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Multidisciplinary lifestyle intervention in children and adolescents - results of the GRIT (Growth, Resilience, Insights, Thrive) pilot study (11519)

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Background and Aims: Behavioural risk factors for the development of chronic diseases in children and adolescents include poor dietary quality and sedentary lifestyle. The aim of this study was to determine the effect of a real-world multidisciplinary intervention on cardiorespiratory fitness, dietary quality, and self-concept in sedentary children and adolescents aged 9 to 15 years.

Methods: Project GRIT (Growth, Resilience, Insights, Thrive) was a pilot single-arm intervention study. The 12-week intervention involved up to three outdoor High Intensity Interval Training (HIIT) running sessions per week, five healthy eating education or cooking demonstration sessions, and one mindful eating and Emotional Freedom Technique psychology session. Outcome measures at baseline and 12-week follow-up included maximal graded cardiorespiratory testing, the Australian Child and Adolescent Eating Survey, and Piers-Harris 2 children's self-concept scale. Per protocol analyses were performed.

Findings: Of the 38 recruited participants (median age 11.4 years, 53% male), 24 (63%) completed the 12-week intervention. Dropouts had significantly higher diet quality and tended to be more fit at baseline. Completers attended a median 58% of the 33 exercise sessions, 60% of the dietary sessions, and 42% attended the psychology session. Absolute VO_2peak at 12 weeks increased by 96.2 ± 239.4 mL/min ($p=0.06$). As a percentage contribution to energy intake, participants increased their intake of healthy core foods by $6.0 \pm 11.1\%$ ($p=0.02$), and reduced intake of confectionary ($p=0.003$) and baked products ($p=0.02$). Participants significantly improved self-concept with an increase in average *T*-Score for the total scale by 2.8 ± 5.3 ($p=0.02$) and the 'physical appearance and attributes' domain scale by median 4.0 [IQR 0.5-4.0] ($p=0.02$).

Discussion/Conclusion: The 12-week GRIT pilot indicated promising results; the group-based multidisciplinary lifestyle intervention for children and adolescents improved dietary quality and self-concept. Future practice and research should focus on providing sustainable multidisciplinary lifestyle interventions for children and adolescents aiming to improve long-term health and wellbeing.