

Original Article

The Immunization Coverage of Afghan Children at the Health Centers Supported by the United Nation Higher Commission in Kerman, Iran

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Received: 4/27/2013

Accepted: 8/6/2013

Abstract

Introduction: Immunization is one of the most important health programs in first level prevention and is also one of the most cost-effective prevention programs in the entire world. This study evaluates the situation of immunization in fewer than one year old Afghan refugee children in Kerman, Iran.

Materials and Methods: This was a cross-sectional study. Data was extracted from the records of the health centers supported by the higher commission of refugees in Kerman. The BCG, polio 0, DTP 3, polio 3, Hepatitis B 3 and MMR 1 was calculated and compared with the vaccine coverage in Iran and Afghanistan. Stata 11 and Excel 2007 and the chi-square statistics were used for the analysis.

Results: The coverage of all BCG, Polio 0, DTP 3, Polio 3, Hepatitis B 3 and MMR 1 vaccines in the Afghan immigrants residing in Kerman between 2010 and 2012 was more than 95%. This coverage was not significantly different from the vaccine coverage of Iranian children, but was significantly higher than the vaccine coverage of children residing in Afghanistan.

Conclusion: The vaccine coverage of Afghan children residing in Kerman is similar to Iranian children and is high and satisfactory. These results show part of The Islamic Republic of Iran's commitment for providing health requirements for Afghan refugees residing in Iran.

Keywords: Immunization; Child; Health Centers; Primary Prevention

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Introduction

Immunization is a process in which a person's immunity against infectious diseases is increased by provoking the immune system and is an acceptable tool for the control and elimination of fatal infectious disease. Immunization prevents 2 to 3 million deaths a year and is an important health investment ^[1]. An immunization program is effective when the coverage is high. Low immunization coverage can have a reverse effect and can increase the age of acquiring childhood diseases ^[2].

Children immunization is the most important cost-effective index in decreasing vaccine preventable diseases ^[3]. Among the most important aims of EPI (Expanded Program on Immunization) is vaccination of groups at risk in order to decrease morbidity and mortality of vaccine preventable disease and eventually control, elimination and eradication of these diseases. Among the important indexes for reaching these goals, is reaching high immunization coverage, in other words a high percentage people in the population should have received vaccination, and in order to reach this goal constant and continues surveillance of the vaccination coverage should be performed ^[4]. Immunization against polio, diphtheria, pertussis, tetanus, measles, tuberculosis and hepatitis B, have been advised to all countries ^[4, 5]. Currently immunization has had noticeable progress in most communities, however, still in some countries suffering from poverty, war and weak infra structure, still the

immunity coverage is low; although other countries are reaching the goal of disease eradication. These facts show that national policy through considering disease epidemiology according to the health services structure of each country is necessary. Despite all of the proposals of WHO (World Health Organization) about immunization, still policy making is underway to introduce wider horizons ^[6]. The world health organization along with performing immunization programs in different countries is suggesting constant evaluation of immunization in different countries which had no report about immunization or the reliability of these reports was low ^[7]. In Iran, the EPI program was considered by officials as an effective program for immunization of all children who live in Iran, without any discrimination. Kerman province is located in the south west of Iran and is the first residential area for Afghan refugees. Restrictions on the residence of refugees in the Sistan and Baluchistan and the Northern Khorasan Provinces has led to the presence of many Afghan refugees for living and for work in Kerman. It is important to survey the health situation of these people and immunization is one of the main programs in the health services systems which have been the center of attention of the World Health Organization. In order to find out about the immunization situation, studying the immunization coverage of the BCG, Polio round 0 (at birth) , DTP round 3, Polio round 3, Hepatitis B round 3 and MMR round 1 vaccines has been recommended. This study

was performed in order to evaluate the immunization coverage of Afghan refugees taken care by the health centers under the supervision of the higher commission of refugees in Kerman.

Materials and Methods

This was a descriptive cross-sectional study, conducted by visiting 3 health centers supported by the UN Higher Commission for refugees and the Iranian Ministry of Health and Medical Education which are the Fakharan, Vahdat and Dashte Zahmatkeshan center and provide health services to the Afghan refugees. In these centers, physicians, nurses, midwives, environmental health officer and diseases control officers provide services to refugees.

Beside these centers there is an additional health house in which health personnel work and these people are called “Behbakhsh” and are equal to the “Behvarz” in the Iranian health system. The health records from March 2010 until March 2013 were screened and all vaccination data was extracted from the Immunization records. The population of children under one year old was taken from the

vital charts (Vital Horoscope). Then, indices of vaccine coverage for BCG, Polio 0, DPT 3, Polio 3, Hepatitis B 3, and MMR 1 (Measles, Mumps, Rubella) were calculated. The data of the children whose parents had a short, transient stay in Kerman was excluded in this study. For doing the health indices calculations from the vaccination records, the number of all injected vaccines in the years was extracted and was then divided by the total number of children under one year and multiplied by 100. Data was analyzed by the Stata 11 and Excel 2007 software. Chi-Square statistics was used for comparing the vaccine coverage between the centers and also for comparing on time or delayed vaccination during the years of study. However, the indices for 2012 only include the first 6 months from March 2012 until August 2012. The rest of the data was not available at the time this article was prepared.

Results

Table 1 shows the vaccine coverage during 2010, 2011 and 2012 at these health centers. As it can be seen the coverage of all vaccines from 2010 until 2012 was always above 95%.

Table 1. The immunization coverage of Afghan refugee children in Kerman during March 2010- August 2012

Vaccine	2010		2011		2012	
	N	%	N	%	N	%
BCG	718	99.17	812	99.50	310	100
Polio 0	722	99.72	812	99.50	310	100
DTP 3	706	97.51	805	98.65	306	98.70
Polio 3	714	98.61	808	99.01	306	98.70
Hepatitis B 3	709	97.92	811	99.38	306	98.70
MMR 1	692	95.58	792	97.05		

A while after the commencement of these centers a higher number of children acquired their necessary vaccines on time (Table 2). As it can

been seen during the first year of the commencement of these centers, a high percent of children had not received their vaccines on time.

Table 2. Comparison between on time and delayed vaccination in Afghan refugee children in Kerman from March 2010 until August 2012

Vaccine	2010		2011		2012	
	On time N(Percent)	delayed N(Percent)	On time N(Percent)	delayed N(Percent)	On time N(Percent)	delayed N(Percent)
BCG	328 (45.31)	396 (54.69)	786 (96.32)	30 (3.67)	304 (98.06)	6 (1.93)
Polio 0	328 (45.31)	396 (54.69)	789 (96.69)	27 (3.30)	304 (98.06)	6 (1.93)
DTP 3	472 (65.19)	252 (34.80)	776 (95.09)	40 (4.90)	307 (99.03)	3 (0.96)
Polio 3	482 (66.57)	242 (33.42)	776 (95.09)	40 (4.90)	307 (99.03)	3 (0.96)
Hepatitis B 3	367 (50.69)	357 (49.30)	772 (94.60)	44 (5.39)	307 (99.03)	3 (0.96)
MMR 1	59181.62(591)	133 (18.37)	739 (90.56)	77 (9.43)		

There was no significant difference between the vaccine coverage between different health centers and in regard to any

vaccine and in all 3 centers the vaccine coverage was more than 95% for all vaccines (Table 3).

Table 3. Comparison between different vaccine coverage among the 3 health centers

Vaccine	Fakharan			Vahdat			Dashte zahmatkeshan		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
BCG	99.03	99.31	100	99.21	99.72	100	99.56	99.56	100
Polio 0	99.71	99.31	100	99.82	99.72	100	99.61	99.56	100
DTP 3	98.49	98.72	100	96.13	98.47	98.42	96.31	98.54	98.13
Polio 3	99.31	99.05	100	98.36	99.08	98.42	98.40	98.87	98.13
Hepatitis B 3	97.81	99.12	100	98.21	99.53	98.42	97.43	99.39	98.13
MMR 1	96.43	97.11		95.21	97.19		95.52	96.35	

Table 4 shows the immunization coverage of Afghan refugee children in Kerman and compares it with the report

from WHO about the vaccination coverage of Iranian children and Afghan children residing in Afghanistan.

Table 4. Comparison of the Afghan refugee children immunization coverage with Afghanistan and Iran in 2011

Vaccine	Afghan refugees in Iran	Afghanistan	I.R of Iran
BCG	99	68	99
Polio 0	99	68	99
DTP 3	98	66	99
Polio 3	99	66	99
Hepatitis B 3	99	66	99
MMR 1	97	62*	99

* Only measles was injected in Afghanistan

Discussion

Immunization in Iran has started simultaneously with other WHO member countries. In Iran's health care system, health services are provided even in remote villages and to nomad and tribal communities. Health services are also available to foreigners from any country. These people can receive health services including vaccination by visiting the health centers spread all over the country. However, in some areas the refugees live separately and far away from Iranians in working communities and due to their own lack of knowledge or limited access, may not be able to use health services properly. In Kerman in order to eliminate this problem and provide appropriate services from 2010, three centers with the cooperation of the UN higher commission for refugees has been established and provides services to the Afghan refugees. During the first year of establishment all children were evaluated for their history of immunization and if it was incomplete or if they didn't have a history, vaccination would be provided, almost 1832 children had this

situation in the first year, and among them 411 children were under one year age. Other children were also immunized according to the national schedule.

The vaccination coverage for all vaccines during 2010, 2011 and 2012 for children less than one year was high in these centers. The lowest coverage was for the MMR1 vaccine in 2010 and all vaccines in all 3 years had a coverage close to 99% which is very close to ideal (Table 1). Although we should consider that in the first year of establishment of the centers (2010) a high number of children had acquired their vaccines with delay, but in 2011 and 2012 almost all children received their vaccines on time and this was due to proper access to immunization and proper education (Table 2). In all three health centers the health indexes were close to each other and there was no statistically significant difference between these centers and all immunization coverage was at an appropriate level. And it is necessary that this process is continued. The immunization coverage in 2011 in Afghan refugee children residing in Iran was

satisfactory except for DTP 3 and MMR 1. Other vaccines had a coverage above 99% which was almost equal to the vaccine coverage of Iranian children. According to the WHO report the vaccine coverage of all vaccines in Iran in 2011 was more than 99%^[8]. While in Afghanistan all vaccines coverage was not satisfactory and was much less than the rates in Afghan refugee children living in Iran^[9].

In Afghanistan the immunization coverage is low due to nationwide problems including continues war, low public health infrastructure, limited access and low parental knowledge and education. The international organizations and the Afghan officials should make more effort for solving the health problems in Afghanistan. They need to recognize the effective factors and practice proper measures to alleviate them. The proper immunization coverage of Afghan refugees in Iran shows the high level of commitment of the Iranian government and the health workers in Iran. In Findley et al's study the vaccine coverage of children born in American was 14.5% more than the foreign children residing in America^[10].

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Our study had some limitations which were the incomplete statistics for 2012. This was because the records at the time of data collection in this study were completed only until August 2012. The refugee population is usually moving and it is necessary to provide education about the importance of vaccination and the time for doing vaccination to the parents of these children, so that if these people move, they still are aware and seek vaccination in other provinces. Also it is necessary to provide international immunity cards in English and in Julian calendar to these refugees which could be used for follow up all over the world.

This study shows that Afghan refugee children in Iran enjoy vaccination coverage similar to Iranian children. This shows the commitment of the Islamic Republic of Iran in providing health services to refugee populations.

Acknowledgment

We sincerely thank the physicians, nurses and health officers serving at these health centers who cooperated with us in conducted this study.

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