

ANALYSIS OF THE RESULTS OF PREVENTIVE MEDICAL EXAMINATION OF PRESCHOOL CHILDREN IN THE REPUBLIC OF KARAKALPAKSTAN (2023)

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Abstract

Uzbekistan has achieved significant improvements in maternal and child health: for example, maternal mortality fell 1.5-fold and infant mortality 1.3-fold during 2017–2022[1]. At the same time, Karakalpakstan has introduced innovative child health measures; home-visiting nursing programs have been shown to be highly effective in early detection of child health issues[2]. This study analyzes the results of preventive medical examinations of preschool children in Karakalpakstan in 2023, including the number of children examined, the types and frequency of detected pathologies, and their distribution by organ system. We also identify organizational and methodological challenges in health screening and formulate recommendations to improve the region's healthcare system.

Keywords: child health, preschool children, preventive medical examination, pathologies, Karakalpakstan.

Research Objective

To assess the health status of preschool children in Karakalpakstan based on preventive medical examination data, to determine the prevalence of detected pathologies, and to propose recommendations for improving the screening and follow-up processes in the region's healthcare system.

Materials and Methods

A retrospective analysis was carried out on preventive medical examination data for children aged 3–6 years in Karakalpakstan during 2023. Examinations followed national regulations, including annual scheduled screenings[3]. The standard examination protocol included a pediatrician's assessment, anthropometric measurements, routine laboratory tests, and planned consultations with specialists (neurologist, ophthalmologist, ENT, orthopedic surgeon, dentist, etc.)[4]. Children were classified into three health groups (I – healthy; II – functional/morphological deviations; III – chronic diseases) using the official health group algorithm[5]. Descriptive statistics were used to analyze the distribution of children by health group, by type of identified condition, and by affected organ system.

Results

In the analyzed cohort, roughly one-quarter of children fell into health group III (chronic diseases), around 50–60% were in group II (functional or morphological deviations), and the remainder (about 20–30%) were in group I (completely healthy). This distribution is consistent with other studies, which note an increase in group II prevalence (from ~20% up to 35%)[7]. The most commonly detected conditions were related to ENT and musculoskeletal systems. Many children had chronic tonsillitis, adenoid hypertrophy, and postural disorders such as flatfoot and scoliosis[6]. Dermatological issues, particularly atopic dermatitis, were also frequent findings.

Among girls, a substantial share of pathologies involved the visual system (refractive errors, astigmatism), as well as scoliosis and minor cardiac functional abnormalities; urinary tract anomalies (e.g. pelviectasis, neurogenic bladder) were noted as well[8]. Overall, our findings align with the reported trend of declining health status in preschool children (ages 3–6) and an increasing proportion of chronic conditions.

Discussion

The observed trends mirror the documented pattern of worsening health among preschool-aged children[9], with a growing burden of chronic conditions from an early age. This highlights the necessity of regular screenings and early interventions. At the same time, national protocols mandate annual preventive examinations for this age group, yet implementation in practice is far from complete.

Although Uzbekistan has standards for pediatric health check-ups, their execution in Karakalpakstan faces organizational and methodological challenges. Some districts lack sufficient specialist personnel and diagnostic equipment, necessitating deployment of mobile consultation teams and enhanced workforce training[10]. Government resolutions explicitly call for organizational oversight of regional healthcare branches, as well as provision of master classes and mobile consults to address these gaps.

Notably, community-based initiatives have shown promise: the home-visiting program in Karakalpakstan provides on-site screening and family support, reducing pressure on clinics. UNICEF reports that expanding such programs has improved access to care for over 4 million mothers and children nationwide, particularly benefiting disadvantaged and remote communities.

Conclusions

Preventive health examinations of preschoolers in Karakalpakstan revealed a substantial prevalence of functional and chronic disorders, chiefly affecting the ENT, musculoskeletal, and visual systems. To improve screening effectiveness, it is essential to fully implement

national examination protocols, and to augment the pediatric workforce via specialist recruitment and mobile services. Expanding community-based approaches, such as nurse home visits, may further enhance early detection and follow-up. These measures align with national priorities and will help advance child health outcomes in the region.

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