

Perspective bases for the development of the production of basic and functional baby food in the conditions of modern demographic processes in Uzbekistan

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Annotation: The need to develop the production of high-quality and healthy baby food is the main issue not only in Uzbekistan, but is also a global problem. The purpose of the study is a comparative analysis of the main positions of goods on the market and their qualitative characteristics for the possibility of replacing breast milk and introducing them into the nutrition of children after breastfeeding, based on the increasing demands of the population, as well as the possibility of creating functional baby food for wide and narrow food purposes, without taking into account the peculiarities and factors of specific influence. Achieving the set task will allow solving the following tasks: understanding the basic concepts and characteristics by types of baby food, presented positions on the market, their comparison in marketing assessment, basic quality requirements for functionality to create prospects for domestic production. Contribute to the goal will be the consideration of demographic processes according to FAO. Scientific methods used in the research process: abstraction, comparative, comparative, analysis and synthesis. In the final section of the article, all the results obtained are summarized.

Key words: functional nutrition, baby food, quality indicators, assortment, herbal mixtures, demographic assessment.

INTRODUCTION

Special attention has always been paid to the nutrition of children, and the basis of a child's health directly depends on the full and balanced intake of all nutrients for the harmonious growth and physical development of the baby. The high importance of baby food products is understood by every population of any state, which is very important for the formation of the health of future and younger generations. However, insufficiency in infant nutrition, both in the short term and in the long term, can lead to diseases and deformation of the protective properties of the child's body. Quite general prerequisites for solving this problem, to improve the quality characteristics of functional and baby food, directly depends on the implementation of the goals set by the republican authorities, expressed in the concept of the development of the food industry until 2025. According to the presented data of the resolution, the imported amount of baby food products for 2018 is 3,300 tons, while local production is only 49.6 tons, which is the most vulnerable industry of food supply to the population of the republic. It is planned to solve the unsecured needs by activating local enterprises in the field of cooperation with well-known world brands Humana (Germany), Hipp (Germany), Henz (USA) for the processing of fruits and vegetables and the production of baby food.

The classification of baby food has several directions, depending on the raw material basis: milk mixtures for children from birth and older – milk, milk powder, whey; vegetable and fruit mixtures for children from 3 months and older – puree, mixtures of vegetables, berries, fruits; grain mixtures for children from 5 months – flour oatmeal, rice, wheat, buckwheat, corn; mashed potatoes and pates of meat and fish. Vegetable, fruit and grain mixtures can be considered promising and fast-acting in terms of possible import substitution of various positions. Processing of vegetables and fruits on an industrial scale accounts for 7.3% of the total harvest in 2018, which indicates a low level of scientific and technical base in this production sector.

In 2021, population growth in Uzbekistan amounted to 1.5%, taking into account 33,723,529 people at the beginning of the year, and 34,227,696 people at the end of the year, which is a positive indicator. In 2022, the population growth rate of Uzbekistan will be 1,402 people per day, which is a stable, average indicator in the context of more than twenty years. The total population of Uzbekistan has a positive demographic assessment, while children from birth to 14 years of age have a uniform and gradual increase in the total number of people, which is shown in Figure 1.

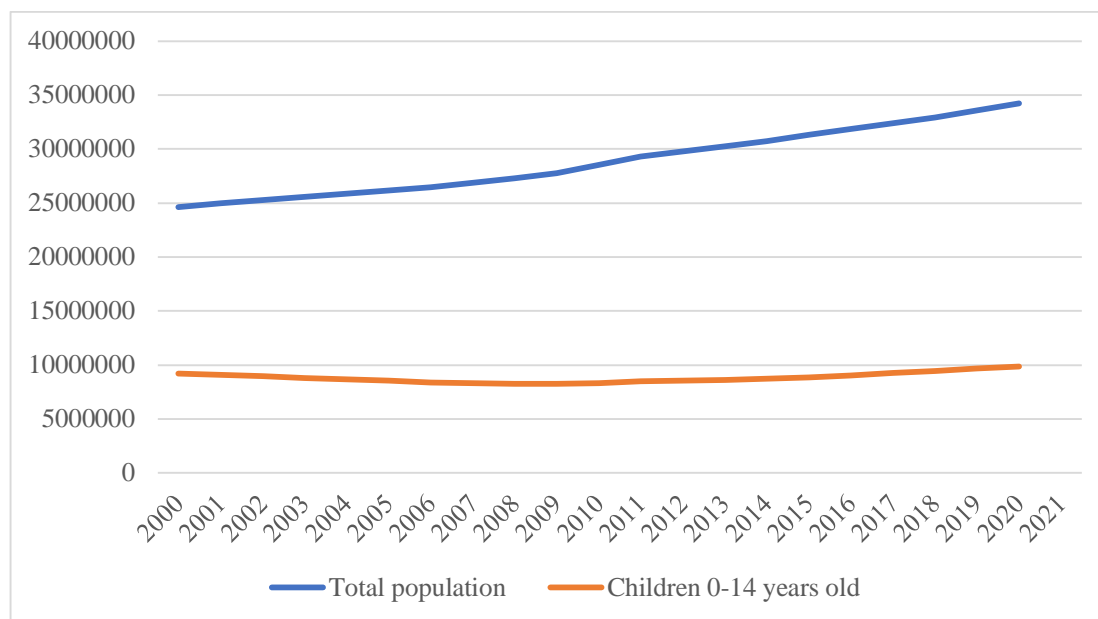


Fig. 1 The total population and children aged 0 to 14 years

Results and their discussion

The role of mother's milk is certainly fundamental and ideal nutrition for the development and growth of an infant. However, the causes of low production of mammary glands can be diseases associated with the nervous system of the mother or other man-made factors of modern residents of large and small cities. Therefore, the development of baby food products is developing so rapidly all over the world and mainly European countries are the leading manufacturers. The assortment line of baby food is represented by imported products that come from enterprises in Switzerland, Germany, Holland, Belarus, Ukraine and Russia, and is divided into three large groups: breast milk substitutes, complementary foods, dietary and therapeutic nutrition. The market has a special specificity that requires consideration not only as the consumption of mixtures by a child, but by the choice of his parents. The marketing evaluation of buyers of dry milk mixtures for newborn children is presented in Table 1.

ProductName	Advantages	price
Nestogen or Nestlé	The composition contains prebiotics and lactobacilli	Reasonableprice
NAN or Nestlé	The composition contains bifidobacteria, lipids, there are hypoallergenic components	The price is high enough
Nutrilon or Nutricia	The composition contains prebiotics, vitamins, fatty acids, there are components for colic and constipation, hypoallergenic additives	Highprice
Nutrilak or NutrilaK	The composition does not contain palm and rapeseed oil, contains prebiotics, omega-3, lutein, nucleotides	The price is high enough
Nannyfrom BIBIKOL	The composition contains goat's milk, prebiotics	Highprice
Humana or DMK GmbH	The composition contains prebiotics, nucleotides, polyunsaturated fatty acids, there are components from colic, dysbiosis, methiorism and constipation, hypoallergenic. Dairy-freemixesareavailable	The price is high enough
Нурри от Инфафуд	The composition contains lutein, prebiotics, nucleotides, prebiotics, omega-3, omega-6	Reasonableprice
Малютка от Nutricia	The composition contains probiotics, prebiotics, gum, vitamins, omega-3 and omega-6, lactofidus, there are additives that reduce regurgitation and constipation,	Reasonableprice

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Table 1. Marketing evaluation of imported dry milk mixtures

The market is characterized by a variety of indicators related to differences in quality of life, mentality, income level and has heterogeneity in different regions of the country. However, the main global brands presented for consideration above and conducting their own marketing research set high requirements for the emergence of manufacturers on the domestic market that meet high international standards of quality and safety of raw materials, packaging, materials, and applied baby food technologies. Among the modern scientists who have made a significant contribution to the study of the problems of food production for infants and older children in an industrial way, the creation of standards and techniques, T. E. Borovik, O. N. Lukashevich, B.S. Poor, K. S. Ladodo, O. L. Lukyanova, V. A. Lomachinsky, E.S. Gorenkov stand out.

According to various qualitative characteristics of functional nutrition for a young child, one of the most promising for the regions of Central Asia is the use of fruit and vegetable, fruit preserves. A fairly wide range of products is fruit puree, fruit puree with sugar, puree from a mixture of fruits and vegetables with sugar, fruit puree with cereals and milk with sugar. And depending on the technology, they can be made homogenized or wiped. According to the physico-chemical properties of puree and mixtures of fruits and vegetables should be within 9-25% of soluble solids and titrated acids based on malic acid 0.2-08%.

The use of fruit and vegetable purees with a monocomponent in the diet is recommended for children from the age of four months, the main advantages of which are stable chemical composition, microbiological sterility, guaranteed content of this type of vegetable component, the presence of valuable dietary fibers, simplicity and ease of use, high digestibility, high degree of grinding.

The variety of functional nutrition consists of a wide range of products, which include clarified fruit and vegetable juices, micronutrient-enriched water, isotonic drinks, gluten-free cookies, canned food with fructose and many narrow-profile products intended as biologically active additives to the basic diet of young children deprived of a balanced and nutritious diet.

CONCLUSION

Thanks to the outstanding scientists and reformers of the near abroad in the field of research, standardization, development and creation of the foundations for the industrial production of high-quality baby food products, all prerequisites are being created for the creation of a scientific and technical personnel base of specialists who invest all theoretical knowledge in the development of the industrial sector of food for children.

In modern conditions of demographic dynamics of development in Uzbekistan, it is necessary to create a full-fledged agro-industrial complex for the production of agricultural products, livestock farms to meet the public demand for high-quality domestic baby food substitutes for breast milk, functional products of a wide range for the balanced and healthy development of children of all ages, from birth to adolescence. At this time, the existing manufacturers of domestic baby food, in their assortment of cereal mixtures for children from 4 years old, cannot show a high standard of compliance with a wide list of requirements from the quality control supervision authorities, insufficient economic functioning and weak support for this sub-sector of the food industry from the government in modern conditions of market obligations with companies-importers.

There is no doubt that the announced issues on the establishment of their own equivalent import-substituting production of baby food products will form the main basis for the growth of the importance of further research and will contribute to the development of the scientific, theoretical and practical basis of the national economy of the state.

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