Food Technology Research Journal, Vol. 5, issue 2, 138-146, 2024

Nutritional and Health Requirements to Achieve Quality in The Localization of Baby Food Industry

Nadia, H. Munkhi

Iraq University of Baghdad College of Education for Girls

Original Article

Article information

Received 06/08/2024
Revised 06/09/2024
Accepted 08/09/2024
Published 10/09/2024
Available online
12/09/2024

Keywords:
Baby Foods , Nutritional and Health Requirements , Localization of the Food Industry

ABSTRACT

Breastfeeding is the optimal nutrition for infants. Baby food is divided into two categories: breast milk substitutes and complementary foods. Complementary foods are any foods, whether manufactured or prepared at home, suitable to supplement breast milk or infant formula when they become insufficient to meet the infant's nutritional needs. These foods, provided to children aged 6-24 months, must adhere to strict nutritional requirements in accordance with Codex Alimentarius standards and the health and safety guidelines for children's food. The ingredients must be clean, safe, appropriate, and of high quality, and the prepared texture should be suitable for feeding infants or young children, as specified on the food label. The baby food market in the Middle East, Africa, and Egypt is projected to experience significant growth in the coming years due to increasing awareness and strict food quality regulations. Localizing the food industry in Egypt can encourage reliance on domestic products and promote exports, key government objectives for enhancing food security. The urgent need to localize the baby food industry aligns with the global trend toward localizing industries for health and security reasons, especially given the growing segment of children in need of these products.

1. Introduction

Around the world, millions of parents and families struggle to provide their young children with the nutritious and diverse foods necessary for growth, development, and learning. Rising inequalities, conflicts, climate crises, food price inflation, the overabundance of unhealthy foods, harmful food marketing, and poor child feeding practices contribute to child food poverty. UNICEF has introduced the concept of child food poverty to highlight the deprivation and poor quality of early childhood diets, emphasizing their importance in achieving the nutritional goals of the Sustainable Development Goals. UNICEF defines child food poverty as a child's inability to access and consume a nutritious and varied diet during early childhood, especially the first five years of life. Fortifying complementary and staple foods with micronutrients can be a cost-effective intervention to combat hidden hunger in children (Unicef, 2024-P:5)

UNICEF's Global Strategy (2020-2030) sets out the goals of supporting children's right to nutrition, ending child malnutrition in all its forms, and protecting and promoting food systems and practices that support optimal nutrition, growth and development for all children. New forces are driving the nutritional status of children, including globalization, urbanization, inequality, environmental crises, health epidemics and humanitarian emergencies, which pose critical challenges to sustainably feeding children today and for generations to come. The outbreak of the additional strain of the COVID-19 pandemic has pushed an additional 140 million children into poverty in 2020 and increased the number of children suffering from malnutrition by 7 million (Unicef, 2020 - P:1). The UNICEF report (2019), conducted as part of the Global Burden of Disease Study, highlights that inadequate nutritional patterns are the leading cause of death worldwide. Only two out of five children receive exclusive breastfeeding for the first six months of life, depriving them of the optimal nutrition. Additionally, the complementary foods introduced around six months often fail to meet children's nutritional needs.

*Corresponding Author
Email: mar967am@coeduw.uobaghdad.edu.iq

As children transition to soft or semi-solid foods, they require diverse diets containing essential nutrients for healthy growth. However, less than one-third of children aged 6-24 months consume a sufficiently varied diet. Furthermore, 59% of children worldwide lack essential nutrients from animal-source foods, 44% do not eat any fruits or vegetables, and 76% are breastfed. Other dietary patterns include 68% consuming cereals, 48% consuming dairy products, 47% consuming fruits and vegetables, 32% consuming meat, 27% consuming legumes, and 22% consuming eggs (Unicef, 2019-P:16).Food safety is closely intertwined with food security. Unsafe food can create a vicious cycle of disease and malnutrition, particularly affecting infants, young children, the elderly, and the sick. Sustainable development is hindered by the annual occurrence of diarrhea diseases in 220 million children, resulting in 96,000 deaths due to inadequate food hygiene and safety practices. Food contamination can occur at any stage of production and distribution, and food producers bear primary responsibility. Governments must prioritize food safety as a public health concern, playing a pivotal role in developing policies, regulatory frameworks, and effective food safety systems. However, a significant portion of foodborne illnesses are caused by improper food preparation or handling at home, in food service establishments, or in markets. Many food handlers and consumers are unaware of their crucial role in implementing basic hygiene practices during food purchasing, selling, and preparation to safeguard their health and the health of the community (WHO and FAO, 2024,P17-18:). Milk is the optimal first food for a child, providing essential nutrients for healthy development. Proper nutrition supports physical and mental growth, disease prevention, and the development of good eating habits. Breast milk or ready-made formula should be the sole food source until the child is six months old.

Complementary feeding, as defined by the World Health Organization, begins when milk alone is insufficient to meet the infant's nutritional needs. This stage starts after six months and continues until 24 months, during which the child experiences rapid growth and development and requires additional foods for energy and nutrients. The WHO and UNICEF's Global Strategy for Infant and Young Child Feeding (2003) emphasized the use of low-cost complementary foods prepared with locally available ingredients and appropriate small-scale production techniques to address the nutritional needs of infants and young children. While industrially processed complementary foods offer an option for some mothers, they must be prepared and administered safely. These food products should adhere to the standards recommended by the Codex Alimentarius Committee and the Code of Sanitary Foods. Infants and children should also have their food prepared and stored safely, practicing good hygiene during food preparation and handling. Foods should be served immediately after preparation, clean tools should be used for food preparation and serving, and clean cups and containers should be used for feeding. Bottles that are difficult to clean should be avoided. This research paper explores the nutritional, health, and quality requirements of complementary baby foods, both globally and in the Arab world. By analyzing trends in the baby food market and examining previous reports on the topic, the paper aims to highlight the importance of export development in promoting the health, safety, and quality of baby food to achieve food security and localize the baby food industry.

Literature Review: Nutritional Requirements in Complementary Baby Food

Infant Formula and Baby Foods

Infant formula and baby foods can be categorized into two groups:

1. **Infant Formula:** A substitute for breast milk designed to meet the nutritional needs of newborns up to six months of age.
2. **Complementary Foods:** Any food, manufactured or homemade, used to supplement breast milk or infant formula when they become insufficient to meet the infant's nutritional requirements. Complementary foods are introduced from 6-24 months and include liquid and semi-solid options.

Defining Complementary Foods

Complementary foods are those used during the weaning period to feed infants and young children aged 6-24 months. These foods provide essential nutrients that may be lacking or insufficient in breast milk or infant formula. They are introduced when the infant's need for nutrients and energy exceeds what can be obtained from frequent breastfeeding. Complementary foods must be adequate to support the infant's growth and development and must be prepared, preserved, and fed in a safe and hygienic manner. They should be given when the child is hungry and in appropriate quantities for their age. Infant formulas prepared in accordance with Codex Alimentarius standards are considered safe complementary foods and suitable substitutes for breast milk. Additionally, food products manufactured for young children should be sold or distributed in compliance with the relevant standards recommended by the Codex Alimentarius Commissio.

Basic Ingredients of Complementary Foods

The Egyptian Standard for complementary foods for infants and young children, approved by the Egyptian Organization for Standardization and Quality, outlines the essential raw materials and ingredients. These include grains such as wheat, rice, barley, oats, corn, and others, which are a primary source of energy primarily composed of starch. While grains are generally low in the amino acid lysine, they can be processed to reduce their fiber content and substances that hinder protein digestion, such as phenolic compounds. Pulses, including chickpeas, lentils, peas, cowpeas, and beans, are a valuable source of protein and are rich in lysine but deficient in methionine. These can be processed to eliminate harmful substances and digestive inhibitors through soaking and heat treatments. Flour and protein products derived from oilseeds, such as soybeans, peanuts, sunflower seeds, and sesame seeds, can also be used if they meet appropriate specifications and are a significant source of protein (Egyptian Organization for Standardization and Quality, 2005, P:)

Complementary Food Manufacturing

- **Raw Material Processing:** Grains, pulses, and oilseeds must be thoroughly processed to ensure the quality of the raw materials. They should be free of dust, contaminants, insects, and foreign materials.
- **Peeling and Grinding:** Pulses and oilseeds should be peeled as much as possible, especially for grains like oats, barley, and corn, to reduce their crude fiber content and eliminate harmful substances like tannins and phenolic compounds that can hinder protein digestion. Raw materials should be ground appropriately to minimize nutritional loss and avoid unwanted changes in their technological properties. Dry raw materials can be ground together or mixed after grinding. Mixtures containing ground grains, legumes, and untreated oilseeds require boiling during food preparation to convert starch into a gel.

The second topic: health requirements for the safety of complementary baby food

1-Health and Safety Requirements

The product must be manufactured in accordance with the general methods and rules for the health and safety of baby food adopted by the international standard prepared by the Codex Alimentarius.

The Egyptian standard includes some health requirements that must be met for the production of infant and child food under the age of three, which include the stages of production, processing, manufacturing, packaging, storage, transportation, supply and sale of these foods to ensure obtaining a safe and healthy product as follows:

- The raw materials involved in the manufacture must be applied to the highest possible quality in conformity with the general principles of food hygiene.
- The raw materials used in the production should not contain pesticide residues or other unwanted substances in concentrations that they remain in the final product in a way remains dangerous health.
- The raw materials used in the production should not contain pesticide residues or other unwanted

substances in concentrations that they remain in the final product in a way remains dangerous health.

- Raw materials and components must be inspected and classified to be transported to the production line with storage to the best suitable sanitary conditions, taking into account the appropriate procedures to ensure their rapid entry and prevent contamination before manufacturing.

- People who handle raw materials and processed products should not touch the final product, hands should be washed and paws should be worn between the handling of food products and during the various stages of manufacturing, manufacturing processes must be monitored by competent technical people.

- Tools that come into contact with raw materials or contaminated materials must be washed and sterilized periodically, and drinking water must be used only for washing and cleaning, and non-drinking water can be used with the approval of the health authorities to produce steam for cooling and fire extinguishing purposes and any similar operations not related to food.

Manufacturing and Packaging

All manufacturing steps, including packaging, must be conducted in a manner that prevents contamination, spoilage, or microbial growth. Preservation methods should be employed to protect against pollution, public health risks, and corruption, adhering to good business practices. Storage conditions must minimize spoilage and contamination, and refrigeration may be necessary.

- **Packaging Inspection:** Packages should be inspected before use to ensure they are in good condition, clean, and sterile. An identification code or label should be placed on each package to identify the manufacturer and provide storage and usage instructions.
- **Product Quality:** The final product must be free of foreign or unwanted substances and adhere to good manufacturing practices outlined in the standard specifications for baby food.
- **Safety and Microbiology:** The product must be free of toxic substances in concentrations that pose a health risk to infants and children. It must also meet the microbiological specifications outlined in the product standards. (Egyptian Organization for Standardization and Quality, 2007, P:14)

2- Requirements for Safe Preparation, Preservation, and Storage of Complementary Foods

The Saudi Food and Drug Authority mandates that manufacturers and warehouses of infant and young children's food clearly indicate the methods of storage and preservation for these products, both before and after opening, to ensure the health and safety of infants and young children.

Raw materials should be sorted and its pecked before manufacturing and rigorous laboratory tests should be carried out to ensure the safety and cleanliness of the raw material.

The following requirements are outlined:

- Food containers should be carefully sealed to prevent spoilage and oxidation, and raw foods must be kept separate from cooked and allergenic foods.
- Cooked foods should not be left at room temperature for more than two hours. After this period, they must be stored in a refrigerator or freezer. Foods kept in the refrigerator should be consumed within two days, while those stored in the freezer can be used within a month. It is important to monitor the expiration dates of canned food products for infants and children.
- Frozen food must be completely thawed before reheating. The safest way to do this is to leave it in the refrigerator overnight or use the defrost setting on the microwave. When reheating the food, ensure it is hot enough, then allow it to cool before serving to the child. Special care should be taken when using a microwave, as the temperature should be checked before feeding. Cooked food should not be reheated more than once, as this can result in the loss of nutritional value. Food that a child has partially eaten should not be stored or reused.
- Baby food should not be stored in glass containers in the freezer, as they may break when

thawing or heating. Food cans should be tightly sealed after use to prevent spoilage and oxidation.

- Baby food should be prepared and preserved using tools and materials made from safe, BPA-free silicone, as recommended by the Saudi Food and Drug Authority (2021, p.4).
- Among the general requirements that must be met for infant and young child foods approved by the Saudi Food and Drug Authority, the products, whether cereal-based or not, must not be treated with ionizing radiation. The ingredients must be clean, safe, appropriate, and of high quality. The texture of the food, including foods that require preparation before serving, should be suitable for infants and young children, as indicated on the food label. All manufacturing and drying processes must be carried out in a manner that minimizes the loss of nutritional value (Saudi Food and Drug Authority, 2024, p.4).

The SFDA Guide also addresses the controls and requirements for regulating advertisements directed at children under the age of twelve, specifically concerning packaged foods and meals served in children's food establishments. This regulation applies to advertising of foods with low nutritional value, as well as to meals offered in food establishments where the nutrient content exceeds standard guidelines. This is done without conflicting with the system for trading breast milk substitutes and in compliance with national laws, regulations, and circulars. The requirements include the prohibition of advertising food products with low nutritional value on children's television channels, YouTube channels with content aimed at children (whether directly or indirectly), cinema screens for movies rated for children under the age of twelve, children's gathering places, schools, parks, children's sports fields, and children's play areas—whether located inside commercial or independent complexes—during events that target children. Additionally, it is prohibited to use cartoon characters or images of children in advertising low-nutritional-value food products via public transportation, food company vehicles, and billboards visible on roads, streets, and indoor venues (Saudi Food and Drug Authority, 2023, p.4).

The Third Topic: The Requirements of Quality Standards in Complementary Baby Food

Inadequate food security has far-reaching effects that hinder both social and economic progress, especially in developing countries. The World Health Organization emphasizes that food safety, nutrition, and food preservation are inseparable. One way to ensure the quality of the food safety system is to comply with the principles of the Food Safety System (FSS) and Food Safety Standards, which are designed to maintain food safety (Alsabai, 2014, p.22).

One way to ensure the quality of the food safety system is to comply with the principles of the Food Safety System (FSS) and Food Safety Standards, which are designed to maintain food safety (Alsabai, 2014, p.22).Thanks to advances in technology, it is now possible to produce foods that meet a wide variety of consumer preferences and expectations. However, with so many choices, it can sometimes be difficult for consumers to understand exactly what they are buying and consuming. Nutritional information, including nutrient content and ingredient lists, is more important than ever in helping consumers make informed choices when purchasing food. The Codex Alimentarius provides guidance on food formulation requirements to ensure that products are nutritionally safe. It also offers guidelines on food labeling, health claims, and nutritional claims made by producers. These guidelines help ensure that consumers clearly understand what they are buying and that the product meets its claimed benefits. The Codex Alimentarius Commission, in collaboration with the Food and Agriculture Organization (FAO) and the World Health Organization (WHO), has developed international food standards for baby food. These standards cover cereal-based foods intended for infant feeding as complementary foods for children aged six months and older. They take into account the individual nutritional needs of infants and support the feeding of young children as part of a progressively varied diet, in line with the Global Strategies for Infant and

and Young Child Feeding and World Health Assembly resolutions.

Quality standards specify that all ingredients, including optional ones, must be clean, safe, suitable, and of high quality. All processing and drying procedures should be conducted in a manner that minimizes the loss of nutritional value. Instructions on the food label must include clear guidance on how to use the product, such as by adding milk or water for dilution or mixing. It should also state whether the product is gluten-free or contains other additives, and clearly indicate the recommended age for use, which must be at least six months.

Additionally, the label must specify that these products are not a substitute for breast milk and should not be marketed as such. Containers, including packaging materials, must be made from safe, suitable materials that meet food safety standards and guidelines. The label should be written in the appropriate language(s) for the country in which the product is sold and should include the specific names of ingredients, food additives, and nutritional values. Furthermore, the label must provide information about the product's date of production, expiration, and instructions for proper storage and preservation. The product must be packed in containers that help maintain the quality of the food and its nutritional integrity.

Product Safety and Microbiological Standards

The product must be manufactured with meticulous care under good manufacturing practices to ensure the absence of pesticide residues that may have been inadvertently introduced during the production, storage, or manufacturing of raw materials or ready-made food ingredients. The product must also adhere to food-related microbiological standards.

Methodology

This research involved a review of reports analyzing the global and Arab world baby food market. These reports conducted comprehensive quantitative and qualitative analyses of various market sectors, past and current trends, and future expectations for baby food and infant formula.

Reports Analyzing the Size of the Global Baby Food Market

The global baby food market analysis reports provided forecasts that included the size, share, trends, and growth projections for the period 2021-2032. The regions analyzed were Asia, the Pacific, Europe, South America, North America, the Middle East, and Africa. These regions were further analyzed at the country level, with the most significant forecasts being:

Europe, South America, North America, the Middle East, and Africa. These regions were further analyzed at the country level, with the most significant forecasts being:

- The global baby food and infant formula market was valued at USD 48.5 billion in 2022 and is projected to reach USD 67.6 billion by 2028, recording a compound annual growth rate (CAGR) of 5.52% during the period 2023-2028.
- The per capita baby food market is expected to reach 0.1 kg by 2024. In that year, the global baby food market achieved revenues of USD 84.16 billion, with individual revenues in the market reaching USD 205.50. The market is anticipated to grow annually by 7.16%, and the CAGR for 2024-2029 is expected to be 6.42%.
- By 2029, the baby food market size is projected to reach 22.04 million kilograms, with a growth rate of 5.3% by 2025. The market size is expected to grow at a CAGR of 6.42% from 2023 to 2032, ultimately reaching USD 156.80 billion by 2032.

Among the major companies analyzed in the Middle East and Africa baby food market were Nestlé (Gerber Products Company), Danone S.A., Reckitt Benckiser (Mead Johnson & Company, LLC), Abbott, Feihe International Inc., FrieslandCampina, Bellamy's Organic, Kraft Heinz, HiPP GmbH & Co. Vertrieb KG, Perrigo, and Arla Foods.

Reports on the Analysis of the Arab Baby Food Industry Market

The *Baby Food Market Outlook* report for the Middle East and Africa includes an analysis of countries such as Saudi Arabia, the United Arab Emirates, the rest of the Gulf Cooperation Council,

South Africa, Ethiopia, Kenya, Egypt, Sudan, and other parts of the Middle East and Africa. This analysis covers the market size, share, trends, the impact of COVID-19, and growth forecasts from 2024 to 2029.

Among the major companies analyzed in the baby food market in the Middle East and Africa are Nestle SA, Abbott Laboratories, The Baby Food Company, Saipro Biotech Pvt Ltd, Orchard Baby Food, Bumbles Baby Food, Tiger Brands, Baby Tastes, Danone SA, and others.

The baby food market in the Middle East and Africa is expected to reach USD 4.15 billion in 2024, with a compound annual growth rate (CAGR) of 4.32% from 2024 to 2029. By 2029, the market is projected to grow to USD 5.13 billion, experiencing a CAGR of 6.48%.

Trends in the Egyptian Baby Food Market

This report analyzes current and future trends in the Egyptian baby food market, providing a comprehensive overview from 2005 to 2028. The most prominent companies studied include Nestlé, Danone Group, Hero Group, Vasca, Riri, Libets Nutrition Ltd., Ninolak International SA, and Abbott Labs. Despite being the most populous country in the Middle East, Egypt has a relatively small baby food market. However, the population continues to grow rapidly, increasing by 19.7% since 2005. The number of children in 2015 was 29.9% higher than in 2009. While sales were somewhat impacted by political and social unrest between 2011 and 2013, consumption increased by 33.6% in 2015. In terms of value, sales in 2015 were 143% higher than in 2009, but higher inflation rates resulted in a 39% decline at constant prices. The economic situation in 2016 remained challenging, but real GDP growth was projected to increase by 3-4% per year from 2017, barring significant disruptions. Consequently, the baby food market is expected to experience steady growth over the next six years, with a total volume increase of 11.4%. Egypt's baby food market has demonstrated positive double-digit CAGR growth in revenue during 2012-2018. This trend is anticipated to continue, with a double-digit CAGR growth rate expected for 2018-2023. Baby food sales reached EGP 4.2 billion in 2022, and the market is projected to grow at a CAGR of approximately 13% during the forecast period 2022-2028.

and the market is projected to grow at a CAGR of approximately 13% during the forecast period 2022 -2028.

Discussion: Trends in the Global Infant Food and Formula Market

The global infant food and formula market is experiencing substantial growth driven by several factors. Increased awareness of infant feeding practices is prompting parents to seek out nutrient-rich and balanced options. Moreover, the rise in dual-income households is contributing to market expansion as parents look for convenient and time-saving solutions like ready-to-eat meals and formula milk. The proliferation of e-commerce platforms has also made it easier for consumers to access a diverse range of options, further stimulating market growth. Health-conscious parents are increasingly drawn to niche offerings such as organic, allergen-free, lactose-free, or gluten-free products. Technological advancements, like the development of nutritional formulas that mimic breast milk or foods containing essential nutrients, are attracting parents seeking additional health benefits for their children, bolstering market growth. The Asia-Pacific region dominates the baby food market due to its large and rapidly growing population, including a significant number of infants and young children. Urbanization and lifestyle changes in the region have increased the demand for convenient and processed baby food products. Growing awareness among parents about the importance of early childhood nutrition has driven the demand for nutritionally balanced specialty baby food products. Economic growth in many Asia-Pacific countries has also increased disposable income, leading to higher spending on premium baby food products and brands. North America has been a significant and mature market for the baby food industry. The trend towards organic and natural food products is gaining momentum in North America, with many parents preferring baby food products free of additives and artificial

preservatives. This contributes to the growth of the organic baby food market, as many North Americans lead busy lives, including dual-income families. The demand for baby food in the Middle East and Africa has surged over the years as parents increasingly recognize its nutritional importance for their children's health. The retail sector in Saudi Arabia is rapidly evolving, making the baby food market highly competitive. Companies are focusing on developing innovative marketing strategies and introducing products with value-added ingredients to gain a competitive edge. South Africa and the United Arab Emirates are among the major economies in the Middle East and Africa. The increasing disposable income in African countries has made baby food products more affordable, leading to improved food quality for infants. The growing number of migrants settling in countries like the UAE, Saudi Arabia, South Africa, and Tanzania for employment purposes is also driving the growth of the baby food market. This has led to an increase in the number of women working outside the home, both in high- and low-income areas. Ready-to-eat baby food and formula options are attractive alternatives for working mothers seeking nutritious options for their children. The demand for baby food in the Middle East and Africa has surged over the years as parents increasingly recognize its nutritional importance for their children's health. The retail sector in Saudi Arabia is rapidly evolving, making the baby food market highly competitive. Companies are focusing on developing innovative marketing strategies and introducing products with value-added ingredients to gain a competitive edge. South Africa and the United Arab Emirates are among the major economies in the Middle East and Africa. The increasing disposable income in African countries has made baby food products more affordable, leading to improved food quality for infants. The growing number of migrants settling in countries like the UAE, Saudi Arabia, South Africa, and Tanzania for employment purposes is also driving the growth of the baby food market. This has led to an increase in the number of women working outside the home, both in high- and low-income areas. Ready-to-eat baby food and formula options employment purposes is also driving the growth of the baby food market. This has led to an increase in the number of women working outside the home, both in high- and low-income areas. Ready-to-eat baby food and formula options are attractive alternatives for working mothers seeking nutritious options for their children.

4. Conclusion

1. The global baby food and infant formula market is experiencing growth until 2032, with the Asia -Pacific region as the largest market. This growth is attributed to increased awareness of infant feeding practices.
2. The baby food market in the Middle East and Africa is highly competitive, with South Africa and the United Arab Emirates being major economies. The demand for baby food has grown significantly over the years due to various factors.
3. The Egyptian baby food market is expected to witness positive growth during the forecast period. The COVID-19 pandemic in 2020 initially had a limited impact but ultimately created opportunities for growth in the market.
4. The global, Arab, and local baby food markets are experiencing positive growth due to increased women's participation in the workforce, rising per capita income, increased childbirths, growing parental awareness of infant feeding, and a preference for nutritious and healthy food options.

Recommendations

- Emphasize the importance of exclusive breastfeeding for the first six months of an infant's life and the timely introduction of complementary foods from 6-24 months. Encourage parents to explore the various options available in the market based on their child's age and preferences.
- Promote the manufacturing of complementary foods that adhere to the nutritional requirements set by the Codex Alimentarius standards and prioritize the health and safety of children's food through good manufacturing practices.

- Encourage the localization of the national baby food industry to promote exports and achieve food security goals. Increasing national production can reduce reliance on imports.
- Conduct further analytical studies on the baby food market in all Arab countries to gain insights into the industry's realities and the most common feeding practices among mothers, ensuring they align with recommended nutritional and health requirements.

References

Al-Abadi, Iman Younis (2017). Child health and nutrition. Dar Al-Murtada for Publishing and Distribution, Baghdad / Iraq.P:213-214.

Alsabai , Laila (2014). Quality control in food processing. Dar Manshaat Al-Maaref for Publishing and Distribution, First Edition, Alexandria.P:20-22.

Egyptian Organization for Standardization and Quality. (2005). Egyptian Standard Specifications / Baby Food Manufactured Mainly from cereal.

Egyptian Organization for Standardization and Quality. (2007). Egyptian Standards/ Supplementary Food Guidelines for Infants and Children.P:5

Egyptian Organization for Standardization and Quality. (2007). Egyptian standards/health requirements to be met for infants and children up to three years of age.P:14-17

FAO/WHO. (2023). Codex Committee on Nutrition and Foods for Special Dietary Uses (CCNFSDU). Italia.P:3-4.

FAO/WHO. (2023). Codex Standard for processed Cereal-Based Foods for Infants and Young Children. Italia.P:5-7.

Saudi Food and Drug Authority. (2021). Complementary Feeding Guide for Infants and Young Children, P:20.

Saudi Food and Drug Authority (2024) Guidelines for the requirements of the Saudi Technical Regulation for Infant and Young Child Food. SFDA. FD 5002, P:4.

Saudi Food and Drug Authority (2023). Guide to controls and requirements for food advertising directed at children. First edition, p. 4.

Unicef . (2019). The State of Children in the Would. Children ,Food and Nutrition. USA.P:15-16.

Unicef (2024). Report Child food Poverty brief. USA.P:5.

Unicef (2020). Nutrition for Every Child. UNICEF Strategy (2020-2030). USA.P:1.

WHO (2003). Global Strategy for Infant and Young Child Feeding. Geneva.P:10.

WHO (2003). Guiding Principles for Complementary Feeding of the Breast milk Child. Geneva, P:10

Recourse from Network

Baby Food Market Size - Global Industry, Share, Analysis, Trends and Forecast 2023 – 2032. https://www.thebrainyinsights.com/report/baby-food-market-13871

Baby Food Market Size, Share, and Trends 2024 to 2034 . https://www.precedenceresearch.com/baby-food-market

Middle East & Africa Baby Food Market Size & Share Analysis - Growth Trends & Forecast 2024 – 2029. https://www.mordorintelligence.com/ar/industry-reports/middle-east-and-africa-baby-food-market

Middle East and Africa Baby Food Market. https://www.marketdataforecast.com/market-reports/middle-east-and-africa-baby-food-market

Egypt Baby Food Market Review 2012-2018 and Forecast 2019-2023. https://www.globaldata.com/store/report/baby-food-in-egypt

Baby Food Market Size, Global Report Analysis 2032.