

COVID-19 and Youth Mental Health: What about Yoga intervention?

Lucia Rossi^{1,2}, Simona Simone^{1,3}, Parmeggiani Antonia^{1,2}

¹IRCCS Istituto delle Scienze Neurologiche di Bologna, UO Neuropsichiatria dell'Età Pediatrica, Bologna, Italia; ²Dipartimento di Scienze Mediche e Chirurgiche, Università di Bologna, Italia; ³FANEP ONLUS, Associazione Famiglie Neuropsichiatria Pediatrica

ABSTRACT

The Covid-19 pandemic health emergency we are facing leads to an increase in mental health problems in the adolescent and pediatric population. Yoga has been proposed as a non-pharmacological intervention for mental issues and disorders, either alone or in combination with other interventions. This research analyzes recent literature data in order to explore the effect of Yoga practice in the age of infancy and adolescence and its potential efficacy during a period of stress such as the Covid-19 pandemic. Literature was searched using PubMed and Cochrane for Covid-19-related mental-health issues in the developmental age and Yoga-based intervention for adults and adolescents during the current pandemic. Yoga may prove an effective, evidence-based preventive or therapeutic supplementary intervention for Covid-19 related mental health issues in the age of infancy and adolescence. Multi-centric well-planned studies should be encouraged to explore the potential of Yoga as an intervention.

Key-words: Yoga; Mental health; Adolescence; Covid-19

COMMENTARY

During the COVID-19 pandemic public health measures characterized by movement restriction and reductions in the number of human-to-human interactions are needed. The COVID-19 outbreak impaired individuals' mental health and the quarantine period resulted in anxiety, stress, and depression in individuals all over the world. Recent COVID-19 research suggests there are sleep problems and psychological disorders (e.g., stress, anxiety, and depression) associated with the reduction of physical movement and activities [1]. COVID-19-related youth mental health research is an emerging field of evidence. Several studies demonstrated younger people were more vulnerable in terms of their mental health during COVID-19 because of their enhanced access to social media information and the new online education environment could exacerbate stress levels in students. Somatic symptoms appear to be common in children and adolescents with prevalence rates ranging approximately from 10% to 30% [2]. The imposed social and physical restrictions may have also introduced additional barriers to access help-seeking for mental health problems. Moreover, young people may now have restricted exposure to elements that operate as protective agents against mental health difficulties such as engagement with community activities. Finally, available research shows that COVID-19

restrictions introduced additional challenges to children with intellectual and developmental disabilities (IDD), children with Autism Spectrum Disorder and their parents [2].

We searched two databases (PubMed & Cochrane) through March 2021 for publications available in English about the potential role of Yoga in COVID-19 pandemic. There is some evidence that certain home-based activities can improve mental wellness during the pandemic. In a recent systematic review, Wang and Szabo (2020) reported the beneficial effects on stress of activities such as exercise, listening to relaxing music, muscle relaxation and Yoga [3]. Yoga seems the perfect physical activity to carry on at home in order to cope with psychological issues while simultaneously maintaining the social isolation necessary to reduce the spread of COVID-19 [4]. A systematic review was carried out in 2018 to investigate the effects of modern postural yoga on positive mental health (PMH) indicators such as mindfulness, affect, resilience and well-being in clinical and non-clinical populations. Most studies observed improvements in PMH indicators, showing evidence of positive psychophysiological effects of Yoga practice [5]. There are some studies carried out on prisoners that show a beneficial effect of Yoga on mental health outcomes regardless of the adopted Yoga style [4]. Few studies about Yoga Practice have been carried out during the current pandemic: one of them is a cross-sectional

*Correspondence to: Rossi L, IRCCS Istituto delle Scienze Neurologiche di Bologna, UO, Neuropsichiatria dell'Età Pediatrica, Dipartimento di Scienze Mediche e Chirurgiche, Università di Bologna Bologna, Italia, E-mail: lucia.rossi1@studio.unibo.it

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research on adult participants which aimed to study the effect of Yoga practice on the illness perception and wellbeing of healthy adults during 4 -10 weeks of lockdown. This research indicated that Yoga practitioners had significantly less depression, anxiety & stress and a higher general wellbeing than the non-practitioners.

Results further revealed that they significantly differed in the perception of personal control, illness concern and emotional impact of COVID19. Interestingly it was found that beginners, who had started practicing yoga only online during the lockdown period, reported no significant difference for general wellbeing and peace of mind when compared to the mid-term practitioner [6]. Another online randomized study carried out during the lock-down demonstrated the efficacy of Yoga breathing exercises to increase the pulmonary reserve and decrease anxiety of normal individuals [7].

According to a recent systematic review on Physical activity during the quarantine period, children and adolescents are strongly recommended to perform home-based activities such as aerobic, balance and flexibility exercises in order to reduce sleep problems and psychological disorders [1].

A study conducted in Spain on the impact of the pandemic on the physical activity of university students reported a significant increase in mind-body activities such as Yoga (+80%) [8]. Remote delivery could have a significant potential to facilitate patient access to virtual body-mind services especially for adolescents who are quite familiar with living in the virtual world.

PubMed and Cochrane were searching for publications available in English about the potential role of Yoga in children and adolescent mental health: considering preliminary evidence, Yoga interventions have been shown to be effective on both internalizing (anxiety, depression) and externalizing (aggressive, impulsive behavior) aspects of youth mental health. A recent review [9] established that Yoga interventions applied positive effects on factors such as emotional balance, attentional control, cognitive efficiency, anxiety, negative thought patterns, emotional and physical arousal, reactivity, and negative behavior. Additional research in children also showed the positive effects of school-based Yoga programs on several aspects of mental health such as concentration, attention, anxiety, stress, mood, resilience, emotional arousal, self-esteem, and coping frequency [10]. There is preliminary evidence supporting the notion that the effect of Yoga on mental out-comes may be connected to physiological mechanisms such as improved regulation of the autonomic nervous system and increased thalamic GABA levels. If we consider a recent systematic review to evaluate the implementation and effectiveness of Yoga, the research suggests promising efficacy implications: 70% of the examined studies showed some type of improvement in symptoms of anxiety and/or depression in children and adolescents [2]. Mind-body interventions involving both parents and youths seem to have a positive influence on family relationships improving ADHD symptoms in children and adolescents [11]. Researches in this field suggest that Yoga may have merit as a complementary treatment for patients with ADHD already stabilized on medication, particularly for its evening effect when medication effects are absent. In a randomized control study carried out in 2004, significant improvements from pre-test to post-test were found for the Yoga, but not for the control group, on five subscales of the Conners' Parents Rating Scales (CPRS): Oppositional, Global Index Emotional Lability, Global Index Total, Global Index Restless/Impulsive and ADHD Index [12].

Yoga and its relation to eating disorders (ED) have recently received research attention. Yoga might influence weight control behaviors and eating disorders by multiple mechanisms aiming at connecting body and mind, increasing body awareness and body reactivity. Yoga can be preliminarily considered as an additional treatment option in multimodal psychiatric treatment programs for adults, and, according to the 2020 Canadian guidelines for children and adolescents with ED, it is also recommended as adjunctive treatment [13]. In fact, one high quality study suggests some benefits of adjunctive Yoga intervention in terms of psychological symptoms of ED, as well as depression and anxiety in adolescents with anorexia nervosa and bulimia nervosa [14].

Although few studies reported improvements in core symptoms of Autism Spectrum Disorder (ASD) with Yoga Intervention, preliminary findings suggest that yoga and mindfulness-based interventions are feasible and may improve a variety of prosocial behaviors, including increased tolerance of sitting and of adult proximity, self-control, quality of life, and social motivation. Reductions in aggressive behaviors, irritability and noncompliance were also reported, suggesting a possible utility of this kind of on-line activity during lock-down for families with children and adolescents with ASD [15].

One interesting clinical trial was carried out in 2021 to assess the impact of 1-month Yoga intervention on mothers caring for a child with Intellectual Disability Disorder, showing significant improvements in anxiety (-24.8%; $P < .001$), depression (-15.9%; $P < .001$), sleep quality (-25.1%; $P < .05$) and stress (-11.4%; $P < .001$) after 1 month compared with baseline in the yoga group. This research indicates that Yoga can be used as an effective intervention to improve mental health outcomes in patients and their families as well [16].

Yoga may prove an effective, evidence-based preventive or therapeutic supplementary or alternative intervention for COVID-19 related mental health issues in the age of infancy and adolescence. However, before suggesting its adoption as such an alternative or complementary it is necessary to conduct a well-planned study. These future studies should have larger sample sizes, a cross-cultural approach, supervision and an adequate control of confounding factors such as concomitant medical and psychological treatment, additional physical activity or exercise. They should be randomly controlled and have robust and in depth- detailed statistical analyses in order to prove Yoga an effective preventive or therapeutic intervention in the developmental age. Considering methods, the blinding element could be considered inapplicable in this type of study because it is practically impossible to blind participants who receive a Yoga treatment. However, it would be important to specify the intensity and frequency of the intervention, as well as quality criteria such as adherence and completion rate. Adverse effects should also be taken into account. Multicentric studies, currently missing, should be encouraged to explore the transferability of Yoga as an intervention. Yoga remains an investigational treatment, but this perspective article supports further research into its possible uses for this particular population.

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