

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 decision-makers, 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. As this large social organization has extensive 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 meta-synthesis 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 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
I1	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.	<ul style="list-style-type: none"> - 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.	<ul style="list-style-type: none"> - Lack of a performance-based payment system - Different payments for physicians in social security centers and medical sciences universities
I3	There are no proper facilities and people wait for several hours in the health centers.	<ul style="list-style-type: none"> - 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.	<ul style="list-style-type: none"> - 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
I5	Unfortunately, overtime is imposed on nurses and one person has to perform the duties of several persons.	<ul style="list-style-type: none"> - Lack of observing the standard norm of human resources in the centers
I6	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.	<ul style="list-style-type: none"> - 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
I7	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.	<ul style="list-style-type: none"> - 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
I8	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.	<ul style="list-style-type: none"> - 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

I9	In Iran, physicians are in a monopoly and power position. Conflicts of interests in Iran have the greatest impact on health corruption.	<ul style="list-style-type: none"> - 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.	<ul style="list-style-type: none"> - Lack of organizational transparency - Lack of transparency of some goals set by the upstream organization -Lack of strategic implementation plan in the centers
I11	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.	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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

Year/ author	Objective/ques- tion of the study	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	<p>Effective factors</p> <ul style="list-style-type: none"> • Lack of a monitoring system • Lack of observing the rules strictly <p>Solutions</p> <ul style="list-style-type: none"> • 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.	<p>Solutions</p> <ul style="list-style-type: none"> • 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.

Table 4. Categorization of identified codes

Main category	Axial coding	Open coding
Factors affecting organizational corruption	Management factors	<ul style="list-style-type: none"> - Lack of management stability - Lack of delegating sufficient authority over the scope of affairs - Lack of managers' involvement in recruiting needed personnel <ul style="list-style-type: none"> - Lack of executive strategic plan in the centers - Credit restrictions on the implementation of operational plans <ul style="list-style-type: none"> - Managers' involvement in small and trivial affairs
		<ul style="list-style-type: none"> - Lack of a proportion between the status of some managers and their designated organizational position <ul style="list-style-type: none"> - Inability to make timely decisions by some managers - Making some non-rational decisions in important and influential matters - Lack of transparency in some goals set by the upstream organization <ul style="list-style-type: none"> - Presence of unnecessary and multiple monitoring and controls <ul style="list-style-type: none"> - Lack of effective organizational communication - Excessive or out of control expectations of managers from employees <ul style="list-style-type: none"> - 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) <ul style="list-style-type: none"> - 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 <ul style="list-style-type: none"> - Inadequate and sometimes irrelevant training for managers - Multiple duties of some managers
	Financial factors	<ul style="list-style-type: none"> - Differences in the payment of physicians at social security centers and Medical Sciences Universities <ul style="list-style-type: none"> - 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 <ul style="list-style-type: none"> - The problem of people economic situation and the tendency to use the organization's health centers <ul style="list-style-type: none"> - Free services provided at the organization's centers for clients - Lack of a proportion between the annual budget and the clients' expectations of the health centers of the organization <ul style="list-style-type: none"> - Lack of cooperation of health charities with social security centers - Non-payment of social security centers' claims by other health insurance institutions <ul style="list-style-type: none"> - Lack of a performance-based payment system
	Administrative factors	<ul style="list-style-type: none"> - Multiple recruitments of quota forces with low scientific knowledge - Recruiting of forces by order of others not based on their competence <ul style="list-style-type: none"> - Physicians' activity in several centers - Applying new human resources without completing the training courses <ul style="list-style-type: none"> - 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 <ul style="list-style-type: none"> - The weakness of rule in dealing with offenders

- Technical factors
- 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
 - 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 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
Factors affecting the treatment of organizational illnesses	Organizational Transparency	<ul style="list-style-type: none"> - Discovering organizational processes - Transparency of information and informing public -Updating the recording of information -Using reporting cards
	Monopoly and authority	<ul style="list-style-type: none"> - Signing specific contracts - Improvement of recruitment and employment system - Reduction of government authorities - Controlling funds - Inventory and warehousing control
	Responsiveness	<ul style="list-style-type: none"> - Planning organizational processes with an effective approach - Measuring and evaluating performance and matching with goals - Establishing a system of punishment and encouragement based on performance outcomes -Hearing the voice of clients - Addressing the complaints and suggestions
	Empowerment of human resources	<ul style="list-style-type: none"> - Implementation of training programs based on responsibilities - Assignment of authority and responsibility - Access to information - Control area - Teamwork - Significance of jobs - Job enrichment -Encouragement of staff creativity

Organizational structure

- Reducing organizational complexity
- Reducing organizational concentration
- Reviewing the components of management and organizational leadership
- Reviewing of organizational culture
- Increasing organizational support

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

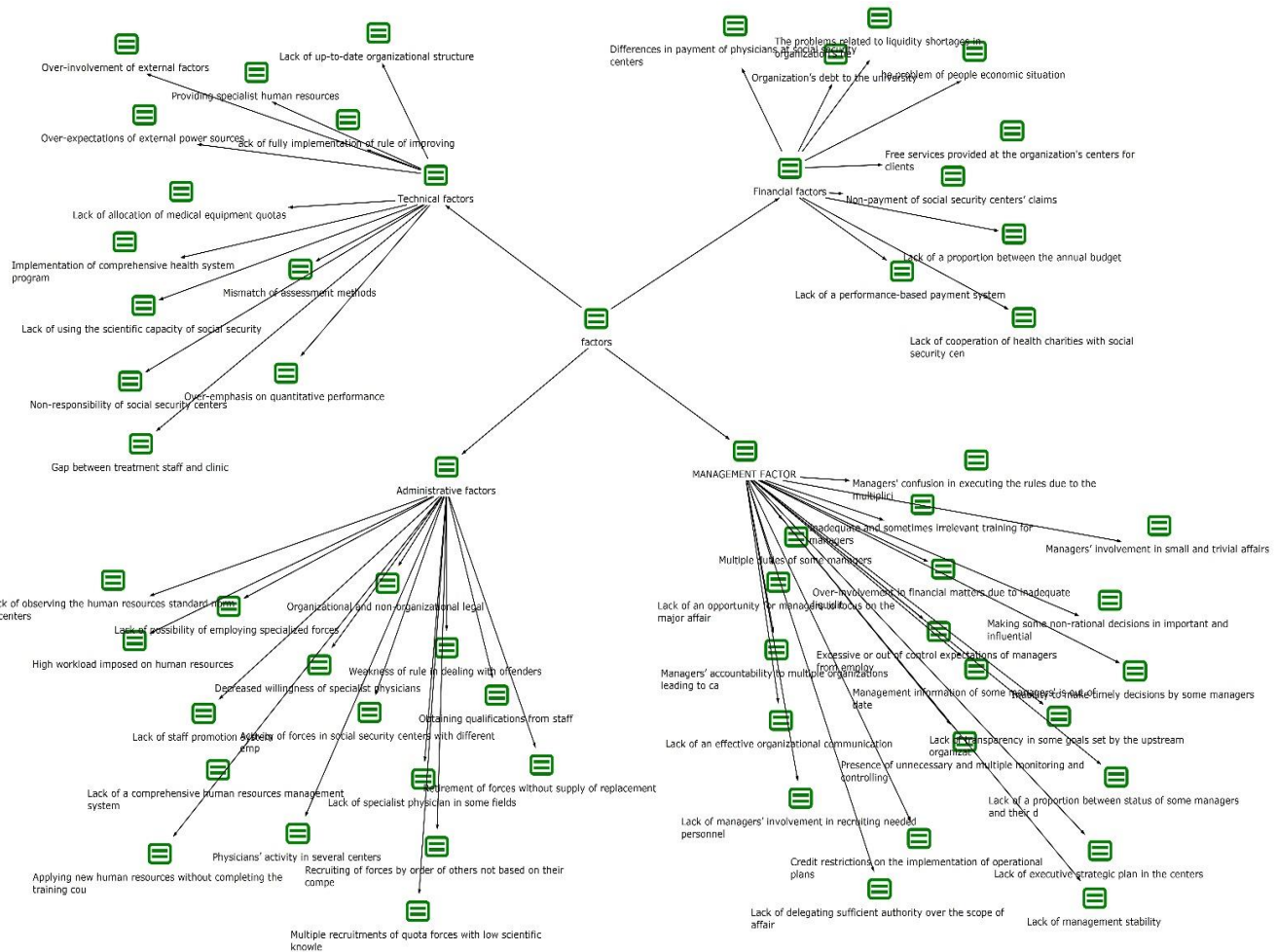


Figure 1- Graphical model of the treatment of organizational illnesses using software MAXQD

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.

Table 6: bolizing open codes in the Delphi technique

Identified factors	Code
Lack of management stability	C1
Lack of delegating sufficient authority over the scope of	C2

affairs		Multiple recruitments of quota forces with low scientific knowledge	C29
Lack of managers' involvement in recruiting needed personnel	C3	Recruiting of forces by order of others not based on their competence	C30
Lack of executive strategic plan in the centers	C4	Physicians' activity in several centers	C31
Credit restrictions on the implementation of operational plans	C5	Applying new human resources without completing the training courses	C32
Managers' involvement in small and trivial affairs	C6	Retirement of forces without the supply of alternative	C33
Lack of proportion between the status of some managers and their designated organizational position	C7	Lack of observing the human resources standard norm in centers	C34
Inability to make timely decisions by some managers	C8	Obtaining qualifications from staff without considering the capacity to accept the qualifications	C35
Making some non-rational decisions in important and influential matters	C9	The weakness of rule in dealing with offenders	C36
Lack of transparency in some goals set by the upstream organization	C10	The decreased willingness of specialist physicians to cooperate with organization centers	C37
Presence of unnecessary and multiple monitoring and controls	C11	Lack of specialist physician in some fields	C38
Lack of effective organizational communication	C12	The activity of forces in social security centers with different employments	C39
Excessive or out of control expectations of managers from employees	C13	Lack of a comprehensive human resources management system	C40
Management information of some managers' was out of date	C14	Lack of staff promotion system	C41
Managers' accountability to multiple organizations leading to caution in decision-making	C15	Organizational and non-organizational legal conflicts in the field of health care services	C42
Managers' confusion in executing the rules due to the multiplicity of policymakers (Ministry of Health and Social Security)	C16	Lack of possibility of employing specialized forces in the form of academic commitments (design - coefficient K) in the organization centers	C43
Over-involvement in financial matters due to inadequate liquidity status of the centers	C17	The high workload imposed on human resources at the organization's headquarters due to lack of manpower	C44
Lack of opportunity for managers to focus on the major affairs of the units managed by them	C18	A multiplicity of software systems in organization centers	C45
Inadequate and sometimes irrelevant training for managers	C19	The gap between treatment staff and clinic due to over-emphasis on documentation	C46
Multiple duties of some managers	C20	Over-emphasis on quantitative performance rather than qualitative performance	C47
Differences in payment of physicians at social security centers and Medical Sciences Universities	C21	Non-responsibility of social security centers to clients based on capacity and facilities	C48
The problems related to liquidity shortages in an organization's health centers	C22	Lack of up-to-date organizational structure based on organizational needs	C49
Organization's debt to the university centers and their non-cooperation with the centers of the organization under the same excuse	C23	Mismatch of assessment methods with treatment status	C50
The problem of people economic situation and the tendency to use the organization's health centers	C24	Lack of full implementation of the rule of improving the efficiency of the staff health system	C51
Free services provided at the organization's centers for clients	C25	Providing specialist human resources through medical universities and lack of proper cooperation with organizational centers	C52
Lack of proportion between the annual budget and the clients' expectations of the health centers of the organization	C26	Over-involvement of external factors on organization centers	C53
Lack of cooperation of health charities with social security centers	C27	Over-expectations of external power sources from the organization's health centers	C54
Non-payment of social security centers' claims by other health insurance institutions	C28		

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	$\tilde{1}$	(0, 0, 0.1)
Very unimportant	$\tilde{2}$	(0, 0.1, 0.3)
Unimportant	$\tilde{3}$	(0.1, 0.3, 0.5)
Moderate	$\tilde{4}$	(0.3, 0.5, 0.75)
Important	$\tilde{5}$	(0.5, 0.75, 0.9)
Very important	$\tilde{6}$	(0.75, 0.9, 1)
quite important	$\tilde{7}$	(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:

$$\tau_j = (L_j, M_j, U_j)$$

$$L_j = \min(X_{ij})$$

$$M_j = \sqrt[n]{\prod_{i=1}^n X_{ij}}$$

$$U_j = \max(X_{ij})$$

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 de-fuzzification [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
C9	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

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
C9	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

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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