



# Vaccine hesitancy - vaccine refusal

Aşı kararsızlığı - aşı reddi

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Vaccination programs aim to prevent vaccine preventable contagious diseases and thus prevent mortality or permanent sequelae caused by these diseases. Individual immunity is enabled by way of vaccination and community immunity is provided, while individuals are protected against disease. As the number of vaccinated individuals increases in the community, the possibility of contact of unvaccinated individuals with causative agents and the prevalence of disease in that community decrease. Thus, each unvaccinated individual causes a high number of newborns, infants, and young children who have not been vaccinated, who have not reached the vaccination period or whose vaccination schedules have not been completed, to get in contact with causative agents in the early period and causes to mortality. Unvaccinated adolescents and adults may also transmit causative agents to young children and to immunocompromised individuals or individuals of advanced age, when they get in contact with these causative agents and lead to high mortality in children and adults (1, 2).

According to the World Health Organization report (March 2019), immunization prevents 2-3 million deaths a year globally. In recent years, the global vaccination rate has stalled at about 85%. It has been stated that 1.5 million more deaths can be prevented yearly, if the vaccination rates can be raised to the target level (3).

“The Extended Vaccine Program” which is being applied in our country involves the vaccination services performed to reach the naive age groups before getting infected and provide vaccination in these age groups, with the objective of controlling and completely eradica-

ting the diseases caused by pertussis, diphtheria, tetanus, measles, rubella, mumps, tuberculosis, poliomyelitis, hepatitis B and H. Influenzae type by decreasing the morbidity and mortality related to these diseases. With this objective, all children are currently being vaccinated against hepatitis B, tuberculosis, diphtheria, pertussis, tetanus, poliomyelitis, measles, rubella, mumps, chickenpox, hepatitis A, pneumococcus, and haemophilus influenza Type B infections free of charge. With successful vaccination programs, the children in Turkey were cleared of poliomyelitis in 2002 and neonatal tetanus which leads to a high mortality was eliminated in 2009. In our country, the vaccination rate has been found to be above 95% in the last ten years for each vaccine (4).

The concepts of “vaccine hesitancy-vaccine refusal” were suggested twenty years ago. A gradual increase in the number of vaccine refusal cases has caused a reduction in vaccination rates and an increase in the frequency of vaccine-preventable diseases. While the total number of measles cases was 324.277 worldwide in 2018, 74.338 cases of measles occurred in the first two months in 2019 (5). In Rockland region of New York county in USA, 153 measles cases have been detected by 29 March 2019 and a state of emergency has been declared because of measles outbreak. In the frame of urgent prevention plan, entrance of unvaccinated children to public spaces including schools, shopping centers etc. has been forbidden (6).

In our country, the anti-vaccination movement started in the last eight years. Cases of vaccine refusal, which were very few previously, showed a rapid increase with the winning of a court case related to “receiving consent from

parents for vaccination” in 2015, and with the frequent appearance of anti-vaccination discourses on media. The number of families who did not want to vaccinate their children increased from 183 in 2011 to 980 in 2013, to 5400 in 2015, and to 12,000 in 2016, and the number of cases of vaccine refusal reached 23,000 by 2018. In Turkey, the vaccination rate, which was 98% in 2016, regressed to 96% in 2017. Throughout the country, measles was diagnosed in 85 children in 2017 and the number of cases of measles was 44 in the first 3 months of 2018. Thus, the incidence of measles showed a ten-fold increase by increasing to 0.10/100,000 for the present time, whereas it was 0.01/100,000 in 2016. The possibility of an epidemic is considerably high, if the number of vaccine refusal cases reach 50,000 (7).

The main discourses of anti-vaccination include that the chemical substances contained in vaccines are harmful for human health, that companies producing vaccines have monetary concern and they are efficient in scientific research, and that it is possible to be protected from these diseases by means of natural ways by consuming certain foods.

In discourses of anti-vaccination, the association of mercury contained in vaccines with autism has been suggested, but numerous scientific studies have not shown such an association. Vaccines have not contained mercury for approximately twenty years worldwide and for the last ten years in our country to decrease vaccine refusals (8). However, parents’ hesitations on this issue still continue. Currently, discourses that have no scientific basis, such as “diseases caused by vaccines” instead of “vaccine-preventable diseases” are being suggested without regarding public health, and being disseminated by the media. This could lead to severe epidemics of infectious diseases anytime soon, and some diseases that have not been observed in a great portion of the world for years (e.g. poliomyelitis and neonatal tetanus) may reappear.

The World Health Organization (WHO) established the “Vaccine Hesitancy Working Group” in 2012 when the anti-vaccination movement gradually became widespread, and it is still continuing investigations in this area (9). According to the World Health Organization’s definition, “vaccine hesitancy” means delayed acceptance or refusal of administration of some vaccines, though vaccine accessibility is possible. “Vaccine refusal” is the state of not vaccinating children with the decision of refusing all vaccines.

The World Health Organization included “vaccine refusal” among the top 10 global health problems which they plan to solve in 2019, because vaccine refusal cases have in-

creased rapidly in recent years and reached dangerous dimensions (10). In recent years, a website named ‘asi.saglik.gov.tr’ was established by the Ministry of Health, when it was observed that the number of vaccine refusal cases increased. This web site aims to give accurate and reliable information about vaccines and to raise public awareness.

In fighting the anti-vaccination movement, scientists should conduct scientific studies related to the causes of vaccine hesitation-vaccine refusal and the methods to be used to increase social approval in vaccination, and propose solution recommendations in the light of these studies. Studies conducted so far show that good communication of physicians and healthcare workers with individuals who are to be vaccinated and with their parents and providing confidence, are one of the most efficient ways to eliminate the hesitations in vaccination. In addition, use of the media and social media in enlightening the community and in increasing social awareness, will provide rapid progress in fighting the “anti-vaccination movement.”

## References

1. Dubé E, Vivion M, MacDonald NE. Vaccine hesitancy, vaccine refusal and the anti-vaccine movement: influence, impact and implications. *Expert Rev Vaccines* 2015;14:99–117.
2. Fine P, Eames K, Heymann DL. “Herd immunity”: a rough guide. *Clin Infect Dis* 2011;52:911–6. [CrossRef]
3. WHO. Immunization coverage.(cited 2019 March 30): Available from: URL: <https://www.who.int/en/news-room/fact-sheets/detail/immunization-coverage>.
4. [https://hsgm.saglik.gov.tr/dosya/mevzuat/genel\\_nitelikli\\_yazilar/asi\\_db/10.\\_avrupa\\_asi\\_haftasi\\_fe\\_8d0.pdf](https://hsgm.saglik.gov.tr/dosya/mevzuat/genel_nitelikli_yazilar/asi_db/10._avrupa_asi_haftasi_fe_8d0.pdf). Erişim Tarihi: 31.3.2019
5. [https://www.who.int/immunization/monitoring\\_surveillance/burden/vpd/surveillance\\_type/active/measles\\_monthlydata/en/](https://www.who.int/immunization/monitoring_surveillance/burden/vpd/surveillance_type/active/measles_monthlydata/en/) Erişim Tarihi: 2.4.2019
6. American Academy of Pediatrics. AAP Immunization Initiatives Newsletter. Jan 2019. (cited 2019 March 30): Available from: URL: [https://www.aap.org/en-us/documents/immunization\\_newsletter.pdf](https://www.aap.org/en-us/documents/immunization_newsletter.pdf).
7. T.C. Sağlık Bakanlığı Sağlık Bilgi Sistemleri Genel Müdürlüğü. Sağlık İstatistikleri Yıllığı 2017 Haber Bülteni, 2018.
8. Offit PA. Thimerosal and vaccines--a cautionary tale. *N Engl J Med* 2007;357:1278–9. [CrossRef]
9. WHO. Immunization, Vaccines and Biologicals.( cited 2019 April 3): Available from: URL: [https://www.who.int/immunization/programmes\\_systems/vaccine\\_hesitancy/en](https://www.who.int/immunization/programmes_systems/vaccine_hesitancy/en).
10. WHO. Ten threats to global health in 2019.(cited 2019 April 4): Available from: URL: <https://www.who.int/emergencies/ten-threats-to-global-health-in-2019>.