

NUTRITIONAL LITERACY EDUCATION AS A PREVENTIVE PATHWAY FOR MENTAL HEALTH AND WELL-BEING OF THE FUTURE WORKFORCE

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Abstract:

Mental Health is an important factor in work productivity and effectiveness in the workplace. Though remedial measures in the work environment are common in workplace interventions, the need for an independent pathway of prevention in the education system has arisen considerably. The paper is based on an ongoing doctoral research project focused on the development of nutritional literacy programmes for secondary school students.

Nutritional literacy includes knowledge and attitudes. Eating behaviours have important applications in the cognitive and mental processes, such as emotion regulation and stress coping. The teenage years include an important phase, where eating behaviours are shaped and practised throughout later stages of adulthood, including the work environment. This article presents a conceptual framework and programme elements that focus on developing adaptive eating behaviours and health-promoting attitudes toward foods.

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Introduction:

With the dawn of the 21st century, mental health and wellness have become vital determinants of productivity and sustainability in the workplace. According to the World Health Organisation, “A decent and supportive work environment is considered not only a right but also a protective factor that promotes mental health, confidence, and inclusion in the social sphere, as psychosocial hazards affect mental wellbeing and productivity in the workplace.”¹

At the same time, there is evidence indicating a significant and mechanical relationship between diet and mental health across every stage of life, where a healthy pattern of eating is associated with neuro-

cognitions, emotional statuses, and psychological resilience. Systematic reviews suggest that unhealthy eating patterns dominated by ultra-processed and energy-dense foods and a poor composition of meals present a negative association regarding mental health in adolescents and children, and a healthier composition is associated with a reduction in depressive symptoms and in psychosocial function in a healthier state. Also, there is evidence suggesting the significance of healthy eating in regard to stress management and positive mental health in adolescents. Nutrient-dense foods are known to provide biological substrates for the functions and health of the brain, including omega-3 fatty acids and nutrients with

¹ World Health Organization, *Mental Health at Work: Policy Brief* (2022).

regulatory actions for neurogenesis and neuroinflammation.²³

Adolescence is an important phase in one's lifetime where food habits and mental conditioning occur, and it has a long-term effect on performance, stress management, and mental conditions in adult years. As stated by the WHO, every 8% of children and 15% of adolescents are suffering from mental ill-health, but it is fewer who receive appropriate attention to meet the requirements of mental conditioning in the early years of life in the form of preventive and education-based strategies in early years of life than the above-provided need.⁴ Thus, nutritional education in schools becomes an innovative strategy in the preventive measures in the above-mentioned scenario. It has been based on an educational programme of nutritional conditioning for adolescents in the second level of education in the country, termed "secondary education".

Understanding Nutritional Literacy:

Nutritional literacy has been identified in contemporary health literature as an essential practical skill that bonds scientific knowledge to application.⁵ It has been found to comprise three interrelated components: knowledge, attitudes, and practices. Knowledge entails comprehension of nutrient components, food classes, nutrition guidelines, and the role of diet in relation to health, for example. Attitude entails beliefs, values, and feelings about foods, such as the intention to consume healthy foods, food preferences, and beliefs about concepts of health and images of the body, for example. Practices encompass practically the way people consume food, in other words, what people actually

consume and the way in which they consume the foods they know, and so on. Nutritional literacy can have practical applications only when the three components work in harmony.⁶ Adolescence is also a very critical period in developing skills in nutritional literacy. During this stage, adolescents get a lot of freedom in relation to food choices, and this is a critical period when they undergo a lot of socialisation and peer pressure in relation to behaviours that are not done until adulthood. However, in this stage, a lot of accelerated growth occurs that increases nutritional needs. Unhealthy behaviour in relation to food is normally practised until adulthood.⁷

Nutrition and Mental Well-being:

Nutrition has been one of the key factors that have enabled the human brain to function. The human brain has been considered to require a steady and continuous intake of nutrients such as glucose, amino acids, fatty acids, vitamins and minerals. Consumption of poor quality food has increasingly been revealed to make one feel tired, irritated, lose concentration, as well as suffer from poor emotional stability. Not only does a balanced diet make one emotionally stable, but poor quality food has also been revealed to make one emotionally unstable.⁸

There are visible proofs through scientific research of the obvious connection between food habits and psychological well-being. The consumption of foods such as fruits, vegetables, and whole foods, proteins, and healthy fats is related to a lower chance of suffering from depression and anxiety and other psychological problems. On the other hand, a diet including heavy use

² Jacka, F. et al., Dietary Patterns and Depression Risk, 17 Psychol. Med. 1501 (2014).

³ Gomez-Pinilla, F., Brain Foods, 20 Nat. Rev. Neurosci. 568 (2008).

⁴ World Health Organization, *Adolescent Mental Health* (2021).

⁵ Vidgen, H. & Gallegos, D., Defining Food Literacy, 45 Appetite 50 (2014).

⁶ Nutbeam, D., Health Literacy as a Public Health Goal, 15 Health Promotion Int'l 259 (2000).

⁷ Sawyer, S. et al., Adolescence: A Foundation for Future Health, 379 Lancet 1630 (2012).

⁸ Benton, D., Nutrition and Brain Function, 5 Nutrients 253 (2013).

of refined carbohydrates has been associated with higher chances of psychological problems and depression. This has been shown through mechanisms such as inflammation and hormonal alterations in the brain or biochemistry.⁹

Nutrition further influences mental health in various biological ways. The application of omega-3 fatty acids, iron, zinc, vitamin B, and magnesium is essential in the production and regulation of mental functions. Lack of these nutritional aspects leads to poor concentration, fatigue, mood changes, and vulnerability to stress. Malnutrition also leads to the development of mental health disorders through the process of neuro-inflammation, which enhances the creation of depression and other mental health disorders.¹⁰

Enhancing mental wellness involves more than the lack of illness, as it involves areas like emotional stability, motivation, self-esteem, as well as the ability to cope with life. A healthy diet promotes energy, sleep, as well as emotions that have high importance within the positive functioning aspect of mental wellness. The better the diet, the better the self-esteem, involvement, as well as emotional stability among the teens.¹¹

Development of the Nutritional Literacy programme:

The nutritional literacy programme was designed with the vision of enhancing nutritional knowledge, promoting favourable attitudes towards healthy eating, and practising healthy eating habits among the secondary school children. The nutritional programme is based on the idea of addressing the issue of nutritional education in an effort to inculcate life skills in children with the intention of promoting healthy living. It has also been supported by the WHO and

other international bodies in terms of being the most appropriate place to practice healthy living among children.¹²

The approach to the programme's design is rooted in three main themes: relevance, participation, and integration. Relevance provides for connecting what is taught about food and its relation to the student's everyday life, culture, and food options. Participation relates to involving students actively through discussion, activity, and reflection, as opposed to mere listening. Integration covers connecting food and nutrition education with subjects such as science, social studies, or value education, as food is looked upon as more than just a biological need; it also involves aspects like social aspects, culture, or values.¹³

The intervention has been designed in a three-way approach: awareness generation, formation and development of attitudes, and development of habits. Awareness generation includes creating basic awareness in food constituents, food categories, healthy diets and diets in general, and the linkage between food, body, and mind. The students learn to read labels and recognise healthy and unhealthy foods. This lays the foundation stone for effective decision-making.¹⁴

The second stage, attitude formation, focuses on developing a positive feeling and value orientation towards healthy eating habits. The students are encouraged to identify their own attitudes, food habits, peer influence, and food messages from the media. Group discussions, anecdotes, and reflections help students develop a sense of food respect, avoid food waste, and look upon healthy eating as self-love, not starvation. It is a very essential stage, as simply

⁹ Jacka, F. et al., Western Diet and Mental Health, 31 Am. J. Psychiatry 305 (2010).

¹⁰ Bruce, T. & Becker, C., Nutrition and Mental Health Review, 15 Nutrients 1 (2023).

¹¹ WHO, *Healthy Diet* (2020).

¹² WHO, *School Health Promotion* (2019).

¹³ UNESCO & WHO, *Health-Promoting Schools* (2021).

¹⁴ Contento, I., *Nutrition Education* (2016).

providing knowledge does not lead to behaviour modification.¹⁵

The third part is all about instilling healthy habits among the targets. This part seeks to ensure that what has been learnt in class is implemented in real life, for example, meal planning, recording a simple food diary, healthy eating, and healthy eating in school and at home. This part is also geared towards implementing easy changes for motivation rather than challenging the students.¹⁶

The teaching staff plays a major role in ensuring the success of the programme. The basic training needed if the programme were to be a success would be based on concepts related to nutrition and how learning-centred teaching takes place.¹⁷ In this way, the nutrition literacy programme is not merely a subject of learning, but also a lifestyle that encourages physical, emotional, and mental wellness.

Nutritional Literacy as a Pathway to Workplace Well-being:

Adolescence is a critical stage for habit formation, and food behaviours developed during this period often continue into adulthood. Nutrition impacts cognitive and emotional functions in the working environment.

Individuals who make less healthy food decisions suffer from exhaustion, irritability, lack of focus and concentration, as well as high stress levels. Those who make healthy food decisions suffer from high levels of alertness, increased focus and concentration, better moods, and increased mental toughness. Those who work in organisations with healthy food decisions suffer from high levels of mental well-being in addition to low levels of stress.¹⁸

Mental or emotional resilience ranks among the greatest qualities to be found in a productive workforce. Those employees with mental resilience can more easily cope with the pressure of work, change, and the emotional demands associated with difficult work situations. Nutrients feature directly among the factors responsible for the development of mental or emotional resilience. A balanced diet regimen of B-vitamins, omega-3 fatty acids, iron, and magnesium enables the brain to work properly and helps the body reduce stress. It makes such individuals more resilient in their work.

The International Labour Organisation argues that healthier employees are more productive, more engaged, and less likely to experience long-term absence and disability in the workforce.¹⁹ Similarly, the OECD points out that mental ill-health is associated with lower participation in the labour market and an effect on economic output, and that prevention is more effective and cost-saving when it starts early in life compared to treatments down the line.²⁰ People brought up with healthy dietary practices will be better equipped to deal with stress, stay energetic throughout working hours, and shun illnesses that come with one's lifestyle; thus, nutrition literacy serves as a vital link that connects education with work wellbeing.²¹

By recognising that literacy in nutrition can be a long-term process and not a short-term intervention, it is apparent that nutrition education for school-aged children is a health concern but also a concern for the development of a workforce that is not only competent but also healthful, well-adjusted, and able to maintain a fruitful working life.

¹⁵ Bandura, A., *Social Learning Theory* (1977).

¹⁶ FAO, *Food-Based Dietary Guidelines* (2018).

¹⁷ UNESCO, *Teacher Development for Health Education* (2020).

¹⁸ OECD, *Health at a Glance* (2022).

¹⁹ International Labour Organization, *Mental Health at Work* (2022).

²⁰ OECD, *Mental Health and Work* (2021).

²¹ WHO, *Preventive Mental Health Strategy* (2022).

Educational and Policy Implications:

An integral part of nutritional literacy is played by the teacher education institutions, as teachers act not only as disseminators of knowledge but also as role models, affecting the behaviour and attitudes of learners. It is imperative to note that in order for nutritional literacy programmes to yield positive results, it is imperative for teachers to undergo training in simple concepts in nutrition, teaching approaches, and the psychological aspects of health education. UNESCO and WHO emphasise that “highly qualified teachers are the key to the success of any school health programme, and in-service training is critical to maintain high standards in education.”²²

Another major concern in curriculum issues is curriculum integration. Nutritional literacy, rather than being a stand-alone subject, needs to be related to science, social studies, physical education, and value education. Curriculum integration will enable students to treat food as a biological, as well as a social, cultural, and value-related phenomenon.²³ National as well as international educational philosophies emphasise learning through intersection, which can help students cope with real-life situations like health, sustainability, and well-being.

From a policy standpoint, nutritional literacy can be seen as part of an overall policy agenda for the promotion of mental health, human development, and the sustainability of the workforce. The World Health Organisation recommends an early-life strategy in preventive mental health care, and the International Labour Organisation and Organisation for Economic Cooperation and Development highlight the economic cost benefits in health investments made in early life and their impact in reducing the cost associated with

poor mental health.^{24,25,26} By improving nutritional literacy in schools, the government can alleviate healthcare costs in the long run and also help bring about a more productive workforce.

It is also imperative to note that learners who come from poor backgrounds tend to be more likely to be exposed to a poor diet and poor information in relation to healthy living. Inclusive nutritional programmes in schools have been known to address such inequalities and improve healthy living among students by imparting them with skills on healthy living practices.²⁷ Thus, nutritional literacy is made a collective responsibility of schools, teacher education providers, and policymakers. When aided by proper policies and trained educators, nutrition education can be an investment for improved mental health, social well-being, and the quality of the working force.

Conclusion:

Mental well-being in the workplace cannot be created by adult-centred or organisational-level interventions. True preventive work starts much earlier, in the schooling age group, when habits, attitudes, and coping mechanisms are being created. A synthesis of the understanding of nutritional literacy in terms of the interaction between knowledge and practices can thus be an investment in mental and physical health that benefits both the mind and the body. Eating behaviours that impart good health during the adolescent stages can affect the functions of the brain and the characteristics that define performance during the workforce era. Investing in nutritional literacy through the secondary school level can, therefore, be an investment in the mental health of the workforce.

²² UNESCO & World Health Organization, *supra* note 17.

²³ National Education Policy, Government of India (2020).

²⁴ World Health Organization, *supra* note 1, at 12.

²⁵ International Labour Organization, *supra* note 19, at 8.

²⁶ Organisation for Economic Co-operation and Development, *supra* note 20.

²⁷ UNICEF, *Nutrition and Equity* (2021).

An educational programme in nutrition literacy aims at awareness, attitude, and habit. A nutrition literacy programme is not only a learning activity which helps a person develop good food behaviour; it also serves as an instrument which induces self-care, responsibility, and emotionally stable behaviour in a person. Those teens who learn to respect their body and mind with dignity through proper food behaviour remain with dignity throughout their lives.

From a policy point of view, the inclusion of nutritional literacy in the curriculum in educational and teacher training institutions is in line with the international agenda that focuses on addressing health, educational, and sustainability challenges. This needs a coordinated approach by the involved parties, such as educational institutions and policymakers. In conclusion, nutritional literacy, therefore, is a much larger educational issue than a major preventive method.

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