

Comparing the Health Indicators Before and After the Implementation of the Family Physician Program in Rāmhormozcity In 2015

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Abstract

Instruction: Given that the aspect of the health of a society is measured by the health indicators of that society, health transformation is metbased on the trend of changes of these indicators over the time. Therefore, assessing the impact of the implementation of the Family Physician Program on health indicators has a particular importance and studying the trend of these indicators over the years can be used as one of the especial factors to assess this program and be significant and helpful for the policy makers and its planners. The present study aims to compare health indicators in rural areas in Rāmhormozcity before the implementation of the Family Physician Program, in 2001-2004 and after the implementation of that in 2006-2009.

Methods: To do this study, health indicators such as maternal mortality rate, infant mortality rate (under one year and under 5 years), the percentage of home births attended by untrained person, the percentage of glycemic control in diabetics, the percentage of blood pressure control in patients with hypertension and environment improvement index were extracted and calculated through vital horoscope, statistical forms and documents in the city health center of Rāmhormoz. Analysis of the data were performed by SPSS 20 software using descriptive and inferential statistics and paired t-test.

Results: The results show that the infant mortality index and percentage of births attended by untrained person in the house after the family physician program were reduced significantly ($P < 0.05$); while the maternal mortality index also decreased after the implementation of the program, but this reduction was not statistically significant ($P > 0.05$); as well as the indicators of glycemic control in diabetic patients, the percentage of blood pressure control in patients with hypertension and the percentage of environment improvement indexes after the implementation of the Family Physician Program were increased significantly ($P < 0.05$).

Conclusion: The implementation of the family physician program in rural areas in Rāmhormoz city had a positive role to improve some of the health indicators, but for a more accurate assessment, designing and implementation of studies to exclude confounding factors seems necessary.

Key Words: The family physician, health indicators, rural areas

Background: Health is the center of social, economic, cultural, and political development of all human communities and has asignificantly especial role in infrastructure development of different sectors of a society(1).

Given that the health is one of the fundamental personal rights in a society, the government is obliged to provide it fairly. Therefore the ultimate goal of the health care system of each country is to promote the health level of all people with the equitable access to health services (1).

Thus, in the last two decades, health systems in developed and developing countries, due to failure to meet the needs and expectations of health, has been obliged to implement the reform programs(1).

Thus the Iranian Health System in 2005, in response to problems associated with the quality, fairness and effectiveness, started the family physician program in the villages and towns with less than 20 thousands people in the country(2).

The most appropriate strategy for rural insurance program implementation in the form of a referral system, is a family physician. In this program, a

general practitioner and his/her team has the full responsibility for the health of individuals and families even after they refer for professional levels to a specialist(3).

Family physician has the medical professional PhD and a valid license and in the first level of services, he/she is responsible for the health services and takes the responsibilities such as health management, research, attending the integrity and continuity of service and coordination with other sectors (4).

In the family physician, health looking is a center for a physician's activities and an overall goal of this program is to preserve and promote the public health and provide the health services within the package defined to the individuals, families, the population and the community regardless of age and gender differences, economic and social factors and disease risk. In addition to cure the diseases, a physician provides the necessary instructions and consultations to prevent from diseases and to achieve an acceptable level of physical and mental health (5).

To pursue this program, not only improving the health indicators, but also improving other indicators of human and economic development, especially justice, security and satisfaction are expected (5).

Given that the aspect of the health of a society is measured by the health indicators of that society, health transformation is measured based on the trend of changes of these indicators over the time. Therefore, assessing the impact of the implementation of the Family Physician Program on health indicators has a particular importance and studying the trend of these indicators over the years can be used as one of the especial factors to assess this program and be significant and helpful for the policy makers and its planners (6).

So far, there have been several studies on the implementation of the family physician. In a study by Barati et al about the impact of the family physician program on the health indicators and on the whole country's vital horoscope indicators, they came to the conclusion that the implementation of family physician program promoted more than half of the indicators under study (deaths of children under one year old, deaths of children under 5 years old, neonatal mortality, maternal mortality) (6).

And also in a study by Heydari et al with the subject of the effect of the family physician program implementation on some of the health indicators of rural population in Bushehr, concluded that the implementation of family physician program influenced some parameters and failed to influence some others (7).

In another study entitled "the Cuban, Health Revolution?" by Benjamin and Handel conducted in

Cuba, they came to the conclusion that applying the family physician program was a more effective program to reduce infant mortality (8).

Therefore, the present study aims to compare health indicators in rural areas in Rāmhormoz city before the implementation of the Family Physician Program, in 2001-2004 and after the implementation in 2006-2009.

Method: This study is a cross-sectional study which took place in 2015. The research community is the rural population of Rāmhormoz city in which the family physician program is implemented. In this study, first health indicators such as maternal mortality rate, infant mortality rate (under one year and under 5 years), the percentage of home births attended by untrained person, the percentage of glycemic control in diabetics, the percentage of blood pressure control in patients with hypertension and environment improvement index (percentage of households with sanitary waste collection and disposal - the percentage of households have access to toilet) were extracted and calculated; then the collected data were analyzed through SPSS 20 software using descriptive and inferential statistics and paired t-test.

Results: The health indicators rates in each year during the years 2001 to 2004, in rural areas of Ramhormoz city (before the implementation of family physician program) and years 2006 to 2009 (after the implementation of the family physician) are presented in Table 1.

The average maternal mortality was 19.80 before the implementation of the program that decreased to 16.60 after the implementation of the program. This decline was not statistically significant ($P = 0.921$).

The average mortality rate for children under one year old, prior to implementation the family physician program was 19.33 that decreased to 12.11 after the implementation of the program. This decline was statistically significant ($P = 0.004$).

The average mortality rate for children under 5 years old, prior to implementation the family physician program was 31.84 that decreased to 21.60 after the implementation of the program. This decline was statistically significant ($P = 0.018$).

The average percentage of deliveries at home prior to implementation the family physician program was 11.18 that decreased to 3.29 after the implementation of the program. This decline was statistically significant ($P = 0.002$).

Average percentage of blood pressure control in patients with hypertension prior to implementation the family physician program was 37.75 that increased to 47.75 after the implementation of the

program. This increase was statistically significant ($P = 0.000$).

The percentage of glycemic control in diabetics prior to implementation the family physician program was 30.25 that increased to 37.50 after the implementation of the program. This increase was statistically significant ($P = 0.006$).

The average percentage of households with sanitary waste collection and disposal prior to the implementation of family physician program was 75.96 which increased to 78.34 after the implementation of the program. This increase was also statistically significant ($P = 0.007$).

The average percentage of households have access to sanitarytoilet before the implementation of family physician program was 78.00 which increased to 87.87 after the implementation of the program. This increase was also statistically significant ($P = 0.007$).

The results showed that the infant mortality rate and the percentage of births attended by untrained person in the house after the implementation the family physician program were reduced significantly ($P < 0.05$); while the maternal mortality rate also declined after the implementation of the family physician program, but this reduction was not statistically significant ($P > 0.05$); as well as indicators of glycemic control in diabetic patients, control of blood pressure in patients with hypertension and environmental improvement indicators after the implementation of the family physician program were increased significantly ($P < 0.05$).

The results showed that over the years after implementation of the family physician program in rural areas in Ramhormoz city, the health indicators were improved. These findings have been shown in Table 1.

Table 1- comparing the health indicators in rural areas of Ramhormoz city after the implementation of the family physician program

Year index	Before the implementation of family physician program				After the implementation of family physician program				P-value
	2001	2002	2003	2004	2006	2007	2008	2009	
The maternal mortality	0	0	0	79.24	0	0	66.48	0	0.921
The mortality rate for children under 1 year	22.79	21.15	17.54	15.85	13.89	12.49	11.96	10.12	0.004
The mortality rate for children under 5 years	38.56	35.05	28.40	25.36	22.22	24.98	20.61	18.61	0.018
The percentage of births attended at home	13.12	12.16	11.99	7.47	4.87	4.16	2.47	1.66	0.002
Control of blood pressure in patients with hypertension	36	38	38	39	45	48	48	49	0.000
Control of glycemic in diabetics	29	30	31	31	34	36	40	40	0.006
The percentage of households with sanitary collection and disposal of waste	74	76	76.85	77	77	77.86	78.50	80	0.007
The percentage of households with sanitary toilets	74	76	79	83	87	87	88.50	89	0.007

Discussion: These results suggest that the implementation of the family physician program before 2005 were enhanced the most indicators under study. But for more accurate assessment of the program, designing and implementation studies are necessary to eliminate confounding factors.

According to the results of this research, indicators of child mortality and the percentage of births attended by untrained person in the house, after the

family physician program, were reduced significantly; while the maternal mortality rate also decreased after the implementation of the family physician program, but this reduction was not statistically significant; as well as indicators of glycemic control in diabetic patients, control of blood pressure in patients with hypertension and environmental improvement index, after the implementation of family physician program, were increased significantly.

The results of this study suggest that most health indicators which were measured, such as infant mortality rate, the percentage of home births attended by untrained person, the percentage of glycemic control in patients with diabetes, the rate of blood pressure control in patients with hypertension and percentage of indicators of environmental improvement, after the implementation of the family physician program (2006-2009) compared to before implementation of the family physician program (2001-2004) were improved. In fact, implementation of this program had a positive and significant impact on these indicators, but this result was not attained about the indicator of maternal mortality and thus has no significant relationship was seen.

As it was observed, the average rate of maternal mortality was 19.80 before the implementation of the family physician program which decreased to 16.60 after the implementation of family physician program. This decrease is not statistically significant. It means that there was no significant relationship between the rate of maternal mortality rate and family physician program. These results are consistent with the results of the research conducted by Raiisiet al(9).

Based on the results of this research, implementation of the family physician program led to a significant reduction in child mortality rate (under one year old and under 5 years old) which seems that changes in child mortality trend due to holding workshops on neonatal resuscitation and increasing a significant number of doctors and midwives in health centers and running child care programs after the implementation of the family physician program are effective. These results are consistent with the results of a research conducted by Mansourian and colleagues(10).

Also according to the results of this research, implementation of the family physician program led to a reduction of in-home deliveries significantly; and, given that the project improved the access to medical and midwifery services, improving the indicator mentioned above is

reasonable. These results are consistent with the results of a research conducted by Mansourian and colleagues(10).

Also according to the results of this research, implementation of the family physician program led to increasing the blood pressure control in patients with hypertension and increasing glycemic control in patients with diabetes significantly. And due to this fact that the implementation of the family physician program promoted access to medical services and patients with diabetes and hypertension are continually visited (at least every 3 months are visited by a doctor - at least once a month are cared by a health workers) by the family physician or a health worker, and other health team members, it is expected that improving the above indicator is reasonable. These results are consistent with the results of a research conducted by Saeedi et al(11).

One of the other results of this study is the significant environmental improvement indicators enhancement after the implementation of family physician program. And given that health looking is a center for a family physician's activities and an overall goal of this program is to preserve and promote the public health, one of the goals of implementation of the family physician program is to increase access to environmental health services for rural people and promote the health level through the promotion of health indicators; with implementation of this program, environmental health activities in rural areas through the health team's continual presence (visiting the village) have been increasingly emphasized and implemented and led to enhanced the above index. These results are consistent with the results of a research conducted by Poordadet al (12).

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