PSYCHOLOGICAL RESPONSES, COPING STRATEGIES, AND PHYSICAL ACTIVITY DURING THE COVID – 19 PANDEMIC: BULGARIAN PERSPECTIVE

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ABSTRACT

Nowadays our global society faces big challenges and threats in the times of the first major pandemic. The outbreak of COVID-19 has forced governments to impose the lock-down policies around the world. Social isolation became a new normal form of living. After the first confirmed case on the 8th of March in Bulgaria, the government announced on the 14th of March the lock-down as a preventive strategy for the whole Bulgarian population. Under such circumstances, the big issue became the question of how to maintain the physical and mental health of people, and how to cope with the new reality. Based on this evidence the aim of the joint research study with Ohio State University, USA, entitled "Psychological Responses, Coping Strategies, and Physical Activity during the COVID – 19 Pandemic" has been proposed from the Bulgarian perspective as follows:

1. Investigate psychological responses, coping strategies, and physical activity during the COVID – 19 lock-down periods.

2. Examine the influence of physical activity as a coping strategy in psychological health and overall well-being during social isolation.

To this end, an online questionnaire containing an adapted version of the short-form of International Physical Activity Questionnaire (IPAQ-SF) has been used to assess the practiced level of physical activity and Metabolic Equivalents (MET) energy expenditure, PROMIS Item Bank v1.0 Emotional distress-Anxiety, Herth Hope Index (HHI) (Herth, 1992), and Brief Resilient Coping Scale BRCS (Sinclaire, Wallston, 2004) to evaluate psychological well-being during the social isolation.

Evidence suggests that regular participation in physical activity helps decrease overall levels of anxiety and depression as a reliable coping strategy to overcome the social isolation and, as a whole, the negative aspects of lock-down.

Key words: *COVID-19, physical and mental health, coping strategies*

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INTRODUCTION

The lock-down strategy against COVID-19 Pandemic was imposed in Bulgaria on the 13th of March. To ensure social distancing and limit the movement of the population, schools, public places, and businesses were shutdowns. Moreover, people could move away from their homes only to do essential work (healthcare and social care sectors, police, and armed forces, firefighting, water, and electricity supply) or perform essential activities (health visits, medicine purchases, or food supply). The worldwide spread of COVID-19 has upset the normality of daily life, forcing the population to social distancing and self-isolation. Since the containment precautions also concern sport-related activities, home workout remained the only possibility to play sports and stay active during the pandemic (Maugeri et al., 2020). Banned outdoor recreation, fear of being infected SARS-COV-2, and concerns of impact of this disease might be the reasons leading to a higher proportion of anxiety/depression (Tran et al., 2020). In addition

to being a public physical health emergency, Coronavirus disease 2019 (COVID-19) affected global mental health, as evidenced by panic-buying worldwide as cases soared (Wang et al., 2020). Female gender; youth age; single status; students; specific symptoms; recent imposed quarantine; prolonged home-stay; and reports of poor health status, unnecessary worry, concerns for family members, and discrimination were significantly associated with greater psychological impact of the pandemic and higher levels of stress, anxiety and depression (Tee et al., 2020).

Physical activity and overall health

During the COVID-19 pandemic the necessity of urgent psychological intervention is becoming much more critical (Iancheva et al., 2020). The analysis of scientific publications shows a strong correlation between mental health and physical activity.

Most comorbid associations of depressive symptoms with specific chronic illnesses are explained by accompanying poor self-reported health and functional status, but some illnesses probably have a direct psychobiological basis (Niti et al., 2007). Many meta-analytical studies suggested a positive anxiolytic and depression-reducing effect of exercise programs (Wegner et al., 2014).

The prevalence of depression may be affected by changes in psychiatric practices and the availability of online mental health information in the past two decades (Lim, et al., 2018). There is now compelling evidence that a range of lifestyle factors are involved in the pathogenesis of depression. Many of these factors can potentially be modified, yet they receive little consideration in the contemporary treatment of depression, where medication and psychological intervention remain the first-line treatments. “Lifestyle Medicine” provides a nexus between public health promotion and clinical treatments, involving the application of environmental, behavioral, and psychological principles to enhance physical and mental wellbeing. This may also provide opportunities for general health promotion and potential prevention of depression (Sarris et al., 2014).

The benefits of physical activity - improving physical condition and fighting disease - have long been established. Physical activity is also considered vital for maintaining mental fitness and has been recognized as an effective coping strategy to deal with stress. Studies show that physical activity produces endorphins - a chemical in the brain that acts as natural painkillers - and also improves the ability to sleep, which in turn reduces stress. Evidence suggests that regular participation in physical activity helps decrease overall levels of tension, and makes one feel energized and healthy (Lai et al., 2020).

Regular physical activity is a cornerstone of chronic disease prevention and treatment. Engaging in an active lifestyle is associated with a number of important mental health outcomes. In contrast, physical inactivity is associated with poor mental health outcomes. These associations are generally robust after controlling for variables that are known to confound the activity–mental health relationship (Duncan et al, 2020).

Exercise is known to be associated with reduced risk of all-cause mortality, cardiovascular disease, stroke, and diabetes (Chekroud et al, 2018).

Physical activity (PA) may be therapeutic for people with severe mental illness (SMI) who generally have low PA and experience numerous lifestyle-related medical complications. (Stubbs et al, 2018).

Factors closely linked with SB such as social isolation, loneliness, physical inactivity, chronic physical conditions, and disability

may play a major role in depression among middle-aged and older people. Lifestyle interventions focusing on reductions of depression among this age group need to take these factors into consideration (Vacampfort et al, 2020).

Sedentary behavior and perceived stress are both negatively associated with physical and mental health (Ashdown-Franks et al, 2020).

The largest proportion of the sedentary behavior-depression relationship was explained by mobility limitations (49.9%), followed by impairments in sleep/energy (43.4%), pain/discomfort (31.1%), anxiety (30.0%), disability (25.6%), cognition (16.1%), and problems with vision (11.0%) (Stubbs et al, 2018).

The impact of sedentarism, caused by the COVID-19 home confinement, is on the neuromuscular, cardiovascular, metabolic, and endocrine systems. Just a few days of a sedentary lifestyle are sufficient to induce muscle loss, neuromuscular junction damage and fiber denervation, insulin resistance, decreased aerobic capacity, fat deposition, and low-grade systemic inflammation. Regular low/medium intensity high volume exercise, together with a 15-25% reduction in caloric intake is recommended for preserving neuromuscular, cardiovascular, metabolic, and endocrine health (Narici et al, 2020).

While of a different nature, the world has been living with another pandemic for years – physical inactivity (PI) and sedentary behavior (SB) (Pratt et al, 2020). According to the World Health Organization, 31% of individuals at the age of 15 or older are physically inactive and approximately 3.2 million deaths per year are attributed to this unhealthy lifestyle behavior.

To this point, we have discussed the potential detrimental impacts of the COVID-19 pandemic on PA behaviors and SB. It is important to note that we may also be at risk for a viscous cycle where current and potentially accelerated PI patterns and sedentary behaviors may worsen the impact of future pandemics (Hall et al, 2020).

Emerging data indicate a substantial decrease in global physical activity levels during the period of social isolation adopted worldwide to contain the spread of the coronavirus disease 2019 (COVID-19). This body of knowledge can inform evidence-based policies to be urgently implemented to counteract the impact of increased physical inactivity and sedentary behavior during the COVID-19 outbreak (Pecanha et al, 2020).

According to the World Health Organization, regular physical activity can help give our days a routine and be a way to stay in contact with family and friends. It is also good for our mental health - reducing the risk of depression, cognitive decline, and delaying the onset of dementia - and improves overall feelings.

AIM OF THE STUDY

The aim of the joint research study with Ohio State University, USA, entitled "Psychological Responses, Coping Strategies and Physical Activity during the COVID - 19 Pandemic" has been proposed from the Bulgarian perspective as follows: The aim was to investigate psychological responses, coping strategies, and physical activity during the COVID - 19 lock-down period, and to examine the influence of physical activity as a coping strategy in psychological health and overall well-being during the social isolation.

METHODOLOGY

This study was conducted as an online survey realized through the Google Forms

web survey platform (Google LLC, Mountain View, CA, United States). The online survey was anonymous and not traceable to the identity of participants, including a brief description of the study, its aim, and the declarations of anonymity and confidentiality. The study was approved by the Risk Management Committee of the Joint Training Simulation & Analyzed Center of the Institute of ICT, Bulgarian Academy of Sciences, and it was conducted following the Declaration of Helsinki.

The survey was carried out in Bulgaria and 10 other countries (China, Malaysia, India, Turkey, Ireland, North Macedonia, Singapore, Spain, USA, and Brazil) over the period 10th of July-31st of August. The research was done among 952 Bulgarian citizens aged between 18 and 65+. The aim was to obtain information from all different age groups. The demographic information is provided in Table 1.

To fulfill the aim of the study we used the following complex of methods:

1. Sociodemographic information (age, sex, place of residence, employment status, etc.).
2. PROMIS Item Bank v 1.0 – Emotional Distress-Anxiety & Depression. This scale contains 10 items answered in Likert style from 1 (Never) to 5 (Always). https://www.healthmeasures.net/search-view-measures?task=Search.search
3. Herth Hope Index (HHI) (Herth, 1992). The scale contains 12 subscales based on 3 factors answered from 1 (Strongly Disagree) to 4 (Strongly Agree). The higher the score the higher the level of hope.
4. Brief Resilient Coping Scale BRCS (Sinclaire, Wallston, 2004). The short-scale contains 4 items answered on a 5 point Likert scale from 1 (Does not describe me at all) to 5 (Describes me very well).
5. Short-form of International Physical Activity Questionnaire (IPAQ-SF) Participants reported the frequency and duration of different types of activities: vigorous (i.e. heavy lifting, performing intense aerobic exercises, using bike or treadmill); moderate (i.e. carrying light loads and bicycling at a regular pace, working out in the garden); walking activities, as well as the average time, spent sitting on a weekday, including sitting at work. Responses were converted to Metabolic Equivalent Task minutes per week (MET-min/week) according to IPAQ-SF (http://www.ipaq.ki.se).

Statistical Analysis

The statistical program SPSS 26.0 was used to process the initial data. We made descriptive analysis, correlation analysis, comparative analysis (Mann Whitney U Test, 1 way ANOVA, and Krusk al-Wallis test). Additionally, Cohen's (1988) conventions to interpret effect size were used. A reliability test with the coefficient of Cronbach's alpha was used to assess the internal consistency of the questionnaire made up of multiple Likert-type scales and items.

RESULTS & ANALYSIS

The results obtained from the descriptive statistic regarding the sociodemographic characteristics of the participants of the survey are presented in Table 1. We analyzed the participants from different age groups, their marital status, degree of education, residency in Bulgarian cities and abroad - a total of 453 Female – 47.6% and 499 Male – 52.4%.

Table 1. *Demographic description*

Variables		Frequency	Valid Percent
City	Capital	638	67.0
	Other Bulgarian Cities	249	26.2
	Abroad	65	6.8
Gender	Female	453	47.6
	Male	499	52.4
Age	18 - 24	174	18.3
	25 - 34	180	18.9
	35 - 44	236	24.8
	45 - 54	188	19.7
	55 - 64	138	14.5
	+ 65	36	3.8
Degree	Secondary education	222	23.3
	College	40	4.2
	Bachelor's degree	210	22.1
	Master's degree	381	40.0
	Ph.D	99	10.4
Marital status	Single	342	35.9
	Married or in a domestic partnership	478	50.2
	Widowed	7	.7
	Divorced	102	10.7
	Separated	23	2.4

Reliability test Cronbach's alpha was used to assess the internal consistency of the questionnaire made up of multiple Likert-type scales and items.

The Anxiety Depression subscale, consisting of 10 items, was found to be highly reliable (Cronbach's alpha *a* =.887). The Corrected item-total Correlation showed a lower correlation between item 9 (I had suicidal thoughts) and the other items. If item 9 had been removed, the Cronbach's alpha could have increased to .896 (Table 2). The scores of Anxiety & Depression were computed without item 9.

Table 2. *Anxiety & Depression reliability analysis*

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I felt fearful	.631	.875
I found it hard to focus on anything other than my anxiety	.754	.867
My worries overwhelmed me	.687	.871
I felt uneasy	.529	.883
I felt worthless	.641	.876
I felt helpless	.789	.862
I felt depressed	.722	.868
I felt hopeless	.759	.867
I had suicidal thoughts	.184	.896
COVID-19 kept me awake at night	.459	.886

The Herth Hope Index scale – 12 items, was found to be highly reliable Cronbach's alpha = .885. The Corrected item-total Correlation showed a lower and negative correlation between items 3 and 6 ("I feel all alone" and "I feel scared about my future") and the other

items. If items 3 and 6 had been removed the Cronbach's alpha could have increased to .911 (Table 3). The scores of Anxiety & Depression were computed without item 9.

Table 3. *Herth Hope Index – reliability analysis*

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I have a positive outlook toward life.	.693	.870
I have short and/or long-range goals.	.692	.869
I feel all alone.	-.062	.911
I can see possibilities in the midst of difficulties.	.682	.870
I have a faith that gives me comfort.	.665	.871
I feel scared about my future.	.002	.911
I can recall happy/joyful times.	.721	.867
I have deep inner strength.	.803	.863
I am able to give and receive caring/love.	.788	.865
I have a sense of direction.	.807	.862
I believe that each day has potential.	.774	.865
I feel my life has value and worth.	.732	.867

The Brief Resilient Coping Scale BRCS, consisting of 4 subscales, was found to be highly reliable Cronbach's alpha = .866, with strong item correlation (Table. 4).

Table 4. *BRCS reliability analysis*

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I look for creative ways to alter difficult situations.	.616	.882
Regardless of what happens to me, I believe I can control my reaction to it.	.754	.821
I believe I can grow in positive ways by dealing with difficult situations.	.819	.794
I actively look for ways to replace the losses I encounter in life.	.730	.824

The questions of IPAQ-SF allowed to assess physical activity by providing information about the minutes per day or days per week, at any time of the day, spent doing activities during the COVID-19 Pandemic. Participants reported the frequency and duration of different types of activity: vigorous (i.e. heavy lifting, performing intense aerobic exercises, using bike or treadmill); moderate (i.e. carrying light loads and bicycling at a regular pace, working out in the garden); walking activities. Responses were converted to Metabolic Equivalent Task minutes per week (MET-min/week) though automatic scoring of the IPAQ-S. Based on the IPAQ recommendations for scoring protocol, participants of the study were classified in three groups of physical activity considering the MET–min/week of the sum of walking, moderate-intensity physical activities, and vigorous-intensity physical activities: low active (<600 MET–minutes/week); moderate active (≥600 MET–minutes/week) and high active (≥3000 MET–minutes/week) (http://www.ipaq.ki.se).

Table 5. *Psychological responses & Coping strategies & Levels of PA during COVID-19 Pandemic*

Variables		Frequency	Valid Percent
Anxiety & Depression	Low	373	39.2
	Average	265	27.8
	High	314	33.0
HHI	Low	343	36.0
	Average	309	32.5
	High	300	31.5
BRIC	Low	144	15.1
	Average	527	55.4
	High	281	29.5
MET	Low	179	19.2
	Average	355	38.1
	High	397	42.6
Levels of PA	Increased	83	8.8
	Decreased	409	43.4
	Almost the same	365	38.7
	I don't know/Hard to tell	85	9.0

With the purpose to evaluate the difference between female and male participants regarding their psychological responses (anxiety and depression, hope and coping strategies) during the COVID-19 pandemic we used Mann Whitney U Test. Additionally we computed Cohen's coefficient to interpret effect size. The total number of respondents was N = 952, Female N = 453, Male N = 499. The test revealed significant differences in the levels of anxiety (Female M = 1.62 vs Male M = 1.35, $p < 0.0001$, Cohen's d =. 324). HHI (Hert Hope Index) revealed moderately significant differences (Female M = 3.29 vs Male M= 3.53, $p < 0.0001$, Cohen's d =.25). Regarding BRIC (Brief Resilience Index Coping) and gender, the differences were marginally significant (Female M = 3.95 vs Male M = 4.02, $p < 0.01$, Cohen's d =.09).

We analyzed the physical activities during the lock-down performed by men and women. The Mann Whitney U Test showed insignificant differences between the groups (N = 931, Female = 448, Male = 483, 3442 vs 3471, N.s., Cohen's d =.04). The analysis revealed an insignificant difference between the groups regarding the levels of vigorous and moderate levels of physical activities. Regarding walking activities we found slight differences in the observed groups (N = 885, Female = 430, Male = 455, 1537 vs 1197, $p < 0.0001$, Cohen's d =.13) (Table 6).

Table 6. *Comparative analysis along with the factor gender*

Variables	Female	Male	Sig.	Cohen's d
Anxiety	1.62	1.35	.0001	.32
BRIC	3.95	4.02	.02	.09
HHI	3.29	3.53	.0001	.25
MET	3442	3471	N.s.	.04
Vigorous	1306	1641	N.s.	.03
Moderate	749	871	N.s.	.04
Walk	1537	1197	.0001	.13

Hypothesis Testing

The Kruskal Wallis test rejected the null hypothesis stating that the distribution of levels of anxiety was the same in the observed age groups χ^2 (5, N = 952) = 38.48, $p < .0001$. The pairwise comparison test revealed significant differences between group 1(18 – 24) and the 3 of the observed 6 groups. The effect size was measured

with the Mann Whitney test. A significant difference was revealed with the group 4 (45 – 54) (N = 362, 1 = 174, 4 = 188, 1.66 vs 1.41, $p < 0.0001$, Cohen's $d = .27$), group 2 (25 – 34) (N = 354, $p < 0.0001$, Cohen's $d = .24$), and group 3 (35 -44) (N = 410, $p < 0.0001$, Cohen's $d = .24$). The analysis revealed high levels of anxiety and depression among the youngest respondents in comparison with those among the groups aged 25 to 54.

The comparative analysis of the HHT (Herth Hope Index) along the factor age revealed significant differences χ^2 (5, N = 952) = 48.67, $p < .0001$ between the group 6 (+65) and the other 5 observed groups. The biggest difference was found in the comparison with group 4 (45 – 54) (N = 224, 4 = 188, 6 = 36, 3.1 vs.3.5, $p < 0.0001$, Cohen's $d = .28$).

The Kruskal Wallis test rejected the null hypothesis stating that the distribution of mean scores of BRIC was the same in the observed age groups χ^2 (5, N = 952) = 23.75, $p < .0001$. The analysis revealed significant differences between group 6 (65+) and the other 5 groups.

Analyzing the levels of physical activities among the observed groups with the Kruskal Wallis test, we rejected the null hypothesis stating that the distribution of MET was the same across the different age groups χ^2 (5, N = 952) = 49.16, $p < 0.0001$. The pairwise comparison revealed a statistical difference between group 6 (65+) and the other 5 observed groups. But the analysis showed a negative trend in the comparison of first two groups 18-24 and 24-34. (N=354, 1 (18-24) = 174, 2=180, 3314 vs 3803, $p < 0.05$, Cohen's $d = .17$). Regarding the founded difference we analyzed the levels of vigorous physical activities between the same groups (N = 333, 18-24 = 163, 25-34 = 170, 1306 vs 1641, $p < 0.0001$, Cohen's $d = .37$) and the levels of moderate physical activities (607 vs 1076, $p < 0.001$, Cohen's $d = .18$).

The comparative analysis of the different kinds of physical activities along factor age revealed significant differences between group 6 (+65) and the other groups. The analysis showed that the adults 65+ had the lowest levels of all physical activities, but also revealed the lowest levels in vigorous and moderate activities in the groups of youngest respondents in comparison with those of the other age groups (Table 7).

Table 7. *Comparative analysis along with the factor age*

Variable	Asymp. Sig.	df	Chi-Squared
Anxiety	.000	5	49.161
BRIC	.000	5	23.746
HHI	.000	5	38.487
MET	.000	5	48.672
Vigorous	.000	5	83.679
Moderate	.000	5	55.011
Walk	.000	5	73.417

a. Kruskal Wallis Test; b. Grouping Variable: Age

The aim of that study was to explore the impact of the change of the levels of physical activity during the lock-down period, among mental health and wellbeing. The Kruskal Wallis test rejected the null hypothesis stating that the distribution of mean scores of BRIC was the same in the observed groups χ^2 (3, N = 952) = 30.80, $p < .0001$. The analysis showed a significant difference between the groups with increased and decreased levels of physical activities (N= 492, Increased = 83, Decreased = 409, 4.2 vs 3.9, $p < 0.0001$, Cohen's $d = .20$).

The comparative analysis of the HHT (Herth Hope Index) along the factor age also revealed differences χ^2 (3, N = 942) = 8.60, $p < .03$ between the observed groups. The analysis

presented slight differences between the groups with Increased and Decreased levels of physical activity (3.9 vs 3.3, $p < 0.0001$, Cohen's $d = .12$).

The comparative analysis of the levels of Anxiety & Depression revealed no significant differences between the groups (Table 8).

Table 8. *Comparative analysis along the factor levels of physical activity during the lock-down period*

Variable	Asymp. Sig.	df	Chi-Squared
Anxiety	N.s.	3	7.248
BRIC	.000	3	30.802
HHI	.035	3	8.606

a. Kruskal Wallis Test; *b. Grouping Variable: PA levels*

The open-ended question "During the lock-down period, what are the top five things you did to cope with the difficulties in order to maintain positivity?" was summarized to present the most used things for coping with the extraordinary situation. After mentioning "friends", which presents some of the cultural features of the Bulgarian population, the respondednts reported "Sport" as the second important thing as a coping strategy with the consequences of social isolation (Table 9).

Table 9. *Responses to the question "During the lockdown period, what are the top five things you did to cope with the difficulties in order to maintain positivity?"*

		Responses		Percent of Cases
		N	Percent	
Coping	sport	138	8.1%	22.7%
	music	63	3.7%	10.4%
	friends	201	11.9%	33.1%
	family	105	6.2%	17.3%
	communication	91	5.4%	15.0%
	dances	16	0.9%	2.6%
	care	72	4.2%	11.9%
	books	123	7.3%	20.3%
	films	65	3.8%	10.7%
	meditation	39	2.3%	6.4%
	learning	40	2.4%	6.6%
	teaching	7	0.4%	1.2%
	work	79	4.7%	13.0%
	hobby	61	3.6%	10.0%
	science	32	1.9%	5.3%
	fait	117	6.9%	19.3%
	painting	13	0.8%	2.1%
	love	24	1.4%	4.0%
	will	56	3.3%	9.2%
	calmness	57	3.4%	9.4%
	courage	20	1.2%	3.3%
	walking	30	1.8%	4.9%
	action	31	1.8%	5.1%
	cooking	53	3.1%	8.7%
	persistence	33	1.9%	5.4%
	wellbeing	35	2.1%	5.8%
	positivism	36	2.1%	5.9%
	others	59	3.5%	9.7%
	Total	**1696**	**100.0%**	**279.4%**

DISCUSSION

The coronavirus disease 2019 (COVID-19) pandemic is having a profound effect on all aspects of society, including mental health and physical health. In the midst of this COVID-19 crisis, the discussion is open about what we need to be preparing as citizens in an interconnected world against the incoming second wave of pandemic and the threats of any kind.

The unprecedented disruption of the normal life of the citizens around the world was a big challenge for the whole society, the governments, the public sector, but also for the scientists from different areas. Moreover, science has to find reliable means – drugs and vaccines against COVID – 19, which requires a lot of resources and time. The mental and physical health of the whole population during the era of a pandemic have to be ensured.

The main goal of the analysis was to examine the influence of physical activity as a coping strategy in psychological health and overall well-being. Regarding this perspective, we have summarized the following tendencies:

- 43.4% of the respondents have decreased levels of physical activities, besides 8.8% answered increased;
- The most affected groups of decreased levels of physical activities are the group (65+) followed by the youngest respondents (18-24);
- The group of the youngest has the highest levels of anxiety and depression;
- According to the change of the levels of physical activity during the lock-down period the respondents with the increased levels of PA presented significantly higher levels of coping with the pandemic situation in comparison with the persons with decreased levels of PA;
- "Sport" was answered as the second important tool as a coping strategy with the consequences of social isolation.

The lack of specific drugs and vaccines, which provides anxiety about the uncertainty of virus development, the lock-down orders, and the increased number of confirmed cases and deaths, could lead to negative health consequences long after overcoming the pandemic situation. The big issue is how to create coping strategies applicable to the whole society and how to encourage the groups with lower levels of physical activity to do exercises. One of the high impacted group is 18-24 years most of them are pupils and students, which requires educational institutions to introduce new educational programs in order to increase physical activity and improve mental health.

The enhanced levels of physical activity not only could support physical and mental health but also could be used in the prevention of infections and other non-communicable diseases. Although behavioural therapy can help them to combat anxiety with the use of relaxation techniques and prevent depression onset by altering the schedule of their routine activities, cognitive behavioural therapy CBT can mitigate maladaptive coping behaviours such as avoidance, antagonistic confrontation and self-blame by enhancing their ability to manage stress (Ho et al., 2020).

LIMITATIONS

During the era of COVID – 19, pandemic, and unprecedented lock-down in the countries around the world maintaining physical and mental health becomes more important than ever. The global impact of the pandemic situation leads to an urgent need to create strategies for combating such pandemic. The long-term goal of the study is to examine the differences in psychological responses, coping strategies, and physical activity across countries and to reveal the reliable coping strategies for creating a sustainable future for our society.

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