

Changes in the Prevalence of Self-Harm in Adolescents after the First Wave of COVID-19

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Abstract.

As a consequence of the COVID-19 pandemic and the restrictions aimed at reducing its impact, mental health experts have reported an increased occurrence of mental health issues and disorders. This might be especially true for the adolescent population, since social contact with peers and education is crucial for the healthy mental development of this age group. Out of all of the age groups, the isolation that resulted from the lockdowns was most intensely felt by adolescents. The presented study focuses on the impact of the first wave of the pandemic on the prevalence and intensity of self-harming behaviour. Two groups of adolescents were included in the research (a group studied prior to the outbreak of the pandemic and a group studied after the first wave of the pandemic), which were similar in terms of age and gender distribution. The comparative analysis of the level of self-harm using a modified Self-Harm Inventory did not reveal an increased prevalence of self-harming behaviour among adolescents after the first wave of the pandemic compared to the pre-pandemic state.

Keywords: mental health, self-harm, COVID-19 pandemics, adolescents

1. Introduction

The SARS-Co-V-19 pandemic has affected the lives of people all around the globe. In addition to the direct impact on health and lives, countries have been urged to cope with its consequences for the economy, living standards and quality of life of their citizens (Ravens-Sieberer et al., 2021). The mental health of populations has been negatively affected by the threat to health and life itself (Kocak et al., 2021), the loss of relatives (Mortazavi et al., 2020), unemployment (Achdut & Refaeli, 2020), social isolation (Hwang et al., 2020), limitations of health care, psychotherapy, and counselling services (Humer et al., 2020) and many other aspects. It is highly possible that we still do not know the true extent of these impacts, but experts have been reporting an increase in the occurrence of post-traumatic stress disorders (Xiong et al., 2020), anxiety (Ma et al., 2020), depression (Luo et al. 2020), uncontrolled fears (Serafini et al., 2020) and stress (Rajkumar, 2020). Adolescents may be a group that has been particularly affected in this context. To satisfy the need for contact with their peers and education (Orben et al., 2020), which have been very limited during this period, are extremely important for their healthy mental development. Furthermore, their isolation during the lockdowns was the strictest of all of the age groups.

Self-harm as a high-risk behaviour typical of adolescents is more often than not utilised as a maladaptive coping strategy in cases of mental stress (Demuthova & Spasovski, 2020) or as a means to regulate emotions (Andover & Morris, 2014). Although this negative phenomenon

has no consistent definition (for an overview, see the definitions in DSM-5 (2013), ICD-10 (2011) and Demuthova & Spasovski (2020)), in general, self-harm is understood as a type of behaviour whose main purpose is to hurt yourself or cause yourself pain (physical or mental). The phenomenon is highly frequently found in the population of adolescents, with a prevalence (depending on the “diagnostic” criteria) of between 20 (Swahn et al., 2012) and 60 (Hallab & Covic, 2010) per cent. Considering the nature of self-harming behaviour and in particular its potential to work as a maladaptive strategy to cope with mental stress, it may be assumed that its prevalence among adolescents will increase as a consequence of the pandemic and the resultant restrictions.

2. Research Hypothesis

Based on the assumption that the COVID-19 pandemic has had a negative impact on mental health, the following research hypothesis is proposed:

H.1.: We anticipate an increased prevalence of self-harming behaviour among adolescents after the first wave of the pandemic compared to the pre-pandemic period.

3. Method

3.1 Materials

The data was collected using a questionnaire, which included:

- basic demographic and personal data (age, gender);
- a modified version of the Self-Harm Inventory (SHI) (Sansone & Sansone, 2010), which evaluated twenty forms of self-harming behaviour. In each of these forms, the participant evaluated the frequency of occurrence in their history of self-harm on a four-point scale from 0 (never) to 3 (often). The overall extent of the self-harming behaviour could therefore be scored between 0 (all twenty forms having 0 points) and 60 points (all twenty forms scored as “often”). Previous studies (see e.g. Demuthova & Doktorova, 2019) have confirmed the relatively high-quality internal consistency of this modified questionnaire (Cronbach’s $\alpha = 0.809$).

3.2 Procedure

The data was collected using a questionnaire administered to pupils and students of primary and secondary schools during the school day. It was collected anonymously and in a standardized way by trained administrators. The participants (or their guardians) had been informed of the research in advance and could opt out, or leave the research during any phase, there was no sanction or impact on any form of student evaluation as a consequence of a refusal to participate or when leaving the study. The data was collected in two phases – the first phase was carried out prior to the pandemic, between October 2019 and January 2020. The second phase of data collection took place in late June 2020 during a short period when the restrictions were lifted and some students and pupils could finally go to school.

3.3 Participants

The research sample of the second phase of data collection (after the first wave of the pandemic) was made up of 281 participants aged 11 – 18 (mean age = 14.04, standard dev. = 1.709), with 169 female participants (61 %). Based on the age and gender-related profile, which are considered to be significant demographic variables in terms of the prevalence of self-harm (Barrocas et al. 2012), 281 participants aged 11 – 18 years (mean age = 14.13 years, standard

dev. = 1.524), including 60.9 % females, were randomly selected (within the required age and gender-related profile) from the pre-pandemic research sample of 1,216 participants. The absence of significant differences in the demographic variables is presented in Tables 1 and 2.

Table 1: Age differences between the pre-pandemic and first wave pandemic samples (Mann-Whitney's U-test)

Group	Mean order	U	Asymp. sig.
Pre-pandemic	288.06	37,076.5	0.255
Post first wave	272.89		

Source: Authors' own conception

Table 2 Gender differences between the pre-pandemic and first wave pandemic samples (Spearman's correlation)

	Group		Total
	Pre-pandemic	Post first wave	
Gender			
Male	110	112	222
Female	171	169	340
Total	281	281	562
Spearman:	r = -0.007	approx. sig. = 0.863	

Source: Authors' own conception

3.4 Statistical Processing

The statistical analysis was carried out using IBM SPSS, ver. 27, and the significance threshold was set to 0.05 for all tests. Since the variables of age and the level of self-harming behaviour in the observed samples did not exhibit a normal distribution (the significance value of Shapiro-Wilk test = 0.000), non-parametric tests were used for the statistical analyses.

4. Results

Two methods were used in order to verify the research hypothesis: "We anticipate an increased prevalence of self-harming behaviour among adolescents after the first wave of the pandemic compared to the pre-pandemic period".

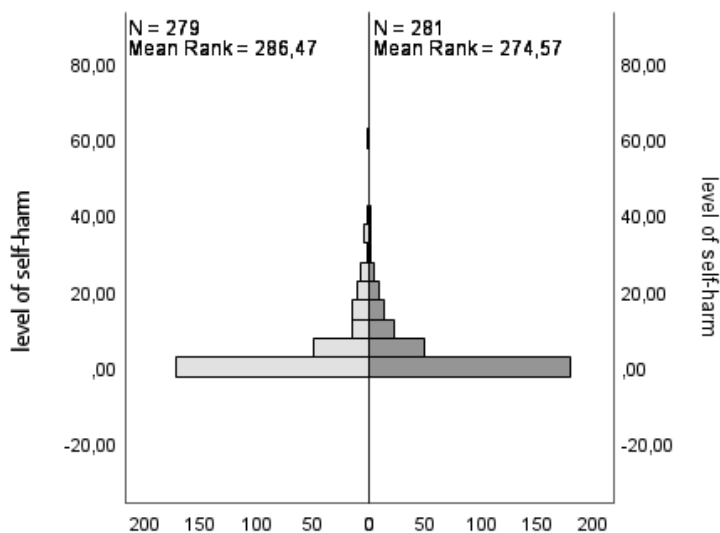
In the first, we compared the overall level of self-harming behaviour between the group of participants that completed the SHI questionnaire before the COVID-19 pandemic (the pre-pandemic group) and the group of participants that completed the questionnaire immediately after the first wave of the pandemic (group post first wave). The results of the non-parametric Mann-Whitney U-test for two unrelated selections clearly show that there is no difference between the two research groups ($U = 37533$; asymp. sig. (bilateral) = 0.356) in terms of the prevalence of self-harm (see Chart 1). Furthermore, the values of the mean order of the level of self-harming behaviours reveal that after the first wave of the pandemic, the prevalence of self-harming behaviour actually slightly decreased (the mean order of the level of self-harm in the group after the first wave of the pandemic = 274.57).

The second method used did not observe the total prevalence of self-harm among all the participants in both samples (groups), but instead, it compared the extent of self-harm only among the self-harming adolescents. This category includes participants who repeatedly exhibit self-harming behaviour and who stated the presence of several forms of self-harm in the SHI questionnaire or who selected the two highest frequencies (2 or 3 points) for at least one form of self-harm. After the application of this criterion, 239 self-harming participants (117 in the pre-pandemic group and 122 in the post first wave group) were selected from the groups, 68.6 % of them were female. The comparison of the differences in the extent of self-harm between the modified pre-pandemic sample (mean order of the extent of self-harm = 120.52) and the

post first wave sample (mean order of the extent of self-harm = 119.50) using a non-parametric Mann-Whitney U-test showed there were no differences between these groups ($U = 7,076.50$; asymp. sig. (bilateral) = 0.909).

The research hypothesis is rejected.

Chart 1. Differences in the prevalence of self-harm between the pre-pandemic sample and the post first wave sample (Mann-Whitney's U-test)



Source: Authors' own conception

5. Discussion

Before proceeding to an interpretation of the results, it is necessary to point out several limitations of the research that may have had an impact on the results presented. Firstly, the way in which the research was designed, as determined by the need for anonymous data collection, means it was not possible to contact the participants whose data was collected prior to the pandemic and ask them to complete the questionnaire after the first wave of the pandemic and simply pair up the two sets of data. This approach would have been more effective in providing an unambiguous understanding of the impacts of the first wave of the pandemic; however, this was not possible. Therefore, it is a matter of discussion whether the equivalent sample of pre-pandemic participants based on mean age and gender was satisfactory. Moreover, there may have also been other, important differences related to the prevalence of self-harm, which may have played a major role in the prevalence of self-harming behaviour in the first or second samples.

It is also crucial to understand the limitations imposed by the size and the nature of the post first wave sample of participants. The opening of schools, which allowed for the data collection, did not happen nationwide and was largely dependent on the decision made by individual local governments. Thus, it was impossible to create a more representative sample in such a short time (some schools were only open for a single day, the majority of them for no longer than 3 days). Furthermore, it is possible that the schools only opened in those regions where the epidemic had been less severe, and the impacts were milder. Moreover, the attendance of students at school during this short period (sometimes only two or three days) was voluntary, and it is therefore quite possible that pupils and students who suffer from mental health issues (including self-harming individuals) did not choose to go to school, which changed the nature

of the sample in comparison to the pre-pandemic data set, during which school attendance was not voluntary and the students could not choose to stay home.

However, the above-mentioned limitations do not prevent us from making a psychological interpretation of the legitimate results. These clearly show that there was no increase observed in the prevalence of self-harming behaviour in the post first wave group of adolescents in comparison to the pre-pandemic sample. Although many published studies have pointed to a deterioration in the mental health of adolescents (e.g. Octavius et al., 2020; Son et al., 2020; de Figueiredo et al., 2021), there are also studies that have reported that the life style changes resulting from the pandemic may not always cause a deterioration of mental health. Several studies have even suggested some possible positives – for example, Tang et al. found that social support, positive coping skills, home quarantine, and parent-child discussions during this crisis have had a positive impact on the mental health of adolescents. In particular home quarantine with parent-child discussions on COVID-19, negatively correlated with psychopathological symptoms and positively correlated with satisfaction with life (Tang et al., 2021).

In addition to the possible positive impacts of the life style changes during the COVID-19 pandemic and the related restrictions, which it may be possible to evaluate better after some time and after more studies are published, our results may be also interpreted through the prism of different forms of social impact. Firstly, adolescents try to hide the consequences of their self-harming behaviour from their parents and family (Puskar et al., 2006). However, hiding and successfully masking injuries resulting from self-harming behaviour during home quarantine may be more difficult. The supervision of parents or the presence of other family members may consequently reduce the frequency (or severity) of self-harm. It is evident that if this is the case then there was no truly positive impact of the pandemic restrictions on mental health. It remains questionable whether the inability to exhibit self-harming behaviour to its full extent was replaced by other harmful activities or if resulted in a deterioration in other areas of mental health. The positive impact of parental or family supervision can only be confirmed if it were possible to make observations in all areas of mental health and quality of life and no correlation was found between the decrease in self-harm and the increase of problems in other such areas. Another possible explanation is a reduction in the intensity or number of social pressures that lead to self-harm. Bailey et al. (2016) state that a common reason for self-harm in adolescents is psychosocial stressors (e.g. bullying or exam pressures). It may be assumed that their frequency and intensity may have decreased during lockdowns. This may have reduced the social pressures on the adolescent and consequently had a positive impact on the intensity or frequency of self-harm. Another reason may be social learning, social imitation, or social contagion. Social learning and the reinforcement of behaviour through the presence of other self-harming individuals are major factors that contribute to the prevalence and frequency of self-harming behaviour (Zelkowitz et al., 2017). Social contagion is considered to be an understudied risk factor for non-suicidal self-injury (NSSI) among adolescents and young adults (Jarvi et al., 2013). The absence or elimination of this undesirable social impact may therefore have a positive impact on the prevalence of self-harm.

6. Conclusion

The SARS-CoV-2 pandemic brought about radical changes to people's lives that also had an impact on the mental health of the population. However, in addition to the most widely publicised negative impacts, there are also reports of possible positive aspects. Lockdown and the consequent increase in time and space spent with close ones has the potential to help certain

mental issues. We are still in the early days of research conducted with participants during the pandemic – it is necessary to observe the dynamics of the impacts of the restrictions, not only with regard to their negative aspects, but also in terms of their positive impacts, which could be potential protective factors if applied to similar future crises.

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