

Parental Nutritional Awareness for Enhancement of Child Nutrition and Healthy Lifestyle: A Literature Review

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DOI: 10.52340/GBMN.2023.01.01.49

ABSTRACT

Schooling age is the critical period for children that requires a nutrient-dense diet. At this age, the physiological demand for nutrients is relatively high for energy needs. Healthy school meal programs in place from early childhood and/or adolescence are instrumental to preventing or reversing the adverse health effects of malnourishment (over and undernutrition). Parental knowledge of nutrition and respective practices could positively affect the future development of children. Georgia, as a middle-income country, faces challenges of malnutrition among children as well as a lack of resources (professional and financial) to introduce healthy school meal programs. Therefore, empowering parents by providing them with relevant nutritional knowledge and practical recommendations is critical for the benefit of future generations.

Keywords: Family-based Nutrition Intervention; nutrition; parental awareness; schoolchildren.

INTRODUCTION

Schooling age is a critical time for children who require a nutrient-dense diet because, during this period, the physiological demand for nutrients is relatively high for energy needs. Adequate nutrition at an early age provides nourishment for sufficient energy and nutrients, such as good quality protein with an appropriate balance of essential amino acids, vitamins, and minerals. Poor diet and malnutrition have well-documented devastating effects on children's health, school performance, and ability to learn, thus damaging their future productivity and earning potential.¹⁻³ Over the last decades, addressing malnutrition has become a priority for donors and national governments. As a result, there has been an annual decline of 2.1% in stunting among children less than five years old globally.

Similarly, there has been a 36% decrease in the global incidence of underweight while wasting has decreased by 11% from 58 million in 1990 to 52 million in 2011.⁴ Despite these positive developments, the most worrying statistics show that globally, nearly 200 million children go to bed hungry daily. In addition, poor nutrition causes nearly half (45%) of deaths (3.1 million) in children under five each year.⁵ In some counties, where early childhood interventions are limited, family-based nutritional interventions (e.g., tailored nutritional education for parent/s) have offered the opportunity to address malnutrition at the childhood level and contributed to catch-up growth.⁶ Healthy eating in early childhood is associated with optimal growth and physical and cognitive development.^{7,8} Raising nutritional awareness among parents could potentially decrease the prevalence of non-communicable diseases such as dental caries, obesity,

and type 2 diabetes mellitus.⁸ Because of this public health issue, different types of school-based interventions have been introduced to solve the problem of malnutrition (obesity and undernutrition). However, children spend only half of the day in class and only nine months during a year at school. Therefore, to ensure sustainable change, it is essential to engage the family in developing the healthy eating intervention programme.⁹

REVIEW

Children are the most vulnerable part of the population. According to a 2018 study in Georgia,¹⁰ schoolchildren face serious malnutrition problems, with 35% of grade 4 feeling hungry at school. This situation would impact pupils' academic performance, cognition, and achievement.^{10,11} In the case of Finland, it was reported that a healthy diet (rich in vegetables, fruit, berries, whole grain, fish, and unsaturated fats, and low in sugary products) is associated with better reading skills during the first three years at school.¹² In parallel, the relatively high cost of food on the world market contributed to the increased availability of cheap, energy-dense, low-micronutrient foods that are attractive to children to be well-fed (empty calories) but would experience a lack of essential micronutrients for optimal growth. This is known as the trickle-down effect - an increasing prevalence of childhood obesity among the undernourished children.^{4,13-16} As a result, the occurrence of overweight and obesity in Georgia is relatively high among 7-year school children nationwide (22% among girls and 26% among boys). It has to be noted that in the case of Georgia, the coexistence of obesity and undernutrition in the same



population presents a typical situation of double burden of disease. Therefore, developing a well-tuned intervention program with relevant policy to deal with this complex situation with limited financial resources is challenging for policymakers.

Hence, developing a family-based healthy eating intervention program is essential to alleviate the impact of malnutrition among school-age children living in Georgia. Regrettably, no comprehensive professional educational programs exist on Nutritional science in the Georgian language. Therefore, there needs to be more qualified nutritionists and, as a result, more professional expertise related to diet and lifestyle. Additionally, because nutritional science is a relatively new subject, medical doctors mainly cover related issues, particularly endocrinologists. In most cases, doctors and GPs need proper training and education in this field because nutrition is separate from the curriculum in the medical schools in Georgia. This gap in the clinical nutrition sector is one side of the problem, but there is also a need for more professional nutritionists in Georgia's public health sector. In parallel, there is a severe demand for public health nutritionists to design and implement essential nutritional intervention programs for different population target groups, especially children and adolescents.

Many studies explore the issue of the parent's nutritional education and its influence on children's attitudes toward healthy eating and healthy lifestyle.^{17,18} Unfortunately, similar research was never carried out in Georgia, and therefore, it is essential to learn about the best international practices and use them later to examine the Georgian case.

Currently, many researchers focus their studies on the interventions and prevention of health-related issues due to the increased level of obesity in children at the global level.¹⁹ These studies demonstrated that the level of the parent's knowledge is associated with positive developments, especially regarding a healthier lifestyle and diet.²⁰⁻²⁵

Nevertheless, few studies analyze the relationship between nutritional knowledge, parents' confidence, and children's health.^{26,27} The parent's influence is essential to the successful intervention strategy and could be considered in the nutritional programs.²⁸ Studies showed that the parent could motivate the child to a healthier lifestyle.²⁹ The confidence in the parent's nutritional knowledge also helps them convert it into practice and concrete action. As a result, parents' knowledge of the essentials of nutrition could positively affect the future development of children.³⁰ For example, Finland successfully introduced an effective nutrition program to fight the obesity problem in the children population.¹⁸ The final experience is about introducing educational school programs, which include healthy meals for pupils and, at the same time, educating children about nutrition. The students were involved in preparing food and meals to understand the process better. They also learn about essential nutrients, the importance of

nutrition, and the importance of reducing food waste. At the beginning of this program, the percentage of obesity in children in Finland was 35%, while now it is reducing to 2%.¹⁸ Educational support could be considered as one of the critical factors in decreasing the rate of obesity in children and preventing chronic illnesses in adulthood.

Another interesting example is the program in Bangladesh implemented by the Global Alliance for Improved Nutrition to minimize malnutrition problems in children.³¹ The program involved the mothers' clubs created to manage and monitor the interventions. The clubs aimed to educate parents about nutrition, food preparation, safety, and hygiene issues. The objective of the GAIN program was to offer children proper nutritional meals with essential calories, educate parents about nutrition, and increase the enrollment of children in primary schools. Mid-term assessment results of this program have demonstrated that the enrollment rate of children at school increased by more than 40% after implementing the GAIN programme.³¹ Most of the research used a cross-sectional design and randomized control trials.

CONCLUSION

Nutrition, health, education, food security, and poverty eradication will continue to be the main priorities of the Global agenda for sustainable development. The parents are the critical role models and influencers for the children. The influence includes diet, physical activity, and developing healthy habits, behaviors, and attitudes. According to the literature review, age represents a significant factor and is increasingly associated with low parental impact. The current literature review highlighted the importance of nutritional education for a parent to ensure good nutrition for their children. The Nutrition sector is new in Georgia, and no single study explores parents' nutritional knowledge and problems related to children's diet.

Similarly, the review focused on international practice, which shows a clear gap in different countries between the availability of nutritional guidelines and healthy lifestyle information for children that meets the needs of parents. It is recommended to work on developing public health resources and design practical guidelines for parents to promote healthy lifestyles among children, especially from an early age. These findings are valuable for designing future interventions to address the needs of parents, including practical nutrition strategies considering local circumstances and other requirements, including age groups and characteristics, like cultural background.

Like many countries in similar economic situations, Georgia currently faces a malnutrition problem among children. In this context, the empowerment of parents by giving them relevant nutrition guidelines and professional practical recommendations for better diets for their children starting from early childhood is critical. Essential nutrition

education for parents could contribute to the significant and long-lasting impact on various child development determinants. It is, therefore, essential to develop simple educational materials for parents in the Georgian language in different formats (digital/online and hard copy) and provide relevant assistance to put them into practice.

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ACKNOWLEDGEMENTS

I want to thank the University of Westminster and my supervisor, Dr Ihab Tewfik, for the unique opportunity to do this research. I also want to express my deep appreciation to the Tbilisi State Medical University and my local supervisor, Dr Levan Baramidze.

REFERENCES

- Walker, S.P., Wachs, T.D., Gardner, J.M., Lozoff, B., Wasserman, G.A., Pollitt, E., Carter, J.A. and International Child Development Steering Group, (2007). Child development: risk factors for adverse outcomes in developing countries. *The Lancet*, 369(9556), pp.145-157.
- Victora, C.G., Adair, L., Fall, C., Hallal, P.C., Martorell, R., Richter, L., Sachdev, H.S. and Maternal and Child Undernutrition Study Group, (2008). Maternal and child undernutrition: consequences for adult health and human capital. *The Lancet*, 371(9609), pp.340-357.
- Black, R.E., Victora, C.G., Walker, S.P., Bhutta, Z.A., Christian, P., De Onis, M., Ezzati, M., Grantham-McGregor, S., Katz, J., Martorell, R. and Uauy, R., (2013). Maternal and child undernutrition and overweight in low-income and middle-income countries. *The Lancet*, 382(9890), pp.427-451. <https://www.iaea.nl/sites/default/files/201904/PIRLS%202016%20Malta%20Report.pdf>
- UNICEF. (2009) Annual Report 2009, [online] Available at: www.unicef.org/publications/files/UNICEF_Annual_Report_2009_EN_061510.pdf
- USAID. (2013). PROGRESS REPORT [online] Available at: https://cg-281711fb-71ea-422c-b02c-ef79f539e9d2.s3.us-gov-west-1.amazonaws.com/uploads/2018/03/feed_the_future_progress_report_2013.pdf
- UNICEF. (2007) Community-based management of severe acute malnutrition; A Joint Statement by the World Health Organization, the World Food Programme, the United Nations System Standing Committee on Nutrition and the United Nations Children's Fund. [online] Available at: https://www.unicef.org/nutrition/files/Community_Based_Management_of_Severe_Acute_Malnutrition.pdf
- Van Cauwenberghe, E., Maes, L., Spittaels, H., van Lenthe, F.J., Brug, J., Oppert, J.-M., De Bourdeaudhuij, I., (2010). Effectiveness of school-based interventions in Europe to promote healthy nutrition in pupils and adolescents: systematic review of published and 'grey' literature. *British Journal of Nutrition*, 103, 781-797.
- Centers for Disease Control and Prevention, (1996). Guidelines for school health programs to promote lifelong healthy eating. *Morbidity and Mortality Weekly Report*, 45, 1-3.
- Shinde S, Wang D, Fawzi WW. (2021) School-based interventions targeting double burden of malnutrition and educational outcomes of adolescents in low- and middle- income countries: protocol for a systematic review. *Syst Rev*. 2021 Jul 10;10(1):204. doi: 10.1186/s13643-021-01756-9. PMID: 34246315; PMCID: PMC8272909.
- Global Nutrition Report. (2019). 2018 Global Nutrition Report - Global Nutrition Report. [online] Available at: <https://globalnutritionreport.org/reports/global-nutrition-report-2018/>.
- Progress In International Reading Literacy Study (PIRLS). (2016) Progress in international reading literacy study 2016 National report Malta 2016 Ministry for Education and Employment. [online] Available at:
- Haapala, E.A., Eloranta, A.M., Venäläinen, T., Jalkanen, H., Poikkeus, A.M., Ahonen, T., Lindi, V. and Lakka, T.A., 2017. Diet quality and academic achievement: a prospective study among primary school children. *European journal of nutrition*, 56(7), pp.2299-2308.
- Johnson, C.L., Hedley, A.A., Ogden, C.L., Carroll, M.D., Curtin, L.R. and Flegal, K.M. (2004). Prevalence of overweight and obesity among US children, adolescents, and adults, 1999-2002. *Jama*, 291(23), pp.2847-2850.
- Garrett, J. and Ruel, M.T. (2005). The coexistence of child undernutrition and maternal overweight: prevalence, hypotheses, and programme and policy implications. *Maternal & child nutrition*, 1(3), pp.185-196.
- Prentice, A.M. (2006). The emerging epidemic of obesity in developing countries. *International journal of epidemiology*, 35(1), pp.93-99.
- Gustafson, B., Hammarstedt, A., Hedjazifar, S. and Smith, U. (2013). Restricted adipogenesis in hypertrophic obesity: the role of WISP2, WNT, and BMP4. *Diabetes*, 62(9), pp.2997-3004.
- Hart, L.M., Damiano, S.R., Cornell, C. and Paxton, S.J., (2015). What parents know and want to learn about healthy eating and body image in preschool children: a triangulated qualitative study with parents and Early Childhood Professionals. *BMC public health*, 15(1), pp.1-13.
- Sultana, N., (2017). Nutritional Awareness among the Parents of Primary School going Children. *Saudi J. Humanities Soc. Sci*, 2(8), pp.708-725.
- McKee, C., Long, L., Southward, L., Walker, B., & McCown, J. (2016). The role of parental misperception of child's body weight in childhood obesity. *Journal of Pediatric Nursing*, 31, 196-203. <https://doi.org/10.1016/j.pedn.2015.10.003>
- Cullinan, & Cawley. (2017). Parental misclassification of child overweight/obese status: The role of parental education and parental weight status. *Economics and Human Biology*, 24, 92-103. <https://doi.org/10.1016/j.ehb.2016.11.001>
- Howe, C., Alexander, G., & Stevenson, J. (2017). Parents' underestimation of child weight: Implications for obesity prevention. *Journal of Pediatric Nursing*, 37, 57-61. <https://doi.org/10.1016/j.pedn.2017.06.005>
- Grossklaus, H., & Marvicsin, D. (2014). Parenting Efficacy and its relationship to the prevention of childhood obesity. *Pediatric Nursing*, 40(2), 69-86.
- Leary, J., Ice, C., Neal, W., & Cottrell, L. (2013). Parent and child weight status predict weight-related behavior change. *Journal of Communication in Healthcare*, 6(2), 115-121. <https://doi.org/10.1179/1753807612Y.0000000021>
- Rhee, K. (2008). Childhood overweight and the relationship between parent behaviors, parenting style, and family functioning. *The Annals of the American Academy of Political and Social Science*, 615, 12-37. <https://doi.org/10.1177/0002716207308400>

25. Scaglioni, S., Salvioni, M., & Galimberti, C. (2008). Influence of parental attitudes in the development of children eating behavior. *British Journal of Nutrition*, 99(1), S22- S25. <https://doi.org/10.1017/S0007114508892471>
26. Grossklaus, H., & Marvicsin, D. (2014). Parenting Efficacy and its relationship to the prevention of childhood obesity. *Pediatric Nursing*, 40(2), 69-86.
27. Montigny, F., & Lacharite, C. (2005). Perceived parental efficacy: concept analysis. *Journal of Advanced Nursing*, 49(4), 387-396. <https://doi.org/10.1111/j.1365-2648.2004.03302.x>
28. Affendi, I., Nor Asiah, M., Normi, M., Mohd Hatta, A., Noor Aliza, L., Sabtuah, M., ... Suraiya, S. (2018). Association between Self-Efficacy and Health Behavior in Disease Control: A Systematic Review. *Global Journal of Health Science*, 10(1), 18-36. <https://doi.org/10.5539/gjhs.v10n1p18>
29. Savage JS, Fisher JO, Birch LL. (2007). Parental influence on eating behavior: conception to adolescence. *J Law Med Ethics*. 35(1):22–34.
30. Yu, M. (2011). Parenting efficacy: How can service providers help? *Family Relationships Quarterly*, 19, 1-8.
31. GAIN (2016). Community led Integrated School Nutrition Program Retrieved from <http://www.gainhealth.org/knowledge-centre/project/community-led-integrated-school-nutrition-program/>