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**SURVEY THE PARENTS AND PRIMARY HEALTH CARE  
WORKERS AWARENESS CONCERNING THE PECULIARITIES  
OF INFANTS BORN PRETERM NUTRITION, TIMING  
OF COMPLEMENTARY FOODS INTRODUCTION  
AND ADHERENCE TO THE IMPLEMENTATION  
OF MEDICAL RECOMMENDATIONS**

**ВИВЧЕННЯ ОБІЗНАНОСТІ БАТЬКІВ ТА МЕДИЧНИХ  
ПРАЦІВНИКІВ ЩОДО ОСОБЛИВОСТЕЙ ХАРЧУВАННЯ  
ДІТЕЙ НАРОДЖЕНИХ ПЕРЕДЧАСНО, СТРОКІВ ВВЕДЕННЯ  
ПРОДУКТІВ ПРИКОРМУ ТА ПРИХИЛЬНОСТІ  
ДО МЕДИЧНИХ РЕКОМЕНДАЦІЙ**

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**Introduction.** The prevalence of preterm births is relatively high in all countries of the world and is about 7–15%. Complete nutrition is the key to a child's healthy growth. Undoubtedly, breastfeeding (BF) should be a priority for preterm infants and it is necessary at all levels of medical/consultative care to support women's desire to breastfeed [1]. According to the recommendations of the WHO and according to local protocols, full-term healthy children should be introduced to complementary foods at the age of 6 months, since BF and adapted mixtures from this period can no longer fully meet the needs of the baby. Determining specific terms for the introduction of the first complementary foods (CF) for preterm infants in Ukraine and

international practice remains debatable [2]. Some studies show that the introduction of CF among preterm infants is most often started at 4 months ( $17.1 \pm 0.23$  weeks), provided that the child has reached a weight of at least 5 kg [3] and do not separately emphasize the need to take into account the signs readiness of the child before the introduction of the first products, a list of recommended products is not provided. The American Association of Pediatricians in the Multidisciplinary Guidelines for the Care of Late Preterm Infants recommends introducing CF no earlier than 6 months of age [4]. The recommendations of the British Association of Pediatricians emphasize the need to start the introduction of CF between 5 and 8 months of passport age, if the child has the necessary motor skills [5]. That is, the development and implementation of algorithms for introducing complementary foods to premature babies and counseling parents is a topical task.

**The aim** was to study the parents and primary health care workers awareness concerning the peculiarities of infants born preterm nutrition, timing of complementary foods (CF) introduction and adherence to the implementation of medical recommendations.

**Materials and methods.** The study was conducted from May 2019 to January 2021 on the basis of the ONMedU MMC and children's polyclinics of Odesa (No. 6, No. 3). A survey of parents of infants born preterm was conducted by filling out an anonymous questionnaire in the Google Forms service. The including criteria were: parents whose children were born before the 37<sup>th</sup> week of gestation, the age of the child at the time of the survey was more than 9 months. 57 respondents took part in the survey. At the second stage, medical workers of children's polyclinics and family clinics were invited to participate in an anonymous survey by filling out a questionnaire in the Google Forms service. It included questions about which nutritional recommendations are given to healthy preterm infants and was attended by 40 respondents. The data was analyzed using the Percentile Tables [6], WHO Z-Score Charts, to evaluate growth and development considering corrected age (CA). Statistical analysis was done using the PC Software Statistica-10. The mean value and SD with 95% CI, absolute and relative prevalence with 95% CI were calculated.

**The results.** The average gestational age of the children was  $30.51 \pm 3.8$  weeks. The average body weight (BW) at birth is  $1570 \pm 690$  g, of which 33.3% have low BW, 28.1% have very low BW and 26.3% have extremely low BW. It was found that 57.9% (with 95% CI 44.98 – 69.81%) of children were on formula feeding, 19.3% (CI 11.13 – 31.34%) – on mixed, 22.8% (CI 13.84 – 35; 21%) – on BF. 42.1% (CI 30.19 – 55.02%) of children did not receive breast milk at all, or received it for less than 1

month. According to the survey, 64.9% (CI 51.94 – 76.0%) of respondents introduced CF at the age of 6-7 months, 21.1% (CI 12.47 – 33.29%) at the age of 4-5 months, 12.28% (CI 6.08 – 23.25%) at 8-9 months of passport age. In cases of later introduction of CF, 47.37% of mothers motivated it by their own beliefs. Among the difficulties during the CF introduction, according to the mothers, there were: 21.05% (CI 12.47 – 33.29%) – gastrointestinal dysfunction, 17.54% (CI 9.82 – 29.37%) – refusal of the child from food, in 8.77% (CI 3.81 – 18.94%) – difficulties on the part of the mother, such as not knowing which meals, when and how to introduce them. For the first CF, parents chose the following products: vegetable puree in 50.88% (CI 38.26 – 63.38%), 29.82% (CI 19.53 – 42.66%) preferred porridge and 17.54% (CI 9.82 – 29.39%) were the first to receive fruit puree. 66.67% (CI 53.72 – 77.51%) of children showed food interest, in 8.77% (CI 3.81 – 18.94%) of cases the mother was not familiar with such a term as interest. Only 38.6% (CI 27.06 – 51.57%) of children received foods rich in iron, such as meat and egg yolk, from 6-7 months, and 19.3% (CI 11.13 – 31, 34%) did not receive meat for up to a year. Fermented milk products, as a group of products saturated with calcium and protein, only 21.05% (CI 12.47 – 33.29%) of children received up to 8 months CA. Most often, they started giving fish at the age of 10-12 months – 40.35% CI (CI 28.62 – 53.3%), other children did not receive fish until 1 year. 12.3% (CI 6.08 – 23.25%) of children have delayed teething, later than 8 months of CA. Also, 47.37% (CI 34.99 – 60.08%) of children, according to their parents, have GD and 42.11% (CI 30.19 – 55.02%) have delayed psychomotor development. In 29.82% (CI 19.53 – 42.66%) of cases, parents have concerns about their child's growth and development.

It was found that only 43.86% (CI 31.77 – 56.72%) of mothers received a pediatrician's consultation regarding feeding and the timing of CF, and 12.28% (CI 6.08 – 23.25%) were dissatisfied with the information received. Choosing a source of information on child development and care, 91.23% (CI 81.06 – 96.19%) of respondents prefer medical specialists (pediatrician / family doctor), 54.40% (CI 41.59 – 66.63%) – trust Internet resources, 36.84% (CI 25.52 – 49.82%) – specialized printed publications (books) and 22.81% (CI 13.84 – 35.21%) – listen to the recommendations of relatives and friends. At the same time, 57.89% (CI 44.98 – 69.81%) of parents have a desire to attend the "School for parents".

A survey of primary health care workers who consult children of the first year of life (pediatricians, family doctors, nurses) was conducted. 40 respondents took part in the survey, among them pediatricians – 52.50% (CI 37.50 – 67.06%), nurses – 45.00% (CI 30.71 – 60.17%), family

doctors – 2.50% (CI 0.44 – 12.88%). To the question of whether you take into account signs of the child’s readiness when prescribing the first CF, 92.5% (CI 80.14 – 97.42%) of respondents answered – “yes”, 2.5% (CI 0.44 – 12.88%) – “no”, 5% (CI 1.38 – 16.5%) did not know what these signs were. 97.50% (CI 87.12 – 99.56%) recommend introducing complementary foods to full-term healthy children at the age of 6 months, which corresponds to the current local recommendations. As for the terms of introduction of CF to preterm infants, the recommendations were different, which is probably a consequence of the lack of relevant regulatory documents and practical recommendations. Thus, only 65% (CI 49.51 – 77.87%) of respondents took into consideration the child’s CA, as recommended in international practice. For the first CF, medical workers mostly recommend choosing vegetable puree – 95.66% (CI 83.5 – 98.62%) or milk porridge – 62.79% (CI 47.03 – 75.78%), and also quite often recommend starting with fruit puree – 61.9% (CI 45.90 – 75.11%), less often – 32.56% (CI 20.08 – 47.98%) prescribe a fermented milk product. It should be noted that fruit puree is mistakenly considered a product suitable for first CF. At the same time, meat puree is recommended by only 34.09% (CI 21.21 – 50.11%) of respondents, although this product must be included in the list of priority products for the prevention of late anemia. Regarding the prevention of vitamin and mineral deficiency, it was found that 92.50% (CI 80.14 – 97.42%) of the respondents prescribed vitamin D for preterm infants on BF, and iron – only 2.5% (CI 0.44 – 12.88%). At the same time, 85% (CI 70.93 – 92.94%) of medical workers prescribe iron preparations “according to indications”. Vitamin-mineral complexes are recommended “according to indications” by 65.0% (CI 49.51 – 77.87%) of respondents. To the question: “How much time do you spend on nutrition counseling?” – 47.50% (CI 32.94 – 62.50%) of respondents answered that they spend 10-15 minutes, another 30, 00% (CI 18.07 – 45.43%) who need 20-30 minutes, 17.5% (CI 8.75 – 31.95%) – need more than 30 minutes, 5.00% (CI 1, 38 – 16.50%) – can handle it in 5 minutes. Similar results were obtained for the time required for counseling on the introduction of CF. To the question: “What, in your opinion, can facilitate and speed up counseling of parents on nutrition issues for infants?”, 55.00% (CI 39.83 – 69.29%) of respondents answered – “the availability of printed brochures for parents”, 42.5% (CI 28.51 – 57.80%) – “the presence of a clear counseling algorithm”, 17.50% (CI 8.75 – 31.95%) – “more time for counseling”, 10% (CI 3.96 – 23.05%) – “mastering the skills of effective counseling”, 27.5% (CI 16.11 – 42.83%) – do not experience difficulties in counseling.

**Conclusions.** The survey showed low awareness of the population in the issues of rational feeding of infants born preterm, late introduction of CF, lack of diversification and iron-rich products in the first courses of CF. The survey of medical professionals revealed that among respondents there is no single approach regarding the timing of the start of the first CF, only 65% take into account CA and the selection of optimal products, the prevention of iron and vitamin D deficiency is not carried out in full. The conducted study demonstrates the relevance of developing an algorithm for counseling parents on the issues of introducing CF and prevention of vitamin and mineral deficiency in children born preterm based on evidence-based recommendations of the WHO and other leading international pediatric associations.

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