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TELEGRAM BOT AS A DIGITAL SCREENING TOOL
FOR HEALTHY LIFESTYLE IN PRESCHOOL CHILDREN

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Background. Healthy lifestyle formation in preschool children is a key priority in preventive medicine and public health. Nowadays, preschool children increasingly demonstrate insufficient physical activity, unhealthy dietary habits, sleep disorders, and poor hygiene skills. Traditional preventive methods do not provide systematic monitoring of modifiable behavioral risk factors. Digital screening tools based on mobile platforms, including Telegram bots, enable rapid large-scale data collection, automated analysis, and development of personalized recommendations for parents. Such digital approaches improve early prevention efficiency and strengthen health education in preschool institutions and primary healthcare practice.

Objective. To evaluate the effectiveness of Telegram-based digital screening in identifying behavioral risk factors and monitoring healthy lifestyle indicators among preschool children.

Materials and Methods. A pilot screening study was conducted using a Telegram bot and a standardized 30-question questionnaire assessing nutrition, physical activity, sleep patterns, hygiene habits, preventive measures, and screen time among preschool children aged 3–7 years. The survey was completed remotely by parents on a voluntary basis. A total of 382 parents participated in the study. A scoring system was applied to calculate an integrated Healthy Lifestyle Index. Based on index scores, children were stratified into groups with high, moderate, and low levels of healthy lifestyle formation. Descriptive statistical analysis was performed using frequency (%) calculations.

Ethical Approval (Bioethics):

The study was conducted in accordance with bioethical principles. Informed consent was obtained from all participating parents prior to the survey.

Results. A total of 382 preschool children aged 3–7 years were assessed based on parental questionnaire responses. The screening results revealed a high prevalence of modifiable behavioral risk factors. Insufficient physical activity was identified in 46.8% (n=179) of children. Excessive screen time (more than 2 hours per day) was reported in 41.4% (n=158). Sleep disturbances (less than 10 hours of sleep per day or late bedtime) were found in 37.8% (n=144).

Unhealthy dietary patterns (irregular breakfast, frequent consumption of sweets, and insufficient intake of vegetables and fruits) were detected in 44.1% (n=168) of children. Insufficient hygiene practices (irregular handwashing and improper tooth brushing habits) were observed in 32.4% (n=124).

The integrated Healthy Lifestyle Index enabled stratification into three groups:

- High level of healthy lifestyle formation – 28.8% (n=110);
- Moderate level – 49.5% (n=189);
- Low level – 21.6% (n=83).

Thus, approximately one in five preschool children belonged to a high-risk group requiring targeted preventive interventions. The Telegram bot ensured a high response rate and full questionnaire completion. Automated data processing enabled rapid interpretation of results and generation of individualized preventive recommendations for parents.

Conclusions and Recommendations. The Telegram bot is an effective digital screening tool for monitoring healthy lifestyle indicators among preschool children. A low level of healthy lifestyle formation was identified in 21.6% (n=83) of children, demonstrating the need for strengthened preventive programs. Telegram-based screening provides rapid data collection, automated risk assessment, and personalized recommendations for parents. Implementation of digital screening platforms is recommended in preschool education systems and primary healthcare practice to improve early detection of modifiable behavioral risk factors and enhance preventive interventions

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**APPLICATION OF ENDOSCOPIC TECHNOLOGY TO ASSESS
THE CONDITION OF THE MUCOUS MEMBRANE OF THE MIDDLE EAR****Burzakhanov M.M.^{1,2}, Mukhmadov I.D.^{1,2}, Shirshov S.A.²**¹Astrakhan Branch of the Federal State Budgetary Institution National Medical Research Center of Otorhinolaryngology of the Federal Medical-Biological Agency of Russia²Astrakhan State Medical University of the Ministry of Health of the Russian Federation
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Relevance. Modern middle ear surgery requires the most thorough inspection of anatomical cavities, which is especially important in chronic inflammatory diseases accompanied by changes in the mucous membrane and the development of cicatricial-adhesive processes. The use of video endoscopic techniques during surgical interventions on the middle ear can significantly expand the possibilities for detailed visualization of the mucous membrane and small blood vessels compared to traditional microscopy.

Goal of research. To study the capabilities of video endoscopic technology in assessing the condition of the middle ear mucosa.

Research materials and methods. The study involved 13 patients in the period 2023–2025 with the following diagnoses: chronic suppurative otitis media (6), tympanosclerosis (4), adhesive middle ear disease (3). All patients underwent tympanoplasty. During the surgical intervention, rigid endoscopes with a diameter of 4 mm and viewing angles of 0°, 30°, and 45° were used to visualize hard-to-reach sections of the tympanic cavity. Special attention was paid to assessing the condition of the mucous membrane, its vascular pattern, as well as the localization and severity of scar changes.

Results. During surgery with video endoscopic assistance, 2 patients (33%) with suppurative otitis media had atelectasis of the tympanic membrane, and in the areas where the tympanic membrane contacted the mucous membrane, there was a sparser vascular pattern compared to other areas. In 4 patients (66%) with suppurative otitis media, the mucous membrane was edematous throughout its entire extent and exhibited an enhanced vascular pattern. In all patients (100%) with tympanosclerosis and adhesive middle ear disease, a sparse vascular pattern of the mucous membrane was observed.

Conclusions and recommendations. Video endoscopic technique is an important complement to the surgical microscope in middle ear surgeries. It provides better visualization, allows for a detailed assessment of the mucous membrane condition and vascular pattern, and enables a thorough examination of the middle ear cavities.

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