



Studying the Condition of Kermanshah Province Development in Healthcare and Treatment Section By Means of Scalogram In 2014

AbolHassan afkar^{1,2}, Nasim Hatefi_Moadab³, Hamed mirzaei⁴, Farzad Soleymani³, Mohsen Mohammadi³ and Seyedeh Hoda Mousavi^{5*}

¹ School of Health, Guilan University of Medical Sciences, Rasht, Iran

² Social Determinants of Health Research Center, Guilan University of Medical Sciences, Rasht, Iran

³ Student Research Committee, Kermanshah University of Medical Sciences, Kermanshah, Iran

⁴ Msc of health education, Boein myandasht health facility, Isfahan University of medical sciences, Isfahan, Iran

⁵ Student Research Committee, Kermanshah University of Medical Sciences, Kermanshah, Iran

*corresponding Author: Seyedeh Hoda Mousavi

ABSTRACT

In order to be successful in planning and achieving development, the first step is to study and reach to real knowledge about the level of prosperity, ability, limitations and regional lack of balance. Present research aims to study the condition of Kermanshah province development in healthcare and treatment section by means of Scalogram model during year 2014. Present research is of descriptive type and studies the condition of healthcare and treatment indexes in various cities of Kermanshah province during 2014. data were gathered by means of a researcher-made survey form and studying the province's statistical annual books. Data were analyzed based on Scalogram pattern and by aid of Excel 2010 and SPSS version 18 software. There is a great gap from benefiting point of view among structural indexes of healthcare and treatment among Kermanshah province's townships. Songhor and Kangavar townships with score of 68 points gain the maximum and Salas and Babajani with 48 points gain the minimum benefit from these indexes. In general 50 percent of this province's townships are in a developed level or are developing and 21.43 percent are among deprived areas. Studies show that some areas are more developed and advanced in comparison to other areas and we need more studies to find the fundamental reasons of such issue and we should use these results in state and regional planning so we can witness integrated and proper development in all areas of the province.

Keywords: Scalogram patterns, healthcare and treatment indexes, development, Kermanshah

INTRODUCTION

Nowadays, the issue of development has turned to a concern for so many countries. In other words, development is nothing but turning people's living condition a more satisfying condition[1, 2]. Although economic advancement is one of the important factors of development, but it's not the only factor and the reason is that development isn't an only economic phenomena; development is a concept which is discussed from theoretical and political point of view and is complicated and vague in nature. Recently, its definition has been limited to the act of developed organizations, specially aiming to decrease poverty and millennium development goals[3, 4].

Since development didn't happen similarly in various times and places among different countries, there are many regional inequalities in every scale and in relation to various indexes, special areas have a better condition in comparison to other areas[5]. Illogical and improper concentration in biological areas will lead to unequal economic – social development in geographic areas and is an issue which its reflection could be found in geographical outlook of cities and their heterogeneous growth[6]. Therefore, studying these economic, social, cultural and political inequality

among various groups, ranks, tribes and also geographic areas or divisions in a country, is one of basic and critical things for planning and improving in order to satisfy the economic growth and social justice.

Planning is one of the undeniable necessities to achieve development. from another hand, in order to succeed in planning and achieving development, the first step, is to study and reach the real knowledge about the level of prosperity, ability, limitations and lack of regional balances (2). determining the condition of regions is critical from development point of view in planning and justified distribution of equipment's and benefits of development among general public and planners of various societies try to decrease inequalities by means of developing and administration of various untideprevation programs, to achieve development (3). experience of regional studies among various countries shows that some areas in comparison to other areas have a better performance and as a result they have a better and more desirable growth and development. there for, if planners can identify effective factors on proper performance, in such case they will be able to not only benefit from experience of managers in various areas but they also can allocate existing budget in an optimum manner [7](4).

In literature related to healthcare economy, in fact a human's health, is considered to be a capital and medical and healthcare affairs will increase an individual's level of health (pure investment) or replace his/ her lost health due to accidents or disease (replacement investment) (5). knowledge ad information about level of development in healthcare and treatment section in the country is of special importance in national and regional level, because knowledge about different levels of countries and considering them in short term and long term, is an issue which helps plans to be efficient. what's more, determining goals and identifying development strategies of regions will be analyzed in a more objective way by determining the place of each region and based on medical and treatment condition. present research aims to study the condition of Kermanshah province development in healthcare and medical section by means of Scalogram model during year 2014.

MATERIALS AND METHODS

Present research is descriptive-analytic and determines the condition of development in townships of Kermanshah province in healthcare and treatment section by means of Scalogram model. in order to gather data, researcher made a form including data about healthcare and treatment indexes in townships of Kermanshah province. the data for this research were acquired from statistical annual yearbook and documents of statistical center of Iran. to do this research, various indexes in healthcare and treatment section are required and to determine these indexes, first the indexes will be extracted from various resources and they will be categorized. Then, considering their application in various studies, existence of data and finally considering experts and academics opinions, the final indexes will be determined and studied.

Researchers in this descriptive research, will do their work by means of gathered data related to studied indexes from statistical annual yearbook in 2014 and country's collection of population statistics. data were analyzed by means of Scalogram model and Excel and Spss software. the Scalogram model is one of the important methods in planning. first it was used by historical geographers to show the functional foundations of hierarchy in urban areas (7, 8). this method ranks regions of an area based on the number and type of their performance and is especially useful in cases where we don't have complete data about regions' performance characteristics and face time and money limitations to gather the data 8. Scalogram is a quantitative technical method to identify existing differences and gaps in resources distribution. This method determine spatial rank and regional level. Scalogram identifies existing differences ad gaps and then determines the dispersal and inequality of regions.

RESULTS

First by dividing the raw number corresponding to studied indexes from annual yearbook on townships' population, we determined the level of each township's benefiting from various indexes. Two townships of Sanghar and Kangavar with 68 points have the maximum and Salas and Babajani townships with 48 points have minimum level of benefiting from these indexes. generally, 50 percent of province's townships are in a developed or developing stage and 21.43 percent are in deprived level. Songhor and Kangavar townships with a score of 68 are considered to be among developed townships that generally include 14.29 percent of townships among all townships of this province. townships of Paveh, Ghasre Shirin, Sare Pole Zahab have scores of 63, 61, 60 and 21.43 points, respectively. what's more, findings show that among townships of Kerman, Harsin, with score of 59 and West Islamabad, sahne with score of 58 are among cities in a developing condition and these are 28.58 percent of townships.

Cities of Javanroud, Guilangharb, Dalahoo with scores of 55, 54 and 52, respectively, are considered among deprived townships and are 21.43 percent of townships in this province. Ravansar, SalSal Babajani with scores of 51 and 48 are

among very deprived townships and are considered to be 14.28 percent of townships in this province. generally, the maximum percent in table 2 is related to the developing row.

Table 1: scores related to healthcare and treatment indexes after Scalogram analysis, divided based on townships in Kermanshah province

Name of town ship		Sanghar	Kangavar	Paveh	Ghasre Shirin	Sare Pole Zahab	Kermanshah	Harsin	West Islamabad	Sahne	Javaroud	Guilangharb	Dalahoo	RAvansar	Salasal and Babajani
index	Ratio of general practitioner to population	5	4	5	5	3	3	5	1	5	3	4	5	3	4
	Ratio of specialists to population	5	5	5	5	3	5	4	5	5	5	2	1	1	1
	Ratio of physician’s aid to population	5	4	5	5	2	4	3	2	4	3	4	5	2	2
	Ratio of nurse’s aide to population	5	5	5	4	5	3	5	5	5	5	5	5	5	5
	Ratio of healthcare center to the population	5	5	5	5	5	4	5	5	5	5	5	5	5	5
	Ratio of sanitation centers to population	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Ratio of beds to population	4	4	3	5	3	5	3	2	1	3	3	1	1	1
	Ratio of laboratories to population	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	Ratio of therapy centers to population	5	5	5	5	5	5	5	5	5	5	5	2	5	2
	Ratio of radiology centers to population	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	Population growth	5	5	1	3	5	1	4	5	3	3	1	1	3	4
	Ratio of pharmacies to population	5	5	5	5	5	5	5	5	5	5	5	5	5	4
	mortality	5	5	5	2	3	5	3	5	3	1	3	5	2	1
	Child birth	5	5	3	3	5	5	3	4	3	3	3	3	3	3
	Ratio of mortality to birth	3	5	5	3	5	3	3	3	3	3	3	3	5	5
score ¹	68	68	63	61	60	59	59	58	58	55	54	52	51	48	

Table 2: development level of townships in Kermanshah Province based on benefiting from

group	Class distance	Level of benefiting	Name of townships	number	percent
first	64-68	Very developed	Sanghar, Kangavar	2	14/28
second	60-64	developed	Paveh, Ghasre shirin, Sare Pole Zahab	3	21/43
third	56-60	developing	West Islamabad ‘Harsin ‘Kermanshah ‘Sahne	4	28/58
forth	52-56	deprived	Dalahoo ‘Guilangharb ‘Javaroud	3	21/43
fifth	48-52	Very deprived	Salasal Babajani ‘Ravansar	2	14/28

Table 3: ranking Kermanshah province’s townships based on Scalogram model

Scalogram Model	Name of township	Sanghar	Kangavar	Paveh	Ghasre Shirin	Sare Pole Zahab	Kermanshah	Harsin	West Islamabad	Sahne	Javaroud	Guilangharb	Dalahoo	Ravansar	Salasal and Babajani
	rank		1	2	3	4	5	6	7	8	9	10	11	12	13

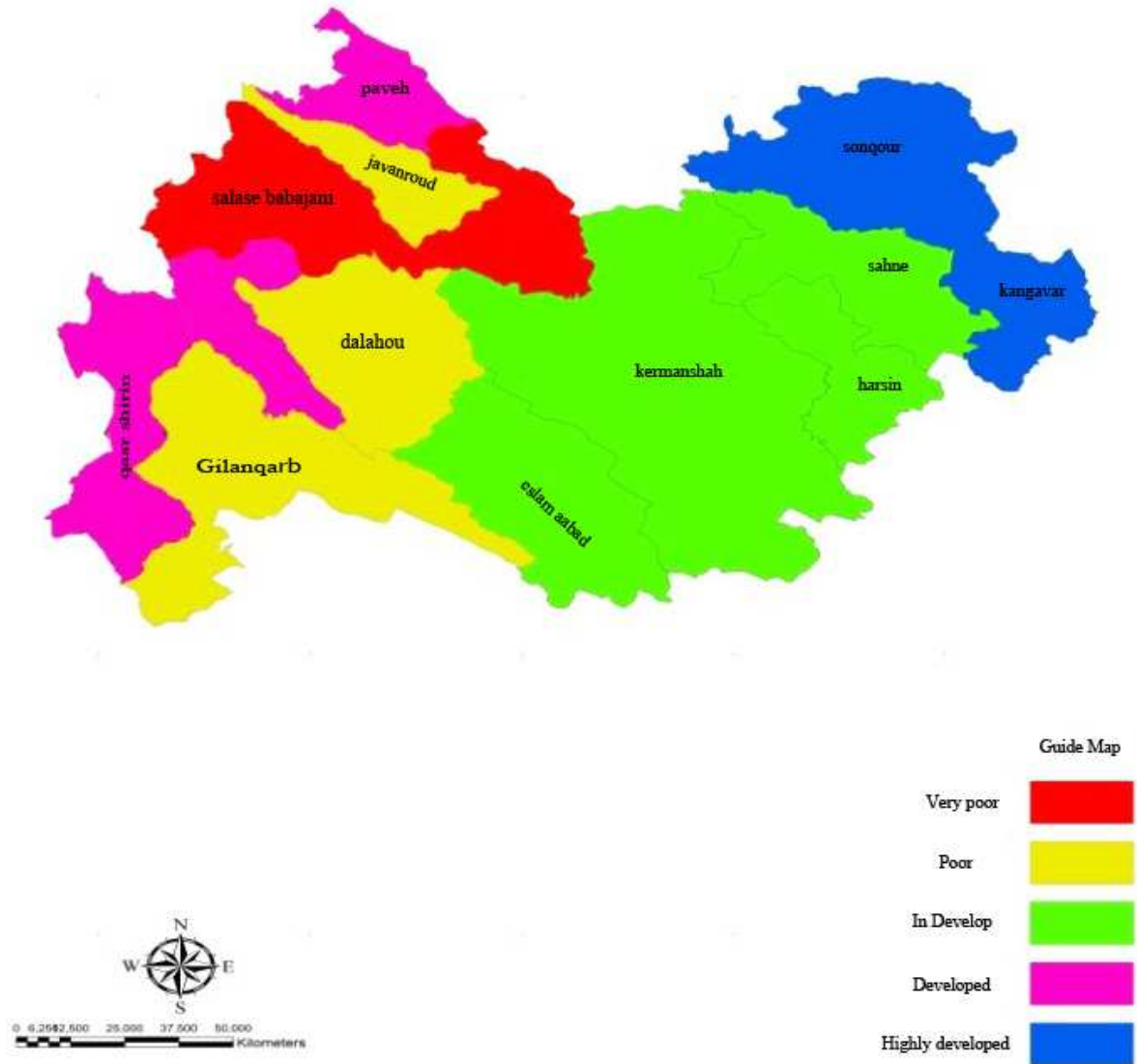


Figure 1: level of development in townships of Kermanshah province based on benefiting from healthcare and treatment based on Scalogram model

DISCUSSION AND CONCLUSION

Results presented by this research show that there is a great difference and gap in benefiting from structural indexes of healthcare and treatment among various townships of Kermanshah province. to justify these differences in development of healthcare and treatment indexes in townships of this province, 15 indexes were studied. based on table 1, 15 indexes including (ratio of specialist physicians to population, ratio of physician’s assistant to population, ratio of sanitation center to population, ratio of bed to population, ratio of therapy centers to population, ratio of radiology centers to population, ratio of population growth, ratio of general practitioner to population, ratio of nurse’s aide to population, ratio of healthcare centers to population, ratio of laboratories to population, ratio of pharmacies to population, ratio of mortality, children’s mortality ad ratio of child birth mortality to population) showed that Songhor and Kangavar provinces with a score of 68 had the maximum and Salas and Babajani township with 48 points had the minimum benefit from these indexes. generally, 50 percent of townships in this province are in developed or developing level and 21.42 are in deprived level. in studies by Bahadori & et al[9]. in West Azerbaijan province, Nastaran, Zarabi & et al[10]. in Isfahan province, Amini & et al[11], Mousavi & et al[12]. in Kermanshah province, Mohamadi & et al[13]. in West Azerbaijan, Sedaghatifar & et al[14]. in Boushehr province, Jafari in Zanjan province[1], Eliaspour & et al[15] in North Khorasan, Mohammadpour in Kermanshah province also presented similar results about the gap in benefiting from healthcare and treatment indexes. what’s more, Tahvaiee and et al[16]. also announced in their research that there is a great difference among various townships of Iran in relation to their level of enjoyment from healthcare and treatment indexes.

in present research, half of townships in the province (7of them) were in a developed or developing level which is totally different from results presented by Mousavi & et al[12], during 2014 that claims half of the cities are in levels of less developed and undeveloped and only about a quarter of them are considered to be in a developed level, which is totally different and this difference could be justified due to the difference in type of indexes and studied factors. results of present research and other studies show that there is no balance. policy makers ad planners should focus their efforts to find out why these differences and development gaps exist. studies show that some areas are more developed and advanced in comparison to other areas and more research is required to find out the basic reasons of such issue and we should use their results for state and regional planning to witness an integrated and proper development in all areas of the province.

REFERENCES

- [1] Mohammad, J., S. Hasan, and J. Ali, Measuring the development of Zanjan province townships in healthcare section by numeric toxonomy 2011. *healthcare management* 2012; 4(2,1).
- [2] Farjadi, G.a., *Economical development in third world*, ed. Planing and Budgeting Organization. 1989; 7.Tehran:
- [3] Thomas, A., *The Study of Development*, in Paper prepared for DSA Annual Conference. 2004; Church House: London.
- [4] Mohammadi, M., et al., Study of the Work Ethic Status in the Teaching Hospitals in Kermanshah. *Advances in Environmental Biology*, 2014; 8(9): 1024-1028.
- [5] Molaee, M., Study and Comparison of development between Irans provinces in agriculture section 1994-2007. *Economic , Development and Agriculture Magazine* 2007; 16(63).
- [6] Y, F., *Geographic and Citiology* Vol. 7. 2009; Tabriz: Tabriz University.
- [7] Esfandnia, a., et al., the effect of teamwork on employee performance evaluation (staff case study areas, kermanshah university of medical sciences). *International journal of analytical, pharmaceutical and biomedical sciences*, 2014; 6(3): 22-26.
- [8] Mohsen Mohammadi, et al., Consideration of the Relationship between Changes of Evaluation Rate of Hospitals with Performance Indicator in Kermanshah Hospitals over [during] a ten-year Period 2002-2012. *Advances in Environmental Biology*, 2014; 8(11): p. 720-724.
- [9] M, B., et al., Classification of health structural indicators using Scalogram Model in Golestan Province, Northern Iran. *Iranian Journal of Public Health*, 2012; 41(5).
- [10] M, N., Analyzing and assessing the degree of concentration and distribution of health indicators in Isfahan. *Journal of The Faculty of Letters and Humanities*, 2001; 2(26-27).
- [11] N, A., Y. H, and I. S, Provinces of the country's health ranking. *Social Welfare Quarterly*, 2006; 5(20).
- [12] Meisam, M., et al., Rationalization of Kermanshah province's townships in utilizing health structural indices by Scalogram pattern. *Health promotion management* 2013; 2(2).
- [13] Mohammadreza, P., et al., Analysing development in Kermanshah province townships scientific spatial planing magazine, 2012; 2(1).
- [14] J, S., et al., Determine degree of develpment Boushehr provinces townships in healthcare indices by numerical toxonomy Razi medicine sciences, 2014; 118(21).
- [15] Behnam, E., E. Darioush, and H. Ali, Measuring the development of healthcare section in Northen Khorasan province townships by numeric toxonomy 2006. *Northen Khorasan University of medical sciences magazine*, 2011; 3(1).
- [16] Masoud, T. and S. Ahmad, veriety in healthcare services in Iran township. *Social Welfare Quarterly*, 2010; 10(39).