

control group was similarly completed by the same questionnaire. These outcomes have been used for the evaluation of interventions on the prevention of Internet addiction disorder in the previous school-based studies among adolescents (Throuvala et al. 2019). It should be emphasized that Internet addiction disorder needs urgent attention among policymakers and program planners before it becomes an uncontrollable behavioral issue among adolescents. Few obstacles were encountered while implementing the educational package. Due to the Covid 19 pandemic, strict guidelines had to be taken while conducting the workshops. The principal investigator had to alter some life skill development activities in the modules to keep the minimum distance among the participants. Many academic hours have been lost due to the school closure during the pandemic situation.

Allocation of time slots for the intervention had also been a challenge since the school authorities had to maximally use the available periods to cover the routine curriculum. However, considering the importance and the time appropriateness of the topic, school principals and teachers provided their fullest support to implement the package. The response rate of the intervention group was 97.2% and in the control group, it was 96.3%. The response rates reflect the minimum loss of follow-up rates indicating high validity of the results of the study. There was no statistically significant difference between the intervention and control groups in terms of age ($\chi^2=1.72, df=1, p=0.678$), sex ($\chi^2=1.43, df=1, p=0.231$) and school grade ($\chi^2=0.172, df=1, p=0.678$). Therefore, no significant difference in baseline characteristics was observed between the two groups. Comparison of the proportion of study participants with Internet addiction disorder among the intervention and the control groups at the postintervention stage revealed that there was a statistically significant difference between the proportions of the two groups ($\chi^2=9.026, df=1, p=0.003$) with the reduced proportions of adolescents with internet addiction disorder in the intervention group. Out of a large number of scientific studies on Internet addiction disorder, only a few have been available in the literature on the preventive aspects.

Ruggieri (2016) conducted a school-based intervention on the prevention of Internet addiction disorder among adolescents in 2016 in Italy showed a significant reduction of the levels of Internet addiction disorder between pre-test and post-test values for both males and females ($p=0.038$). Throuvala et al. (2019) compared post-test scores between intervention and control groups following a peer training programme on secure internet use among adolescents and reported a significant difference in favor of the intervention group ($U=40350.5, p<0.05$). Since the study groups were small, nonparametric tests have been used for the analysis. Preintervention comparison revealed there was no statistically significant difference observed between intervention and control groups in terms of the proportion of time used on the internet for non-academic activities ($\chi^2=0.029, df=1, p=0.865$), social media use ($\chi^2=2.005, df=1, p=0.157$), and engagement in internet gaming ($\chi^2=0.702, df=1, p=0.402$). Therefore, no statistically significant difference was observed between the intervention and control groups at the baseline. This result was expected since the two educational zones of the study groups were relatively homogeneous in terms of sociodemographic, environmental, and educational characteristics. Both the areas have similar education systems and almost similar information sources. Relevant post-intervention outcomes were also determined accordingly between two groups and assessed the effectiveness of the intervention.

Post-intervention comparison of the proportion of adolescents who used more than 3 hours per day for non-academic use among the intervention and the control groups revealed that there was no statistically significant difference between the two groups even after the intervention ($\chi^2=0.560, df=1, p=0.454$). This was an unexpected result since the intervention modules were largely focused on the reduction of screen time among the intervention group. The proportion of study participants engaged in social media ($\chi^2=10.6, df=1, p=0.001$) and the extent of engagement in Internet gaming ($\chi^2=5.514, df=1, p=0.019$) among the intervention and the control groups at the postintervention stage reported that there was a statistically significant difference in favor of the intervention group. Comparison of the mean difference of total IAT scores at the pre and post-intervention of the intervention group using paired t-test revealed a statistically significant difference between mean differences of pretest and post-test IAT scores ($t=-0.412, df=279, p=0.001$). A similar result was observed in a school-based study conducted in 2016 in Italy that reported a significant difference following the intervention among the study participants. However, the outcome assessment was carried out for males and females separately and reported mean difference between pre-and post-test IAT scores among males were 7.29 (SD=16.36, 95% CI:2.38-12.2, $p<0.001$) and for females 5.33 (SD:16.76, 95% CI:0.29-10.37, $p=0.038$) (Ruggieri 2016). There are limited studies available in the literature on the preventive aspects of Internet addiction disorder. Different outcome assessment methods, different instruments used, and different methodologies were the major challenges to compare and contrast the different interventional studies. Considering the results of primary and secondary outcome assessment of the Quasi-experimental study it can be concluded that the educational package for the prevention of Internet addiction disorder is being effective.

Conclusions

1. It is recommended to use both versions of Internet Addiction Test (IAT-Sinhala version and IAT-Tamil version) for assessment of Internet addiction disorder among 15-19-year-old school-going adolescents, provided they are valid and reliable.
2. Use of both versions of IAT-Sinhala and IAT-Tamil is recommended in future observational studies among different adolescent populations owing to the acceptable psychometric properties of these validated tools to explore the concept of Internet addiction disorder further.

3. Future studies with the qualitative assessment of Internet Addiction disorder are recommended. This would assess the implications which could provide more valid information to minimize the risk behaviors in terms of internet use.

4. Since the causal effects between the Internet addiction disorder and the associated factors could not be confirmed due to the cross-sectional nature of the study design, longitudinal studies are recommended to establish the temporal associations.

5. Since there are significant associations between the Internet addiction disorder and the excessive engagement of internet gaming, excessive internet usage time per day for nonacademic activities, and parental use of the internet, it is recommended to make parents aware of the risk behaviors in terms of internet use.

6. Parents and teachers need to explain that adolescents should be educated regarding the responsible use of the internet and balancing the time between internet surfing, academic activities, and outdoor physical activities.

7. The quasi-experimental study showed that developed educational package for the prevention of Internet addiction disorder is effective. Similar interventions should be implemented at different settings to prevent and control Internet Addiction Disorder

8. Both versions of validated IAT and the developed educational package are recommended to use in future prevention programs and to advocate policymakers and administrators to implement programs for prevention, diagnosis, and management of Internet addiction disorder.

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