Original Article

# Institutional barriers to the development and construction of urban hospitals

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## Abstract

**Background:** Increasing urban population and the need for accountability and citizen orientation have led decision makers to use the desired methods in the area of urban management. This article identified the barriers to development and construction of hospitals in metropolitan of Isfahan.

**Methods:** This study was descriptive-correlational in terms of method. 376 people were studied. They were selected using stratified random sampling method. To data collection, a researcher-made questionnaire was used. It included 41 questions in two dimensions of urban and regional barriers and planning and management. The construct validity of the research variable structure was confirmed by exploratory factor analysis. Cronbach's alpha coefficient was also estimated to be higher than 0.7. Data analysis was performed using confirmatory factor analysis in AMOS-23.

**Results:** The indicators shown that the model for measuring institutional obstacles to achieve good urban governance is suitable. The results showed that planning and management and urban and regional variables as institutional barriers have a significant impact on the construction of the hospital and it shows that these structures have a direct impact on these barriers. Therefore, it can be said that the influence of planning and management variables was more than other dimensions.

**Conclusion:** Based on the observations can be shown that the policy makers should identify the obstacles facing the collaborative models and then provide a suitable platform for their organizations. In order to reduce planning and management obstacles, should be managed within the framework of plans and stakeholders should be involved in the decision-making process.

**Keywords: Hospital Design and Construction; Hospitals, Municipal; Organization and Administration.**

## Introduction

The hospital is a social institution that is necessary for the continuation of life, preservation of human survival, and treatment of illnesses. It has gradually emerged in the history of social life and along with the evolution of science and

technology and skills and lifestyles over the years, it has emerged in its today's form as a necessity in human societies. Management in the development and construction of hospitals has a large organization and plays a major role in the success of urban development programs and plans for the development and construction of hospitals, meeting the needs of the population, traffic flow in the city, public welfare, housing, land use, recreation, culture, economy, and infrastructure and so on. The goal of urban management is to improve the working and living conditions of the population in the form of different social and economic groups and to protect the rights of citizens, encourage sustainable economic and social development and protect the physical environment (1). In general, it can be stated that the theoretical and macro goal of urban management and hospital management system in Isfahan is to strengthen the process of sustainable urban development for the development and construction of hospitals, so that an appropriate context is provided for comfortable, safe, efficient and sustainable life of citizens according to their characteristics and the relevant society (2).

In addition, management of development and construction of hospitals in the future in general and in the 21st century in particular will face some challenges. This challenge is a function of technological, demographic, economic, political and international changes (3).

Urbanization in Iran has grown rapidly in recent decades and it has caused problems such as congestion of population, pollution, and similar problems. It seems necessary to have a new management system that has a more dynamic view of the city and its citizens. Isfahan Municipality is a super organization with more than 50 sub-groups including region, company, etc., each with several sub-sets with more than 5000 employees, faces several challenges with bureaucratic management methods in

development of Isfahan. Many studies have been conducted on good governance at the academic and non-academic levels, which are generally theoretical. These new approaches, especially good urban governance, in the development and construction of hospitals as the most effective and cost-effective and most stable method of managing a complex and multi-level system to improve the management of cities (1). The present study was an attempt to identify barriers to the development and construction of hospitals in Isfahan.

## Methods

The present study was applied in terms of aim, descriptive-correlational in terms of nature and survey in terms of method. The statistical population of the study included 15085 staffs of hospitals in Isfahan. Based on Krejcie and Morgan table, the sample size was estimated to be 376 people who were selected using stratified random sampling method proportional to sample size. To collect data, a researcher-made questionnaire was prepared based on review of research literature and background. Barriers for development and construction of hospital questionnaire included 41 questions in two dimensions; 1) Urban and regional (physical, spatial barriers, social barriers, functional barriers), 2) planning and management (barriers in the theoretical area of planning and management, functional barriers in the management system of hospitals development and construction, and planning – political barriers).

The questions were scored on a 5-point Likert scale (strongly disagree, disagree, relatively agree, agree, strongly agree). Kaiser, Meyer, Olkin (KMO) criteria were used to ensure the credibility of the data and to check the accuracy of sampling before factor analysis. Based on the findings Table 1, KMO in the institutional barriers to development and construction of hospitals was equal to 0.973 which was an acceptable value (above 0.7) and according to the significance of Bartlett test ($p < 0.05$),

Table 1. Construct validity test of institutional barriers to achieve good urban governance for the development and construction of hospitals

| Test | statistic | df | p-value |
|---|---|---|---|
| Kaiser-Meyer-Olkin | 0.973 | - | - |
| Bartlett's Test of Sphericity | 10224.0675 | 820 | 0.001 |

| factor | eigenvalue | Percentage of variance | Cumulative frequency percentage of variance |
|---|---|---|---|
| 1 | 8.009 | 19.534 | 19.534 |
| 2 | 7.652 | 18.663 | 38.197 |
| 3 | 3.401 | 8.294 | 46.491 |
| 4 | 2.252 | 5.492 | 51.983 |
| 5 | 1.391 | 3.393 | 55.376 |
| 6 | 0.997 | 2.286 | 57.663 |

Table 2. demographic characteristics of participants

| Age | Row | Baseline No (%) 376 |
|---|---|---|
| Job classification | Administration/management | 90 (24) |
| | Clerical | 49 (13) |
| | Nursing/physician assistant | 162 (43) |
| | Ancillary health care | 75 (20) |
| Gender | Female | 196 (52) |
| | Male | 180 (48) |

the necessary criteria for factor analysis were met. Also, 6 factors that had eigenvalue of more than 1 explained a total of 57.7% of the variance of the general concept. It should be noted that the eigenvalue of each factor is the sum of the squares of the factor load of a factor and measures the contribution of each factor in explaining the common variance. The explanatory degree of variance also indicated how much variance of the general concept was explained by the factor.

To evaluate the internal reliability, the Cronbach's alpha coefficient was calculated in a pilot study for Urban and regional barriers (0.95) and planning and management barriers (0.959) on 30 individuals were estimated higher than 0.7.

**Results**

The mean age of the samples was 48.2 years and most of the samples were in the Nursing/physician assistant groups and Female Table 2.

According to the indices presented in Table 3, it can be stated that the model for measuring institutional barriers to achieve good urban governance has a good fit.

According to the factor loads calculated in Table 4, no question had a factor load less than 0.5. Therefore, no question was excluded from the analysis process. In the factor analysis model, 15 covariance relations were used to improve the fit indices.

Table 3. Fit indices of model of institutional barriers to good urban governance for the development and construction of hospitals

| index | Acceptable level | Reported value |
|---|---|---|
| CMIN/DF | Equal to or less than 3 | 2.239 |
| GFI | Equal to or greater than 0.9 | 0.889 |
| AGFI | Equal to or greater than 0.9 | 0.861 |
| NFI | Equal to or greater than 0.9 | 0.900 |
| IFI | Equal to or greater than 0.9 | 0.905 |
| TLI | Equal to or greater than 0.9 | 0.897 |
| CFI | Equal to or greater than 0.9 | 0.904 |
| RMSEA | Equal to or less than 0.08 | 0.057 |

Table 4. Standard factor load and t values of questions related to institutional barriers to achieve good urban governance for the development and construction of hospitals

| Construct | Involved Items | Standardized factor load | t-value | p-value |
|---|---|---|---|---|
| | | 0.714 | 13.078 | <0.005 |
| | | 0.691 | 12.691 | <0.005 |
| | | 0.672 | 12.355 | <0.005 |
| | | 0.672 | 12.361 | <0.005 |
| | | 0.659 | 12.128 | <0.005 |
| | | 0.657 | 12.088 | <0.005 |
| | | 0.730 | 13.357 | <0.005 |
| | | 0.723 | 13.230 | <0.005 |
| | | 0.673 | 12.368 | <0.005 |
| Urban and regional barriers to development and construction of hospitals | Items 1 - 22 | 0.644 | 11.873 | <0.005 |
| | | 0.696 | 11.469 | <0.005 |
| | | 0.638 | 11.769 | <0.005 |
| | | 0.675 | 12.413 | <0.005 |
| | | 0.666 | 12.261 | <0.005 |
| | | 0.696 | 12.769 | <0.005 |
| | | 0.689 | 12.636 | <0.005 |
| | | 0.649 | 11.931 | <0.005 |
| | | 0.650 | 11.964 | <0.005 |
| | | 0.671 | 12.332 | <0.005 |
| | | 0.666 | 12.260 | <0.005 |
| | | 0.674 | 12.383 | <0.005 |
| | | 0.688 | - | <0.005 |
| | | 0.711 | 12.180 | <0.005 |
| | | 0.710 | 12.161 | <0.005 |
| | | 0.742 | 12.598 | <0.005 |
| | | 0.757 | 12.806 | <0.005 |
| | | 0.728 | 12.408 | <0.005 |
| | | 0.725 | 12.377 | <0.005 |
| | | 0.693 | 11.936 | <0.005 |
| | | 0.760 | 12.861 | <0.005 |
| | | 0.659 | 11.455 | <0.005 |
| planning and management barriers | Items 23 - 41 | 0.693 | 11.938 | <0.005 |
| | | 0.793 | 13.306 | <0.005 |
| | | 0.725 | 12.372 | <0.005 |
| | | 0.711 | 12.189 | <0.005 |
| | | 0.646 | 11.246 | <0.005 |
| | | 0.736 | 12.536 | <0.005 |
| | | 0.683 | 11.796 | <0.005 |
| | | 0.728 | 15.097 | <0.005 |
| | | 0.701 | 12.044 | <0.005 |
| | | 0.642 | - | - |

According to Table 5, planning and management variables with an impact factor of (p = 0.001, β=0.97), and regional and urban variables for development and construction of hospitals with an impact factor of (p=0.001, β=0.94) as institutional barriers to achieve good urban governance for the development and construction of hospitals is significant at the level of 5%. Also, the positive path coefficients show that these structures have a direct effect on these barriers. According to the calculated path coefficients, it can be stated that the impact of planning and management variables is more than other dimensions Figure 1.

Table 5. Test result

| Questions | Path coefficient | Statistic t | p-value |
|---|---|---|---|
| Planning and management variables ➡ Institutional barriers to achieve good urban governance for the development and construction of hospitals | 0.97 | 10.430 | 0.001 |
| Urban and regional variables ➡ Institutional barriers to achieve good urban governance for the development and construction of hospitals | 0.94 | 7.081 | 0.001 |
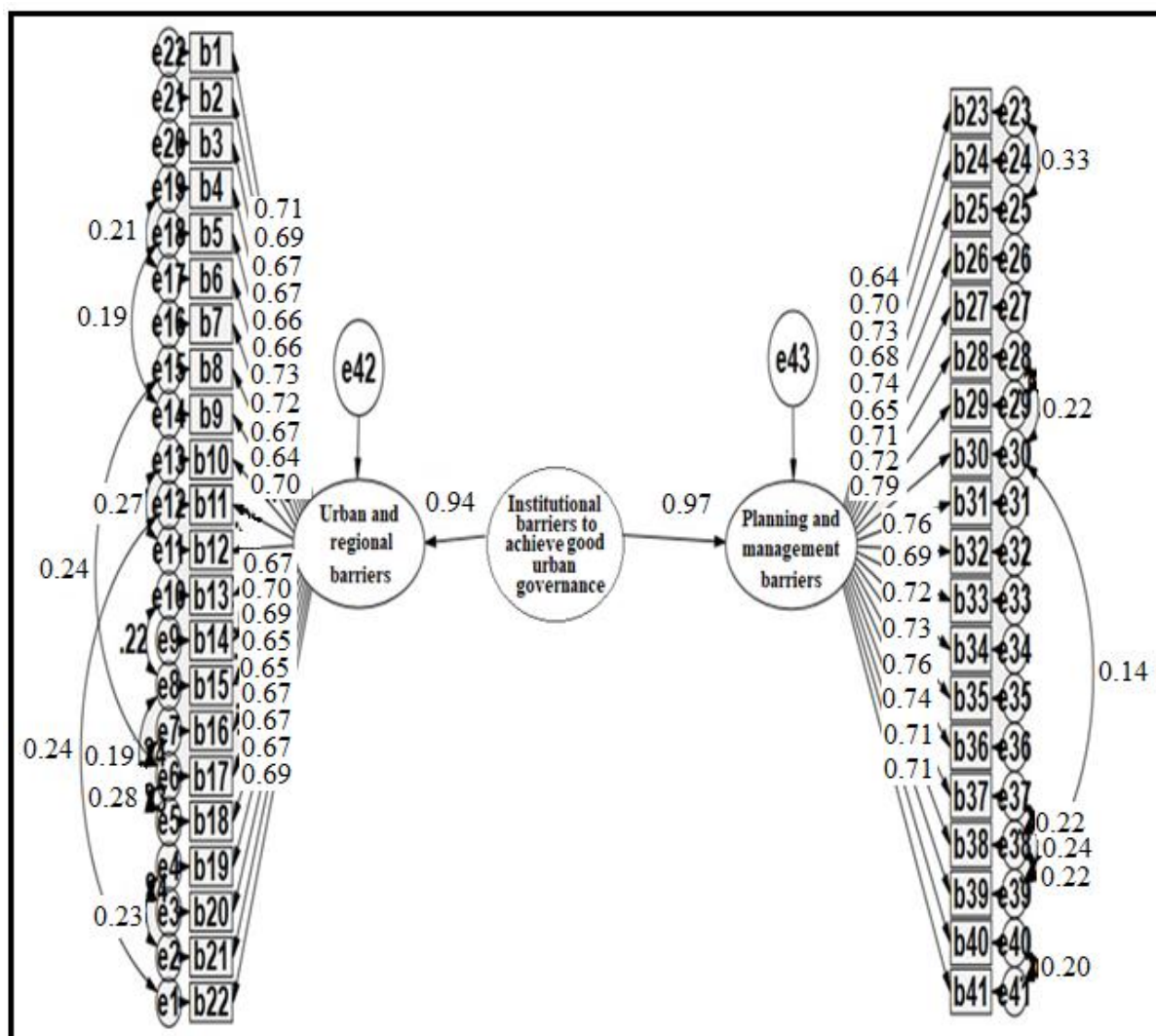


Figure 1. Results of confirmatory factor analysis of for the development and construction of hospitals (standardized factor load)

## Discussion

Medical centers are considered as institutions that have been formed to preserve the survival of humans and treat diseases. Throughout history, social life has been accompanied by numerous developments in technologies, skills, and different lifestyles, which have finally formed in their present form as a necessity for the life of human societies. The results of this study showed that planning and management variables and urban and regional variables as institutional barriers to hospital construction had a significant

positive effect and indicating that these structures had a direct effect on these barriers. Hence, it can be stated that the effect of planning and management variables (0.97) has been more than other dimensions.

According to the factor loads calculated in our study, no question was excluded from the analysis process. In the factor analysis model, 15 covariance relations were used to improve the fit indices. Despite the proliferation of medical research in recent decades, healthcare systems globally fail to optimally use evidence to improve patient care and improve both quality of life and mortality (5). Evidence-based clinical algorithms (EBCA), which include clinical practice guidelines, clinical pathways, order sets, and clinical decision rules (3), provide useful knowledge tools to facilitate incorporation of evidence into routine practice. They accomplish this by "codifying evidence into specific rules or action plans" that can facilitate the delivery of appropriate evidence-based care. However, their impact on process and outcomes of care varies considerably across practice settings and providers (6).

The results of our study showed that planning and management variables and urban and regional variables are the main obstacles to achieving good urban governance for the development and construction of hospitals, which had a positive and significant effect, which indicates the direct impact of these structures on these obstacles. . According to the calculated coefficients, it can be shown that the influence of hospital planning and management variables is more effective than other dimensions.

The results of Khosroabad et al. were consistent with our results, which in examining the effect of good governance indicators for the development and construction of hospitals, the results showed that the quality of governance

index and the indicators of political stability and effectiveness of the government had a negative and significant effect on reducing inequality, and the correct implementation of this Policies improve income distribution in these countries (4). Sepherdost et al., in the study of the effect of good governance for the development and construction of hospitals on the revenue performance of the tax system, showed that the average total index of good governance for the construction of hospitals had an effect on tax revenues with a coefficient of 42.10 (5).

In this study, planning and management variables and regional and urban variables for the development and construction of hospitals were introduced as institutional obstacles to achieve good urban governance for the development and construction of hospitals. In our study, the positive path coefficients showed that these structures have a direct effect on these barriers. According to the calculated path coefficients, it can be stated that the influence of planning and management variables is more than other dimensions. Moreno Pires & Fidélis, consistent with our study that the indicators of sustainable local development in Portugal by considering the governance contexts and concluded that lack of political commitment and the existence of a vision and the need to overcome the local government with improper performance are very complex barriers of the existence of governance in sustainable development. Indicators of local governance in this study were degree of communication with society, the degree of communication with national networks, communication with local programs and strategies, and government coordination (6). Murto investigated the indicators of good urban governance for the development and construction of hospitals in providing sustainable water services to deprived areas of the city. By evaluating the strategies of water service companies by government agencies and organized groups of citizens in Venezuela, he showed that the official tools for evaluating governance are

limited and there is a significant difference between the normative version and the reality of governance arrangements (7).

Therefore, Moradi and Salmanpour, in a research that investigated the effect of good governance on income distribution in the selected member countries of the Organization of Islamic Cooperation, showed that the government's consumption expenditures and the share of exports in the GDP have a significant negative effect on the Gini coefficient of the studied countries, and the increase of these variables leads to Income is equally distributed (8).

The results of our study regarding functional barriers and good urban governance showed the positive impact of urban policies on good governance. Heshmatzadeh and his colleagues, consistent with our results, showed that performance barriers have a negative effect on the realization of good urban governance (9). Ghasemi found in his research that urban policy making is one of the factors affecting good governance in the city (11). In a research, Attar A., Moinifar found that physical/spatial barriers have a negative effect on good urban governance and are among the obstacles to realizing urban electronic governance (12). Goderzi et al found in a research that physical-environmental criteria are among the factors affecting good urban governance (13). Based on these results, it can be shown that what is more important in the field of good governance is achieving a healthy society. An efficient government emphasizes values such as citizen satisfaction, moral governance, and increased trust (15, 16).

The results indicate that there is a positive and direct relationship between the management of an urban context and the mutual cooperation of urban managers and local people in achieving the sustainable development of urban tourism, that is, the more coordinated the urban management (17). The scope of governance review

in the public sector can be wide and include all departments of the organization or be limited to a specific level. Orderly and disciplined organization of affairs using the superior aspects of political thinking, implementation and appearance of a realistic attitude in the administration of affairs and processes, maintaining moral status and justice in the distribution of benefits resulting from a realistic attitude in order to satisfy everyone is the result of the correct implementation of the model of good governance (18).

There should be no class differences in urban areas for the development and construction of hospitals, poverty and low level of human and social development measures in the city should not be different, and major urban land uses based should be designed based on main functions.

Urban planning for the development and construction of hospitals should be done systematically and in an integrated way There should not be any contradiction between the political views of hospital staff in Isfahan about urban goals, hospital staff in Isfahan should have a constructive interaction to achieve urban development goals and there should not be any contradiction in the horizontal and vertical actions of hospital staff in Isfahan for sustainable urban development. Also, political barriers within the staffs of hospitals in Isfahan should be identified and eliminated and interaction among the Isfahan hospital staff should increase to achieve good urban governance.

### *Recommendations*

It is recommended to consider recreational and cultural centers for urban areas in accordance with their function, non-used areas in the city should be eliminated and urban planning for the development and construction of hospitals should be in such a way as that eliminates unnecessary travels.

## Conclusion

To reduce regional and urban barriers to the development and construction of hospitals, it seems to provide the basic conditions to achieve a physically integrated city, consider natural factors on urban development decisions, pay attention to physiological factors on the needs for urban growth for the development and construction of hospitals, consider spatial location in different areas of the city, fair planning in natural capacities of the north-south areas, buildings, services, and public and private facilities and even parks should be allocated fairly for all hospital staff in Isfahan. Also, It can be said to consider diversity in the infrastructures to achieve the strategy of protection and development, identify the barriers and physical differences in management capacities in balanced development of city for development and construction of hospitals, living conditions should be the same in different areas of the city, and population density in urban areas should be considered equally for the development and construction of hospitals. Economic variables should be considered according to human and spatial variables, rich and poor neighborhoods should not be separated, socio-economic conditions governing different areas of urban space should be considered the same, cultural and ethnicity cohesion should be considered the same in different areas of urban space. There should be no contradiction in the precise definition of the position of management plans and integrated view in legal management documents and there should be no contradiction in management procedures between relevant organizations and ministries. Also, the data and information on decision-making and management of relevant agencies and institutions should be provided to them to achieve good urban governance for the development and construction of hospitals. To reduce the barriers to planning and management, no management distinction should be between government institutions and public and private institutions, management system distinction should be managed within the framework of land management programs, and stakeholders and stakeholders should be involved in the decision-making process.

## Authors' contribution

Hossein Ayoubi Najaf Abadi and Navid Fatehi Rad developed the study concept and design. Sanjar Salajegheh acquired the data. Mohammad Jalal Kamali and Hossein Ayoubi Najaf Abadi analyzed and interpreted the data, and wrote the first draft of the manuscript. All authors contributed to the intellectual content, manuscript editing and read and approved the final manuscript.

## Informed consent

Questionnaires were filled with the participants' satisfaction and written consent was obtained from the participants in this study.

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