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REFERENTES CONCEPTUALES PARA EL ABORDAJE DE LA SALUD Y LA EDUCACIÓN ALIMENTARIA Y NUTRICIONAL EN LA ESCUELA

Conceptual references for the approach to Health and Food and Nutrition Education at School

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Resumen

La problemática, hoy más que nunca, de educar en salud, nutrición y alimentación, constituye una prioridad para los países y así lo refieren organizaciones como la OMS, OPS y la FAO, entre otras. En tal sentido, en el presente trabajo analizamos en primer lugar, los referentes conceptuales de la salud como problema de la educación, su abordaje transdisciplinario, de enfoque salugénico, bajo un modelo social que tenga como centro de promoción y desarrollo a la escuela. En segundo lugar, destacamos la evolución del concepto de nutrición y su asociación con la alimentación desde la tridimensionalidad biológico-social-ambiental que requieren, en el marco de enfoques sustentables-sostenibles, estar vinculados con la calidad de vida. Sin dejar de lado los efectos de la malnutrición, de las ECNT y la desnutrición fetal como causa epigenética potencial de dichas enfermedades. Por último, abordamos las diversas perspectivas que asume el hecho alimentario en nuestra sociedad, la cultura alimentaria, su aprendizaje social y cómo podemos entretener estos escenarios en una verdadera pedagogía de la alimentación donde se articule la visión de la salud-alimentación como saber interdisciplinario propio y alcanzar una Educación Alimentaria y Nutricional como concepto transversal e integral que genere nuevos caminos de desarrollo, calidad de vida y bienestar desde la infancia.

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Abstract

Today, educating the public about health, nutrition, is a priority issue for countries, and so it is referred by organizations such as WHO, PAHO, and FAO, among others. With that in mind, in this paper nutritional and health concepts, like issues with education, the transdisciplinary and salutogenic approaches, are first analyzed, under a social model that has the school as a center of promotion and development. Secondly, are highlight the evolution of the concept of nutrition and its association with food from the biological-social-environmental three-dimensionality that are required; in the framework of sustainable-sustainable approaches linked to quality of life. Without leave the effects of malnutrition as disease inflicted by fetal malnutrition and CNCs as a potential epigenetic cause. Finally, are boarding diverse perspectives that the food fact assumes in our society, the food culture. Its social learning and how can interweave these scenarios in a true pedagogy of food where the vision of health-food is articulated as our interdisciplinary knowledge and Achieve Food and Nutrition Education as a transversal and integral concept that generates new ways of development, quality of life and well-being from childhood.

Keywords: health, nutrition, food, food culture, malnutrition, food pedagogy, education.

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1. HEALTH AS AN EDUCATION ISSUE

The World Health Organisation (WHO) in its Magna Carta (1946) defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". This leads us to understand health as both a social and an immaterial fact. Today, the WHO definition published in its formulation of the objectives of the Strategy for Health for All in the 21st century (WHO, 1997) is apparently agreed upon, where health is defined as that which is to be achieved so that all inhabitants can work productively and participate actively in the social life of the community in which they live.

For this reason, these references guide us to interpret -reinterpret- the concepts of health-illness and the way they are approached, especially in schools, as ideological categories, influenced by the economic, political and social context that surrounds them, evolving and responding to current socio-political changes. This perspective, where health is a component of quality of life, is nourished by the theory of complexity and proposes to approach the analysis of the health of populations as a privileged space,

working from the theory of complex and adaptive systems. This approach needs to achieve a transdisciplinary articulation that innovates, creates new knowledge and educational projects that go beyond the juxtaposition of knowledge, skills and abilities. For its part, the systemic approach to health conceives it as a social process in which collective and individual human vitality is produced and reproduced, involving economic, social, cultural, political and spiritual dimensions (González and Sosa, 2010).

Specifically, the Global Strategy on Diet, Physical Activity and Health (WHO, 2004) stands out. The strategy addresses two of the main risk factors for Chronic Non-Communicable Diseases (NCDs): diet and physical activity; it is based on the recognition and concern for this problem and its impact at the economic, social and cultural levels, from which it proposes: (a) reducing risk factors; (b) promoting awareness and knowledge in the population about the positive potential of healthy diets and physical activity; (c) establishing and strengthening policies and action plans in this regard; and (d) follow-up, monitoring, scientific research and evaluation of interventions to improve future actions.

On the other hand, when one wants to act on health by reducing the incidence, duration, intensity or consequences of specific diseases suffered by individuals, it is necessary to have the capacity to evaluate the design, implementation and impact of interventions that act on the health, biological and psychological functioning of human beings, based on a Salugenic - salutogenic - approach aimed at providing people with the capacity to generate health in the face of adversity, with emphasis on the origins (often socio-cultural) of health and well-being, as opposed to the traditional pathogenic approach to health education and promotion oriented towards disease (González and Sosa, 2010).

In support of the above, the WHO, in 2006, issued a mandate to use schools as a means of strengthening health promotion, thus seeking to improve the quality of life of students, families and community members. Promote the concept of health-promoting schools, based on a social model of well-being, which should emphasise the need to recognise the individual as the centre of the organisation and use a holistic approach and a supportive environment that positively influences the perceptions and actions of all involved: teachers, students, parents and community (WHO, 2006).

For this reason, the school is the ideal and most responsible place for the achievement of comprehensive health and the consolidation of habits that improve the quality of life, because the school is the primary setting for health education and, in turn, becomes an agent of it, by directly influencing the knowledge and understanding of the conditioning factors of health and individual-collective well-being, which are especially related to those linked to Food and Nutrition Education (FNE) from childhood.

2. FOOD AND NUTRITION AS A TRANSDISCIPLINARY FIELD IN/FOR EDUCATION

According to the Ibero-American conception, nutrition is a broad and complex set of biological, psycho-emotional and socio-cultural phenomena associated with the

obtaining, assimilation and metabolism of nutrients, so its study is necessarily interdisciplinary, involving biology, ecology, history, politics, economics, psychology, anthropology, sociology and any other discipline that deals with factors affecting nutrition (Bengoa, 2005).

In describing the evolution of the concept of nutrition up to the conception of its three-dimensionality. It used to be considered as an exclusively biological process, but nowadays it also involves social and ecological aspects. The convergence between the concept of health and nutrition is highlighted, based on the biopsychosocial conception of the individual, which is why its importance is emphasised in the framework of health as a preventive and promotional tool that not only includes the informative aspect but also the modification of behaviours with the aim that the individual acquires healthy lifestyles (Macías et al., 2009).

In view of the above, Nutrition can be understood as a state of subjective and integral well-being, produced by a sufficient supply of biological, affective, social, economic and cognitive-living nutrients, which are an expression of socio-economic, socio-affective and cultural processes of the environment in which we live (De Tejada et al, 2013). As a consequence of what has been described, adequate nutrition requires a particular lifestyle where these variables are integrated; to this end, it is necessary that a process of awareness-raising takes place from childhood, leading to appropriate and assertive decision-making in relation to a life project, aimed at structuring healthy nutritional and food environments, where the school plays a leading role.

From another perspective, in the food scenario, food practices are not just habits, in the sense of mechanical repetition of acts, enlightened by a naive positivism. Consequently, they cannot be interpreted, as has often been done, as habits, more or less inadequate, but must also be considered as a consequence of cultural reasons and constitute in themselves the cultural heritage of peoples (De La Cruz, 2017). Apparently, for medicine and nutrition, human beings are nourished only by carbohydrates, lipids and proteins... but the truth is that food, in addition to nourishing, means and communicates. Eating habits are an integrated part of the cultural totality. We are what we eat and we eat what we are (Montanari, 2004; Contreras and García, 2005).

This selection of food that a given society makes from among the different accessible and edible resources is explained by technical and economic reasons. But it is also considered a matter of taste or flavour and, very often, it is explained by beliefs regarding the goodness or badness attributed to this or that food. It can also be explained by the status of food within the systems of organisation and functioning of nature that human societies have developed throughout their history (Harris, 2011).

In this sense, when one wishes to undertake a food and nutrition education campaign or programme within an educational institution, or within a given ethnic or cultural group, it is very important to be aware of the symbolic aspects of food, the food habits which have been standardised throughout history and which form part of the behaviour of the individual within a community.

Although the socio-cultural changes that have taken place in the current Modernity, it is not cultural evolution itself that has contributed to the disruption of regulatory mechanisms, but rather the cultural crisis in developed countries, and in particular the breakdown or disintegration of the normative systems and social controls that traditionally governed food practices and representations. A multidimensional crisis is emerging in the food system and therefore in individual and collective health, with its biological, ecological, psychological and sociological aspects, and this crisis is part of a crisis of our civilisation (Fischler, 2002).

Moreover, the current Modernity of food has let down man's relationship with his food, has disconnected the food codes referring to social categories and the signs, rites and practices have entered into an extreme crisis (Contreras and García, 2005). This situation is expressed in high levels of obesity, with a worldwide increase in mortality rates associated with non-communicable diseases (71%), where more than 85% of these "premature" deaths occur in low- and middle-income countries (WHO, 2018), while malnutrition and the alteration-destruction of the environment are increasingly frequent characteristics of this phenomenon worldwide.

In addition, there is growing evidence that nutrition is an environmental factor that has a huge impact on a variety of chronic and autoimmune diseases. The effect starts at the epigenetic level during pregnancy, as maternal nutrition affects foetal growth and can impact on foetal development throughout childhood. The fetal programming hypothesis proposes that fetal malnutrition is the result of poor maternal nutrition and nutrient transfer problems from the mother to the fetus. It has been shown that men and women who are at increased risk of cardio-metabolic disease are those who experienced early deprivation, had low birth weight or were overweight in infancy and childhood. More recent theories regarding the impact of undernutrition on children's intelligence indicate that undernutrition alters intellectual development by interfering with an individual's health, energy levels and rates of motor development; in short, poor socio-economic conditions can exacerbate all these factors and allow for the perpetuation of damage that occurs early in life. (Kennedy, 2016; Campoy, 2017; Spencer et al, 2017).

It is time to reflect on and redefine the leading role of the school and the role of teachers - and their trainers - from early education, in the new conceptualisation of food and its evolution as a central axis of a healthier society. We can focus these ideas by highlighting the referents and sources of the approach to food and nutrition (see Figure 1).

Referentes conceptuales para el abordaje de la salud y la educación alimentaria y nutricional en la escuela

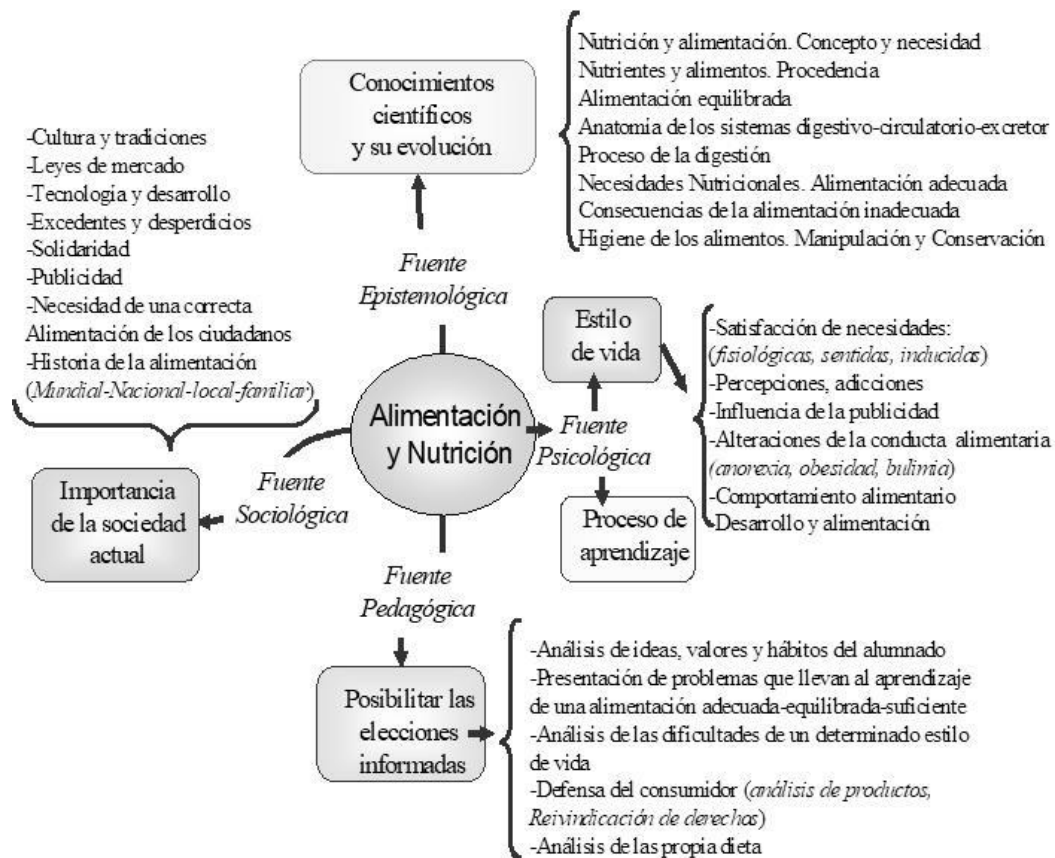


Figure 1. Outline of epistemological, psychological, sociological and pedagogical sources of food and nutrition.

Fuente: Own elaboration based on Gavidia et al (1993).

For other authors, the emphasis of the EAN should be on its realisation as a human right to adequate food and the guarantee of food and nutritional security, understood as the availability of sufficient and safe food. This leads to a field of knowledge and continuous and permanent, transdisciplinary, intersectoral and multiprofessional reflection that seeks to promote the autonomous and voluntary practice of healthy eating habits. (Ministry of Social Development-Brazil, 2012). This practice should make use of problematising, creative and active educational approaches and resources that promote dialogue with individuals and population groups, considering all stages of the life course, the food system, interactions and meanings of eating behaviour.

For this reason, the school is an arena for dismantling prejudices associated with popular beliefs, which are falsely held by various interests and not very much in line with rational criteria. Precisely because of its status as a space for the recognition of public knowledge, the school must ensure that people are educated under parameters of autonomy and emancipation, but in social contexts that require concrete commitments and clearly defined responsibilities.

3. CHARACTERISATION OF FOOD AND NUTRITION EDUCATION

In general terms, food and nutrition are not synonymous. According to experts, nutrition is the set of biochemical processes that occur in all organisms individually, involuntarily and unconsciously. Feeding, on the other hand, is the way - behaviours - of carrying out nutrition and is influenced by culture, education and environment, among others. Moreover, Nutrition refers to the nutrients that make up food and to the set of involuntary processes, such as digestion and absorption of its components or nutrients, their metabolism and the elimination of cellular waste from the organism. Eating, on the other hand, refers to the set of voluntary acts that encompass the choice of food, how we prepare it, how we distribute it and how we consume it. The act of eating and the way we do it is strongly related to the environment in which we live and determines, to a large extent, people's eating habits and lifestyles, these ideas together are depicted in figure 2.

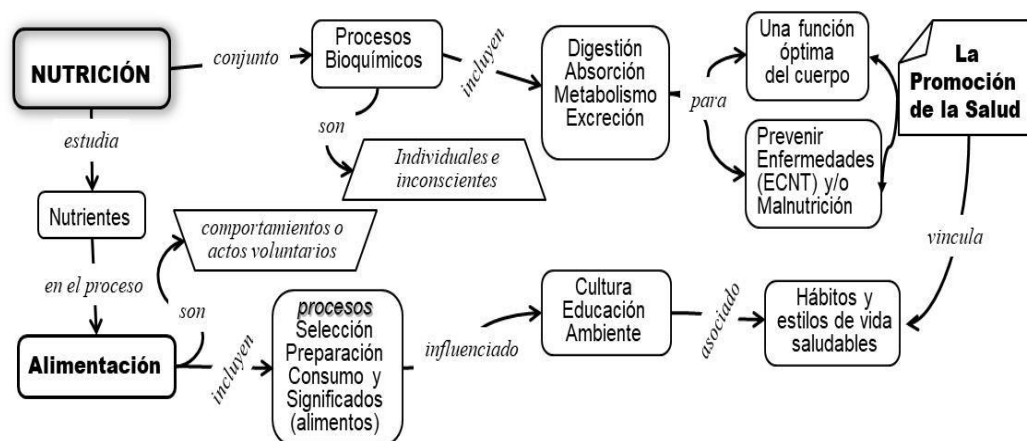


Figure 2. Traditional characterisation of nutrition and food in the field of education.
Source. Own elaboration.

Subsequently, at the 17th International Congress of Nutrition in Vienna-Switzerland in 2001, the idea of nutrition was reconceptualised as the study of the totality of the relationship between the functional characteristics of the organism (metabolic behaviour) and its environment, emphasising the caloric intake provided by food, as well as the importance of a healthy diet. But it is in 2005, during the Giessen Declaration in Germany, that the three-dimensionality of the concept of the new science of nutrition was proposed, which is defined as the study of food and beverages as well as the constitution of other foodstuffs and the interactions with the most relevant biological, social and environmental systems. According to this conception, nutrition is a broad and complex set of biological, psychoemotional and socio-cultural phenomena associated with the procurement, assimilation and metabolism of nutrients, so its study is necessarily interdisciplinary (Beauman et al., 2005; Cannon and Leitzmann, 2005) (see figure 3).

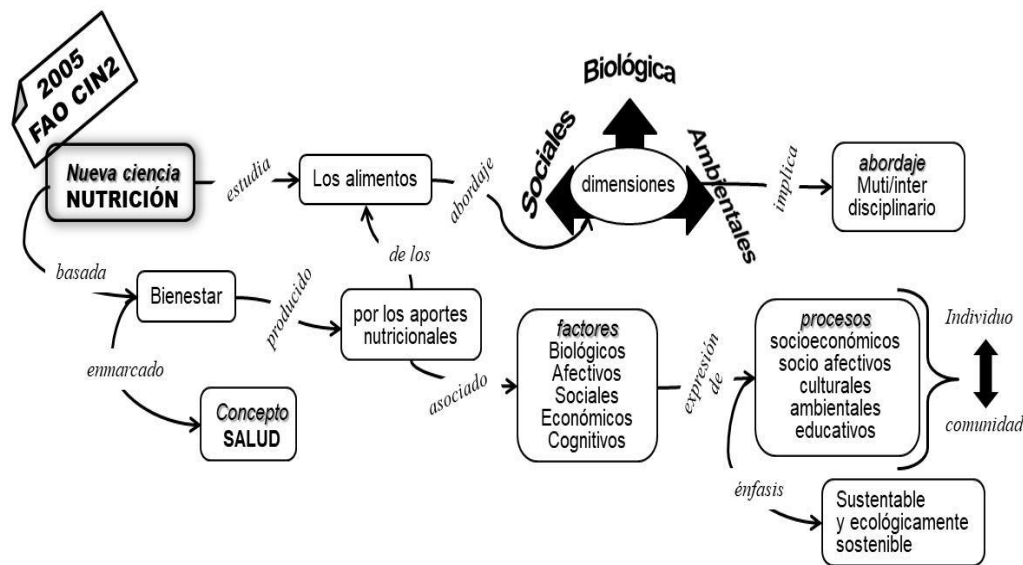


Figure 3. *New benchmarks in nutrition science.*
Source. *Own elaboration.*

These references highlight the idea of three-dimensionality in the approach to nutrition, which have undergone considerable modifications over the years: (a) biological dimension: -still the central axis of nutrition-, understood as the set of processes through which our organism uses, transforms and incorporates into its own tissues a series of substances that it receives from the outside world and which have to fulfil three basic purposes: to provide the energy necessary to maintain the integrity and functioning of body structures, to build and repair these structures and to regulate metabolic processes; in addition to reducing the risk of certain diseases in the short, medium and long term; (b) social dimension: all countries have a food culture that influences the choice of food and consumption habits. This involves social, cultural (religion and education) and economic determinants that affect nutrition directly and indirectly, ranging from individual to population practices; and (c) environmental dimension: food availability is currently affected by changes in the environment, so the new sustainable nutrition implies that it should be ecologically sustainable. This ecological perspective of nutrition recommends healthy eating, understood as the most convenient and sustainable way of eating and drinking, which leads to promoting a healthy, equitable and sustainable diet (Macias et al., 2009).

We must consider that talking about nutrition undoubtedly refers us to think about food, understood as the way in which we acquire the food that provides us with the necessary nutrients, which gives us the energy intake and which has a strong social and cultural component, so it is inevitable to include in this new perspective of the science of nutrition, an important element as it is: Promotion and education in food and nutrition, since in the three dimensions mentioned (biological-social-environmental), we are talking about reducing the risks of some diseases through specific strategies such as sustainability. This is why a new strategy to be involved is education, which will not only

aim at informing but also at preventing chronic diseases generally caused by inadequate nutrition.

In the FAO document, published in 2013, "Challenges and commitments of nutrition education in the 21st century". It stresses that the problems of protein-calorie, vitamin and mineral deficiencies, which lead to malnutrition (by deficit or excess), are related to diet and NCDs, which increasingly coexist throughout the world. Those - especially children - who do not get enough energy and nutrients from gestation cannot sustain healthy and active lives, will have poor physical and mental development, and will suffer incalculable loss of human, social and economic potential. Here the educational factor is of particular importance.

In support of the above, projects at international level stand out, such as those reported by De Oliveira and Sousa (2008), "Healthy Children", "Education Ten" "Brazil Kitchen" and "Smart Food"; Polanco and Pavón (2012), "the school canteen"; "school gastronomy" Spain et al (2014); Al-Ali and Arriaga (2016). These projects highlight: (a) the use of the term "Food and Nutrition Education" instead of "nutrition education" as the focus of the analysis and approach should be food and not only nutrients; (b) the research and educational approach to food and nutrition should be promoted in various fields of knowledge: anthropology, history, environment, psychology, economics, etc. (e) give priority to Food and Nutrition Education in existing and new public policies; and (f) promote political and pedagogical projects that focus on food, food and nutrition education, teacher training and training of specialists in the area.

Reviews of the effectiveness of 15 nutrition education interventions, in the aforementioned paper, reflected that nutrition education improves complementary feeding behaviours and child growth. Successful interventions were culturally sensitive, accessible and integrated with government resources and support. There is also evidence that NBE is effective in modifying dietary practices that influence the prevention of diet-related chronic diseases.

Additionally, De la Cruz, (2019), in an analysis and review of the various definitions of the term Food and/or Nutrition Education, presented in the last decade, by governmental bodies, professional statements, researchers, NGOs, publications and specialised textbooks. She came to the interpretation that definitions in FE range from specific action frameworks (information, knowledge) to complex descriptions as a multifaceted, interdisciplinary discipline, which is reflected in Figure 4.

Referentes conceptuales para el abordaje de la salud y la educación alimentaria y nutricional en la escuela

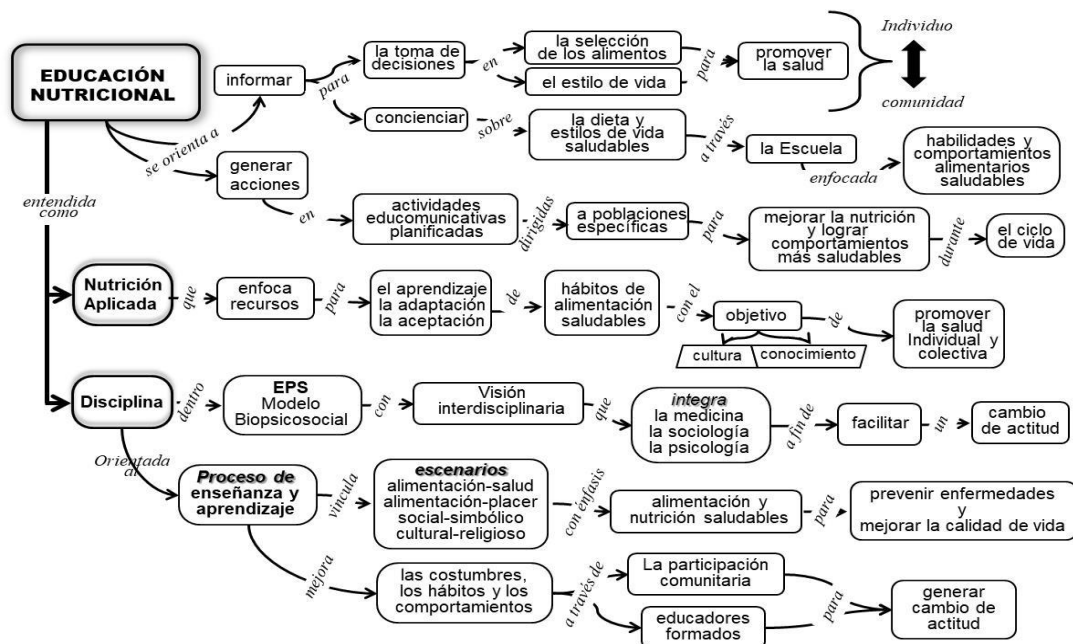


Figure 4. Constituent elements of Nutrition Education.

Source. Own elaboration.

Most authors include a dimension of behavioural change or voluntary modification of dietary practices. Only a few references include aspects linked to public policy. Most meanings imply that NE comes from outside rather than being self-directed learning.

To clarify this situation, the ideas of Alzate (2006) stand out, who refers to the need to reorient the way of thinking about ND, in this sense it is necessary to make innovative proposals, lines of pedagogical reflection that manage to transcend thematic teaching and reach out to touch the intentions, values, vital and social principles. Assuming multi-causality-multi-response-multi-sectoriality and social participation, without forgetting the principle of individual autonomy and collective responsibility in health.

From his considerations, comparative visions can be drawn between the pedagogical approaches to ND. The first, classical approach, developed by health theorists in the 1970s, is called diffusionist-innovative, a product of adaptations of rural extension programmes in North America to developing countries, based on the so-called traditional pedagogy of the new and technicist school. The classical model of transmitting knowledge can be associated with traditional discursive pedagogy, where teaching is centred on the teacher as the transmitter of content, or model. The discursive categories talk about the appropriate use of food, the importance of nutrition, the transmission of knowledge, teaching how to eat better, giving information, correcting, guiding, producing changes in knowledge, attitudes and practices in nutrition.

Subsequently, elements emerge with a more critical vision, transformative actions, which can take advantage of popular experiences, social classes, rethinking nutrition, changes in the relations of production-distribution of food. Planning, evaluating with those affected and deciding with them. The EN as a vehicle for broad discussion is an opportunity to offer a space for reflection on social problems in conjunction with education and EN, to offer moments to rethink the meaning of the nutrition-food binomial, its causes and consequences in that social group, and how to transform the most urgent problems.

Therefore, EAN should be oriented to enhance or modify eating habits, involving all members of the educational community; children, parents, teachers and managers. Educating about the need and importance of good nutrition involves: discovering and eradicating erroneous beliefs, myths and behaviours; promoting awareness of the various functions or roles that food plays or should play in the various spheres of life, health, learning, production, distribution and consumption of food; promoting clear and fundamental concepts, attitudes and behaviours about food (De La Cruz, 2018), (see figure 5).

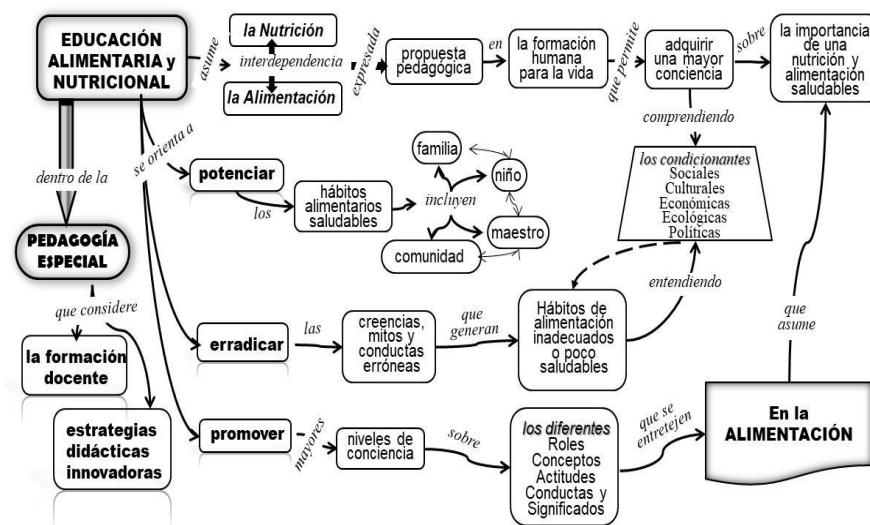


Figure 5. Constituent and characterising elements of Food and Nutrition Education.

Source. Own elaboration.

This component should be approached as a transversal and integral concept, taking advantage of all branches of knowledge, nourished by the social, cultural and anthropological qualities of food and at the same time contributing new approaches to these dimensions. It should allow children to acquire greater knowledge, a critical attitude and the consolidation of their habits; they should be formed by example through healthy messages, with continuous activities that achieve permanent reinforcement and that put these messages into practice.

One of the priorities of this educational perspective must be the need to consolidate adequate food and nutrition habits throughout life, by raising awareness among children,

the family and society. This is feasible through the stimulation of children from infancy through touch, smell, taste, among others, since food is a source of important sensory, motor and emotional experiences, based on the strong cultural and symbolic component that food represents for children-family-community (FAO, 2013).

In this framework, the following recommendations were agreed at the Second International Conference on Nutrition (Rome, 2018): (a) implement EAN interventions, based on national dietary guidelines and coherent policies related to food and diets through improved school curricula, social protection services, community interventions and point-of-sale information including labelling; (b) social marketing campaigns, lifestyle change communication programmes, promotion of regular physical activity, consumption of micronutrient-rich foods such as fruits and vegetables; (c) promotion of consumption of traditional and culturally sensitive local foods; and (d) improving child and maternal nutrition through appropriate care practices, breastfeeding and complementary feeding.

For this reason, EAN must be considered in terms of the factors that determine human eating behaviour and that are the basis of the enormous variability of habits of individuals, among which are: the availability of food, social factors such as the incorporation of women into the workplace or school organisation, fashions, new foods or the abundance of some of them, the advertising of new products, innovations in culinary technology such as microwaves, religious factors and within these we can incorporate cultural models, traditions and taboos on food, and finally, the factor referring to public policies, national and global, regarding the geostrategy of food, which in many cases has an impact on its economic cost and distribution. In all these scenarios, the challenges and commitments facing education today are more urgent than ever.

4. FINAL CONSIDERATIONS.

When we want to act on health by reducing the incidence, duration, intensity or consequences of specific illnesses suffered by individuals, educational interventions are fundamental and it is a question, in this case, of modifying the course of the different biological and psychic processes affected by the illness, which are associated with lifestyles from the Salugenics approach to the present and future wellbeing of our children.

For this we have to understand health, not as a state, but as a complex and dialectical process; biological and social; singular and interdependent; far from equilibrium but with a certain degree of stability as a consequence of adaptation mechanisms and dynamic, ecological, cultural, socio-affective, political, economic, vital and historical relationships, where there is freedom of choice (self-determination of the individual).

Food and Nutrition Education should be approached with greater emphasis at school, as a strategic proposal in human training for life. As a line of pedagogical work that allows us to acquire a greater awareness of the importance of the first human need and

social learning, which should lead us to re-evaluate our own food culture. For this reason, the EAN should be oriented towards promoting or modifying eating habits, involving all members of the educational community: children, parents, teachers and directors. Educating about the need and importance of good nutrition implies: discovering and eradicating erroneous beliefs, myths and behaviours; promoting awareness of the various functions or roles that food plays or should play in the different spheres of life, health, learning, production, distribution and consumption of food; promoting clear and fundamental concepts, attitudes and behaviours about nutrition, which allow each individual to reach their potential as human beings and where the school should play a more committed and leading role.

Therefore, international organisations such as FAO-WHO (2018) have pointed out that EAN should be understood as all those educational strategies designed to facilitate the voluntary adoption of eating behaviours and other behaviours related to food and nutrition conducive to generating higher levels of health and well-being. These strategies are focused on the development of individuals' skills to make appropriate food choices and the promotion of a supportive food environment. Such actions should be developed or considered at the individual, community and policy levels.

This requires and will require further reflection on how the pedagogical act of food and nutrition is approached, deepening the critical training of teachers in this fundamental knowledge for life, valuing the food histories of individuals, providing creative solutions to meet their physiological, cultural, artistic and social needs in terms of food and nutrition, rethinking health-food as an interdisciplinary knowledge par excellence for the achievement of individual self-development, with the commitment and responsibility of teacher-training institutions.

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