Presenting a Model for the Treatment of Systemic (Organizational) Illnesses in Social Security Hospitals of Isfahan province

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Abstract

Introduction: Health care providers such as social security hospitals, as one of the most important social organizations, play a major role in improving the health status of the community and providing health services. Hence, identifying organizational corruption and illness and eliminating them is crucial. Objective: The main objective of this study was to present a model for the treatment of systemic (organizational) illnesses in the social security hospitals of Isfahan province. Methodology: This study was a sequential type of mixed-exploratory study. The objective of this study was to design and formulate a model according to the designed model criteria and through a meta-synthesis technique. Using a case study method and semi-structured interviews with experts and professors, the research model criteria were developed. In the quantitative section, a descriptive-survey method (Delphi technique) was used and a researcher-made tool was used to measure its external effectiveness. Results: Based on a qualitative model, four categories of organizational illness, including management, financial, administrative, and technical were identified. Considering the current situation, the relevant solutions were also identified. Based on the fuzzy Delphi technique, all factors were confirmed with a score of above 0.7. Discussion and Conclusion: In this study, management, financial, administrative and technical factors were identified as the main causes of corruption in social security hospitals in Isfahan province. Eliminating these factors could partly improve the economic performance of the organization and restore knowledge storage. Based on the obtained results, it is recommended for hospital planners, authorities, and policymakers to pay attention to concerns about increasing corruption in the social security hospital, especially in units and people who have high economic power.

Keywords: Organizational illnesses, Organizational corruption, Organizational health model

INTRODUCTION

Nowadays, due to various changes in human societies such as population growth, changes in population pyramid and tendency towards aging, the emergence of new illnesses, the introduction of new technologies, and the tendency to specialization in health services, etc., health systems have become completely complex. Such a structural complexity has made health systems face a variety of management challenges and problems. In this regard, this research can play a major role in solving health system problems through knowledge generation, informing, and providing guidelines. The application of research in the field of health is very extensive. Recent advances in the field of medical science, including new therapeutic methods, equipment, and pharmaceutical products, are considered as the achievements of this scientific research. Paying attention to the field of research, which is often neglected in Iran, is one of the key factors of progress in developed countries. Any kind of progress and development is directly associated with scientific research and the growth and development of advanced countries depend on the investment in the research

and development sector. A great number of scientific and applied research conducted in developed countries have confirmed this issue. Health care providers, as one of the most important social organizations, play a major role in improving the health status of the community and providing health services. To manage them properly, the information should be properly collected, monitored, classified, and

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provided to hospital decision-makers, especially hospital managers and heads at the appropriate time.

The ability of an organization to perform its tasks effectively depends on the quality of the decisions made in the organization and the quality of decisions depends on the quality of the information based on which the decision is made. Without the use of modern information technology, we cannot collect and analyze a large volume of available information and statistics properly ^[1]. In this regard, the applications of the information system in the health sector have also increased significantly and they should support the management in the area of providing healthcare services. The necessity of using health and care information for meeting the educational, medical and paramedical research and development needs, improving the quality of treatment, optimizing the management practices of health centers, reducing the cost of centers, etc. are among the most important reasons for collecting information in health centers^[2]. Hospitals, as one of the most important social organizations, have a major role in improving the health status of the country and providing health services. They are also one of the most critical organizations, which information should be properly collected, monitored, and classified, and inferred and provided to all hospital decisionmakers, especially its managers and heads to manage them properly^[3]. In the light of having numerous hospitals and medical centers throughout Iran, the Social Security Organization in the health sector is regarded as the second largest provider of health services after the Ministry of Health and Medical Education.

The health services in this organization, following Article 10 of the Mandatory Law, subject to Article 2 of its bylaw must be provided in two ways, including direct and indirect methods. The direct method involves using all medical facilities under the direct supervision of the General Administration of Treatment. The indirect method of provision of services is done through the purchase of physicians' services, medical departments of public and private hospitals, clinics, paraclinical, and pharmacies under the supervision of the general administration of treatment. large social organization has extensive As this administrative structures such as manpower, organizations, rules, and regulations, it is expected to provide high-quality healthcare services. The systemic illnesses should be identified, prioritized, and treated in these centers so that the hospitals can fulfill their important role in the community with high confidence. A proper administration not only avoids duplication, conflict, wastage of forces, illegal orders, quota hiring and discrimination in payments but also has the flexibility to respond to new policies and plans to avoid these problems ^[4].

As hospitals have critical duties and responsibilities in providing health services and ultimately providing the health of the community, they must be assessed more than any social organization and be well-organized. As the hospital grows, the realm of its educational, research and medical activities also expands. If it uses a rational organization, it can play its crucial role in providing specific facilities to recover the physical and mental health of individuals in the community, in conducting medical and educational research, and in training of qualified health and medical personnel^[5]. One of the aspects of management science is identifying management and organizational illnesses and providing ways to prevent and treat these kinds of illnesses that lead to reduced motivation of workforce and waste of resources. Loss of motivation or the loss of capital up to the bankruptcy stage is not less than organizational death. It is necessary to look at the surrounding world with a deep insight and analyze the managerial and organizational phenomena seriously and meticulously. We examine the management illnesses in three stages 1-the First stage: It involves gaining information and knowledge on all kinds of management illnesses 2- the Second stage: It is a diagnosis stage 3-the Third stage: It is the stage of treatment. When we are talking about systemic and organizational illnesses, a wide range of these complications comes to mind:

Some management illnesses include making unexpected decisions, unpredictable anger, decision instability, paying attention to rumors, unmanaged responses to problems, lack of trust in employees, etc. Some of the common administrative illnesses include employee absenteeism, client dissatisfaction, delaying the affairs, non-rational expectations in organizations, etc. Some of the common financial illnesses include embezzlement, bribery, waste of organizational properties, budget deficits, rising costs, lack of cost control, and so on. Some of the technical illnesses of the organization are the mismatch of the organizational structure with the duties and tasks of the institute, lack of up-to-date working hardware, the multiplicity of software applications, problems related to ergonomics of employees, and so on. Given what was stated above, this study aimed to investigate the systemic or organizational illnesses in four domains of management, administrative, financial, and technical and prioritized the illnesses after identifying the factors to present an appropriate model to reduce these factors influencing the process of providing service to patients and provide it for the mentioned centers to implement it. This study was conducted in a social security hospital. In addition to purchasing service through indirect treatment, it also provided health and treatment services. It has always tried to provide its services in the best ways. Nowadays, social security organization's treatment is highly considered by the public and its promotion should not be neglected. In this regard, it is necessary to identify and treat the systemic and organizational illnesses to improve the provision of the service process. Hence, the objectives of this study were:

1. Identifying the management factors in systemic illnesses in social security hospitals.

- 2. Identifying the financial factors in systemic illnesses in social security hospitals.
- 3. Identifying the administrative factors in systemic illnesses in social security hospitals.
- 4. Identifying the technical factors in systemic illnesses in social security hospitals.

MATERIALS AND METHODS

A mixed technique was used in this research. This research was considered an applied type of positivism study in terms of the philosophy of the study. It was also a qualitative and quantitative study with an inductive and deductive approach and a survey strategy. In terms of the objective of the study, it was considered as an exploratory study since it explored the variables and their causal relationship. Also, the research method was mixed (quantitative and qualitative). It used both qualitative (MAXQDA software) and quantitative methods based on the Delphi technique. The needed information was collected through interviews with experts and a questionnaire. The statistical population of the study consisted of two sections:

In the first section, the statistical population for designing interview questions was selected among assistant professors of the university with at least fifteen years of teaching experience in the field of management and administrative sciences with the following characteristics:

Characteristics of experts of the academic community: Being at least assistant professor and faculty member, having over 15 years of teaching experience, writing a book and article related to the management. The second section involved collecting the information through interviews and referring to the database of managers who were selected as samples. The statistical population of the study was selected among the managers of social security hospitals with the following characteristics:

Characteristics of industry experts: Having high experience, having management posts, having high experience and knowledge at the level of branch and staff, etc.

In the qualitative section, the snowball method was used for sampling. The semi-structured interview was performed with 12 open-ended questions to reach data saturation, but up to 15 interviews were conducted for more confidence. In the quantitative section, the same people answered the Delphi questionnaire. Finally, in the qualitative section, the factors were identified using the meta-synthesis method and using MAXQDA software. In the quantitative section, using the Delphi method and Excel software, the data collected from the questionnaire were analyzed.

ANALYSIS

This section dealt with analyzing the information and the way of implementing the meta-synthetic method and Delphi analysis and structural equations. In this section, the metasynthesis operation steps and the obtained information were analyzed.

In the present study, the main question of "what is the treatment model of systemic (organizational) illnesses in social security hospitals of Isfahan province" was investigated by considering the parameters listed in Table 1.

| Table 1 - Research o | questions |
|---------------------------------------|--|
| Parameters | Formulating the question |
| What (research question) | What are the factors affecting the model of treatment of systemic (organizational) illnesses in social security hospitals? |
| Who (research population) | In this study, several databases and different search engines were examined. Also, 15 people were selected for interview using the snowball method. |
| When (time limitation) | The articles reviewed in this research included the articles written from 1980 onwards because most of the research in this area has been conducted from the mentioned year onwards. |
| How (method of obtaining the studies) | In this research, the "documentary analysis method" was utilized which analyzed the secondary data. |

The sought keywords included organizational illnesses, organizational corruption, and organizational health. It should be noted that the total number of articles were found concerning the inclusion criteria (Persian and English). After reviewing all of them and considering the exclusion criteria in terms of the content or lack of accessibility, 35 studies (7 English and 28 Persian) were reviewed and analyzed. By comparing the different concepts, it was concluded that the concepts of transparency of information and the communication mechanism of the institutions stated clearly in various studies indicated that the label of characteristics of the treatment model presented for systemic

(organizational) illnesses in social security hospitals was assigned to it after continuous comparisons and conceptualization at a higher level of abstraction.

This procedure was done for all studies, and finally, the key points taken from the researchers of each of the previous studies were presented in a table, in which the first column referred to the number of the extracted research along with the database name, the second column referred to the name of the researcher, the year when the research was conducted and the objective of the research. The next two columns described the methodology of the research and the country from which the research data were extracted. The final two columns also were related to the organizational illness treatment model and the factors influencing the

organizational corruption from a researcher's point of view. They represented the key codes extracted from the core concepts.

| Table 2- The performed interviews | | | | | |
|-----------------------------------|---|--|--|--|--|
| Row | Interview | Factors affecting the corruption and solutions to eliminate them | | | |
| 11 | Unfortunately, we entrust the management post to an efficient and specialized workforce that can be effective in different treatment periods and serve in the treatment team, while such a measure does not have the necessary efficiency in the management of hospitals. | Multiplicity in the duties of managers Providing inadequate and sometimes irrelevant training for managers No opportunity for managers to focus on the major affairs of the units managed by them Lack of proportion and consistency between the managers and organizational position designated for them | | | |
| I2 | The wages and salaries of staff in medical centers and hospitals are always paid with a delay. Sometimes, the responsibilities of the staff in each unit are not consistent with the level of wages paid for them. | Lack of a performance-based payment system Different payments for physicians in social security centers and medical sciences universities | | | |
| 13 | There are no proper facilities and people wait for several hours in the health centers. | Lack of meeting the clients' needs by social security centers based on their capacity and facilities Providing specialized human resources through medical sciences universities and lack of proper cooperation with organizational centers | | | |
| I4 | Most small hospitals suffer from the shortage of resources and are unable to pay their debts, although many large hospitals in the country have abundant resources, they face many problems due to poor management. | Lack of using the scientific capacity of social security treatment centers by the University of Medical Sciences Overemphasis on the quantitative performance rather than qualitative performance Inability to make timely decisions by some managers Making some non-rational decisions in important and influential matters | | | |
| 15 | Unfortunately, overtime is imposed on nurses and one person has to perform the duties of several persons. | - Lack of observing the standard norm of human resources in the centers | | | |
| 16 | Employment, program, and budget organizations should pay attention to the problems of this area and have a plan to solve the problems of shortage of nursing staff in the country. Also, we seek to improve people's satisfaction with health services, which would not be possible without expanding the services and centers and increasing public access to them. To enhance people's satisfaction, those services should be provided that needs to be funded. | Multiple recruitments of quota forces with low scientific knowledge Recruiting of forces due to the order of others not based on their competence Physicians' activity in several centers Lack of specialist physician in some fields Forces working in social security centers with different employment statuses | | | |
| 17 | We should accept that people, especially poor people, are under financial pressure and there is a gap in the country. However, people have no faults in this regard and the people refer to the hospitals due to their unwanted disease. The behavior of health center nurses can be influential and affect patients. | The problem of people economic situation and the tendency to use the organization's health centers Lack of proportion between the annual budget and the clients' expectations of the health centers of the organization Lack of cooperation of health charities with social security centers | | | |
| 18 | Liquidity is one of the major problems in our country, and some drug and medical supplier companies have not received their claims for about 20 months, so necessary actions should be made to solve this problem. | The problems related to liquidity shortages in an organization's health centers Organization's debt to the university centers and lack of their cooperation with the centers of the organization under the same excuse | | | |

| 19 | In Iran, physicians are in a monopoly and power position. Conflicts of interests in Iran have the greatest impact on health corruption. | Physicians' activity in several centers The weakness of law in dealing with offenders Reduced willingness of specialist physicians to work with organization centers Shortage of specialist physicians in some fields |
|------------|--|---|
| I10 | Hospitals and the Ministry of Health and Social Services do not provide any accurate or transparent information and data on their site. Transparency of hospitals and medical and insurance centers can prevent corruption, but no hospitals disclose the information on its site transparently, and even the Ministry of Health refuses to submit important reports. | Lack of organizational transparency Lack of transparency of some goals set by the upstream organization Lack of strategic implementation plan in the centers |
| 111 | The concept of corruption in the health system is complex and cannot be formulated easily. It is a major and global problem that developed countries also face in their systems. Due to particular conditions of the health which can lead to death, it is considered more important than economic issues. Numerous studies around the world have shown that in all private, semi-public, and public systems, health system authorities are involved in corruption and this can seriously affect the health outcomes of the health system, which is particularly affecting vulnerable and poor people. Corruption can also violate the declaration of human rights and prevent governments from providing what is needed by people. | Unnecessary and multiple monitoring and controls Lack of effective organizational communication Managers' confusion in executing the rules due to the multiplicity of policymakers (Ministry of Health and Social Security) Over-involvement in financial matters due to inadequate liquidity status of the centers |
| I12 | Corruption affects the quality and accessibility of people, people in the community who are unable to pay bribe do not receive service or receive low-quality services Salamat News: Impact of extensive corruption on public health | The weakness of law in dealing with offenders Lack of a comprehensive human resources management system Lack of a staff promotion system Organizational and non-organizational legal conflicts in the field of health care services Lack of consistency and proportion between the assessment methods and the treatment status of the country |

Then, the identified studies were reviewed. Two samples of them have been listed below.

 Table 3: Identified codes related to organizational illness treatment model and factors influencing organizational

 corruption in each study

| contuption | in in each study | | | | |
|--------------------------------|---|-----------------------------|--------------|---|---|
| Year/ author | Objective/ques tion of the study | s Methodology | Studied area | Conclusion | factors influencing organizational corruption and solutions to eliminate them |
| (2019) Kohler | Corruption in the medical sector | Qualitative / case study | Canada | Investigating the health sector of Canada, the causes of corruption and the importance of eliminating corruption in the health sector | Effective factors • Lack of a monitoring system • Lack of observing the rules strictly Solutions • Organizational transparency • Control of intra-organizational processes, •Observing the transparency standards |
| (2019) Hutchinson et al. | Investigation of corruption in the medical sector | Qualitative / case study | UK | The reasons for the importance of investigating corruption were described in this section and solutions were provided based on international evidence. | Solutions • Establishing an inspection team to identify the causes of corruption • Establishing an expert group to review and evaluate performance to prevent further corruption •Introducing strict regulations and fines to prevent irreparable corruption. |

Axial coding and a combination of studies

According to the concepts obtained from the previous step, in this step, by repeatedly reviewing of the concepts and categories and taking into account studies specific to each category, the results of the main and fundamental studies related to that category were juxtaposed and by examining the role of factors and their effects on systemic illnesses treatment model, the relationship between the categories and solutions was identified and analyzed. To illustrate this process, first the characteristics of the main studies related to each category have been shown in the table below. Then, by inserting the code for each study, the results of these studies were combined in a way that illustrated the factors influencing the organizational illnesses treatment model and their relationship with each other to answer the main research question. Table 4 also presents the generated codes along with the main categories assigned to each class.

| Main | Axial | Open coding |
|----------------|----------------|--|
| category | coding | opon counig |
| | | - Lack of management stability |
| | | - Lack of delegating sufficient authority over the scope of affairs |
| | | - Lack of managers' involvement in recruiting needed personnel |
| | | - Lack of executive strategic plan in the centers |
| | | - Credit restrictions on the implementation of operational plans |
| | | - Managers' involvement in small and trivial affairs |
| | | - Lack of a proportion between the status of some managers and their designated organizational position |
| | | - Inability to make timely decisions by some managers |
| Factors | | - Making some non-rational decisions in important and influential matters |
| Factors | Managamant | - Lack of transparency in some goals set by the upstream organization |
| anecting | factors | - Presence of unnecessary and multiple monitoring and controls |
| organizational | lactors | - Lack of effective organizational communication |
| corruption | | - Excessive or out of control expectations of managers from employees |
| | | - Management information of some managers' is out of date |
| | | - Managers' accountability to multiple organizations leading to caution in decision-making |
| | | - Managers' confusion in executing the rules due to the multiplicity of policymakers (Ministry of Health and |
| | | Social Security) |
| | | - Over-involvement in financial matters due to inadequate liquidity status of the centers |
| | | - Lack of an opportunity for managers to focus on the major affairs of the units managed by them |
| | | - Inadequate and sometimes irrelevant training for managers |
| | | - Multiple duties of some managers |
| | | - Differences in the payment of physicians at social security centers and Medical Sciences Universities |
| | | - The problems related to liquidity shortages in an organization's health centers |
| | | - Organization's debt to the university centers and their non-cooperation with the centers of the organization |
| | | under the same excuse |
| | E 1 | - The problem of people economic situation and the tendency to use the organization's health centers |
| | Financial | - Free services provided at the organization's centers for clients |
| | factors | - Lack of a proportion between the annual budget and the clients' expectations of the health centers of the |
| | | organization |
| | | - Lack of cooperation of health charities with social security centers |
| | | - Non-payment of social security centers' claims by other health insurance institutions |
| | | - Lack of a performance-based payment system |
| | | - Multiple recruitments of quota forces with low scientific knowledge |
| | | - Recruiting of forces by order of others not based on their competence |
| | | - Physicians' activity in several centers |
| | Administrative | - Applying new human resources without completing the training courses |
| | factors | - Retirement of forces without a supply of replacement |
| | | - Lack of observing the human resources standard norm in centers |
| | | - Obtaining qualifications from staff without considering the capacity to accept the qualifications |
| | | - The weakness of rule in dealing with offenders |

| | - The decreased willingness of specialist physicians to cooperate with organization centers |
|-----------|---|
| | - Lack of specialist physician in some fields |
| | - The activity of forces in social security centers with different employments |
| | - Lack of a comprehensive human resources management system |
| | - Lack of staff promotion system |
| | - Organizational and non-organizational legal conflicts in the field of health care services |
| | - Lack of possibility of employing specialized forces in the form of academic commitments (design - coefficient |
| | K) in the organization centers |
| | - The high workload imposed on human resources at the organization's headquarters due to lack of manpower |
| | - Multiple recruitments of quota forces with low scientific knowledge |
| | - Recruiting of forces due to the order of others not based on their competence |
| | - Physicians' activity in several centers |
| | - Lack of a specialist physician in some fields |
| | - Applying new human resources without completing the training courses |
| | - Retirement of forces without the supply of replacement |
| | - Lack of observing human resources` standard norms in centers |
| | - Receiving qualifications by staff without considering the capacity to accept the qualifications |
| Tashnisal | - The weakness of rule in dealing with offenders |
| fectors | - The decreased willingness of specialist physicians to cooperate with organization centers |
| Tactors | - Lack of specialist physician in some fields |
| | - The activity of forces in social security centers with different employments |
| | - Lack of a comprehensive human resources management system |
| | - Lack of staff promotion system |
| | - Organizational and non-organizational legal conflicts in the field of health care services |
| | - Lack of possibility of employing specialized forces in the form of academic commitments (design - coefficient |
| | K) in the organization centers |
| | - The very high workload imposed on human resources at the organization's headquarters due to the shortage of |
| | manpower |
| | |

Table 5-Solutions of health models for reducing organizational illness and corruption

| Main category Axial coding | | Open coding | |
|---|--------------------------------|--|--|
| | | - Discovering organizational processes | |
| | Organizational Transparency | - Hansparency of information and information | |
| | | -Using reporting cards | |
| | | -Osing reporting cards | |
| | | - Signing specific contracts | |
| | | - Improvement of recruitment and employment system | |
| | | - Reduction of government authorities | |
| | Monopoly and authority | - Controlling funds | |
| | | - Inventory and warehousing control | |
| | | - Planning organizational processes with an effective approach | |
| | | - Measuring and evaluating performance and matching with goals | |
| Factors affecting the treatment of organizational illnesses | Responsiveness | - Establishing a system of punishment and encouragement based on | |
| | | performance outcomes | |
| | | -Hearing the voice of clients | |
| | | - Addressing the complaints and suggestions | |
| | | - Implementation of training programs based on responsibilities | |
| | | - Assignment of authority and responsibility | |
| | | - Access to information | |
| | Empowerment of human resources | - Control area | |
| | Empowerment of numan resources | - Teamwork | |
| | | - Significance of jobs | |
| | | - Job enrichment | |
| | | -Encouragement of staff creativity | |

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Therefore, the graphic model was designed using the MAXQDA software (Figure 1):



MĀXQD

Screening through the Fuzzy Delphi technique

According to the meta-synthesis analysis of specialized interviews, 84 indicators were finally identified. Fuzzy Delphi method was used to screen the importance of identified indicators and to select the final indicators. Experts' opinions were used to assess the importance of the indicators. Although experts used their mental competencies and abilities to make comparisons, it should be noted that the traditional process of quantifying individuals' perspectives cannot fully reflect the style of human thinking.

In other words, using fuzzy sets is more compatible with linguistic and sometimes ambiguous human explanations, so it is better to use fuzzy sets (applying for fuzzy numbers) to predict and make decisions in the real world ^[6]. Triangular fuzzy numbers were also used in this study for fuzzification of the opinion of experts. Experts' opinions on the importance of each indicator were collected through a 7-point fuzzy scale.

| Table6:technique | bolizing | open | codes | in | the | Delphi |
|------------------|----------------|------------|--------------|--------|------|--------|
| | Identifi | ed fact | ors | | | Code |
| | Lack of man | agement s | stability | | | C1 |
| Lack of dele | gating suffici | ent author | ity over the | e scop | e of | C2 |

| affairs | |
|---|----------|
| Lack of managers' involvement in recruiting needed personnel | C3 |
| Lack of executive strategic plan in the centers Credit restrictions on the implementation of operational plans | C4 C5 |
| Managers' involvement in small and trivial affairs | C6 |
| Lack of proportion between the status of some managers and their designated organizational position | C7 |
| Inability to make timely decisions by some managers | C8 |
| Making some non-rational decisions in important and influential matters | C9 |
| Lack of transparency in some goals set by the upstream organization | C10 |
| Presence of unnecessary and multiple monitoring and controls | C11 |
| Lack of effective organizational communication | C12 |
| Excessive or out of control expectations of managers from employees | C13 |
| Management information of some managers' was out of date | C14 |
| Managers' accountability to multiple organizations leading to caution in decision-making | C15 |
| Managers' confusion in executing the rules due to the multiplicity of policymakers (Ministry of Health and Social Security) | C16 |
| Over-involvement in financial matters due to inadequate liquidity status of the centers | C17 |
| Lack of opportunity for managers to focus on the major affairs of the units managed by them | C18 |
| Inadequate and sometimes irrelevant training for managers | C19 |
| Multiple duties of some managers | C20 |
| Differences in payment of physicians at social security centers and Medical Sciences Universities | C21 |
| The problems related to liquidity shortages in an organization's health centers | C22 |
| Organization's debt to the university centers and their non- cooperation with the centers of the organization under the same excuse | C23 |
| The problem of people economic situation and the tendency to use the organization's health centers | C24 |
| Free services provided at the organization's centers for clients | C25 |
| Lack of proportion between the annual budget and the clients' expectations of the health centers of the organization | C26 |
| Lack of cooperation of health charities with social security centers | C27 |
| Non-payment of social security centers' claims by other health insurance institutions | C28 |

| Multiple recruitments of quota forces with low scientific knowledge | C29 |
|--|-----|
| Recruiting of forces by order of others not based on their competence | C30 |
| Physicians' activity in several centers | C31 |
| Applying new human resources without completing the training courses | C32 |
| Retirement of forces without the supply of alternative | C33 |
| Lack of observing the human resources standard norm in centers | C34 |
| Obtaining qualifications from staff without considering the capacity to accept the qualifications | C35 |
| The weakness of rule in dealing with offenders | C36 |
| The decreased willingness of specialist physicians to cooperate with organization centers | C37 |
| Lack of specialist physician in some fields | C38 |
| The activity of forces in social security centers with different employments | C39 |
| Lack of a comprehensive human resources management system | C40 |
| Lack of staff promotion system | C41 |
| Organizational and non-organizational legal conflicts in the field of health care services | C42 |
| Lack of possibility of employing specialized forces in the form of academic commitments (design - coefficient K) in the organization centers | C43 |
| The high workload imposed on human resources at the organization's headquarters due to lack of manpower | C44 |
| A multiplicity of software systems in organization centers | C45 |
| The gap between treatment staff and clinic due to over- emphasis on documentation | C46 |
| Over-emphasis on quantitative performance rather than qualitative performance | C47 |
| Non-responsibility of social security centers to clients based on capacity and facilities | C48 |
| Lack of up-to-date organizational structure based on organizational needs | C49 |
| Mismatch of assessment methods with treatment status | C50 |
| Lack of full implementation of the rule of improving the efficiency of the staff health system | C51 |
| Providing specialist human resources through medical universities and lack of proper cooperation with organizational centers | C52 |
| Over-involvement of external factors on organization centers | C53 |
| Over-expectations of external power sources from the organization's health centers | C54 |

| Lack of allocation of medical equipment quotas for organization centers by the Ministry of Health and Medical Education | C55 |
|---|-----|
| Implementation of comprehensive health system program in the country and its impact on health centers of the social security organization | C56 |
| Lack of using the scientific capacity of social security treatment centers by the University of Medical Sciences | C57 |
| Detecting organizational processes | C58 |
| Transparency of information and informing public | C59 |
| Update information recording | C60 |
| Using reporting cards | C61 |
| Signing specific contracts | C62 |
| Improving the recruitment and improvement system | C63 |
| Reducing government authorities | C64 |
| Control of funds | C65 |
| Inventory and warehousing control | C66 |
| Planning organizational processes with an effective approach | C67 |
| Measuring and evaluating performance and matching with goals | C68 |
| Establishing a system of punishment and encouragement based | C69 |
| Hearing the voice of clients | C70 |
| Addressing the complaints and suggestions | C71 |
| Implementation of training programs based on responsibilities | C72 |
| Assignment of authority and responsibility | C73 |
| Access to information | C74 |
| Control area | C75 |
| Teamwork | C76 |
| Significance of jobs | C77 |
| job enrichment | C78 |
| Encouragement of staff creativity | C79 |
| Reducing organizational complexity | C80 |
| Reducing organizational concentration | C81 |
| Reviewing the components of management and organizational leadership | C82 |
| Reviewing of organizational culture | C83 |
| Increasing organizational support | C84 |
| | |

Table 7- Fuzzy 7-point scale for the valuation of indicators

| Linguistic variable | Fuzzy value | Fuzzy value scale |
|---------------------|-------------|----------------------|
| Quite unimportant | ĩ | (0, 0, 0.1) |
| Very unimportant | Ŷ | (0, 0.1, 0.3) |
| Unimportant | Ψ | (0.1, 0.3, 0.5) |
| Moderate | ĩ | (0.3, 0.5, 0.75) |
| Important | õ | (0.5, 0.75, 0.9) |
| Very important | ξ | (0.75, 0.9, 1) |
| quite important | ĩ | (0.9, 1, 1) |

The first round of the Delphi technique

Opinions of 15 experts were collected on each indicator. In the next step, the opinions of the experts were integrated. Different methods have been proposed to integrate the responses of n respondents. These methods of integration are empirical methods presented by various researchers. For example, a common method for integrating a set of triangular fuzzy numbers is considered to be the minimum of l and the geometric mean of m and the maximum of u ^[7].

Equation 1

$$F_{AVE} = \left(\left\{ \frac{\sum l}{n} \right\}, \left\{ \frac{\sum m}{n} \right\}, \left\{ \frac{\sum u}{n} \right\} \right)$$

Each triangular fuzzy number obtained by integrating the experts' opinions for the index j is given as follows:

$$\tau_j = (L_j, M_j, U_j)$$
$$L_j = \min(X_{ij})$$
$$M_j = \sqrt[n]{\prod_{i=1}^n X_{ij}}$$
$$U_i = \max(X_{ii})$$

The index i refers to the expert, so that Xij: Value of expert i evaluation of criterion j Lj: Minimum value of evaluations for criterion j Mj: Geometric mean value of experts' evaluation of criterion j performance Uj: Maximum number of evaluations for criterion j

In this study, the fuzzy mean method was used ^[8].

De-fuzzification of values

The sum of mean triangular and trapezoidal fuzzy numbers can be summarized by a definite value that is the best relevant mean. This operation is called de-fuzzification. There are several methods for de-fuzzification. In most cases, the following simple method is used for defuzzification $\ensuremath{^{[9]}}$:

$$x'_m = \frac{L + M + U}{r}$$

Equation 2

| Table 8. Results of the first round of the Delphi technique for open coding | | | | | | | |
|---|-------------|-------------------|-------------|-----------------------|----------------|-------------------|--|
| | Lower bound | Probability value | Upper bound | Mean fuzzy | Definite value | Result of Round 3 | |
| C1 | 0.621 | 0.769 | 0.867 | (0.621,0.769,0.867) | 0.752 | Accepted | |
| C2 | 0.748 | 0.898 | 0.969 | (0.748,0.898,0.969) | 0.872 | Accepted | |
| C3 | 0.646 | 0.798 | 0.890 | (0.646,0.798,0.89) | 0.778 | Accepted | |
| C4 | 0.604 | 0.754 | 0.854 | (0.604,0.754,0.854) | 0.738 | Accepted | |
| C5 | 0.623 | 0.796 | 0.913 | (0.623,0.796,0.913) | 0.777 | Accepted | |
| C6 | 0.681 | 0.833 | 0.923 | (0.681,0.833,0.923) | 0.813 | Accepted | |
| C7 | 0.660 | 0.825 | 0.923 | (0.66,0.825,0.923) | 0.803 | Accepted | |
| C8 | 0.833 | 0.956 | 0.996 | (0.833,0.956,0.996) | 0.928 | Accepted | |
| С9 | 0.771 | 0.917 | 0.983 | (0.771,0.917,0.983) | 0.890 | Accepted | |
| C10 | 0.646 | 0.798 | 0.890 | (0.646,0.798,0.89) | 0.778 | Accepted | |
| C11 | 0.681 | 0.833 | 0.923 | (0.681,0.833,0.923) | 0.813 | Accepted | |
| C12 | 0.815 | 0.944 | 0.996 | (0.815,0.944,0.996) | 0.918 | Accepted | |
| C13 | 0.596 | 0.750 | 0.848 | (0.596,0.75,0.848) | 0.731 | Accepted | |
| C14 | 0.733 | 0.894 | 0.971 | (0.733,0.894,0.971) | 0.866 | Accepted | |
| C15 | 0.558 | 0.725 | 0.840 | (0.558,0.725,0.84) | 0.708 | Accepted | |
| C16 | 0.646 | 0.798 | 0.890 | (0.646,0.798,0.89) | 0.778 | Accepted | |
| C17 | 0.840 | 0.960 | 0.996 | (0.84,0.96,0.996) | 0.932 | Accepted | |
| C18 | 0.706 | 0.871 | 0.965 | (0.706,0.871,0.965) | 0.847 | Accepted | |
| C19 | 0.706 | 0.850 | 0.925 | (0.706,0.85,0.925) | 0.827 | Accepted | |
| C20 | 0.788 | 0.923 | 0.977 | (0.788,0.923,0.977) | 0.896 | Accepted | |
| C21 | 0.621 | 0.769 | 0.867 | (0.621,0.769,0.867) | 0.752 | Accepted | |
| C22 | 0.838 | 0.958 | 1.000 | (0.838,0.958,1) | 0.932 | Accepted | |
| C23 | 0.748 | 0.898 | 0.969 | (0.748, 0.898, 0.969) | 0.872 | Accepted | |
| C24 | 0.815 | 0.944 | 0.996 | (0.815,0.944,0.996) | 0.918 | Accepted | |
| C25 | 0.596 | 0.750 | 0.848 | (0.596,0.75,0.848) | 0.731 | Accepted | |
| C26 | 0.733 | 0.894 | 0.971 | (0.733,0.894,0.971) | 0.866 | Accepted | |
| C27 | 0.558 | 0.725 | 0.840 | (0.558,0.725,0.84) | 0.708 | Accepted | |
| C28 | 0.646 | 0.798 | 0.890 | (0.646,0.798,0.89) | 0.778 | Accepted | |
| C29 | 0.840 | 0.960 | 0.996 | (0.84,0.96,0.996) | 0.932 | Accepted | |
| C30 | 0.706 | 0.871 | 0.965 | (0.706,0.871,0.965) | 0.847 | Accepted | |
| C31 | 0.706 | 0.850 | 0.925 | (0.706,0.85,0.925) | 0.827 | Accepted | |
| C32 | 0.788 | 0.923 | 0.977 | (0.788,0.923,0.977) | 0.896 | Accepted | |
| C33 | 0.621 | 0.769 | 0.867 | (0.621,0.769,0.867) | 0.752 | Accepted | |
| C34 | 0.558 | 0.725 | 0.840 | (0.558,0.725,0.84) | 0.708 | Accepted | |
| C35 | 0.646 | 0.798 | 0.890 | (0.646,0.798,0.89) | 0.778 | Accepted | |
| C36 | 0.840 | 0.960 | 0.996 | (0.84,0.96,0.996) | 0.932 | Accepted | |
| C37 | 0.706 | 0.871 | 0.965 | (0.706,0.871,0.965) | 0.847 | Accepted | |

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| C38 | 0.706 | 0.850 | 0.925 | (0.706,0.85,0.925) | 0.827 | Accepted |
|-----|-------|-------|-------|-----------------------|-------|----------|
| C39 | 0.788 | 0.923 | 0.977 | (0.788,0.923,0.977) | 0.896 | Accepted |
| C40 | 0.840 | 0.960 | 0.996 | (0.84,0.96,0.996) | 0.932 | Accepted |
| C41 | 0.602 | 0.760 | 0.871 | (0.602,0.76,0.871) | 0.744 | Accepted |
| C42 | 0.648 | 0.813 | 0.921 | (0.648,0.813,0.921) | 0.794 | Accepted |
| C43 | 0.829 | 0.954 | 0.992 | (0.829,0.954,0.992) | 0.925 | Accepted |
| C44 | 0.765 | 0.900 | 0.960 | (0.765,0.9,0.96) | 0.875 | Accepted |
| C45 | 0.633 | 0.804 | 0.906 | (0.633,0.804,0.906) | 0.781 | Accepted |
| C46 | 0.646 | 0.794 | 0.888 | (0.646,0.794,0.888) | 0.776 | Accepted |
| C47 | 0.792 | 0.929 | 0.992 | (0.792,0.929,0.992) | 0.904 | Accepted |
| C48 | 0.604 | 0.754 | 0.854 | (0.604, 0.754, 0.854) | 0.738 | Accepted |
| C49 | 0.833 | 0.956 | 0.996 | (0.833,0.956,0.996) | 0.928 | Accepted |
| C50 | 0.623 | 0.796 | 0.913 | (0.623, 0.796, 0.913) | 0.777 | Accepted |
| C51 | 0.660 | 0.825 | 0.923 | (0.66,0.825,0.923) | 0.803 | Accepted |
| C52 | 0.706 | 0.871 | 0.965 | (0.706,0.871,0.965) | 0.847 | Accepted |
| C53 | 0.706 | 0.850 | 0.925 | (0.706,0.85,0.925) | 0.827 | Accepted |
| C54 | 0.788 | 0.923 | 0.977 | (0.788,0.923,0.977) | 0.896 | Accepted |
| C55 | 0.621 | 0.769 | 0.867 | (0.621,0.769,0.867) | 0.752 | Accepted |
| C56 | 0.838 | 0.958 | 1.000 | (0.838,0.958,1) | 0.932 | Accepted |
| C57 | 0.748 | 0.898 | 0.969 | (0.748,0.898,0.969) | 0.872 | Accepted |
| C58 | 0.779 | 0.917 | 0.981 | (0.779,0.917,0.981) | 0.892 | Accepted |
| C59 | 0.833 | 0.956 | 0.996 | (0.833,0.956,0.996) | 0.928 | Accepted |
| C60 | 0.610 | 0.779 | 0.894 | (0.61,0.779,0.894) | 0.761 | Accepted |
| C61 | 0.588 | 0.746 | 0.865 | (0.588,0.746,0.865) | 0.733 | Accepted |
| C62 | 0.602 | 0.760 | 0.871 | (0.602,0.76,0.871) | 0.744 | Accepted |
| C63 | 0.648 | 0.813 | 0.921 | (0.648,0.813,0.921) | 0.794 | Accepted |
| C64 | 0.829 | 0.954 | 0.992 | (0.829,0.954,0.992) | 0.925 | Accepted |
| C65 | 0.765 | 0.900 | 0.960 | (0.765,0.9,0.96) | 0.875 | Accepted |
| C66 | 0.646 | 0.794 | 0.888 | (0.646,0.794,0.888) | 0.776 | Accepted |
| C67 | 0.792 | 0.929 | 0.992 | (0.792,0.929,0.992) | 0.904 | Accepted |
| C68 | 0.604 | 0.754 | 0.854 | (0.604,0.754,0.854) | 0.738 | Accepted |
| C69 | 0.833 | 0.956 | 0.996 | (0.833,0.956,0.996) | 0.928 | Accepted |
| C70 | 0.623 | 0.796 | 0.913 | (0.623,0.796,0.913) | 0.777 | Accepted |
| C71 | 0.660 | 0.825 | 0.923 | (0.66,0.825,0.923) | 0.803 | Accepted |
| C72 | 0.771 | 0.917 | 0.983 | (0.771,0.917,0.983) | 0.890 | Accepted |
| C73 | 0.815 | 0.944 | 0.996 | (0.815,0.944,0.996) | 0.918 | Accepted |
| C74 | 0.733 | 0.894 | 0.971 | (0.733,0.894,0.971) | 0.866 | Accepted |
| C75 | 0.840 | 0.960 | 0.996 | (0.84,0.96,0.996) | 0.932 | Accepted |
| C76 | 0.706 | 0.871 | 0.965 | (0.706,0.871,0.965) | 0.847 | Accepted |
| C77 | 0.788 | 0.923 | 0.977 | (0.788,0.923,0.977) | 0.896 | Accepted |
| C78 | 0.646 | 0.798 | 0.890 | (0.646,0.798,0.89) | 0.778 | Accepted |
| C79 | 0.569 | 0.756 | 0.898 | (0.569,0.756,0.898) | 0.741 | Accepted |
| C80 | 0.681 | 0.833 | 0.923 | (0.681,0.833,0.923) | 0.813 | Accepted |

| C81 | 0.833 | 0.956 | 0.996 | (0.833,0.956,0.996) | 0.928 | Accepted |
|-----|-------|-------|-------|---------------------|-------|----------|
| C82 | 0.646 | 0.798 | 0.890 | (0.646,0.798,0.89) | 0.778 | Accepted |
| C83 | 0.596 | 0.750 | 0.848 | (0.596,0.75,0.848) | 0.731 | Accepted |
| C84 | 0.558 | 0.725 | 0.840 | (0.558,0.725,0.84) | 0.708 | Accepted |

In this step, the definitive value of all factors was above 0.7, so no factor was deleted.

The second round of the Delphi technique

The fuzzy Delphi analysis continued for the remaining indicators in the second round. In this step, 84 indicators were evaluated based on the opinions of 15 experts.

The end of Delphi technique rounds

No question was eliminated in the second round, indicating the end of the Delphi rounds. In general, one approach to end the Delphi is to compare the mean scores of the last two rounds of questions. If the difference between the two steps is lower than the threshold value (0.2), the process would stop.

| Table 9 - Differences between the results of the first and second rounds | | | | | | |
|--|---------------------------|----------------------------|------------|----------|--|--|
| | Result of the first round | Result of the second round | Difference | Result | | |
| C1 | 0.794 | 0.752 | 0.042 | Accepted | | |
| C2 | 0.925 | 0.872 | 0.053 | Accepted | | |
| C3 | 0.875 | 0.778 | 0.097 | Accepted | | |
| C4 | 0.776 | 0.738 | 0.038 | Accepted | | |
| C5 | 0.904 | 0.777 | 0.127 | Accepted | | |
| C6 | 0.738 | 0.813 | 0.075 | Accepted | | |
| C7 | 0.928 | 0.803 | 0.125 | Accepted | | |
| C8 | 0.777 | 0.928 | 0.151 | Accepted | | |
| С9 | 0.803 | 0.890 | 0.087 | Accepted | | |
| C10 | 0.890 | 0.778 | 0.112 | Accepted | | |
| C11 | 0.918 | 0.813 | 0.105 | Accepted | | |
| C12 | 0.866 | 0.918 | 0.052 | Accepted | | |
| C13 | 0.932 | 0.731 | *0.201 | Accepted | | |
| C14 | 0.847 | 0.866 | 0.019 | Accepted | | |
| C15 | 0.896 | 0.708 | 0.188 | Accepted | | |
| C16 | 0.896 | 0.778 | 0.118 | Accepted | | |
| C17 | 0.752 | 0.932 | 0.18 | Accepted | | |
| C18 | 0.708 | 0.847 | 0.139 | Accepted | | |
| C19 | 0.778 | 0.827 | 0.049 | Accepted | | |
| C20 | 0.932 | 0.896 | 0.036 | Accepted | | |
| C21 | 0.847 | 0.752 | 0.095 | Accepted | | |
| C22 | 0.827 | 0.932 | 0.105 | Accepted | | |
| C23 | 0.896 | 0.872 | 0.024 | Accepted | | |
| C24 | 0.932 | 0.918 | 0.014 | Accepted | | |
| C25 | 0.744 | 0.731 | 0.013 | Accepted | | |
| C26 | 0.794 | 0.866 | 0.072 | Accepted | | |
| C27 | 0.925 | 0.708 | *0.217 | Accepted | | |
| C28 | 0.875 | 0.778 | 0.097 | Accepted | | |
| C29 | 0.781 | 0.932 | 0.151 | Accepted | | |

| C30 | 0.776 | 0.847 | 0.071 | Accepted |
|-----|-------|-------|-------|----------|
| C31 | 0.904 | 0.827 | 0.077 | Accepted |
| C32 | 0.738 | 0.896 | 0.158 | Accepted |
| C33 | 0.928 | 0.752 | 0.176 | Accepted |
| C34 | 0.777 | 0.708 | 0.069 | Accepted |
| C35 | 0.803 | 0.778 | 0.025 | Accepted |
| C36 | 0.847 | 0.932 | 0.085 | Accepted |
| C37 | 0.827 | 0.847 | 0.02 | Accepted |
| C38 | 0.896 | 0.827 | 0.069 | Accepted |
| C39 | 0.752 | 0.896 | 0.144 | Accepted |
| C40 | 0.932 | 0.932 | 0 | Accepted |
| C41 | 0.872 | 0.744 | 0.128 | Accepted |
| C42 | 0.892 | 0.794 | 0.098 | Accepted |
| C43 | 0.928 | 0.925 | 0.003 | Accepted |
| C44 | 0.761 | 0.875 | 0.114 | Accepted |
| C45 | 0.733 | 0.781 | 0.048 | Accepted |
| C46 | 0.744 | 0.776 | 0.032 | Accepted |
| C47 | 0.794 | 0.904 | 0.11 | Accepted |
| C48 | 0.925 | 0.738 | 0.187 | Accepted |
| C49 | 0.875 | 0.928 | 0.053 | Accepted |
| C50 | 0.776 | 0.777 | 0.001 | Accepted |
| C51 | 0.904 | 0.803 | 0.101 | Accepted |
| C52 | 0.738 | 0.847 | 0.109 | Accepted |
| C53 | 0.928 | 0.827 | 0.101 | Accepted |
| C54 | 0.777 | 0.896 | 0.119 | Accepted |
| C55 | 0.803 | 0.752 | 0.051 | Accepted |
| C56 | 0.890 | 0.932 | 0.042 | Accepted |
| C57 | 0.918 | 0.872 | 0.046 | Accepted |
| C58 | 0.866 | 0.892 | 0.026 | Accepted |
| C59 | 0.932 | 0.928 | 0.004 | Accepted |
| C60 | 0.847 | 0.761 | 0.086 | Accepted |
| C61 | 0.896 | 0.733 | 0.163 | Accepted |
| C62 | 0.778 | 0.744 | 0.034 | Accepted |
| C63 | 0.741 | 0.794 | 0.053 | Accepted |
| C64 | 0.813 | 0.925 | 0.112 | Accepted |
| C65 | 0.928 | 0.875 | 0.053 | Accepted |
| C66 | 0.778 | 0.776 | 0.002 | Accepted |
| C67 | 0.731 | 0.904 | 0.173 | Accepted |
| C68 | 0.708 | 0.738 | 0.03 | Accepted |
| C69 | 0.932 | 0.928 | 0.004 | Accepted |
| C70 | 0.827 | 0.777 | 0.05 | Accepted |
| C71 | 0.752 | 0.803 | 0.051 | Accepted |
| C72 | 0.872 | 0.890 | 0.018 | Accepted |
| C73 | 0.761 | 0.918 | 0.157 | Accepted |

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| C74 | 0.744 | 0.866 | 0.122 | Accepted |
|---------|-------|-------|-------|----------|
| C75 | 0.918 | 0.932 | 0.014 | Accepted |
| C76 | 0.866 | 0.847 | 0.019 | Accepted |
| C77 | 0.932 | 0.896 | 0.036 | Accepted |
| C78 | 0.847 | 0.778 | 0.069 | Accepted |
| C79 | 0.896 | 0.741 | 0.155 | Accepted |
| C80 | 0.778 | 0.813 | 0.035 | Accepted |
| C81 | 0.741 | 0.928 | 0.187 | Accepted |
| C82 | 0.813 | 0.778 | 0.035 | Accepted |
| C83 | 0.928 | 0.731 | 0.197 | Accepted |
| C84 | 0.778 | 0.708 | 0.07 | Accepted |
| | | | | |

*: Due to low difference of 0.02 with 0.2, it is negligible

Based on the results of Table 9, it was found that in all cases, the difference was less than 0.2, so Delphi rounds ended.

CONCLUSION

In this study, management, financial, administrative and technical factors were identified as the main causes of corruption in social security hospitals in Isfahan province. Eliminating these factors can partly improve the economic performance of the organization and restore knowledge storage. Based on the results, the following recommendations are presented:

- 1. Based on the results of the study, it is expected that the concerns of increased corruption in the social security hospital, especially in sectors and individuals who have high economic power, can be considered seriously by planners, authorities, and policy-makers of the hospital.
- 2. Implementing decentralized economic policies in social security hospitals, which have a significant economic turnover and expanding the role of social-cultural activities in this hospital.
- 3. Implementing regulatory policies and government downsizing policies in this hospital, which has a significant economic turnover, controlling the costs and revenues through transparent and efficient regulatory mechanisms, and changing the managers of these hospitals, periodically.
- 4. As the organizational illness treatment model has been designed based on fairness and justice and given the fact that a sense of justice has a strong influence on staff behavior and attitudes, managers can implement

the proposed model to reduce the organizational corruption. The establishment of justice is also helpful in reducing many work-related harms such as stress, retaliatory behavior, staff firing, and disruption in the workplace.

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