (12.5%)	73 (25.4%)	88 (30.7%)	56 (19.5%)	38.11	0
Duration of Sport	111 (38.7%)	42 (14.6%)	85 (29.6%)	26 (9.1%)	23 (8%)	105.25	0
Duration of Sleep	39 (13.6%)	29 (10.1%)	47 (16.4%)	71 (24.7%)	101 (35.2%)	58.17	0
	Decrease (5%)	Decrease (10%)	No Change	Increase (5%)	Increase (10%)	Chi-Square	P
Body weight	17 (5.9%)	68 (23.7%)	92 (32.1%)	91 (31.7%)	19 (6.6%)	96.61	0

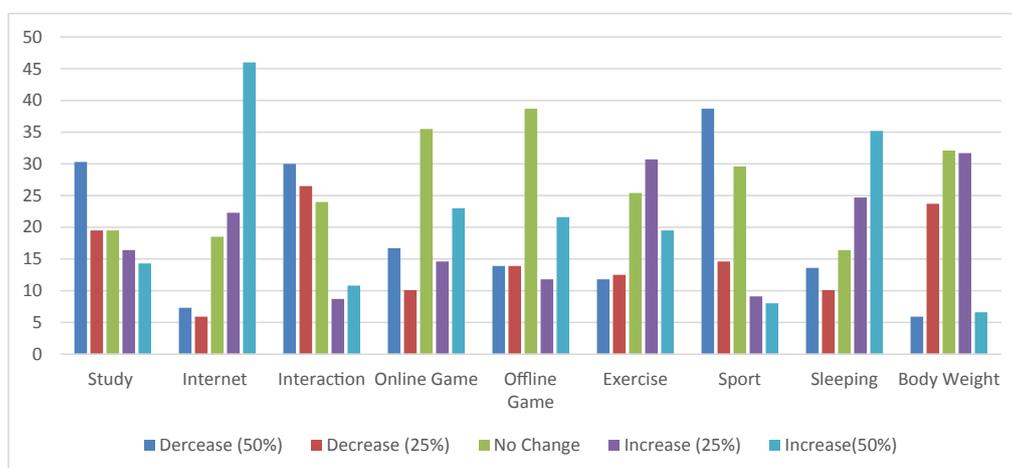


Figure 1: Changes (percentage) in the lifestyles of Nigerian secondary school students during COVID-19 pandemic lockdown process. Note: The changes in body weight are decrease 10%, decrease 5%, no change, increase 5%, and increase 10%.

frequency of vegetable and fruit intake during the pandemic lockdown. Insufficient physical exercise, infrequent vegetable intake and fruit intake, and often skipping breakfast were associated with lower subjective well-being after adjusting for sociodemographic factors, self-rated physical health, perceived social support, and loneliness. Moreover, participants who perceived a decrease in the frequency of vegetable, fruit, and breakfast intake were more likely to report lower subjective well-being [22]. In Italy, a recent study showed that 48.6% of the population had the perception of weight gain and a slight increased physical activity [23].

Home confinement and significant restrictions reduced overall physical activity level and access to exercise, although more different home-based training programs appeared in media [24]. People were unable to adapt themselves to train at home, and the possible causes could be lack of equipment, insufficient spaces, and the increase in screen time related to the beginning of remote work or children education at home [25]. Consequently, it was more difficult for people to maintain their usual physical activity, but the screen time was simultaneously prolonged. Benefits of moderate and regular physical activity are widely described, even in the context of viral infections, as an aid to reduce inflammation and improve immune function as well as to boost immune response to viral-induced respiratory infections such as influenza or SARS-CoV-2 [26]. In the present study, students reported an increase in their duration of exercise and a decrease in their duration of sport during COVID-19 pandemic lockdown. As the study was conducted among students from a private secondary school, most of them live in houses with gardens and green areas for extra activity. The apartment type housing is not popular among wealthy families of Nigeria. Thus, during lockdown periods, students were likely to be forced to spend more time on their own doing exercises and bodybuilding activities in their house premises, and they were unable to meet their peers for sport activities due to governmental restrictions. Plenty of studies reported a reduced physical activity during COVID-19 pandemic [21-26].

In the present study, Nigerian secondary school students reported a decrease in their duration

of study and interaction, an increase in duration of internet use and both on- and off-line games during the pandemic lockdown. Also, they reported an increase in their duration of exercise and a decrease in their duration of sport. Inactivity can have a negative effect on physical and mental health and coping with stress and anxiety during isolation time [27,28]. Sedentary behavior, assessed as screen time and predominantly television viewing, is a risk factor for mortality [29], metabolic disorders, and increased risk of obesity. It should be noted that obesity was one of the most serious global problems defined as pandemic [30] before COVID-19 pandemic. Reduce in PA leads to muscle mass reduction in a few days [31], and as metabolic consequences of a prolonged sedentary lifestyle, increased body weight, including fat mass, and impairment of glycemic control are noted in healthy adults [32].

A recent study reported that COVID-19 caused a decrease in physical activity in 43% of respondents and an increase in screen time in 49% of them, but the impact on food intake changes was equivocal. 34% of respondents declared an increase in total food intake, 33% in confectionary intake, and 18% in alcohol intake; on the other hand, 24% of respondents reported an increase in water intake, 37% showed decreased intake of fast food, and 48% showed increased consumption of homemade meals [33]. In present study, students reported an increase in their both duration of sleeping and in their body weights. It is very important to take action to increase the awareness of health benefits resulting from an active lifestyle and to show their practical application during a different emergency condition. Given the importance of exercise in maintaining health, its promotion during a pandemic should take a new meaning. Therefore, it is necessary to work on special programs of gymnastics education in situations of home confinement. These results showed some negative lifestyle changes due to the influence of the COVID-19 pandemic. It has revealed that the students need more knowledge about this disease to help maintain their healthy lifestyles to some degree while in isolation. Some scientists have declared that the long-period lockdown was harmful to health and economic conditions of the people. A Nobel laureate scientist, Prof. Michael Levitt from Stanford University, claimed that the coronavirus

lockdown could have caused more deaths than it saved [34].

CONCLUSION

This study is limited by secondary school students and subjects' self-reports were also subject to recall bias. However, this kind of studies provides valuable information to understand of the impact of a pandemic on lifestyles for policymakers and public health professionals worldwide. There are some negative lifestyle changes due to the COVID-19 pandemic lockdown. The long-period lockdown processes may be harmful on the lifestyles of students. Governments should take into consideration the scientific reports like this.

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