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Qeshm city Health Network evaluation and comparison its triple index with standards Hormozgan province and Iran

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ABSTRACT

This study was done to assess the health and treatment network of Qeshm city and make a comparison among its demographic, health and treatment indicators with the standards of Hormozgan province and country in 2011. The study population included 1 hospital, 34 health houses, 3 urban health centers, 5 rural health centers and three active urban health bases in Qeshm. In this study, the sample is the whole of the statistic population. This study was conducted in the descriptive and cross sectional manner and data was extracted from vital horoscopes of the health center of Hormozgan province and Qeshm city and the statistically year book of Bandar abbas medical university and indicators were compared with indicators of Hormozgan province and the country in 2011. Data were analyzed using SPSS version 15 and converted to health indicators and index and presented in the percentage rate ratios forms. The findings suggest that the indicator of primary goal, the overload indicator is 63.8 that the value is maximum in Qeshm city and indicators related to the second goal, general reproductive- is 88.15, total fertility is 3.09, delivered by a untrained midwife is 5.3, crude birth rate is 28.7, the rate of population growth is 2.47, deaths under one month is 14.77, the rates of maternal mortality is 50.92 and are the maximum amount is assigned to Qeshm city and indicators related to third goal of cesarean is 33 percent that the lowest amount is assigned to Qeshm city.

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INTRODUCTION

In the current era of profound change in management, the evaluation system is inevitable so that any lack of evaluation system to evaluate whether the use of resources, facilities, personnel, objectives and strategies can be considered as one of the symptoms of the organizational weakness. Every organization needs the evaluation system to determine the appropriateness and quality of its operations, especially in complex and dynamic environments (Zahi, 2004).

If evaluation continues in the common manner in past and present Iranian organizations, instead to cause that employees motivate, develop their skills and reinforce their ideas to the organization, it will cause they become disincentive, indifference and even have hostility to their work (Haji Sharif, 1993).

Performance indicators are commonly used in third goals include accountability facilitation, health systems monitoring, modification of professionals and organizations behavior in both micro and macro level and policy initiatives shaping, nonetheless there are several methodological problems in the index selection (World Health Organization, 2001)

For review and evaluation of health strategies, a bunch of health indicators has been presumed in order to achieve the intended objectives. To identify health conditions of each community and to evaluate conducted health program and finally to underpin future plans, it is important to be informing from indicators that relate directly or indirectly with the health status of the population, have special importance.

As demographic, health and treatment indicators are among indicators that could be the base of understanding health and medical conditions of a country, so the researcher is seeking to answer these

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In this study there are many questions such as (i) How is the demographic structure of Qeshm city, Hormozgan province and country? (ii) How are medical human resources and diagnostic and treatment facilities of Qeshm city?

Study method:

This study was conducted to assess the health and treatment network of Qeshm city and make a comparison among its demographic, health and treatment indicators with the standards in Hormozgan province and country in 2011. Therefore this study is done in descriptive and cross sectional manner. For Data collection, the table designed to extract data from vital horoscopes of the health center and related health houses and vital horoscopes of active city centers, statistic yearbook designed in Bandar abbas medical school and health center of Hormozgan province and city and the statistic year book of Bandar abbas medical university.

The research community includes hospitals, all health houses, health centers in urban and rural supported by health network in Qeshm city. Given that the sample is the whole population of the research community, sample includes 1 hospital, 34 health houses, 3 urban health centers, 5 rural health centers and three active urban health bases in Qeshm.

Data Analysis methods:

The raw data extracted from vital Horoscope of the health center of city and province, and information collected from before mentioned organizations and institutions were analyzed using the spss 15 software and converted to health care indicators and index. Tables and graphs were presented in percentages, ratios and rates form.

RESULT AND DISCUSSION

Based on information obtained in connection with the distribution of population by age and sex based on Qeshm city population and housing census in 2011, Qeshm city's population is 119,824 people of which 60,262 are males and 59,562 are females. In other words, 50.3% of the population was male and 49.7 percent of the city's population is women. From whole city's population 51,391 people live in city and 68,433 people live in the village. In other words, 42.9 % of people are urban and 57.1% of people are rural inhabitants.

Regarding the comparison of age groups in the study, the result of population and housing census in 2011 showed that in Qeshm city, 3268 people (2.38) are under year old, 13,631 people (9.96) are under 5 years, 18,349 patients (27.08) are under 15 years and 77,523 patients (56.69) are between 15 to 64 years, and 5274 patients (3.85) are over 65 years. The percent of overhead population in Qeshm city is 63.8 and this indicator in Hormozgan province is 59.2, and at the national level is 46.76, which the mentioned indicator in national level has minimum value while Qeshm city compared with the Hormozgan provinces and country doesn't have a good place and have 6 and 26 percent difference from province and country respectively.

Obtained data from the comparison of the number and percentage of health units supported by Health Network Qeshm city is as follows:

- The number of health houses in Qeshm city in accordance with plan approved by the Ministry of Health are 38 units while its available number is 34 units and In total, 90 % of health homes in the city are active.

- The number of rural health centers in Qeshm city in accordance with plan approved by the Ministry of Health are 5 units while its available number are 5 units and the number of urban health centers in accordance with plan approved by the Ministry of Health are 3 units while its real available number are 3 units

- The number of rural health centers in Qeshm city in accordance with plan approved by the Ministry of Health are 3 units while its real available number are 3 units and the number of urban health centers in accordance with the approved plan of the Ministry of Health are 3 and 0 respectively and the available number of units are 3 and 0, respectively.

- The Number of childbirth facility in Qeshm city in accordance with the approved plan of the Ministry of Health is 5 units while the available number is 4 units and in total, 120 % of delivery facilities in the city are active

- The number of health schools in Qeshm city in accordance with the approved plan by the Ministry of Health are 1 unit and its real available number is 1 unit.

Information obtained in relation to the human resources and facilities in Health Network of the city of Qeshm in comparison with the population in 2011 is as follows:

- The city of Qeshm has 7.99 % of the total population of the Hormozgan province while 8.54 percent of doctors and 3.33 percent of dentists in the Hormozgan province served in this city. 7.22 % of pharmacies and 3.64 percent of laboratories in Hormozgan province located in Qeshm city. 2.79 percent of hospital beds and 3.42 percent of active hospital beds are located in Qeshm .

- The city's population in 2011 is equal to 119 824 people and there is one doctor per 3865 people and the total population is supported by a single dentist.

- Number of pharmacies in the city is 7 units and there is a pharmacy per 17,117 people.
- The number of laboratories in the city of Qeshm is 8 units and there is a pharmacy per 14,978 people and in this point, the Hormozgan province and the city of Qeshm have a similar situation.
- The number of radiology buildings is 2 units for the whole city and there is one radiology unit per 59,912 people.
- The number of fixed and active hospital beds is 40 and 62 beds respectively and there is one foxed bed per 2995 people and one active bed per 1932 people.

Data concerning the organizational staffing of the health network of Qeshm city in 2011 are as follows:

According to information obtained from the Health Network of Qeshm city, there are seven general practitioners, nine expert doctor, four dentists, one chemist, one nurse, one midwife, 79 workers (male and female), two Environmental Health and Occupational Health force, two people for fighting the disease unit, one laboratory force, four health care force, four persons for Radiology unit and two persons for Medical Record units.

Information obtained in connection with the general fertility rate in the study population in 2011 is a: The general fertility rate in the country in 2010 was 64.43 per 1,000 persons which the lowest general fertility rate is assigned to 2011 and the maximum is assigned to 2008 with 100 per thousand. B: The total fertility rate in the country is 2.04 and this rate for the Hormozgan province and the city of Qeshm is 2.64 and 3.09, respectively.

Data regarding the percentage of home deliveries conducted by trained and untrained midwives at home and hospital births in the study population in 2011 is as follows:

Percentages of deliveries conducted at home by trained midwives in Qeshm city, the Hormozgan province and the whole country are 1.9, 1.79 and 3.21 respectively and 5.13, 3.38 and 1.49 percent respectively by untrained midwives, These percentages in a hospital by a doctor or studied midwife are 92.8,94.83 and 95.3, respectively.

Data regarding the percentage of born weighing less than 2500 g in the study population in 2011 is as follows :

Percent of less than 2500 g born in the city of Qeshm is 6.26, in the Hormozgan province is 8.06, and in the whole country is 5.69 and percent of more than 2,500 g born in the city of Qeshm is 93.74 , in the Hormozgan province is 91.94 and in the whole country is 94.04.

Information obtained in connection with the crude birth rate, crude death rate and natural population growth in the city of Qeshm in 2011 is as follows :

The crude birth rate in the city of Qeshm is 28.7 and while in the Hormozgan province and the whole country is 23.82 and 15.12, respectively. The highest rate is assigned to Qeshm city and the lowest is assigned to country. Crude mortality rates in Qeshm city is 4 while in the Hormozgan province and the whole country is equal to 64 and 5.1, respectively. The natural growth rate of population in the city of Qeshm equal to 2.47 and while in the Hormozgan province and the whole country is 1.93 and 1.41.

Data concerning the mortality rate of children less than one month, one year and five years in Qeshm city in 2011 is as follows:

The mortality rate of children under one month in the city of Qeshm, Hormozgan province and the whole country is equal to 14.77, 14.22, 10.7 respectively; the lowest rate is assigned to the entire country while the highest rate is assigned to the city. Deaths less than one year is 18.33, 20.2, and 15.75 respectively. the lowest rate is assigned to the entire country while the highest rate is assigned to the Hormozgan province and deaths under 5 years is 21.38, 24.08 and 19.25, the lowest rate is assigned to the entire country while the highest rate is assigned to the Hormozgan province.

Information obtained in connection with maternal mortality rate in a hundred thousand live births in the study population in 2011 is as follows:

In 2011, 2 deaths occurred in the population supported by health network Qeshm city and the rate of maternal mortality in the city of Qeshm is 50.92 and this rate in the Hormozgan province and the whole country is equivalent to 44.87 and 21.7, respectively. Highest and lowest maternal mortality is related to Qeshm city and the whole country respectively

Information obtained in connection with hospital indicators in hospital supported by Qeshm city health network in 2011 is as follows:

The average hospital stay of a patient in Qeshm city is 2.01, in Hormozgan is 1.43 and in the country is 2.7.

In Qeshm city BOR is 77% and this value in the Hormozgan province and the country is 78% and 70%, respectively.

Cesarean rate is 33% in Qeshm city, and this rate in the Hormozgan province and the entire country is 38% and 35% respectively.

Information obtained in connection with the statistics and clients of Fatemeh zahra hospital supported by Qeshm Health Network in each month in 2011 is as follows:

Most patients admission to the emergency room was in January (12.5 %) and lowest patients admission to the emergency room was in July (3.6 percent).

Most of the clinical outpatients were in January (12.6 percent) while the lowest clinical outpatients were in April (4.5 percent).

Most of the referral to laboratories were in the months of March, April and May, with 9.3, 9.1 and 8.9 percent respectively while the lowest number of visitors were in the months of October, November, December and March, with roughly 7.7, 7.8, 7.8 and 7.8 percent respectively.

The highest number of patients in Radiology was in four months of last year while the lowest number of patients in Radiology was in August with 6.8 percent.

The highest percentage of operations was in March and then in January with 10.6 and 10.5 percent, respectively while the lowest percentage was in the months of April and May.

The highest rate in Number of thalassemia patients was in April and May with 11.8 and 10.6 percent respectively while the lowest rate was in December (7.6%).

Most bedridden patient was 10.7 and 10 percent in February and January respectively and the lowest of this value is assigned to July with 8.3 %.

Discussion:

Based on the findings of this study, the result of population and housing census in 2011 showed that in Qeshm city, 3268 people (2.38) are under year old, 13,631 people (9.96) are under 5 years, 18,349 patients (27.08) are under 15 years, 77,523 patients (56.69) are between 15 to 64 years, and 5274 patients (3.85) are over 65 years. This result is inconsistent with the study of Ghafari (2003). The percent of overhead population in Qeshm city showed that the mentioned indicator in country level has minimum value while Qeshm city compared with the Hormozgan provinces and country doesn't have a good place. This indicator in home health has declined since 2006 until 2011.

The findings of the second indicator of the health indices showed a general fertility rate in Qeshm city, Hormozgan province and home health and it decrease from 92 to 88.16 over 6 years and it is dropped to 3.84 persons.

The country's total fertility rate is equal to 2.04, this rate in Hormozgan province is 2.64 and in Qeshm city is 3.09. Fertility rate from 2006 to 2011 has increased by about 4 percent.

Percent Of home deliveries conducted by trained midwives in the country is the highest rate in while the lowest is assigned to Hormozgan province. This rate in health houses has dropped over 6 years.

Percent Of home deliveries conducted by untrained midwives in Qeshm city, the Hormozgan province and the whole country are 5.3, 3.38 and 1.49, respectively. This rate has decreased over the 6 years that is consistent with findings of (Abadi Farahani, 2007).

Results showed that the highest rates of deliveries performed in a hospital by a doctor or trained midwife is assigned to the country and the lowest value is related to Qeshm city that is consistent with findings of (Ghaffari, 2003).

In relation to percent less than 2500 g born, the results showed that Qeshm results has more favorable position than the Hormozgan province while country index is Best of all. This rate in home health has increased over 6 years.

The results showed that the crude birth rate and the highest and lowest is Qeshm city has risen during the six and these results are consistent with the findings of (Banu Nadir *et al*, 2011) and inconsistent with the findings of (Aquino, 2009). The results showed that the lowest value of crude death rate is assigned to Qeshm city while the highest of this value is assigned to the country. This value has increased within 6 years from 2006 to 2011 and are quite inconsistent with the findings of (Banu Nadir *et al*, 2011)

Results showed that the rate of natural population growth in the city of Qeshm has the highest rate while in the country has the lowest rate. The value related to Qeshm city has increased nearly 14 percent over six years.

The lowest mortality rate of less than one month, for this assigned to entire country and the largest amount is assigned to Qeshm city. The amount of Qeshm city has increased by about 2 percent over six years and this result is quite inconsistent with the findings of (Aquino, 2009), (Shi, 2004) and (Mkynkv, 2006). The lowest rate of deaths under one year is assigned to the whole country and the highest amount is assigned to the Hormozgan province. This figure has dropped to about 5 percent over six years, and this result is consistent with the findings of (Naderibeni *et al*, 2011) and inconsistent with findings of (Farahani, 2007). The lowest mortality rate under 5 years is assigned to the country and the largest amount is assigned to Qeshm city. The amount of Qeshm city health homes dropped 8.5 percent over six years that the results are consistent with the findings of (Naderibeni *et al*, 2011).

The results showed that the lowest and highest maternal mortality rate related to Qeshm city and the whole country. This index increase to 50 percent during the 6 –year and it is quite inconsistent with findings of (Abadi Farahani, 2007).

In relation to the average amount of days in the hospital and the highest value is assigned to country and the lowest is assigned to Hormozgan province which differ by about 47 percent and this result is inconsistent with the results of (Kavoussi *et al*, 2011) and is consistent with the findings of (Ismaili, 2001).

In relation to the rate of hospital bed occupancy, the highest value is assigned to Hormozgan province and the lowest value is assigned to country and this rate has decreased by 5% over 6 years that is inconsistent with the findings of (Kavoussi *et al*, 2012) and consistent with the results of (Svmanatan, 2000) and (Arzmany, 2012).

In conjunction with the percentage of cesarean births, the lowest is assigned to the city of Qeshm and the highest is assigned to the entire country. This rate has increased nearly 14 percent over six years.

Regarding the first objective, which is examination of index of population health facilities, given that more than half of the population live in rural areas government must provide adequate facilities available in the village to maintain people in villages. Therefore, to rural population access to health services, policy development and strengthening rural health units will follow more to reduce deprivation in rural areas.

About the second goal, the increase of crude mortality rate in rural areas that may be because of the hard work condition and the lack of diagnostic faculty and treatment, The growth of fertility and born and population growth index in this city could be in accordance with the leadership advises about increase of the birth rate in country. The percent of birth in the hospitals is lowest in Qeshm city and the government must guide the pregnant and patient to hospitals by the sufficient training of midwives and suitable guide of health house and warning mothers about the risks of birth in house by untrained midwives

In the third goal of the therapeutic index, the ratio of the bed occupancy rate was higher than the proportion of Hormozgan province and more than country and should raise occupied beds by using effective management and the unnecessary beds reduction to increase the hospital efficacy. Qeshm city had the lowest percentage of cesarean which show maternal awareness of birth complications and such issues and this is a good sign and officials should try to reduce it as much as possible.

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