Journal of Neonatal Surgery
ISSN(Online): 2226-0439
Vol. 14, Issue 31s (2025)
https://www.jneonatalsurg.com

OPEN ACCESS

Effectiveness of Mental Health Tool Kit In Adolescents: Pilot Study

Mr. Nikhil Ingawale[1], Dr. Supriya Pottal- Ray[2]

[1]Ph.D Scholar, Bharati Vidyapeeth (Deemed to be University), Pune.

[2]Ph.D Guide, Associate Professor, Bharati Vidyapeeth (Deemed to be University), Pune.

Cite this paper as: Mr. Nikhil Ingawale, Dr. Supriya Pottal- Ray, (2025) Effectiveness of Mental Health Tool Kit In Adolescents: Pilot Study. *Journal of Neonatal Surgery*, 14 (31s), 453-456.

1. INTRODUCTION

In India, children with mental health disorders are mostly undiagnosed and children are reluctant in seeking help for treatment. Before pandemic of COVID-19 approximate 50 million children in India suffered with mental health issues out of which 80 – 90 per cent have not sought support.(UNICEF report 2024)[1].

Children and adolescents require cognitive and social emotional skills to achieve stable mental health. Quality of environment and negative experience in home/schools/digital spaces or illness/poverty/violence contribute to the increase in the risk of mental illness. Total of 8% of children and 15% of adolescents experience mental disorder but many of them do not seek or receive proper care. If these mental health issues are not addressed, it outstretches to adulthood and limits opportunities for future lives. (World Health Organization, 2024)[2]. As per public health report some of the tools, which are currently available to measure mental wellbeing and to identify related factors, which influence mental wellbeing are: The Warwick Edinburgh Mental Wellbeing Scale (WEMWBS), the Short Warwick Edinburgh Mental Wellbeing Scale (SWEMWBS),Huebner's Student Life Satisfaction Scale, The Good Childhood Index which are *Multi-dimensional scales* and Office for National Statistics (ONS) single item questions which is *single question measure*. (Public Health England, 200..)

Regular physical activity is important in cognitive development and achieving good mental in children and adolescents. (WHO, 2024). Exercise or physical activity enhances mood and self-esteem and decreases stress tendencies. Exercise and yoga are effective activities and therapies in a variety of mental health conditions. Breathing or relaxation exercises may have an impact on a practitioner's mental health. Due to its cultural significance among Indians and its low to moderate activity level, yoga as physical activity is appropriate activity for the assessment of mental health (Mahindru, 2023).

In India there is scarcity of literature and interventional studies that evaluates the effect of physical activity and other social activities that enhance the mental health particularly in adults. More research is required in this area, where structured physical activity program that benefits mental well beingis tailored as per Indian context.

2. MATERIAL AND METHODS

The study protocol was presented and approved by the Institutional Human ethics committee.

Thirty adolescents in the age group of 14 to 16 years of age and of either sex, willing to participate in the study were recruited with written consent. Adolescents with emotional or behavioural disorders were, excluded from the study.Consent was obtained in either English or Marathi language.

Total 15 adolescents were recruited in each control and experimental group. Participants in interventional group received a structured mental health tool kit intervention which comprised of 50 minutes activity programme for period of 6 weeks for alternate days. Mental health tool kit included activities like yoga, alphabet games, breathing exercises, story narration and group activities.

Data was collected using structured form to assess demographic variables.Pre and post intervention mental health status was assessedusing modified Abraham and Prasanna mental health status scale. Study design was Quasi-experimental including pre-test and post-test. The scale consisted of physical, intellectual, psychological, familial, and social dimensions. Answers were obtained using codes 0, 1, and 2 (0=no; 1=sometime and 2=yes for positive questions and 0=yes; 1= sometimes and 2=no for reverse scoring of negative questions). Total score obtained was interpreted as inadequately maintained mental health (for score ≤ 20), moderately maintained mental health (for score in range 21 - 40) and adequately maintained mental health (for score 41-60).

Demographic variables are expressed in frequency and percentage. Researcher applied paired t-test for the effectiveness of mental health tool kit on mental health among adolescents in experimental group. Mental health pre and post-test in both groups are expressed as mean ± standard deviation (SD). If the corresponding *P*-value was small (less than 0.05), the null hypothesis was rejected.

3. RESULTS

Demographic details:

Total 15 students were enrolled in the study in experimental and control group each. In the age group of 14 to 15 years; total 14 students (93.3%) were enrolled in experimental group and 10 students (66.7%) were enrolled in control group. In the age group of 15.1 to 16 years, only 1 student (6.7%) was enrolled in experimental group and 5 students (33.3%) were enrolled in control group.

In experimental group 3 students (20%), participants had living with single parent/broken family whereas in control group none of the participants were having single parent/broken family. In experimental group, 5 participants (33.3%) were having joint family and 7 participants (46.7%) were living in nuclear family. In control group, 7 participants (46.7%) were having joint family and 5 participants (33.3%) were living in nuclear family.

In experimental group, 10 participants (66.7%) had monthly family income upto Rs.15000 and 5 participants (33.3%) had monthly family income in range of Rs. 15001-25000. In control group, 9 participants (60%) had monthly family income upto Rs.15000, and 1 participant (6.7%) had monthly family income in range of Rs. 15001-25000, 2 participants (13.3%) had monthly income in the range of Rs.25001-35000 and 3 participants (20%) of them had monthly family income above 35000.

Pre-interventional mental health assessment:

Mental health status assessed in both groups was categorized as inadequate maintained, moderately maintained, and adequately maintained. Before intervention, the mental health status appeared to be moderately maintained in 10 participants (66.7%) in experimental group and in 12 participants (80%) in control group(Fig 1). In rest of the participants, the mental health status assessed were adequately maintained. None of the participants in either group had inadequate mental health status (Fig 1).

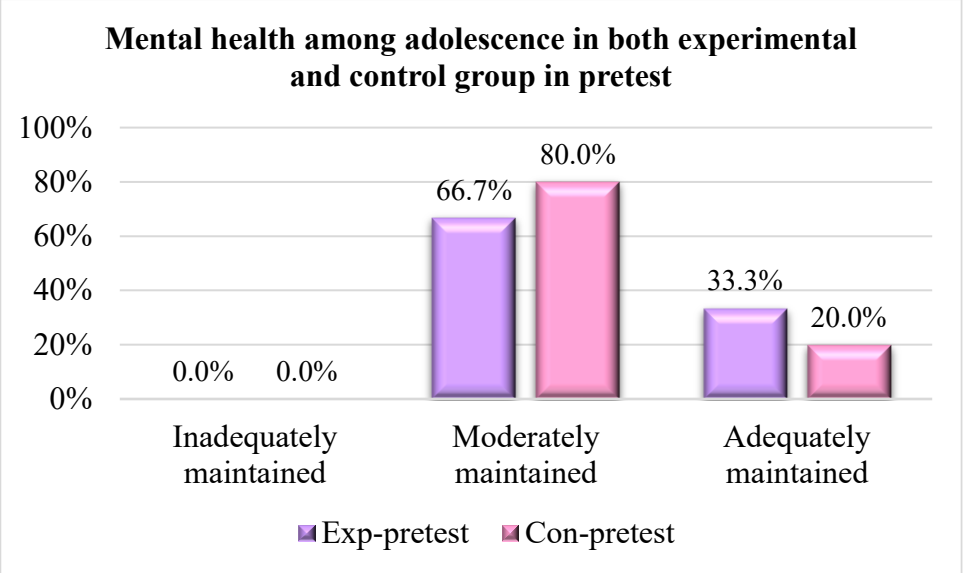

Figure 1: Pretest mental health assessment

Post intervention of mental health assessment:

After intervention, mental health assessment revealed that 11 participants (73.3%) had adequately maintained mental health and 4 participants (26.7%) revealed moderately maintained mental health status (Fig 2). In control group, 10 participants (66.7%) had moderate maintained health status and 5participants (33.3%) had adequately maintained health status. None of the participants in the either group revealed inadequately maintained mental health status (Fig 2).

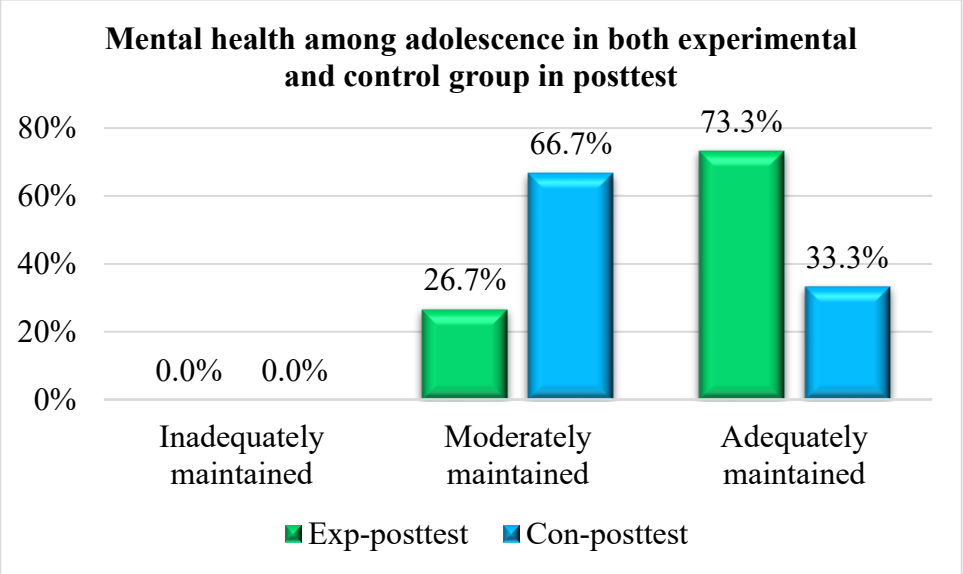

Figure 2: Post-test mental health assessment

Difference in the mental health wellbeing score was significant p value less than 0.05

4. DISCUSSION

Present study that majority of the participants enrolled in the study were in the age group of 14 to 15 years. Parents of the majority of participants enrolled in the study had not received formal education or were educated only till primary level. This reveals that most of parents of participants did not receive higher level of education.

Majority of the participants recruited in the study were staying in a nuclear family. The family income of majority of these participants were below average range.

Post intervention mental health status improved in the experimental group in the current study. The percentage of participants in the adequately maintained group increased to 73.3% post-test as against 33.3% pre-test. There was no statistical difference in control group in pre-test and post-test.

Regular physical activity aids in improving the functioning of the hypothalamus-pituitary-adrenal (HPA) axis, lowering cortisol secretion and restoring the balance of leptin and ghrelin. Physical activity increases plasma brain-derived neurotrophic factor (BDNF), which is thought to reduce amyloid-beta toxicity linked to Alzheimer's disease progression (Mahindru, 2023).

In a recent systemic review conducted by Balamurugan et al (2024) on the literature published between January 2013 and August 2023 in PubMed, Scopus, Cochrane Library, and Eric database reported mental health issues in school going children and adolescents in India. Review analysed 31 studies with sample size of 30,970. Mean age of children and adolescents in the study was 14.58 years (SD: 1.35 years). Depression was common mental health issue in children followed by issues like social, behavioural, and emotional problems, anxiety, psychological distress, internet technology addiction, stress, social phobia, sexual and emotional abuse, violence, and attention deficit hyperactive disorder. Personalized interventions as per mental health disorder or issues is important and will enhance overall well being of students. (Balamurugan et al (2024).[2]

Systemic meta-analysis and review article stated that intervention with digital tools promote well being, and help to relive anxiety. (Wright et al 2023).

Boucher et al (2024), in a randomized controlled trial evaluated the efficacy of self-guided DMHI (Happify for Teens) on perceived stress and rumination (ie, brooding).The study was carried out in the adolescents in age group of 13 to 17 years of age. In the intervention group, adolescents were given the program for 12 weeks. The program was effective in reducing stress, rumination and loneliness in adolescents who received the digital program. The authors concluded that this program was cost effective and more scalable in schools for adolescents (Boucher, 2024).

In present study, results demonstrate that 6 week activity and group based program is useful in elevating the mental health wellbeing in adolescents.

REFERENCES

[1] *UNICEF report spotlights on the mental health impact of COVID-19 in children and young people. UNICEF. [Feb; 2024]. 2021.* https://www.unicef.org/india/press-releases/unicef-report-spotlights-mental-health-impact-covid-19-children-and-young-people https://www.unicef.org/india/press-releases/unicef-report-spotlights-mental-health-impact-covid-19-children-and-young-people Improving the mental and brain health of children and adolescents. World Health Organization. [Mar; 2024]. https://www.who.int/activities/improving-the-mental-and-brain-health-of-children-and-adolescents https://www.who.int/activities/improving-the-mental-and-brain-health-of-children-and-adolescents

[2] Balamurugan G, Sevak S, Gurung K, Vijayarani M. Mental Health Issues Among School Children and Adolescents in India: A Systematic Review. Cureus. 2024 May 25;16(5):e61035. doi: 10.7759/cureus.61035

[3] Wright M, Reitegger F, Cela H, Papst A, Gasteiger-Klicpera B. Interventions with Digital Tools for Mental Health Promotion among 11-18 Year Olds: A Systematic Review and Meta-Analysis. J Youth Adolesc. 2023 Apr;52(4):754-779. doi: 10.1007/s10964-023-01735-4.

[4] Measuring Mental Wellbeing in Children and Young People. Public Health England. Published Sept 2015. Available at: chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://assets.publishing.service.gov.uk/media/5c2f66daed915d731281fdc2/Measuring_mental_wellbeing_in_children_and_young_people.pdf. Last accessed April 1, 2025.

[5] Boucher EM, Ward H, Miles CJ, Henry RD, Stoeckl SE Effects of a Digital Mental Health Intervention on Perceived Stress and Rumination in Adolescents Aged 13 to 17 Years: Randomized Controlled Trial J Med Internet Res 2024;26:e54282

[6] MahindruA, Patil P, Agrawal V. Role of physical activity on mental health and well-being: A review. *Cureus*. 2023;15(1):e33475. doi: 10.7759/cureus.33475.

[7] Physical activity. World Health Organization. Last accessed 16 April 2025. Available at: https://www.who.int/news-room/fact-sheets/detail/physical-activity