

## High Immunization Coverage in Children as One of the Major Achievements for the Health System in Iran

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### Dear Editor-in-chief,

Vaccination considered as one of the most cost-effective health interventions worldwide through prevention and control of many serious childhood diseases (1). It is estimated global coverage of Dose 3 of Diphtheria, Tetanus, and Pertussis (DTP<sub>3</sub>) among children one year old has been 86% in 2014 (by range from 77% to 96% in African Region and Western Pacific Region; respectively) (2). Globally in 2014, it is estimated about 18.7 million infants were not receive routine immunization services such as DTP3 vaccine. More than 60% of these children were living in 10 undeveloped countries (3). Coverage rate the third dose of DTP vaccine (DTP3) in at the age of 12 months is a key indicator of National Immunization Programme (NIP) performance; because it reflects completion of the basic infant immunization schedule and coverage with other vaccines (2). In this study we aimed to examine status of immunization coverage in Iran compared to other countries in the world during 1980-2015.

**Key Words:** Children, Immunization coverage, Iran, Vaccination.

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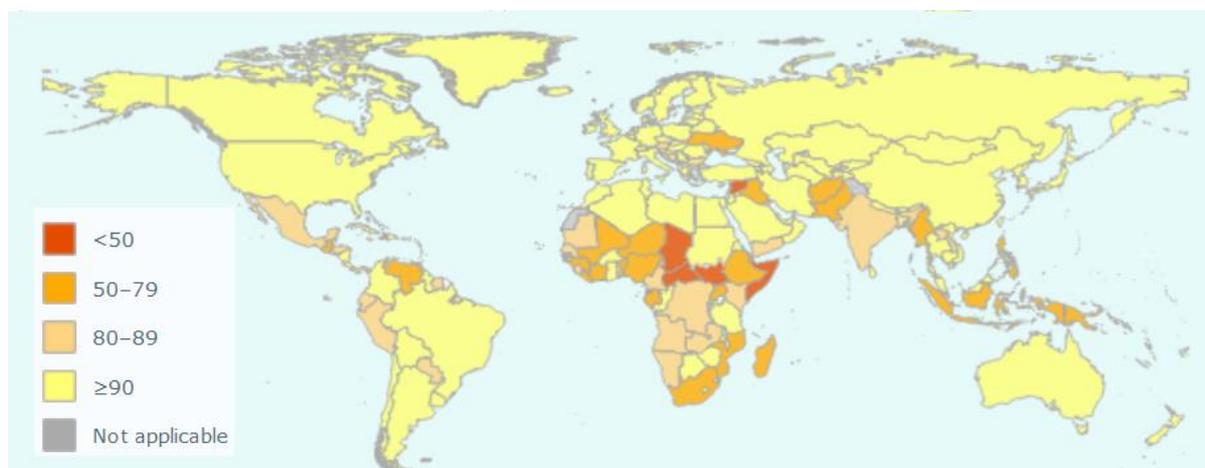
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**Figure.1**, show globally immunization coverage of DTP3 for children in 2014, as shown in this figure, immunization coverage for Iranian children such as many European countries, America, East Asia and North Africa countries is optimal (4).

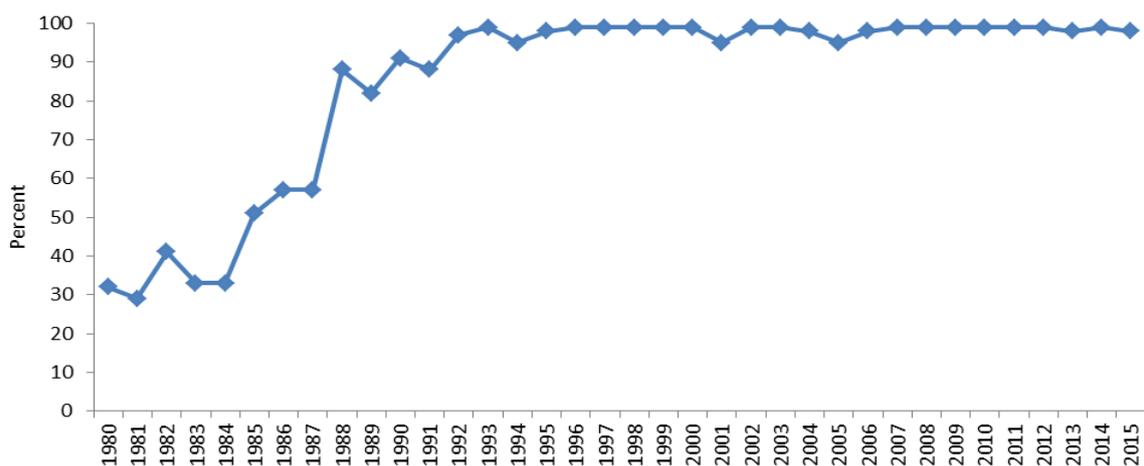
**Table.1** shows immunization coverage of DTP3 for Iran compared with the world as well as four categorized of countries according their income (Low-income, Lower-middle-income, Upper-middle-income and High-income countries). According World Bank category, low-income economies are defined as those with a GNI per capita of \$1,045 or less in 2014; middle-income economies are those with a GNI per capita of more than \$1,045 but less than \$12,736; high-income economies are those with a GNI per capita of \$12,736 or more. In 2015, this coverage in Iran was 8.4% higher than global average and In 2014, this coverage for Iran has been 99%; that it has been higher than the global average, low income and high income countries with 13, 21 and 4 percent; respectively. Iran has been a dramatic increase in vaccination coverage in recent years; **Figure.2** shows. Immunization coverage of DTP3 in Iran reached from 32% in 1980 to 99% in 2014 (4).



**Fig.1:** Globally Diphtheria tetanus toxoid and pertussis (DTP3) immunization coverage among 1-year-olds (%)

**Table.1:** DTP3 immunization coverage among 1-year-olds (%) of Iran in compared with countries income group during 1980- 2014

Region	1980	1985	1990	1995	2000	2005	2010	2014	2015
Global	20	50	76	73	70	78	85	86	89.6
Low-income countries	9	27	51	50	51	66	73	78	
Lower-middle-income countries	8	25	69	69	60	71	80	82	
Upper-middle-income countries	14	70	88	82	87	88	96	94	
High-income countries	57	78	87	89	92	96	95	95	
<b>Iran</b>	<b>32</b>	<b>51</b>	<b>91</b>	<b>98</b>	<b>99</b>	<b>95</b>	<b>99</b>	<b>99</b>	<b>98</b>



**Fig.2:** DTP3 immunization coverage trend among 1-year-olds in Iran (1980-2015)

Result of WHO in 2015 showed that Iran has the optimum vaccination coverage and is higher than global standards that reflect the successfulness of the Iran immunization program. However should be pay attention that still there are some obstacles in the full implement of vaccine. Despite of high coverage vaccination in Iran, the number of studies emphasized on noticeable incidence rate of delayed vaccination (5, 6). The next point that, there are considerable unknown number of illegal refugees who living in Iran, these refugees have unclear vaccination status and should be considered as potential menace for control of infectious disease among children (7). It is recommended that for full implement of vaccine programme in children should identify obstacles and then removes to timely vaccination; also illegal refugees should be considered as a high-risk group by the health system and presented appropriate solutions for their full vaccination.

## REFERENCES

- Gentile A, Bhutta Z, Bravo L, Samy AG, Garcia RDJ, Hoosen A, et al. Pediatric disease burden and vaccination recommendations: understanding local differences. *International Journal of Infectious Diseases* 2010;14(8):e649-e58.
- World Health Organization. Global routine vaccination coverage, 2014. *Weekly epidemiological record*. 2015;90:617-32.
- World Health Organization. Immunization coverage, Fact sheet. WHO; 2016. Available from: <http://www.who.int/mediacentre/factsheets/fs378/en/>. Accessed in May 2016.
- World Health Organization. Global Health Observatory indicator views, Diphtheria tetanus toxoid and pertussis (DTP3) immunization coverage among 1-year-olds (%) (Child health). WHO; 2016 [cited May 2016]; Available at: [http://apps.who.int/gho/data/node.imr.WHS4\\_100?lang=en](http://apps.who.int/gho/data/node.imr.WHS4_100?lang=en).
- Rejali M, Mohammadbeigi A, Mokhtari M, Zahraei SM, Eshrati B. Timing and delay in children vaccination; evaluation of expanded program of immunization in outskirts of Iranian cities. *Journal of research in health sciences* 2015;15(1):54-8.
- Poorolajal J, Khazaei S, Kousehlou Z, Bathaei S, Zahir A. Delayed vaccination and related predictors among infants. *Iran J Public Health* 2012;41(10):65-71.
- Khazaei S, Nematollahi S, Ayubi E, Ahmadi-Pishkuhi M. Immigrants: Potential Menace for Measles Elimination Target in Iran. *International Journal of Pediatrics* 2016;4(6):1975-6.