EVIDENCE SUMMARY

What are the supportive strategies to optimize mental health among children and adolescents during the COVID-19 pandemic?

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Recommendation

We recommend the implementation of supportive strategies* to optimize mental health among children and adolescents during the COVID-19 pandemic.
**Supportive strategies include psychological counseling, physical and leisure activities (outdoor and online exercise platforms, art and dance), mindfulness meditation training, personal and spiritual coping, strengthening social support and connecting online with peers, and health-promoting activities.*

Certainty of Evidence: Low
Strength of Recommendation: Strong

Consensus Issues
There were no consensus panel issues noted.

Key Findings

From the five randomized controlled trials (RCTs) included in this review, supportive strategies/interventions include psychological counseling, outdoor exercises, mindfulness meditation, utilization of online platforms for recreation, art and dance. There was a significantly lower mean level of anxiety in the intervention group across five studies. Two RCTs showed a significantly lower level of depression in the intervention group versus the comparator after instituting psychological counseling, outdoor exercise, and dance therapy. Psychological resilience and life satisfaction levels were shown to be higher in the intervention group after instituting psychological counseling and dance therapy. Mean levels of mindfulness were not significantly different between two types of art therapies (Mandala and emotion-based therapy) but levels were significantly higher post intervention. Overall well-being index is significantly higher in the intervention group after instituting aerobics exercises and mindfulness meditation.

Two qualitative studies elucidated possible effective coping strategies utilized in two countries, namely connecting online, engaging in leisure and health promoting activities, personal and spiritual coping and having social support from family, religious community and school personnel.

The over-all certainty of evidence was low. There was a decrease in anxiety and depression and increase in psychological resilience, life satisfaction, positive emotion score and overall well-being. No net harm was noted in the included RCTs based on the mean levels of measured outcomes after instituting the above interventions..

Introduction

The World Health Organization (WHO) conceptualizes mental health as a “state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can

work productively and fruitfully, and is able to make a contribution to his or her community". The COVID-19 pandemic has impacted not only the healthcare delivery system and the global economy but also the educational set-up of all institutions around the world. Despite being less afflicted by the first wave of the COVID-19 pandemic, the pediatric population was not spared by the psychosocial impact of the school closures and community lockdowns. A systematic review done by Viner et al (2022) utilized 25 studies across 10 countries. It revealed that there was an association between school closures during broader social lockdown and mental health, health behaviors, and well-being (emotional, behavioral, and problems with inattention) and above risk threshold for symptoms of anxiety and depression [1]. Ferguson et al (2021) elucidated in their cross-sectional study the themes of feelings and emotions that adolescents had during the COVID pandemic which include socio-spatial and temporal disconnections, emotional toll of the pandemic, and positives amid the pandemic [2]. Coping strategies employed by the respondents in the above study include connecting online and outdoors, and leisure with health-promoting activities.

This review aims to determine the efficacy and safety of supportive strategies to optimize mental health among children and adolescents during the COVID-19 pandemic.

Review Methods

The reviewers performed a comprehensive, systematic search for relevant literature until Jan 12, 2022 in PubMed, Cochrane Library, Google Scholar, COVID NMA, and ClinicalTrials.gov. Preprints were searched using medRxiv, chinaXiv and bioRxiv. The following table shows the inclusion criteria.

Table 1. PICO criteria of mental health among children and adolescents during the pandemic.

Population	Children during the Covid 19 pandemic
Intervention/Exposure	Supportive strategies for mental health
Comparison	Without supportive strategies for mental health
Outcomes	Anxiety, depression, resilience, life satisfaction, mindfulness, perception of overall well-being
Methodological filter	Randomized controlled trials (RCTs), Systematic reviews, Observational studies (including Qualitative studies)

The search terms for both Free text and MeSH, used for the subjects were "pediatric," "children," and "adolescent.","COVID-19," "SARS-CoV-2," "nCOV-19;"for the intervention, "mental health," "coping," and for the outcome, anxiety level, depression level, resilience, life satisfaction, mindfulness, and overall well-being index. Freehand search using Google was also done to check for other sources of information. There was no limit as to the date, language and country of publication. Filter was utilized to include randomized controlled trials, systematic reviews, observational studies, and meta-analyses. Websites for pediatric organizations were also searched. Case reports, case series and letters to the editor were excluded.
The JAMA user's guide was used to appraise the articles and a systematic review and narrative synthesis were done to summarize the evidence for the question regarding supportive strategies for the mental well-being of children and adolescents during the COVID-19 pandemic. Pooling of the estimates, while planned, was not carried out due to heterogeneity of intervention arms and outcome measures; hence, meta-analysis was not possible. GRADE was used to assess the certainty of evidence.

Results

A total of 124 related articles were found using Medline, Google Scholar and other relevant medical databases. Initially the reviewers found 10 Observational Studies, 5 Clinical Trials, 6 Systematic Reviews, 3 Qualitative Studies and several articles on prevalence of mental health disorders. After the inclusion and exclusion criteria, 7 articles were found relevant to answer the research question. 5 articles with Randomized Clinical Trial Design and 2 articles which did Qualitative Study design (Appendix 1).

This review includes a total of five randomized controlled trials and two qualitative studies. All of the studies included the pediatric population, particularly the school age and adolescent age groups, across an age range of 10-19 The subjects have all experienced the advent of the COVID-19 pandemic and its consequences on societal set up including, but not limited to, community lockdowns, disease/infection containment measures leading to social contact restrictions, school closures, and reduced opportunities for recreation [1,3].

The study of Jianpeng Zhang et al. investigated the effect of "research-based psychological counseling" on the mental health of adolescents during the COVID-19 pandemic. Researchers enrolled a total of 160 students from five middle schools in China, who were screened using the Self-rating Anxiety Scale (SAS) and Self-rating Depression Scale (SDS) and were found to have anxiety symptoms. They were then divided equally into experimental and control groups. The control group received the "routine in-campus education of health knowledge related to the epidemic." The experimental group received this plus psychological counseling combined with outdoor exercise. Outcomes of interest included SAS and SDS scores within and between the groups, as well as sleep quality (assessed using the Pittsburgh Sleep Quality Index) and psychological resilience (measured using the Healthy Kids Resilience Assessment). The study reported that scores of the experimental group for both anxiety and depression are lower (improved) than those of the control group, and the differences are statistically significant ($P<0.05$). The study also concluded that there was statistically significant improvement in sleep quality and psychological resilience in the experimental group compared to control.

The Self-rating Anxiety Scale (SAS) and Self-rating Depression Scale (SDS) developed by Zung in 1971 are standard norm-referenced screeners for anxiety and depression levels, respectively. Cut off scores include: < 50 (normal), 50–60 (mild anxiety), 61–70 (moderate), >70 (severe) for SAS and <50 points (normal), 50–59 (mild depression), 60–69 (moderate depression), and ≥70 (severe depression) for SDS [1].

Yingfeng Zheng e. al (2021) recruited 954 grade 7 students (12-14 years old) from 12 schools in Zhaoqing, China. They studied the effects of a peer-to-peer livestreaming application called REAP (Recess and Exercise Advocacy Program) on self-reported anxiety levels using the Spence Childrens' Anxiety Scale - Child (primary outcome) as well as eye strain and sleep quality (secondary outcome). The REAP allows users to capture short videos and photographs with their smartphones related to their physical exercise or eye relaxation activities. The SCAS – Child is a 45-item self-report scale used by Zheng et al to assess severity of anxiety symptoms in children. This tool is validated for children aged 8-15 years and assesses six domains of anxiety namely Separation Anxiety, Social Phobia, Obsessive Compulsive Problems, Panic/Agoraphobia, Generalized Anxiety/Overanxious Symptoms, and Fears of Physical Injury. The study randomly divided the population into control group (n=469) who received online health information sessions (comparator) and the experimental group (n=485) who received the comparator + REAP. Change in anxiety score was seen in Zheng et al (2021) to be significantly greater in the intervention group

compared to the controls (difference –0.36, 95% CI –0.63 to –0.08; P=.02). Other outcomes investigated in the study were eye strain and sleep disturbance and they showed that change in self-reported eye strain significantly greater in the intervention vs the control group while changes in sleep disturbance did not differ significantly between study groups.

Jun Chen et al (2021) explored the intervention effect of the integration model on the negative emotions of adolescents during the COVID-19 epidemic. Research Tools for Outcome Measures were, the Self-rating Anxiety Scale, Positive and Negative Affect Scale, and Psychological Well-Being Scale. The study population included 69 adolescents with moderate and severe anxiety symptoms (SAS >/= 61). The subjects were randomly divided into the experiment group (35) and the control group (34) with the intervention and comparison time lasting for eight weeks. The control group was given routine health education support (comparator) while the experimental group received an Integration model intervention consisting of aerobics exercise course and mindfulness meditation training plus the comparator. They reported that the decrease in the SAS score was higher for the experiment group than for the control group ($P<0.01$). The positive emotion score was higher in the experiment group than in the control group; and the negative emotion score was lower in the experiment group than in the control group. ($p<0.01$). No significant difference occurred in the emotional index and life satisfaction between the two groups ($P>0.05$) The study concluded that the integration model intervention significantly reduced negative emotions such as anxiety, increase positive emotions, and improve the overall well-being of adolescents during the epidemic period.

Shuai Shao (2021) investigated the effect of Satir Model-based dance therapy on the mental health of adolescents with depression during the COVID-19 epidemic. A total of 62 adolescents with depression symptoms using Symptom Checklist 90 (SCL-90) were enrolled. The SCL-90 is a self-report questionnaire that briefly assesses symptoms in 9 dimensions namely somatization, obsessive-compulsive disorder, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. The experimental group (32) received group psychological intervention and dance therapy based on the Satir Model, whereas the control group (30) was not given any intervention. Outcomes measured were levels of anxiety, depression, psychological resilience, and life satisfaction. Shao reported that post-intervention, life satisfaction level/score of the experiment group was significantly higher than that of the control group ($p<0.01$), depression/anxiety levels of the experiment group was significantly lower than that of the control group and significantly lower than that prior to the intervention ($p<0.01$). The study concluded that the combination of group intervention and dance therapy based on the Satir Model is a feasible method to effectively alleviate adolescents anxiety and depression, promote their life satisfaction and psychological resilience, and thus improve their mental health.

The Anxiety and Depression Subscale of Achenbach Youth Self-Report compiled by Achenbach and revised by Liu Xianchen was used for measurement by Shao et al and it contains 16 items that are rated from 0 (never) to 4 points (often).

A pilot study on art and its impact on mental health by Catherine Malboeuf-Hurtubise et al (2021) was done to compare the impact of an emotion-based directed drawing intervention (experimental) and a Mandala drawing intervention (control), on anxiety, depression, inattention and hyperactivity symptoms in elementary school children, in the context of the COVID-19 pandemic. Both interventions were group-based and delivered online and remotely for 5 weeks. There were 14 children in the Intervention group and 8 in the comparator group. Outcomes were measured using the Behavior Assessment System for Children (BAS-C) and Spence Children's Anxiety Scale – Child, which is a 45-item self-report scale used to assess severity of anxiety symptoms in children. Post-intervention, children in the emotion-based directed drawing group

showed lower inattention scores at post-test, compared to participants in the mandala group. Post-hoc sensitivity analyses showed significant decreases in pre-to-post scores for levels of hyperactivity of the total study population. However, for the primary outcomes of anxiety and depression levels, they found no impact of the type of intervention group. The BAS-C, which is a set of rating scales and forms designed to inform understanding of the behaviors and emotions of children and adolescents, was utilized in this study but only select questions for the anxiety, depression, inattention, and hyperactivity domains were used.

A qualitative, cross-sectional study by Kendra Nelson Ferguson et al (2021) explored the feelings and emotions adolescents experienced during the first wave of the COVID-19 pandemic. They identified coping strategies adolescents employed to manage those emotions. Participants living in Canada aged 13–19 years were recruited through social media platforms and youth-serving organizations. There were 2 open-ended questions: "What feelings and emotions have you experienced around the pandemic?" and "What coping strategies have you used during the pandemic?" There were a total of 1164 open-ended responses from Canadian adolescents (n = 851; mean age 15.6, standard deviation 1.7, yr) that were analyzed. Three major themes identified within the category of feelings and emotions associated with the pandemic: (1) sociospatial and temporal disconnections, (2) emotional toll of the pandemic and (3) positives amid the pandemic. The major themes identified within the category of coping strategies were: (1) connecting online and outdoors, and (2) leisure and health-promoting activities. Despite the emotional toll of the first wave of the COVID-19, participants in the study adopted various positive coping strategies to mitigate their distress, including physical activity, safe peer interactions and hobbies. The study highlighted the importance of accessible mental health resources for those experiencing psychological distress.

Janise S. Parker et al (2021) reported in their phenomenological study the effects of the COVID-19 pandemic on marginalized groups. They investigated Black adolescents' perceptions of their experiences with COVID-19, including the challenges they encountered, the coping strategies they employed, and their use of religious/spiritual and school-based support. Twelve Black youth between the ages of 12 and 18 years were interviewed regarding their struggles with adjusting to the changes in their daily routines, navigating virtual learning, and facing the emerging mental health difficulties such as anxiety. Problem-focused coping strategies identified were religious/spiritual practices and social support from the family, school personnel, and religious community.

In summary, outcome measures for the 5 RCTs included in this review were heterogeneous but across studies, measurement of anxiety levels was common. Two studies, that of Zhang et al and Shao et al, measured levels of depression. One RCT measured resilience status (Zhang et al), life satisfaction (Shao, 2021), mindfulness (Malboeuf-Hurtubise et al), and overall well-being (Chen et al).

Specific outcomes measured by the RCTs included were as follows: Zhang et al showed a decrease in SDS and SAS scores (mean difference) ($p<0.05$), decrease in Pittsburgh Sleep Quality Index (PSQI) ($p<0.05$), and increase in psychological resilience score ($p<0.05$). Shao et al (2021) found post-intervention that Life satisfaction level/score of the experiment group is significantly higher than that of the control group, depression/anxiety level of the experiment group is significantly lower than that of the control group and significantly lower than that prior to the intervention. Change in anxiety score was seen in Zheng et al (2021) to be significantly greater in the intervention group compared to the controls, change in self-reported eye strain significantly greater in the intervention vs the control group, but changes in sleep disturbance score (P=.23), screen time (P=.84), and reading time (P=.47) during the 2-week follow-up did not differ

significantly between study groups. Decrease in the SAS score in Chen et al (2021) was higher for the experiment group than for the control group (P<0.01). The positive emotion score is higher in the experiment group than in the control group; negative emotion score is lower in the experiment group than in the control group. (p<0.01). No significant difference occurred in the emotional index and life satisfaction between the two groups (P>0.05) was noted. Malboeuf-Hurtubise (2021) found no impact of the type of art intervention on levels of anxiety, depression, hyperactivity or mindfulness.

The overall quality of evidence was rated low because of serious risk of bias. Meta-analysis was not carried out due to heterogeneity of studies in terms of interventions and tools used for the outcome measures. (Appendix 2) There are no ongoing RCT studies found after the comprehensive literature search but several observational studies on the prevalence of mental health disorder during this pandemic period were available.

The qualitative studies elucidated examples of coping strategies that were deemed effective by the adolescents. Overall, they include connecting with peers online and outdoors, leisure and health-promoting activities, personal and spiritual coping, and social support from the household and sectors of the community. (Appendix 2).

Other Considerations (Evidence to Decision)

Resource Use and Cost Effectiveness	For professional psychological counseling - will it be reimbursable to Philhealth/HMOs
Availability/Equity	No issues on availability
Patient's Values or Preferences; Social Impact	No available evidence
Factors to Impact Acceptability or Compliance/ Feasibility	Due to ongoing pandemic, many of the proposed interventions will be done online via video conferencing or mobile applications. Digital and online activities are generally acceptable to children and adolescents; however, access to internet/mobile data might be a major factor that will affect compliance to interventions.

Recommendations from Other Groups

As of December 2021, the American Academy of Pediatrics issued an interim guidance on supporting the emotional and behavioral health needs of children, adolescents and families during the covid-19 pandemic. Recommended supportive strategies include:

- Mindfulness, relaxation, and focusing on the present moment can help the entire family build coping skills to deal with uncomfortable and frightening feelings
- Building networks of social support have also been found to be central to promoting resilience
- Participating in volunteer opportunities to help the community, can help children and caregivers feel less vulnerable and
- Building networks of social support have also been found to be central to promoting resilience.

In the Philippines, there are currently no local guidelines or recommendations on mental health strategic interventions for the pediatric population during the COVID-19 pandemic.

Research Gaps

Majority of studies found in the recommended coping strategies found to optimize mental health were done in the adolescent age group. There was no study found on effective coping strategies for the younger age group.

References

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[2] Ferguson KN, Coen SE, Tobin D, Martin G, Seabrook JA, Gilliland JA. The mental well-being and coping strategies of Canadian adolescents during the COVID-19 pandemic: a qualitative, cross-sectional study. CMAJ Open. 2021 Nov 16;9(4):E1013-E1020. doi: 10.9778/cmajo.20210042. PMID: 34785531; PMCID: PMC8598240.

[3] Boldt K, Coenen M, Movsisyan A, Voss S, Rehfuess E, Kunzler AM, et al. Interventions to ameliorate the psychosocial effects of the COVID-19 pandemic on children—a systematic review. International Journal of Environmental Research and Public Health. 2021;18(5):2361.

[4] Zhang J, Zhou Z, Zhang W. Intervention effect of research-based Psychological Counseling on adolescents' mental health during the COVID-19 epidemic. Psychiatria Danubina. 2021;33(2):209–16.

[5] Shao S. Intervention effect of dance therapy based on the Satir model on the mental health of adolescents during the COVID-19 epidemic. Psychiatria Danubina. 2021;33(3):411–7.

[6] Zheng Y, Wang W, Zhong Y, Wu F, Zhu Z, Tham YC, Lamoureux E, Xiao L, Zhu E, Liu H, Jin L, Liang L, Luo L, He M, Morgan I, Congdon N, Liu Y. A Peer-to-Peer Live-Streaming Intervention for Children During COVID-19 Homeschooling to Promote Physical Activity and Reduce Anxiety and Eye Strain: Cluster Randomized Controlled Trial. J Med Internet Res. 2021 Apr 30;23(4):e24316. doi: 10.2196/24316. PMID: 33882021; PMCID: PMC8092026.

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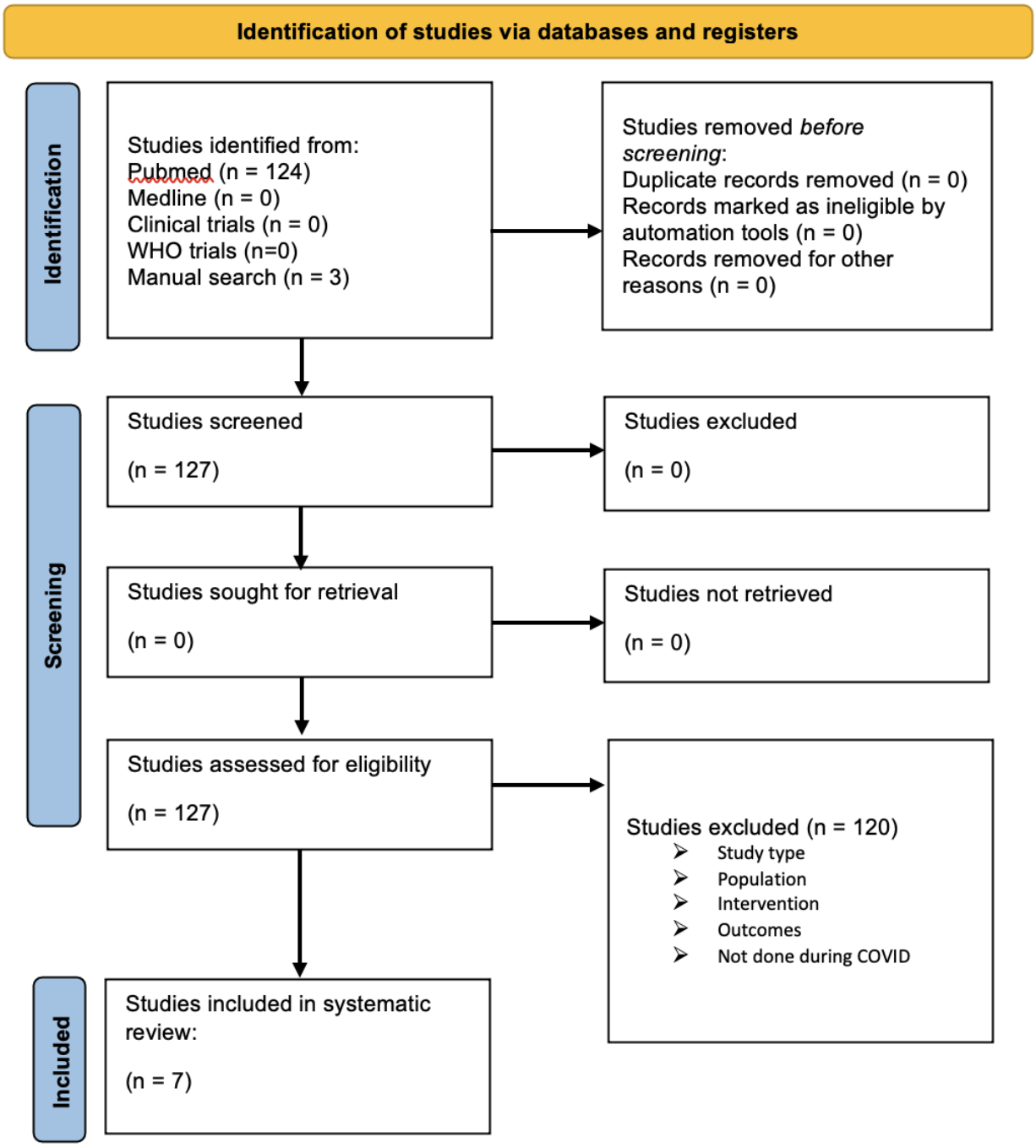
[8] American Academy of Pediatrics. Interim Guidance on Supporting the Emotional and Behavioral Health Needs of Children, Adolescents, and Families During the COVID-19 Pandemic. 2021 Dec.

[9] Malboeuf-Hurtubise C, Léger-Goodes T, Mageau GA, Taylor G, Herba CM, Chadi N, Lefrançois D. Online art therapy in elementary schools during COVID-19: results from a randomized cluster pilot and feasibility study and impact on mental health. Child Adolesc Psychiatry Ment Health. 2021 Mar 6;15(1):15. doi: 10.1186/s13034-021-00367-5. PMID: 33676537; PMCID: PMC7936482.

[10] Chen J, Sang G, Zhang Y, Jiang A. Intervention effect of the integration model on negative emotions of adolescents during the outbreak of Corona virus disease 2019. Psychiatria Danubina. 2021;33(1):86–94.

Appendix 1. Search Yield & Results.



Appendix 2. Characteristics of Included Studies

<table>
<tr><th>Title/Author/ Country</th><th>Study Design</th><th>Population</th><th>Intervention</th><th>Comparison</th><th>Outcomes</th></tr>
<tr>
<td>INTERVENTION EFFECT OF RESEARCH-BASED PSYCHOLOGICAL COUNSELING ON ADOLESCENTS' MENTAL HEALTH DURING THE COVID-19 EPIDEMIC, Zhang, et al., 2021 China</td>
<td>RCT</td>
<td>School children aged 12-18 with SDS and SAS score >/=50 (N = 153, Exp=76 C=77)

Anxiety: Score of ≥50 Depression : Score of ≥50</td>
<td>Research-based psychological counseling model and outdoor exercise + Comparator

8 weeks</td>
<td>Routine community health education (public health, personal health, disease prevention)</td>
<td>
<table>
<tr><th>ANXIETY</th><th>DEPRESSION</th><th>RESILIENCE</th><th>OTHER KEY FINDINGS</th></tr>
<tr>
<td>In E, Decr SAS(MD) (p<0.05)
<table>
<tr><th></th><th>Before</th><th>After</th></tr>
<tr><td>E</td><td>64.03 ±9.96</td><td>56.83± 10.96</td></tr>
<tr><td>C</td><td>64.05 ±9.45</td><td>60.81± 9.51</td></tr>
</table></td>
<td>In E, Decr in SDS (MD) (p<0.05)
<table>
<tr><th></th><th>Before</th><th>After</th></tr>
<tr><td>E</td><td>62.91±6. 69</td><td>54.91 ±9.00</td></tr>
<tr><td>C</td><td>64.16±7. 21</td><td>60.01 ±8.87</td></tr>
</table></td>
<td>In E, Incr psychological resilience score (p<0.05)
<table>
<tr><th></th><th>Before</th><th>After</th></tr>
<tr><td>E</td><td>82.54±8. 14</td><td>100.05±7</td></tr>
<tr><td>C</td><td>85.04±10 .46</td><td>91.09±9.5</td></tr>
</table></td>
<td>In E, Dec in Pittsburgh Sleep Quality Index (PSQI) (p<0.05)
<table>
<tr><th></th><th>Before</th><th>After</th></tr>
<tr><td>E</td><td>8.84± 3.47</td><td>6.21±3.86</td></tr>
<tr><td>C</td><td>8.45± 3.73</td><td>7.64±4.01</td></tr>
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<table>
<tr>
<td>INTERVENTION EFFECT OF DANCE THERAPY BASED ON THE SATIR MODEL ON THE MENTAL HEALTH OF ADOLESCENTS DURING THE COVID-19 EPIDEMIC. Shao 2021 China</td>
<td>RCT</td>
<td>Adolescents aged 15.98 +/- 0.11 with depression symptoms based on SCL-90 (n=62)

N = 62, Exp= 32 C= 30)

(SCL-90) The factor higher than 3 = used as the criterion for judging mental disorders.</td>
<td>Group psychological intervention (7 weeks) and dance therapy (8 weeks)</td>
<td>No intervention</td>
<td>
<table>
<tr><th>ANXIETY</th><th>DEPRESSION</th><th>RESILIENCE</th><th>OTHER KEY FINDINGS</th></tr>
<tr>
<td>Anxiety level of the E group
is significantly lower than that
of the control group and significantly lower than that
prior to the intervention.
<table>
<tr><th></th><th>Before</th><th>After</th></tr>
<tr><td>E</td><td>2.09±0.21</td><td>1.55±0.33</td></tr>
<tr><td>C</td><td>3.00±0.20</td><td>2.99±0.20</td></tr>
</table>
</td>
<td>Depression level of the E group Depression
is significantly lower than that
of the control group and
significantly lower than that
prior to the intervention.
<table>
<tr><th></th><th>Before</th><th>After</th></tr>
<tr><td>E</td><td>2.09±0.21</td><td>1.55± 0.33</td></tr>
<tr><td>C</td><td>3.00±0.20</td><td>2.99± 0.20</td></tr>
</table>
</td>
<td>The psychological resi- lience level of the control group after the intervention is significantly higher than that prior to the intervention.
<table>
<tr><th></th><th>Before</th><th>After</th></tr>
<tr><td>E</td><td>1.98± 0.15</td><td>4.02 ±0.15</td></tr>
<tr><td>C</td><td>1.98± 0.17</td><td>2.48 ±0.27</td></tr>
</table>
</td>
<td>Life satisfaction level/score of the experiment group is significantly higher than that of the control group
<table>
<tr><th></th><th>Before</th><th>After</th></tr>
<tr><td>E</td><td>2.01±0.36</td><td>5.46±0.45</td></tr>
<tr><td>C</td><td>1.97±0.42</td><td>2.93±0.38</td></tr>
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<tr>
<td>A Peer-to-Peer Live-Streaming Intervention for Children During COVID-19 Homeschooling to Promote Physical Activity and Reduce Anxiety and Eye Strain: Cluster Randomized Controlled Trial, Zheng, et al., 2021 China</td>
<td>RCT</td>
<td>Grade 7 students, aged 12-13

(N=954 Exp=485 C=469)</td>
<td>Recess and Exercise Advocacy Program (live-streaming platform) allows users to capture short videos and photographs with their smartphones related to their physical exercise or eye relaxation activities
+
Comparator

2 weeks</td>
<td>Online health information session</td>
<td>
<table>
<tr><th>ANXIETY</th><th>OTHER KEY FINDINGS</th></tr>
<tr>
<td>Change in anxiety score was significantly greater in the intervention group compared to the controls (difference –0.36, 95% CI –0.63 to –0.08; P=.02)
<table>
<tr><th></th><th>Before</th><th>After</th></tr>
<tr><td>E</td><td>3.72 (3.69 to 3.76)</td><td>3.49 (3.46 to 3.52)</td></tr>
<tr><td>C</td><td>3.67 (3.64 to 3.70)</td><td>3.79 (3.76 to 3.83)</td></tr>
</table>
</td>
<td>Change in self-reported eye strain significantly greater in the intervention vs the control group (difference –0.15, 95% CI –0.26 to –0.03; P=.02)
<table>
<tr><th></th><th>Before</th><th>After</th></tr>
<tr><td>E</td><td>1.21 (1.19 to 1.23)</td><td>1.13 (1.11 to 1.15)</td></tr>
<tr><td>C</td><td>1.08 (1.06 to 1.10)</td><td>1.15 (1.12 to 1.18)</td></tr>
</table>
Changes in sleep disturbance score (P=.23), screen time (P=.84), and reading time (P=.47) during the 2-week follow-up did not differ significantly between study groups.
<table>
<tr><th></th><th>Before</th><th>After</th></tr>
<tr><td>E</td><td>2.51 (2.50 to 2.52)</td><td>2.57 (2.56 to 2.58)</td></tr>
<tr><td>C</td><td>2.53 (2.53 to 2.54)</td><td>2.55 (2.54 to 2.56)</td></tr>
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<table>
<tr>
<td>INTERVENTION EFFECT OF THE INTEGRATION MODEL ON NEGATIVE EMOTIONS OF ADOLESCENTS DURING THE OUTBREAK OF CORONAVIRUS DISEASE 2019 , Chen, et al., 2021 China</td>
<td>RCT</td>
<td>Adolescents with SAS >/= 61 (moderate to severe)

(N=69 Exp= 35 C=34)</td>
<td>Integration intervention: aerobics exercise course and mindfulness meditation training + Comparator

x 8 weeks</td>
<td>Routine health education support</td>
<td>
<table>
<tr><th>ANXIETY</th><th></th><th>EMOTION SCORE</th><th>OTHER KEY FINDINGS</th></tr>
<tr>
<td>Decrease in the SAS score higher for the experiment group than for the control group (P<0.01)
<table>
<tr><th></th><th>Before</th><th>After</th></tr>
<tr><td>E</td><td>66.8±8.1</td><td>50.8±9.3</td></tr>
<tr><td>C</td><td>67.7±8.2</td><td>57.1±8.9</td></tr>
</table>
</td>
<td></td>
<td>The positive emotion score is higher in the experiment group than in the control group; negative emotion score is lower in the experiment group than in the control group. (p<0.01).
Positive Emotion
<table>
<tr><th></th><th>Before</th><th>After</th></tr>
<tr><td>E</td><td>27.3±7.3</td><td>32.7±6.1</td></tr>
<tr><td>C</td><td>27.2±8.4</td><td>29.2±8.1</td></tr>
</table>
Negative Emotion
<table>
<tr><th></th><th>Before</th><th>After</th></tr>
<tr><td>E</td><td>24.5±5.9</td><td>19.5±4.2</td></tr>
<tr><td>C</td><td>24.1±6.7</td><td>22.3±6.3</td></tr>
</table>
</td>
<td>After the intervention, no significant difference occurred in the emotional index and life satisfaction between the two groups (P>0.05), but the difference in the overall well-being index is statistically significant (P=0.040)
Overall well-being index
<table>
<tr><th></th><th>Before</th><th>After</th></tr>
<tr><td>E</td><td>7.6±2.0</td><td>9.5±1.9</td></tr>
<tr><td>C</td><td>7.8±2.3</td><td>8.3±2.7</td></tr>
</table>
</td>
</tr>
</table>
</td>
</tr>
<tr>
<td>Online art therapy in elementary schools during COVID-19: results from a randomized cluster pilot and feasibility study and impact on</td>
<td>RCT</td>
<td>Grade 4-5 students

(N=22 Exp=14 C=8)</td>
<td>Emotion-based directed drawing intervention

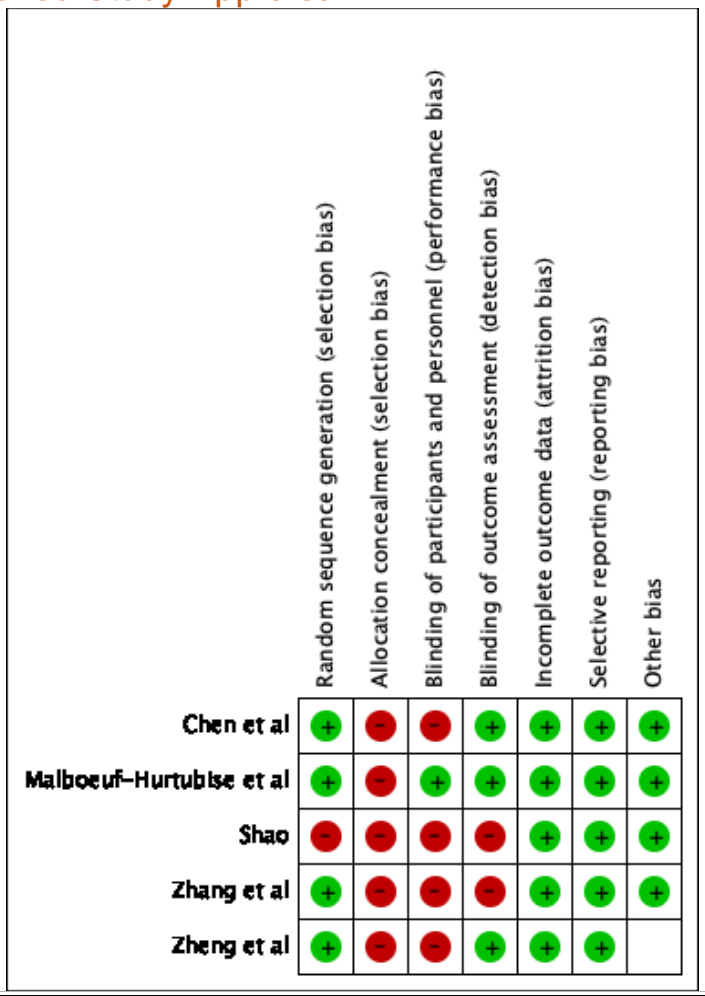
5 weeks</td>
<td>Mandala drawing intervention</td>
<td>
<table>
<tr><th>ANXIETY</th><th>DEPRESSION</th><th>MINDFULNESS</th><th>OTHER KEY FINDINGS</th></tr>
<tr>
<td>No impact of type intervention group on levels of anxiety, depression, hyperactivity or mindfulness.
<table>
<tr><th></th><th>Before</th><th>After</th><th></th><th></th><th>Before</th><th>After</th></tr>
</table>
</td>
<td></td>
<td>No impact
<table>
<tr><th></th><th>Before</th><th>After</th></tr>
</table>
</td>
<td>INATTENTION
Emotion- based directed drawing group showed lower inattention scores at post-test (Mpost,</td>
</tr>
</table>
</td>
</tr>
</table>

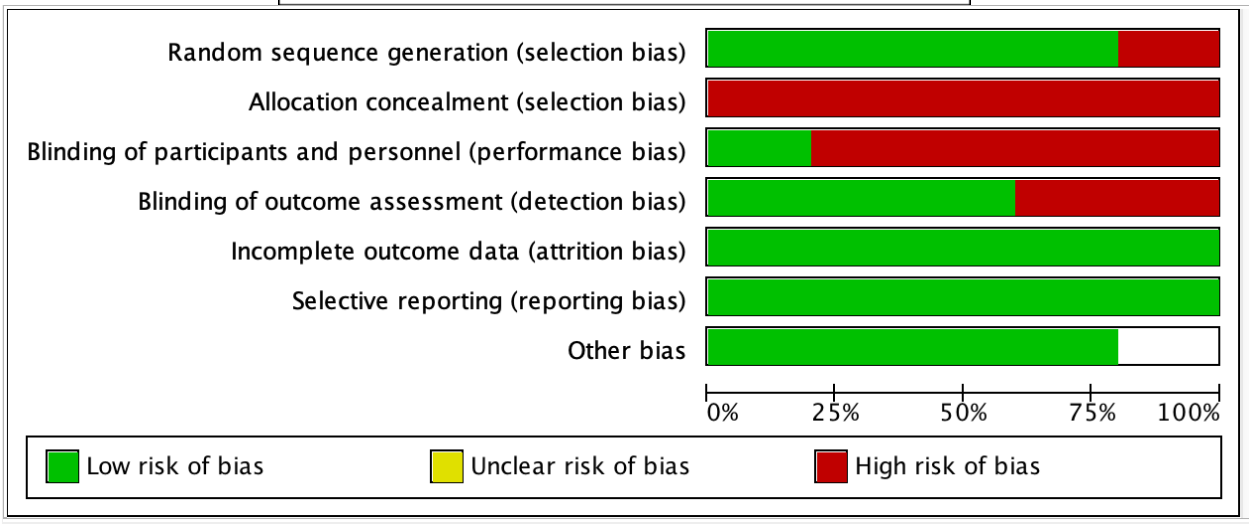
<table>
<tr>
<td>mental health, Malboeuf-Hurtubise , et al, 2021 Canada</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>
<table>
<tr><td>E</td><td>3.71 (1.48)</td><td>3.5 (1.70)</td><td></td><td>E</td><td>2.46 (1.71)</td><td>2.07 (1.49)</td></tr>
<tr><td>C</td><td>3.25 (2.05)</td><td>2.87 (.83)</td><td></td><td>C</td><td>2.62 (1.84)</td><td>2.62 (1.50)</td></tr>
</table>
<table>
<tr><td>E</td><td>2.27 (0.83</td><td>2.04 (0.85)</td></tr>
<tr><td>C</td><td>2.30 (0.81</td><td>2.03 (0.77)</td></tr>
</table>
adjusted for baseline=1.32), when compared to participants in the mandala group (Mpost, adjusted for baseline=1.97).
<table>
<tr><td></td><td>Before</td><td>After</td></tr>
<tr><td>E</td><td>1.38 (1.32)</td><td>1.23 (1.23)</td></tr>
<tr><td>C</td><td>1.75 (1.83)</td><td>2.12 (1.24)</td></tr>
</table>
<u>HYPERACTIVITY</u>
Significant decreases in pre-to-post scores for levels of hyperactiv- ity (t(21) = 2.01, p = 0.05) for the complete sample
<table>
<tr><td></td><td>Before</td><td>After</td></tr>
<tr><td>E</td><td>2.21 (1.25)</td><td>1.78 (1.57)</td></tr>
<tr><td>C</td><td>1.37 (1.4)</td><td>2.00 (1.3)</td></tr>
</table>
</td>
</tr>
</table>

The mental well-being and coping strategies of Canadian adolescents during the COVID-19 pandemic: a qualitative, cross-sectional study, Ferguson, et al., 2021 Canada	Qualitative, Cross sectional	Canadian adolescents (13-19 y/o) 1164 open-ended responses	Open ended questions: "What feelings and emotions have you experienced around the pandemic?" and "What coping strategies have you used during the pandemic?" 4months	None	3 major themes within the category of <u>feelings and emotions</u> associated with the pandemic: **sociospatial and temporal disconnections**, **emotional toll** of the pandemic and positives amid the pandemic. Within the category of <u>coping strategies</u> used during the pandemic, 2 major themes were identified: 1. **Connecting online and Outdoors** -video calls, texting, playing video games together, and social media. Outdoor playing games, going for walks or just hanging out, visits with friends or family outdoors to connect and socialize, while following physical distancing 2. **Leisure and health-promoting activities**. Incorporating exercise into daily routines, going for walks, working on sport-specific skills. Finding activities and new hobbies to keep busy video gaming, cooking and baking, arts (i.e., crafts, music and dance), reading, and watching television or movies.
Black Adolescents' Perceptions of COVID-19: Challenges, Coping, and Connection to Family, Religious, and School Support, Parker et al, 2021 USA	Qualitative Phenomenological	African American 12-17 y/o (n=12)	Interview 2months Q: (a) the challenges they experienced as a result of COVID-19, (b) how religious/spiritual practices helped them cope with COVID-related challenges, (c) additional coping strategies they	None	Experiences as particularly challenging due to COVID-19: (a) loss of normalcy due to a change in their routine and limited social interactions, (b) online learning, and (c) mental health and trauma-related experiences. **Coping Strategies:** 1.**Personal Coping**: reading, listening to music, personal grooming (room cleaning, painting nails, doing hair, etc.), completing "artsy" based projects (e.g., painting and coloring), and exercising. Learn new skills and learn more about themselves. Had opportunities to rest, spend time with family, improve health, and focus on school. <u>Religious and Spiritual Coping</u>. Having a strong faith and trust in God helped participants cope with COVID-19 and reconcile the negative feelings they experienced. 2.**Social support**: Family, Religious community, and School personnel <u>Family Support</u>. time spent with family members in their households as fun and as a chance to reconnect. <u>School-Based Support</u>. Schools provided both instrumental ("giving lunch to those who needed it," "handing out computers" (i.e., laptops) for students to complete virtual school, and providing academic support for students) and emotional support (teachers initiated more explicit discussions about the students' social–emotional well-being by seeking student input, offering encouragement and reassurance, and providing brief-check-ins)

			used to manage their response to COVID-19, (d) how their school supported them in the early stages of COVID-19 (from March to June 2020 when school was still in session), and (e) their perceptions of the school and religious/ spiritual-based support they received.		Religious Community Support. Youth leaders provided social and emotional check-ins, which included having mentors and youth directors facilitate individual and group meetings to check on the youths' well-being.

Appendix 3. Detailed Study Appraisal





1. **APPRAISAL FORM FOR THERAPY - Zhang,China**

APPRAISING DIRECTNESS	
Does the study provide a direct enough answer to your clinical question in terms of type of patients (P), exposure/ intervention (E) and outcome (O)?	**What are the supportive strategies to optimize mental health among children during the COVID-19 pandemic?** P 0-18 yrs I supportive strategies C none O optimized MH **Intervention Effect of Research-based Psychological Counseling on Adolescents' Mental Health during the COVID-19 Epidemic** P -12-18 yrs I - routine community health education, research-based psychological counseling model and outdoor exercise. C- routine community health education O - Resilience Assessment, Pittsburgh Sleep Quality Index (PSQI)
APPRAISING VALIDITY	
Were the patients randomly assigned to treatment groups?	Yes
Was allocation concealed?	No
Were baseline characteristics similar at the start of the trial?	Yes
Were patients blinded to treatment assignment?	No
Were caregivers blinded to treatment assignment?	No
Were outcome assessors blinded to treatment assignment?	No
Were all patients analyzed in the groups to which they were originally randomized?	7 drop outs Censored analysis was done Orig:160 Exp=76 C=77 (153)

Was follow-up rate adequate?	yes
APPRAISING RESULTS	
How large was the treatment effect?	**Comparison of anxiety and depression**: Decreases were noted in the scores of both groups in anxiety and depression after the intervention, and the differences are statistically significant (P<0.001). **Comparison of sleep quality:** Decreases were noted in the PQSI score of both groups after the intervention, and the differences are statistically significant (P<0.001). **Comparison of psychological resilience:** Increases were noted in the scores of both groups in psychological resilience and its five dimensions after the intervention, and the differences are statistically significant (P<0.001)
How precise was the estimate of the treatment?	precise

Intervention Effect of Research-based Psychological Counseling on Adolescents' Mental Health during the COVID-19 Epidemic
Jianpeng Zhang 1, Zixiang Zhou, Wei Zhang

2. **APPRAISAL FORM FOR THERAPY -Shao,China**

I.	**APPRAISING DIRECTNESS**	
	Does the study provide a direct enough answer to your clinical question in terms of type of patients (P), exposure/ intervention (E) and outcome (O)?	**What are the supportive strategies to optimize mental health among children during the COVID-19 pandemic?** P 0-18 yrs I supportive strategies C none O -optimized MH **INTERVENTION EFFECT OF DANCE THERAPY BASED ON THE SATIR MODEL ON THE MENTAL HEALTH OF ADOLESCENTS DURING THE COVID-19 EPIDEMIC** P – adolescent age grp I – dance therapy with grp psycho intervention C- none O – promote MH
II.	**APPRAISING VALIDITY**	
1.	Were the patients randomly assigned to treatment groups?	No
2.	Was allocation concealed?	No
3.	Were baseline characteristics similar at the start of the trial?	Yes
4.	Were patients blinded to treatment assignment?	No
5.	Were caregivers blinded to treatment assignment?	No
6.	Were outcome assessors blinded to treatment assignment?	No
7	Were all patients analyzed in the groups to which they were originally randomized?	yes Orig:62 Exp=32 C=30
8	Was follow-up rate adequate?	yes

III.	**APPRAISING RESULTS**	
1.	How large was the treatment effect?	**life satisfaction between two groups**: life satisfaction level of the experiment group is signi[1]ficantly higher than that of the control group **depression/anxiety between two grps:**life depression/anxiety level of the experiment group is significantly lower than that of the control group and significantly lower than that prior to the intervention. **psychological resilience between two groups:**level of the experiment group in psychological resi[1]lience and its dimensions is significantly higher than those of the control group
2.	How precise was the estimate of the treatment?	precise

INTERVENTION EFFECT OF DANCE THERAPY BASED ON THE SATIR MODEL ON THE MENTAL HEALTH OF ADOLESCENTS DURING THE COVID-19 EPIDEMIC Shuai Shao

3. **APPRAISAL FORM FOR THERAPY -Yingfeng Zheng,China**

I.	**APPRAISING DIRECTNESS**	
	Does the study provide a direct enough answer to your clinical question in terms of type of patients (P), exposure/ intervention (E) and outcome (O)?	**What are the supportive strategies to optimize mental health among children during the COVID-19 pandemic?** P 0-18 yrs I supportive strategies C none O -optimized MH **A Peer-to-Peer Live-Streaming Intervention for Children During COVID-19 Homeschooling to Promote Physical Activity and Reduce Anxiety and Eye Strain: Cluster Randomized Controlled Trial** P – Grade 7 (12-13 yrs) I – health education information promoting exercise and ocular relaxation, and access to a digital behavior change intervention, with live streaming and peer sharing of promoted activities REAP app C- health education information only O – primary outcome: self-reported anxiety score. Secondary outcomes- eye strain and sleep quality
II.	**APPRAISING VALIDITY**	
1.	Were the patients randomly assigned to treatment groups?	YES
2.	Was allocation concealed?	No
3.	Were baseline characteristics similar at the start of the trial?	Yes
4.	Were patients blinded to treatment assignment?	No
5.	Were caregivers blinded to treatment assignment?	yes
6.	Were outcome assessors blinded to treatment assignment?	yes

7	Were all patients analyzed in the groups to which they were originally randomized?	Orig: 954 included in the intention-to-treat analysis. Exp =485 C=469 Completed:896 children Exp=467 C=429
8	Was follow-up rate adequate?	yes
III.	**APPRAISING RESULTS**	
1.	How large was the treatment effect?	anxiety scores was greater in the intervention (–0.23, 95% CI –0.27 to –0.20) vs control group (0.12, 95% CI 0.09-0.16;
2.	How precise was the estimate of the treatment?	precise

A Peer-to-Peer Live-Streaming Intervention for Children During COVID-19 Homeschooling to Promote Physical Activity and Reduce Anxiety and Eye Strain: Cluster Randomized Controlled Trial Yingfeng Zheng, MD, PhD,[#1,2,3] Wei Wang, MD, PhD,[#1],et al

4. **APPRAISAL FORM FOR THERAPY -Chen,China**

I.	**APPRAISING DIRECTNESS**	
	Does the study provide a direct enough answer to your clinical question in terms of type of patients (P), exposure/ intervention (E) and outcome (O)?	**What are the supportive strategies to optimize mental health among children during the COVID-19 pandemic?** P 0-18 yrs I supportive strategies C none O -optimized MH **INTERVENTION EFFECT OF THE INTEGRATION MODEL ON NEGATIVE EMOTIONS OF ADOLESCENTS DURING THE OUTBREAK OF CORONA VIRUS DISEASE 2019** P-adolescents I-routine health education support + integration model (aerobics exercise course and mindfulness meditation training) C - routine health education support O Changes in the psychological anxiety levels and negative emotions of the both groups before and after the intervention were compared
II.	**APPRAISING VALIDITY**	
1.	Were the patients randomly assigned to treatment groups?	YES
2.	Was allocation concealed?	No
3.	Were baseline characteristics similar at the start of the trial?	Yes
4.	Were patients blinded to treatment assignment?	No
5.	Were caregivers blinded to treatment assignment?	yes
6.	Were outcome assessors blinded to treatment assignment?	yes
7	Were all patients analyzed in the groups to which they	Orig: 72 E=36 C=36 Completed: Exp= 34 C=35

	were originally randomized?	
8	Was follow-up rate adequate?	Yes LOST: 2- control group 1- experiment group
III	**APPRAISING RESULTS**	
1.	How large was the treatment effect?	**anxiety scores:** After one month of intervention, the SAS scores of the two groups decreased, and the differences in their respective SAS values before the intervention are statistically significant (P<0.01). After the intervention, the SAS of the experi[1]ment group was lower than that of the control group, and the decrease in the SAS score is higher for the experiment group than for the control group. The diffe[1]rences are statistically significant (P<0.01) **positive and negative emotion scores:** After one month of intervention, the positive emotion scores of the two groups both increased, while the negative emotion scores both decreased after the intervention (P<0.01).The difference between their respective values before the intervention are statistically significant (P<0.01). After the intervention, the positive emotion score is higher in the experiment group than in the control group, and the negative emotion score is lower in the experiment group than in the control group. The variances in the positive and negative emotion scores are higher in the experiment group than in the control group (P<0.01). **overall well-being index:**After one month of intervention, the scores for emotional index, life satisfaction, and general well[1]being index increased in both groups. After the intervention, no significant difference occurred in the emotional index and life satisfaction between the two groups (P>0.05), but the difference in the overall well-being index is statistically significant (P=0.040).
2.	How precise was the estimate of the treatment?	precise

Intervention Effect of the Integration Model on Negative Emotions of Adolescents during the Outbreak of Corona Virus Disease 2019
Jun Chen 1, Guoqiang Sang, Yu Zhang, Aifeng Jiang

5. **APPRAISAL FORM FOR THERAPY -Hurtubise,Canada**

APPRAISING DIRECTNESS	
Does the study provide a direct enough answer to your clinical question in terms of type of patients (P), exposure/ intervention (E) and outcome (O)?	**What are the supportive strategies to optimize mental health among children during the COVID-19 pandemic?** P 0-18 yrs I supportive strategies C none O -optimized MH **Online art therapy in elementary schools during COVID-19: results from a randomized cluster pilot and feasibility study and impact on mental health** P- elementary school children I-emotion-based directed draw[1]ing intervention (directed) C- mandala drawing intervention (not directed) and more attention-focused O-anxiety, depression, inattention and hyperactivity symptoms
APPRAISING VALIDITY	
Were the patients randomly assigned to treatment groups?	YES
Was allocation concealed?	No
Were baseline characteristics similar at the start of the trial?	Yes
Were patients blinded to treatment assignment?	yes
Were caregivers blinded to treatment assignment?	yes
Were outcome assessors blinded to treatment assignment?	yes

Were all patients analyzed in the groups to which they were originally randomized?	Orig: E=14 C=8
Was follow-up rate adequate?	Yes No attrition
APPRAISING RESULTS	
How large was the treatment effect?	**INATTENTION** Participants in the emotion[1]based directed drawing group showed lower inattention scores at post-test (Mpost, adjusted for baseline=1.32), when compared to participants in the mandala group (Mpost, adjusted for baseline=1.97). However, sensitivity analyses using paired t-tests did not show signifcant pre-to-post changes in inattention scores in participants from each group (pemotion-based=0.43; pmandala=0.35). We found no impact of type intervention group on levels of **anxiety,depression, hyperactivity or mindfulness** Post-hoc sensitivity analyses showed signifcant decreases in pre-to-post scores for levels of hyperactiv[1]ity (t(21)=2.01, p=0.05) for the complete sample. It thus seems that participants from both groups showed a decrease in scores from pre-intervention (Mpre total sam[1]ple=2.22) to post-intervention (Mpost total sample=1.86).
How precise was the estimate of the treatment?	precise

Appendix 4: GRADE Evidence Profile

Author(s): Galindez, Milan, et al
Question: Supportive mental health strategies compared to standard of care for pediatric population during COVID 19 pandemic
Setting: Philippines

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	supportive mental health strategies	standard of care	Relative (95% CI)	Absolute (95% CI)		
Anxiety level (follow-up: mean 7.4 weeks; assessed with: SAS, SCAS, ADS, BAS-C)												
1 (n=153)	Randomized trial (Zhang et al , 2021)	serious[a,b,c]	not serious	not serious	not serious	none	76	77	-	MD 3.98 lower (7.22 lower to 2.23 lower)	⨁⨁⨁◯ Moderate	IMPORTANT
1 (n=62)	Randomized trial (Shao, 2021)	very serious[a,b,c,d]	not serious	not serious	not serious	none	32	30	-	MD 1.44 lower (1.58 lower to 1.31 lower)	⨁⨁◯◯ Low	IMPORTANT
1 (n=954)	Randomized trial (Zheng et al, 2021)	serious[a,b]	not serious	not serious	not serious	none	485	469	-	MD 0.3 lower (0 to 0)	⨁⨁⨁◯ Moderate	IMPORTANT
1 (n=69)	Randomized trial (Chen et al, 2021)	serious[a,b]	not serious	not serious	not serious	none	35	34	-	MD 6.3 lower (10.59 lower to 2 lower)	⨁⨁⨁◯ Moderate	IMPORTANT
1 (n=22)	Randomized trial	serious[b]	not serious	not serious	not serious	none	14	8	-	MD 3.63 higher (0 to 0)	⨁⨁⨁◯ Moderate	IMPORTANT

	(Malboeuf-Hurtubise et al, 2021)											

Depression level (follow-up: mean 8 weeks; assessed with: SDS, Achenbach Youth Self-report)

1 (n=153)	Randomized trial (Zhang et al , 2021)	serious[a,b,c]	not serious	not serious	not serious	none	76	77	-	MD 5.1 lower (7.93 lower to 2.27 lower)	⊕⊕⊕◯ Moderate	IMPORTANT
1 (n=62)	Randomized trial (Shao, 2021)	very serious[a,b,c,d]	not serious	not serious	not serious	none	32	30	-	MD 1.44 lower (1.58 lower to 1.31 lower)	⊕⊕◯◯ Low	IMPORTANT

Resilience (follow-up: mean 8 weeks)

1 (n=62)	Randomized trial (Shao, 2021)	very serious[a,b,c,d]	not serious	not serious	not serious	none	32	30	-	MD 8.96 higher (6.18 higher to 11.74 higher)	⊕⊕◯◯ Low	IMPORTANT

Life Satisfaction (follow-up: 8 weeks)

1 (n=62)	Randomized trial (Shao, 2021)	very serious[a,b,c,d]	not serious	not serious	not serious	none	32	30	-	MD 2.53 higher (2.32 higher to 2.74 higher)	⊕⊕◯◯ Low	IMPORTANT

Mindfulness (follow-up: mean 5)

1 (n=22)	Randomized trial (Malboeuf-Hurtubise et al, 2021)	serious[b]	not serious	not serious	not serious	none	14	8	-	MD 0.01 higher (0 to 0)	⊕⊕⊕◯ Moderate	IMPORTANT

Overall well-being (follow-up: mean 8 weeks)

1 (n=69)	Randomized trial (Chen et al, 2021)	serious[a,b]	not serious	not serious	not serious	none	35	34	-	MD 1.2 higher (0.11 higher to 2.29 higher)	⊕⊕⊕◯ Moderate	IMPORTANT

CI: confidence interval; MD: mean difference

Explanations

a. Subjects are difficult to blind to interventions
b. No mention of allocation of concealment

c. No mention of blinding of outcome assessors
d. No mention of randomization

Appendix 5. Evidence to Decision Framework

Table 1. Summary of initial judgements prior to the panel discussion (N = 9)

FACTORS	JUDGEMENT (N = 9)							RESEARCH EVIDENCE/ADDITIONAL CONSIDERATIONS
Problem	No	Yes (9)		Varies		Uncertain		
Benefits	Large (1)	Moderate (1)	Small (1)	Trivial	Varies	Uncertain (6)		
Harm	Large	Moderate	Small (1)	Trivial (1)	Varies	Uncertain (7)		
Certainty of evidence	High	Moderate (1)		Low (7)		Very low (1)		
Balance of effects	Favors intervention (1)	Probably favors intervention (2)	Does not favor intervention or no intervention	Probably favors no intervention	Favors no intervention	Varies	Uncertain (6)	
Values	Important uncertainty or variability (2)	Possibly important uncertainty or variability (1)		Probably no important uncertainty or variability (6)		No important uncertainty or variability		
Resources required	Uncertain (8)	Varies	Large costs	Moderate costs	Negligible costs or savings (1)	Moderate savings	Large savings	
Certainty of evidence of resources required	No included studies (9)		Very low	Low	Moderate	High		
Cost-effectiveness	No included studies (6)	Varies (2)	Favors the comparison	Probably favors the comparison	Does not favor the comparison or the intervention	Probably favors the intervention	Favors the intervention (1)	
Equity	Uncertain (5)	Varies	Reduced	Probably reduced (2)	Probably no impact (1)	Probably increased	Increased (1)	
Acceptability	Uncertain (6)	Varies	No	Probably no	Probably yes (2)	Yes (1)		
Feasibility	Uncertain (7)	Varies	No	Probably no	Probably yes (1)	Yes (1)		

Additional Comments

While the preliminary data is encouraging, the training of manpower may be difficult and demands closer evaluation.