



Important Health Steps: Newborn Blood Spot Test and Vaccinations

Sağlık İçin Önemli Adımlar: Aşılar ve Yenidoğan Topuk Kanı Testi

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Dear Editor;

Newborn Blood Spot Testing and routine childhood vaccinations represent foundational components of modern preventive healthcare. These interventions are critical for the early identification and prevention of both genetic and infectious diseases that can otherwise lead to lifelong complications or mortality. The blood spot test, typically conducted within the first 48–72 hours after birth, enables the early detection of serious genetic and metabolic disorders such as phenylketonuria, congenital hypothyroidism, and biotinidase deficiency, facilitating timely interventions that can prevent irreversible damage or death (1,2). Similarly, routine immunizations are a proven strategy for controlling and eradicating infectious diseases, significantly reducing child mortality and morbidity worldwide.

According to the 2023 World Health Organization (WHO) and UNICEF (WUENIC) estimates, Türkiye achieved commendable immunization coverage rates among children. Vaccination coverage reached 98% for Bacillus Calmette–Guérin (BCG); 99% for the first and third doses of diphtheria-tetanus-pertussis (DTP1 and DTP3), the third dose of hepatitis B (HepB3), Haemophilus influenzae type b (Hib3), and the first and second doses of inactivated poliovirus vaccine (IPV1 and IPV2); 95% for the first dose of measles-containing vaccine (MCV1) and rubella-containing vaccine (RCV1); 94% for the second dose of MCV; and 95% for the third dose of pneumococcal conjugate vaccine (PCV3) (3).

In 2023, the number of neonates screened through the national newborn blood spot program in Türkiye reached 931,882 (4). This widespread participation underscores the importance attributed to early diagnostic measures in neonatal care and reflects a national commitment to public health prevention strategies. However, the increasing trend of test and vaccine refusal presents a growing challenge that cannot be overlooked.

Vaccine hesitancy, which the WHO identified as one of the top ten threats to global health in 2019, is also reflected in the Turkish context (5). While only 183 families refused childhood vaccinations in 2011, this number sharply rose to over 23,000 by 2017 (6). A similar reluctance is emerging toward newborn screening programs. This growing resistance is often driven by misinformation, disinformation on social media, mistrust in healthcare institutions, and cultural or religious beliefs that discourage medical intervention (7).

These trends have important ramifications. Disease outbreaks, unnecessary disability, and higher public health costs can result from missed or delayed diagnoses of infectious diseases. A multimodal strategy including community-level engagement, education, and communication is needed to reduce these hazards.

The "Vaccinate with Confidence" initiative, administered by the Centers for Disease Control and Prevention (CDC) in the United States, is designed to enhance public confidence in vaccines, mitigate the propagation of misinformation, and fortify the bond of trust between the community and healthcare professionals (8). Furthermore, numerous states mandate that children of school age be fully vaccinated, with only a select few allowing for exemptions for religious or medical reasons (9).

In the context of newborn screening, the Newborn Screening Saves Lives Act in the United States (US) has standardized the scope of screening at the national level and ensured that families are informed (10). The educational materials prepared by the Health Resources and Services Administration (HRSA) to promote equitable distribution of healthcare resources and increase parental literacy are used during the prenatal and postnatal periods (11). All states in the US mandate



newborn blood spot screening, yet most states permit parents to decline screening for their infants (12).

In Europe, the public is informed through multilingual and scientific content on digital information platforms such as the European Vaccination Information Portal, which is operated by the European Centre for Disease Prevention and Control (ECDC) (13). In certain countries, such as France and Italy, the administration of childhood vaccinations has been rendered legally mandatory (14).

In the context of newborn screening, the European Reference Network for Rare Diseases is strengthening inter-country coordination with the aim of expanding the scope of screening and promoting the widespread provision of parental counseling services (15).

In the nation of Turkey, newborn blood spot screening is legally protected (16). In instances of refusal, a court-ordered health protection measure may be initiated to ensure the child's right to health is upheld. The current practice requires that when parents decline vaccination or newborn blood spot screening, they must sign an informed refusal form. In addition, counseling is provided by both the family physician and a public health official. These procedures aim to support informed parental decision-making while upholding public health responsibilities.

Promoting trust in preventative health practices is a major responsibility of family doctors. They can address issues, debunk falsehoods, and point families toward trustworthy scientific sources through customized therapy. In order to educate expectant and new parents about the life-saving benefits of these programs, the Ministry of Health and regional health directorates need to step up their efforts. Public awareness and acceptance can be increased through public campaigns, community-based education, and collaborations with educational institutions, the media, and religious authorities.

Strengthening trust in science-based medicine and preventive programs is essential for the health of future generations. The widespread implementation and societal embrace of both newborn screening and vaccination are not only medical necessities but also moral imperatives in the pursuit of sustainable public health.

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