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Original Article

Study of the Effect of Health System Reform Plan Administration on the Satisfaction Level among Medical Doctors and Nurses in Tabriz State Hospitals, East Azerbaijan, Iran

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ABSTRACT

Having three orientations, the Health System Reform Plan (HSRP) has been administered to financially support and protect people, provide fair health services and promote the quality of health services. To be unsatisfied about health and medical services brings undesirable outcomes. The present investigation aimed to study the effect of Health System Reform Plan (HSRP) on the satisfaction level among medical doctors and nurses of Tabriz state hospitals, East Azerbaijan province, Iran in a period from 21th February; 2015 to 22th June; 2015. Statistical population included those patients who referred to Tabriz state hospitals. We used stratified sampling method. To collect data we used questionnaire being presented to the samples after assessing its validity and reliability. We also utilized descriptive and inferential statistics in a way that we used descriptive method to classify, summarize and interpret of obtained data. Then after demonstrating the abnormality of data by Kolmogorov-Smirnov test we used linear and multiple regressions to test research hypothesis and effect from the perspective of inferential method. Obtained results confirmed the research hypothesis and explained that the administration of HSRP affected medical doctors' level of satisfaction. Also, according to the results of multiple regression tests, doctors and nurses' satisfaction level was placed at the top of most affected issues from HSRP.

INTRODUCTION

Humans have the right to be healthy which everyone can demand it. The main goal of providing health services is to guarantee healthiness among individuals. This aim can be fulfilled through provision of appropriate and needed health services. An efficient health system can achieve its visions only by creating favorable level of health services. It is said that the only way to assess a health system is to assess its services. In order to evaluate health and medical services it is vital to have medical staff's opinions including doctors and nurses. The level of medical staff's (doctors and nurses) satisfaction, as an interfering agent in promotion of medical services quality, is an effective factor in making health services and specially hospitals more efficient. This satisfaction even can be discerned among patients. The main goal of medical and health services is to promote and guarantee health in society. The rapid increasing in medical and care costs and limitation of resources have changed hospitals to be one of the most important as well as highly-priced organizations. For this sake, hospitals need more efficient, knowledgeable and creative managing system. An effective management makes hospitals more efficient, improves its performance and finally promotes the quality of health services and gains patients' trust all and only by lowering the costs. On the other hand, any type of management and planning in health organizations should guarantee the satisfaction of administrators and staff. Therefore, simultaneous consideration of all stakeholders is of main principles to achieve satisfaction. This aim depends on procedural assessment and evaluation which is highly valued in modern management. Nowadays, among different methods of assessing the performance and quality of hospitals and their services the evaluation of medical staffs' satisfaction has been specifically considered by managers. Hospitals frequently give feedbacks from patients as a requirement for more competition. Also, assessing medical staff satisfaction level in organizations in general and specifically health organizations is common because it makes them more attentive and participant and it reduces costs and consequently increases income and efficiency of those organization [2,3,14]. Throughout the present decade, hospitals have been adopted themselves to the environmental changes. At the same time, new policies to evaluate hospitals performance are made and implemented. Of quality promotion strategies one can suggest the satisfaction level of intra and extra- organizational effective agents [16]. Evaluation of medical staff's ideas

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and level of satisfaction in terms of the services they provide in order to be more competitive and have more patients and also lower the costs and increase incomes have become more popular recently [18,13]. Therefore, hospitals ought not to present the services regardless of the existing needs and demands of effective agents on their efficiency. Satisfaction is an important factor in promotion of health systems quality. Dissatisfaction and being ignorant about medical staffs' opinion can undermine patients' recovery process [1,17]. Job satisfaction is a vital factor to achieve success in work life. It results in more efficiency and more sense of satisfaction. It plays pivotal role in achieving organizational aims and personal and social health. If people have job satisfaction it will lead into high quality of their jobs and cuts down their absence and leave from job brings them mental and physical health. It also directly affects their positive attitudes toward nurses, colleagues, clients and patients [7,8,12]. Hence, nurses compromise the great bulk of human resources in hospitals, their job satisfaction is fundamental in promoting the quality of delivered services. Thus, it would be beneficial to carry out scientific investigation in this filed and implement gained results in different aspects of nursing profession [4,5,15]

Therefore, the Iranian Ministry of Health and Medical Education, after a six months pilot study, initiated Health System Reform Plan (HSRP) in April 2014 according to its mission, national policies and especially Iranian 20-years Vision plan, announced general policies by Supreme Leader, legal articles in Fifth national 5-year development plan and 11th government policies. HSRP acquired 3 orientations including: people's financial protection and support, equality in having access to health services and promotion of delivered health services. By this we gradually see Supreme Leader's policies to come into action and also observe the promotion of health system. Announced health general policies by Supreme Leader put great emphasis on making health basic insurance more public in a way that it would cover basic medical issues of all layer of society and reduce medical costs on behalf of people [11].

The present research actually tries to evaluate the effect of HSRP on the satisfaction level among medical doctors and nurses who work in Tabriz State hospitals from 21th February; 2015 to 22th June; 2015.

MATERIALS AND METHODS

Statistical population included: 232 official and contractual working nurses in hospitals and again 104 official and contractual working medical doctors. For this, we used Cochran formula to calculate statistical samples of both populations.

In order to select sample size we used simple sampling method through Cochran Formula considering 95% confidence level and 5% error that follows:

$$n = \frac{(\frac{t^2 \times pq}{d^2})}{1 + \frac{1}{N}(\frac{t^2 \times pq}{d^2} - 1)}$$

Here we have:
N= 150 (Sample Size)
P= the probability of specific feature (0.5)
q= the probability of lacking the specific feature (0.5)
d= the probable appropriate accuracy (0.05)
t=95% confidence level (1.96)

Considering 232 nurses and 104 for medical doctors we respectively calculated 144 and 82 individuals for sample sizes. Table 3-1 shows the population and samples:

No	Statistical population	Individuals	samples
1	Official and contractual nurses	232	108
2	Official and contractual medical doctors	104	68

To assess the level of satisfaction among stakeholders we used researcher's made 360 degree feedback questionnaire that acquired 2 dimensions of nurses' satisfaction and medical doctors' satisfaction. The questionnaire included 14 items as well 14 questions, one for each item, depicted in Table 3-4.

Table 3-2. classification of questions about stakeholders in HSRP (5 shared questions)

Variables	Question No	Number of Questions
Doctors satisfaction	Question 10-18	9
Nurses satisfaction	Question 18-23	5

Table 3-3. HSRP questionnaire and numbers of questions allocated for each item

Variables	Question number	Number of question
Reduction in hospitalize patients paid costs	1-3	3
Supporting doctors residency in deprived areas	4-6	3
Presence of resident doctors in state hospitals	7-10	4
Promotion of hospitals hoteling issues	11-15	5
Promoting the quality of visiting services	16-19	4
Financial protection of refractory patients	20-22	3
Promotion plan of natural childbirth	23-26	4

In this research we distributed questionnaire in work field to gather data [5]. The questionnaire included the following questions:

1 How much HSRP influenced the quality and quantity of health tools?
2 How much HSRP influenced the number of referring patients to hospitals?
3 How much HSRP promoted the quality of provided services by this hospital?
4 How much HSRP fulfilled your sense of satisfaction about the increase in your monthly salary?
5 How much HSRP influenced the rate of answering requests in this hospital?
6 After the implementation of HSRP how much you are satisfied with the way the patients being treated in this hospital?
7 To what extent the necessary trainings and instructions were given in this hospital about HSRP?

8 By the time HSRP is implemented how much you are satisfied with the residency facilities provided for you?

9 By the time HSRP is implemented how much you are satisfied with your clinic closure?

Questionnaire Scales

The utilized scale in this questionnaire was in a type of the Likert Scale with 5 answering ranges ranged as: too weak, weak, average, much and so much. To assess the validity we used handed the questionnaire to 5 academic experts and necessary reforms were done [9,10].

To calculate confidence ratio of measuring tools we used Cronbach's Alpha coefficient. For this we used SPSS (Version16) software. The obtained values for variables were $0.85 < \alpha < 0.95$. The questionnaire was considered to be valid because the values were higher than 0.7.

There were 9 questions in questionnaire related to medical doctors and its Cronbach's coefficient was 0.772 while that of nurse were 5 questions and its coefficient was 0.891.

Data Analysis

To gather and classify data we used SPSS software and the obtained results were explained and depicted in different tables.

Findings

The demographic features of nurses and medical doctors were as following

Statistical description of sample population.

A: Gender

Table 4-1. The distribution of respondents according to their gender in 3 groups of stakeholders

Group	Q* type / Q quantity	Man	Women	No answer	Total
Nurses	Frequency	20	88	0	108
	percent	18.5	81.5	0	100
Medical doctors	Frequency	52	16	0	68
	percent	76.5	23.5	0	100
Clients (patients)	Frequency	202	180	0	382
	percent	52.9	47.1	0	100

* Q = Question

As inferred, 18.5% of nurses were men and 81.5% were women. It was also 76.5% for men and 23.5% for women for medical doctors group. In patients group (as another stakeholders in HSRP) it was 202 (52.9%) for men and 180 individuals (47.1) for women respectively

B: Age

<25 years ❑ 25-35 years ❑ 26-45 years ❑ 46-55 years ❑ >55 years ❑

Table 4-2. The distribution of answers according to age

Group	Q* type / Q quantity	<25 years	25-35 years	26-45 years	46-55 years	>55 years	Total
Nurses	Frequency	5	54	33	12	4	108
	Percent	4.6	50	30.5	11.2	3.7	100
Medical doctors	Frequency	0	13	36	15	4	68
	Percent	0	19	53	22	6	100
Clients (patients)	Frequency	68	71	102	93	48	382
	Percent	18	18.5	26.7	24.3	12.5	100

C: Education

Table 4-3. The distribution of answers according education

Group	Q* type / Q quantity	High school	Diploma	Associate degree	Bachelor Degree	Master degree or higher	Total
Nurses	Frequency	0	0	0	60	48	108
	Percent	0	0	0	55.5	44.5	100
Medical doctors	Frequency	0	0	0	0	68	68
	Percent	0	0	0	0	100	100
Clients (patients)	Frequency	90	73	94	93	32	382
	Percent	23.5	19	24.6	24.4	8.5	100

D: Experience

< 5 years ❑ 5-10 years ❑ 11-15 years ❑ 16-20 years ❑ 21-25 years ❑ >25 years ❑

Table 4-4. Shows the distribution of answers according to experience

Group	Q* type / Q quantity	< 5 years	5-10 years	11-15 years	16-20 years	21-25 years	>25 years	Total
Nurses	Frequency	17	15	32	11	23	10	108
	Percent	15.7	14	29.6	10.2	21.3	9.2	100
Medical doctors	Frequency	6	13	18	7	15	9	68
	Percent	9	19	26.5	10.2	22	13.3	100

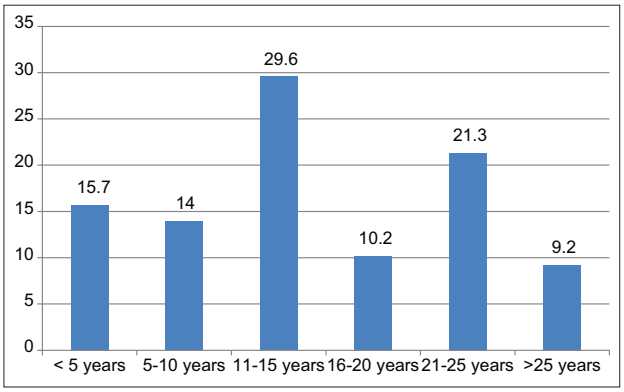

Diagram 4-10. Percentage of answers by nurses according to the years of experience

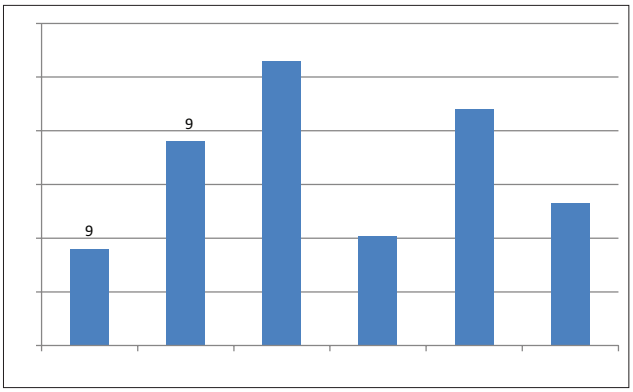

Diagram 4-11. Percentage of answers by medical doctors according to the years of experience

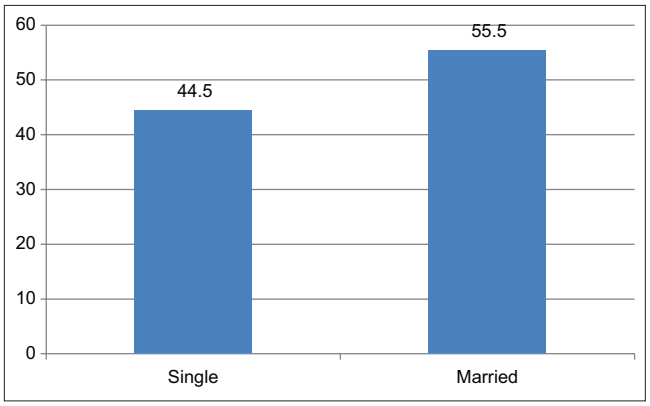

Diagram 4-12. Percentage of answers by nurses to the marital status question

E: Marital status

Single ❑ Married ❑

Table 4-5. The distribution of answers according to marital status

Group	Q* type / Q quantity	Single	Married	Total
Nurses	Frequency	48	60	108
	percent	44.5	55.5	100
Medical doctors	Frequency	25	43	68
	percent	36.7	63.3	100
Clients (patients)	Frequency	102	280	382
	percent	26.7	73.3	100

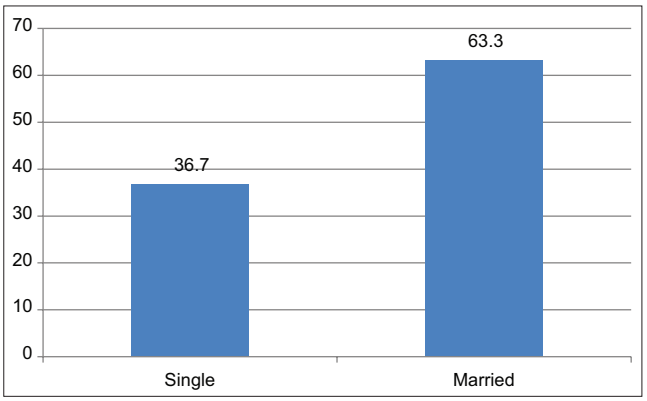

Diagram 4-13. Percentage of answers by doctors to the marital status question

STATISTICAL DESCRIPTIONS OF THE QUESTIONS OF HSRP QUESTIONNAIRE

Table: 4-6. Frequency and percent distribution of answers by nurses to the questions about HSRP administration

Main variable	Question	Very much		Much		Average		Low		Very low		Total Frequency
		F	%	F	%	F	%	F	%	F*	%	
Administration of HSRP	1	45.0	41.7	31.0	45.6	17.0	25.0	7.0	10.3	8.0	11.8	108
	2	61.0	56.5	32.0	47.1	12.0	17.6	3.0	4.4	0.0	0.0	108
	3	21.0	19.4	39.0	57.4	27.0	39.7	15.0	22.1	6.0	8.8	108
	4	49.0	45.4	13.0	19.1	23.0	33.8	11.0	16.2	12.0	17.6	108
	5	19.0	17.6	34.0	50.0	14.0	20.6	22.0	32.4	19.0	27.9	108
	6	28.0	25.9	35.0	51.5	21.0	30.9	15.0	22.1	9.0	13.2	108
	7	48.0	44.4	23.0	33.8	13.0	19.1	10.0	14.7	14.0	20.6	108
	8	39.0	36.1	17.0	25.0	23.0	33.8	12.0	17.6	17.0	25.0	108
	9	50.0	46.3	14.0	20.6	16.0	23.5	16.0	23.5	12.0	17.6	108
	10	40.0	37.0	23.0	33.8	13.0	19.1	21.0	30.9	11.0	16.2	108
	11	29.0	26.9	18.0	26.5	37.0	54.4	10.0	14.7	14.0	20.6	108
	12	35.0	32.4	33.0	48.5	22.0	32.4	8.0	11.8	10.0	14.7	108
	13	38.0	35.2	38.0	55.9	30.0	44.1	2.0	2.9	0.0	0.0	108
	14	41.0	38.0	28.0	41.2	16.0	23.5	11.0	16.2	12.0	17.6	108
	15	20.0	18.5	43.0	63.2	22.0	32.4	13.0	19.1	10.0	14.7	108
	16	33.0	30.6	23.0	33.8	31.0	45.6	12.0	17.6	9.0	13.2	108

(Contd...)

Table: 4-6. *(Continued)*

Main variable	Question	Very much		Much		Average		Low		Very low		Total Frequency
		F	%	F	%	F	%	F	%	F*	%	
	17	37.0	34.3	44.0	64.7	14.0	20.6	8.0	11.8	5.0	7.4	108
	18	22.0	20.4	32.0	47.1	32.0	47.1	10.0	14.7	12.0	17.6	108
	19	41.0	38.0	29.0	42.6	14.0	20.6	13.0	19.1	11.0	16.2	108
	20	27.0	25.0	38.0	55.9	19.0	27.9	13.0	19.1	11.0	16.2	108
	21	36.0	33.3	32.0	47.1	20.0	29.4	10.0	14.7	10.0	14.7	108
	22	43.0	39.8	27.0	39.7	31.0	45.6	4.0	5.9	3.0	4.4	108
	23	44.0	40.7	33.0	48.5	21.0	30.9	5.0	7.4	5.0	7.4	108
	24	26.0	24.1	21.0	30.9	35.0	51.5	15.0	22.1	11.0	16.2	108
	25	39.0	36.1	25.0	36.8	21.0	30.9	15.0	22.1	8.0	11.8	108
	26	47.0	43.5	33.0	48.5	26.0	38.2	2.0	2.9	0.0	0.0	108

*F=Frequency

Table 4-7. Frequency and percent distribution of answers by medical doctors to the questions about HSRP administration

Main variable	Question	Very much		Much		Average		Low		Very low		Total Frequency
		F	%	F	%	F	%	F	%	F	%	
Administration of HSRP	1	21.0	30.9	15.0	22.1	14.0	20.6	9.0	13.2	9.0	13.2	68
	2	18.0	26.5	11.0	16.2	18.0	26.5	10.0	14.7	11.0	16.2	68
	3	17.0	25	17.0	25.0	11.0	16.2	11.0	16.2	12.0	17.6	68
	4	17.0	25	19.0	27.9	14.0	20.6	10.0	14.7	8.0	11.8	68
	5	21.0	30.9	15.0	22.1	12.0	17.6	12.0	17.6	8.0	11.8	68
	6	19.0	27.9	21.0	30.9	11.0	16.2	8.0	11.8	9.0	13.2	68
	7	20.0	29.4	17.0	25.0	18.0	26.5	11.0	16.2	2.0	2.9	68
	8	17.0	25.0	20.0	29.4	17.0	25.0	8.0	11.8	6.0	8.8	68
	9	23.0	33.8	24.0	35.3	11.0	16.2	10.0	14.7	0.0	0.0	68
	10	18.0	26.5	19.0	27.9	26.0	38.2	1.0	1.5	4.0	5.9	68
	11	22.0	32.4	17.0	25.0	19.0	27.9	8.0	11.8	2.0	2.9	68
	12	21.0	30.9	15.0	22.1	21.0	30.9	11.0	16.2	0.0	0.0	68
	13	19.0	27.9	24.0	35.3	17.0	25.0	6.0	8.8	2.0	2.9	68
	14	24.0	35.3	16.0	23.5	20.0	29.4	7.0	10.3	1.0	1.5	68
	15	17.0	25.0	21.0	30.9	15.0	22.1	10.0	14.7	5.0	7.4	68
	16	20.0	29.4	15.0	22.1	16.0	23.5	8.0	11.8	9.0	13.2	68
	17	20.0	29.4	18.0	26.5	17.0	25.0	7.0	10.3	6.0	8.8	68
	18	17.0	25.0	20.0	29.4	21.0	30.9	7.0	10.3	3.0	4.4	68
	19	13.0	19.1	21.0	30.9	19.0	27.9	8.0	11.8	7.0	10.3	68
	20	24.0	35.3	18.0	26.5	20.0	29.4	6.0	8.8	0.0	0.0	68
	21	23.0	33.8	18.0	26.5	21.0	30.9	3.0	4.4	3.0	4.4	68
	22	19.0	27.9	19.0	27.9	19.0	27.9	6.0	8.8	5.0	7.4	68
	23	21.0	30.9	16.0	23.5	15.0	22.1	8.0	11.8	8.0	11.8	68
	24	19.0	27.9	18.0	26.5	15.0	22.1	9.0	13.2	7.0	10.3	68
	25	24.0	35.3	17.0	25.0	19.0	27.9	5.0	7.4	3.0	4.4	68
	26	23.0	33.8	16.0	23.5	20.0	29.4	7.0	10.3	2.0	2.9	68

Table 4-9. Frequency and percent distribution of answers by nurses about their satisfaction from administration of HSRP

Subordinate Variable	Q*	Very much		Much		Average		Low		Very low		Total Frequency
		F	%	F	%	F	%	F	%	F	%	
Level of satisfaction among Nurses with the administration of HSRP	1	48.0	44.4	23.0	33.8	13.0	19.1	10.0	14.7	14.0	20.6	108
	2	19.0	17.6	34.0	50.0	14.0	20.6	22.0	32.4	19.0	27.9	108
	3	28.0	25.9	35.0	51.5	21.0	30.9	15.0	22.1	9.0	13.2	108
	4	50.0	46.3	14.0	20.6	16.0	23.5	16.0	23.5	12.0	17.6	108
	5	39.0	36.1	17.0	25.0	23.0	33.8	12.0	17.6	17.0	25.0	108
	6	29.0	26.9	18.0	26.5	37.0	54.4	10.0	14.7	14.0	20.6	108
	7	40.0	37.0	23.0	33.8	13.0	19.1	21.0	30.9	11.0	16.2	108
	8	49.0	45.4	13.0	19.1	23.0	33.8	11.0	16.2	12.0	17.6	108
	9	20.0	18.5	43.0	63.2	22.0	32.4	13.0	19.1	10.0	14.7	108
	10	41.0	38.0	29.0	42.6	14.0	20.6	13.0	19.1	11.0	16.2	108
	11	37.0	34.3	44.0	64.7	14.0	20.6	8.0	11.8	5.0	7.4	108
	12	22.0	20.4	32.0	47.1	32.0	47.1	10.0	14.7	12.0	17.6	108
	13	43.0	39.8	27.0	39.7	31.0	45.6	4.0	5.9	3.0	4.4	108
	14	27.0	25.0	38.0	55.9	19.0	27.9	13.0	19.1	11.0	16.2	108
	15	36.0	33.3	32.0	47.1	20.0	29.4	10.0	14.7	10.0	14.7	108
	16	33.0	30.6	23.0	33.8	31.0	45.6	12.0	17.6	9.0	13.2	108
	17	44.0	40.7	33.0	48.5	21.0	30.9	5.0	7.4	5.0	7.4	108
	18	26.0	24.1	21.0	30.9	35.0	51.5	15.0	22.1	11.0	16.2	108

*Q= Question

Table 4-10. Frequency and percent distribution of answers by doctors about their satisfaction from administration of HSRP

Subordinate Variable	Q*	Very much		Much		Average		Low		Very low		Total Frequency
		F	%	F	%	F	%	F	%	F	%	
Level of satisfaction among Doctors with the administration of HSRP	1	19.0	27.9	21.0	30.9	11.0	16.2	8.0	11.8	9.0	13.2	68
	2	20.0	29.4	17.0	25.0	18.0	26.5	11.0	16.2	2.0	2.9	68
	3	18.0	26.5	19.0	27.9	26.0	38.2	1.0	1.5	4.0	5.9	68
	4	23.0	33.8	24.0	35.3	11.0	16.2	10.0	14.7	0.0	0.0	68
	5	24.0	35.3	16.0	23.5	20.0	29.4	7.0	10.3	1.0	1.5	68
	6	22.0	32.4	17.0	25.0	19.0	27.9	8.0	11.8	2.0	2.9	68
	7	21.0	30.9	15.0	22.1	21.0	30.9	11.0	16.2	0.0	0.0	68
	8	19.0	27.9	24.0	35.3	17.0	25.0	6.0	8.8	2.0	2.9	68
	9	17.0	25.0	20.0	29.4	17.0	25.0	8.0	11.8	6.0	8.8	68
	10	20.0	29.4	18.0	26.5	17.0	25.0	7.0	10.3	6.0	8.8	68
	11	19.0	27.9	18.0	26.5	15.0	22.1	9.0	13.2	7.0	10.3	68
	12	13.0	19.1	21.0	30.9	19.0	27.9	8.0	11.8	7.0	10.3	68
	13	24.0	35.3	18.0	26.5	20.0	29.4	6.0	8.8	0.0	0.0	68
	14	23.0	33.8	16.0	23.5	20.0	29.4	7.0	10.3	2.0	2.9	68
	15	19.0	27.9	19.0	27.9	19.0	27.9	6.0	8.8	5.0	7.4	68
	16	21.0	30.9	16.0	23.5	15.0	22.1	8.0	11.8	8.0	11.8	68
	17	23.0	33.8	18.0	26.5	21.0	30.9	3.0	4.4	3.0	4.4	68
	18	24.0	35.3	17.0	25.0	19.0	27.9	5.0	7.4	3.0	4.4	68

*Q= Question

INFERENTIAL ANALYSIS OF STATISTICAL DATA (STATISTICAL TEST OF RESEARCH HYPOTHESIS)

Evaluating data normality

Utilizing Kolmogorov-Smirnov Test (K-S test) we checked out data normality. We did the test either for whole data and then for each variable. The results are depicted in Table 4-13. The confidence level in the test was 95%. Here we have two assumptions:

H_1: data are normally distributed

H_0: data are not normally distributed

If the significance level (P-value) for each mentioned variable in the Table would be greater than 0.05 then we will say with 95% level of confidence that the variables are normally distributed otherwise we should hesitate about their normal distribution.

Table 4-13. The K-S test results for normal distribution fit

Variables	Successful administration of HSRP	Nurses satisfaction	Doctors satisfaction	Stakeholders' satisfaction
K-S test	2.093	1.954	2.754	2.214
Level of significance (P value)	0.093	0.073	0.094	0.082
Number	556	106	68	556

Based on gained results from Table 4-13 and hence the p-value for the tests was higher than our accepted level (α =0.05) therefore we reject data abnormality and can use parametric methods to evaluate hypotheses. Accordingly we used linear regression to evaluate the existing effects.

Research Hypotheses Test

The main hypotheses test: Administration of HSRP is effective on stakeholders' satisfaction in Tabriz State hospitals

Here we have:

H_1: Administration of HSRP is effective on stakeholders' satisfaction in Tabriz State hospitals

H_0: Administration of HSRP is <u>not</u> effective on stakeholders' satisfaction in Tabriz State hospitals

We have used regression test to study the effect of independent variable on dependent one

Table 4-14. variance analysis of main hypothesis related to variant regression of HSRP administration with stakeholders' satisfaction

Standard deviation (SD)		Adjusted coefficient of determination		Coefficient of determination	Correlation coefficient	
0.4081		0.151		0.157	0.396	
P-value	**Level of confidence**	**F**	**Mean Squares**	**Total squares**	**Degree of freedom**	**Changes source**
0.000	0.095	24.239	4.036	4.036	1	Regression
Test result: H_0 Hypothesis rejected			0.167	21.682	130	Remaining
				25.682	131	Total

As depicted in Table 14-4, the coefficient of determination was 0.157. It means that 15.7 % of observed dispersion in dependent variable can be justified by independent variable and additionally it is less than the level of significance (0.05) that was 0.000. Therefore we can say with 95% level of confidence that the administration of HSRP was effective on the level of satisfaction among stakeholders. Thus the H_0 hypothesis is rejected and(researcher's hypothesis) H_1 is confirmed.

Table 4-15. Main hypothesis parametric ratios of the variable of administering HSRP and its effect of stakeholders' level of satisfaction

Variable	Non-standard ratios		Standard ratios	Calculated t	Significance level
	B	Std. Error	Beta		
Y-intercept (Fixed)	2.717	0.169		16.052	0.000
Administration of HSRP	0.273	0.056	0.396	4.923	0.000

According to Table 4-15 the equation about the effect of HSRP administration on stakeholders' satisfaction will be

=Y03.96x

Based on beta value (0.396) it can be concluded that the independent variable has an effective role in predicting regression. As a result we can say that one unit increase in administration of HSRP leads into the 0.396 increase in stakeholders' satisfaction in Tabriz state hospitals. Here we presented the linear regression in Diagram 4-15.

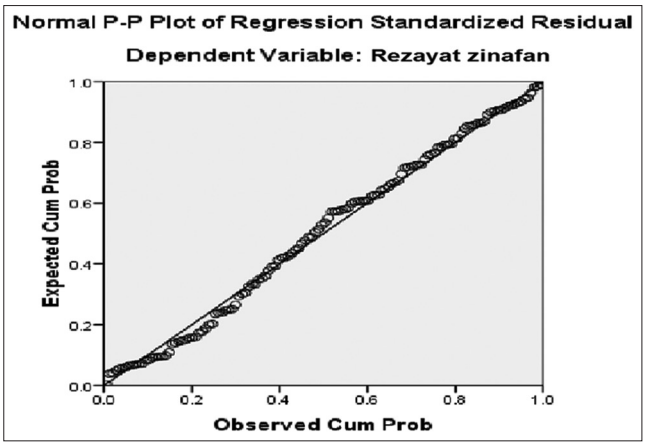

Diagram 4-15. Linear regression of main hypothesis

First subordinate hypothesis test: Administration of HSRP is effective on doctors' satisfaction in Tabriz State hospitals

H_1: Administration of HSRP is effective on doctors' satisfaction in Tabriz State hospitals

H_0: Administration of HSRP is not effective on doctors' satisfaction in Tabriz State hospitals

Obtained results from linear regression to demonstrate the effectiveness of HSRP administration on doctors' satisfaction is depicted in Table 4-16.

Table 4-16. The variance analysis of subordinate hypothesis No:1 about variable regression of administering HSRP

Standard Deviation		Adjusted R		Coefficient of Determination		Correlation coefficient
0.746		0.255		0.261		0.511
P-value	**Level of confidence**	**F**	**Mean squares**	**Total Squares**	**Degree of freedom**	**Changes source**
0.000	0.095	45.849	25.541	25.541	1	Regression
Test result: H_0 Hypothesis rejected			0.557	72.42	130	Remaining
				97.96	131	Total

As seen in Table 4-16 the coefficient of determination came to be 0/261. It means that 26.1 percent of observed dispersion in dependent variable can be justified by independent variable and in addition it is less than the level of significance (0.05) that was 0.000. Therefore we can say with 95% level of confidence that the administration of HSRP was effective on the level of satisfaction among stakeholders. Thus the H_0 hypothesis is rejected and H_1 is confirmed.

Variable	Non-standard ratios		Standard ratios	Calculated t	Significance level
	B	Std. Error	Beta		
Y- intercept (fixed)	0.941	0.310		3.039	0.003
Administration of HSRP	0.688	0.102	0.511	6.771	0.000

According to table 4-17 the equation about the effect of HSRP administration on doctors' satisfaction in Tabriz state hospitals will be

=Y0.511x

Regarding Beta value (0.511) it can be concluded that independent variable had an effective role in predicting regression equation. Also, we can say one unit increase in HSRP leads into 0.511 increase in satisfaction level of doctors in Tabriz state hospitals. Here we presented the linear regression for the hypothesis in Diagram 4-16.

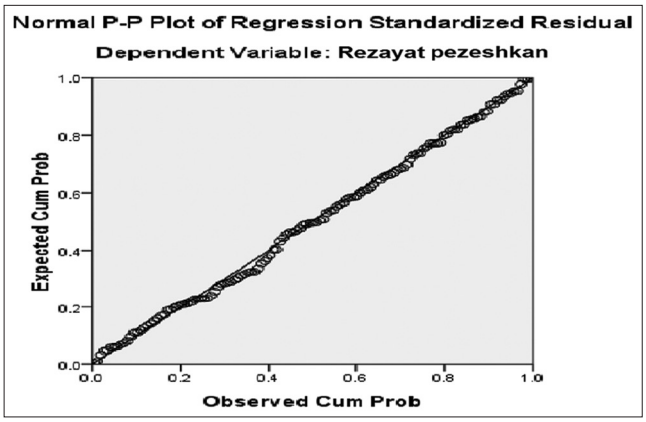

Diagram 4-16. Linear regression of the first subordinate hypothesis

Second Subordinate Hypothesis Test: Administration of HSRP is Effective on Patients' Satisfaction in Tabriz State Hospitals

$H_{1:}$ Administration of HSRP is effective on patients' satisfaction in Tabriz State hospitals

$H_{0:}$ Administration of HSRP is not effective on patients' satisfaction in Tabriz State hospitals

Table 4-18. Variance analysis of subordinate hypothesis on variable regression of administering HSRP and patients' level of satisfaction

Standard Deviation		Adjusted R		Coefficient of Determination		Correlation coefficient
0.78161		0.337		0.339		0.693
P-value	**Level of confidence**	**F**	**Mean squares**	**Total Squares**	**Degree of freedom**	**Changes source**
0.026	0.095	5.056	33.089	33.089	1	Regression
Test result: H_0 Hypothesis rejected			0.611	66.911	130	Remaining
				58.509	131	Total

As it can be observed from table 4-18 the coefficient of determination was 0.337. It means that 33.7 of observed dispersion in dependent variable can be justified by independent variable. Here the P-value was 0.026 and was lower than 0.05. So with 95% confidence level we can say that administration of HSRP satisfied referring patients to Tabriz state hospitals. Thus the H_0 hypothesis is rejected and H_1 (researcher's hypothesis) is confirmed.

Table 4-19. Parametric ratios of second subordinate hypothesis related to the variable of administrating HSRP and its effect on doctors' level of satisfaction

Variable	Non-standard ratios		Standard ratios	Calculated t	Significance level
	B	Std. Error	Beta		
Y- intercept (fixed)	3.212	0.324		9.907	0.000
Administration of HSRP	0.239	0.106	0.693	2.249	0.026

According to Table 4-19 the equation of the effect of HSRP administration on patients' satisfaction in Tabriz state hospitals will be

=Y0.693x

Regarding the Beta value (0.693) it can conclude that the independent variable had effective role in predicting regression. Therefore, one unit increase in administration of HSRP leads into the 0.693 increase in the level of satisfaction among patients who have referred to Tabriz state hospitals. Diagram 4-17 shows the linear regression of the hypothesis

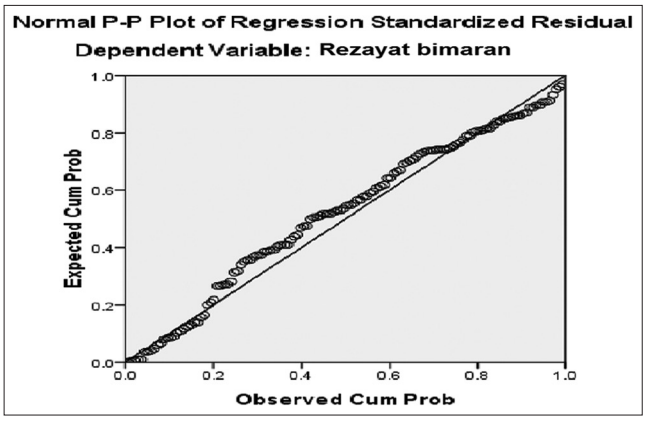

Diagram 4-17. Linear regression of the second subordinate hypothesis

The Third Subordinate Hypothesis Test: Administration of HSRP is Effective on Nurses' Satisfaction in Tabriz State Hospitals

H_1: Administration of HSRP is effective on nurses' satisfaction in Tabriz State hospitals

H_0: Administration of HSRP is not effective on nurses' satisfaction in Tabriz State hospitals

Table 4-20 shows the obtained results from linear regression to demonstrate the effectiveness of HSRP on nurses' satisfaction

Table 4-20. Variance analysis of subordinate hypothesis No 3 on variable regression of administering HSRP and nurses' level of satisfaction

Standard Deviation		Adjusted R		Coefficient of Determination		Correlation coefficient
10.77495		0.131		0.138		0.195
P-value	**Level of confidence**	**F**	**Mean squares**	**Total Squares**	**Degree of freedom**	**Changes source**
0.025	0.095	5.130	595.601	959.601	1	Regression
Test result: H_0 Hypothesis rejected			116.100	15092.951	130	Remaining
				15688.552	131	Total

As depicted in Table 4-20, the coefficient of demonstration was 0.138. It means that 13.8 % of dispersion in dependent variable is justified by independent variable. The P-value was 0.025 that was lower than 0.05. Therefore, with 95% level of confidence we can say that the administration of HSRP was effective on making nurses in Tabriz state hospitals more satisfied. Thus the H_0 hypothesis is rejected and H_1 (researcher's hypothesis) is confirmed.

Table 4-21. The parametric ratios of the third subordinate hypothesis related to the variable of administering HSRP and its effect on the level of satisfaction among nurses

Variable	Non-standard ratios		Standard ratios	Calculated t	P-value
	B	Std. Error	Beta		
Y-intercept (fixed)	97.065	9.565		10.148	0.000
Administration of HSRP	-0.260	0.115	-0.195	-2.265	0.025

According to Table 4-21 the equation of the effect of HSRP administration on nurses' satisfaction in Tabriz state hospitals will be

=Y0.19x

Regarding the Beta value (0.195) it can be concluded that independent variable had effective role in predicting regression. As a result it can be said that one unit increase in HSRP administration can increase 0.195 in the level of satisfaction among nurses of Tabriz state hospitals. The linear regression of the hypothesis is depicted in Diagram 4-18.

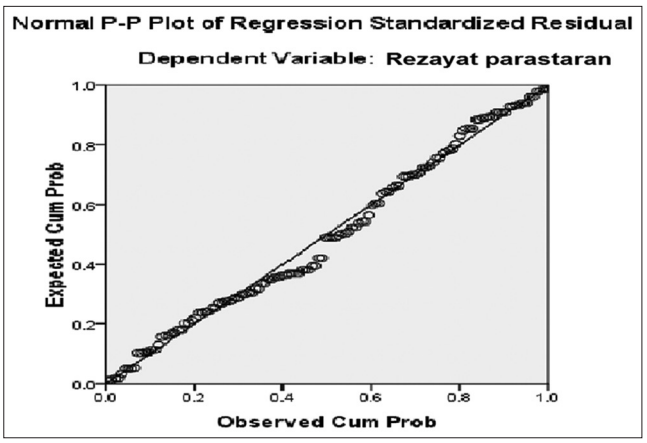

Diagram 4-18. Linear regression of the third subordinate hypothesis

DISCUSSION AND CONCLUSION

The aim of present study was to investigate the effect of administering HSRP on the level of satisfaction among medical doctors and nurses working in Tabriz state hospitals. Testing the hypothesis was carried out according to a directive by Iranian Ministry of Health and Medical Education from seven perspectives. Administration of HSRP was assessed by 26 questions. Stakeholders' satisfaction including medical doctors and nurses was evaluated by 14 questions by having 360 degree feedback orientation. Findings showed that R^2 value was 0.157. It means that 15.7% of stakeholders' satisfaction can be fulfilled by successful administration of HSRP. As mentioned, Beta value was 0.396 and P-value was less than 0.05. Therefore, it can be said that changes in independent variable (the successful administration of HSRP) can affect the dependent variable (stakeholders' satisfaction) at the level of 0.396.

Based on 360 degree feedback orientation stakeholders' satisfaction depends on the satisfaction of three groups of nurses, doctors and patients and the satisfaction of these two groups also goes back to the variety of factors including: admission process, number of doctors and nurses, number of medical working teams, total number of medical staff, physical space, complaints handling, dismiss process, quality and quantity of hospital facilities, number of referrals, quality of medical services, salary changes, responding to the needs, patients' manner of behaving, trainings and instructions about plans, accommodation, satisfaction from office closure, self-assessment, and so on. Moreover, as it has been mentioned in theoretical and operational models sections of

HSRP, one should seek out its successful administration in fulfillment of factors including decrease in charges of hospitalized patients, supporting doctors residency in deprived areas, presence of resident specialists in hospitals, promotion of hoteling, promotion of visiting services, financial support of refractory patients and supporting natural childbirth. The present study showed that successful administration of HSRP was effective on the level of satisfaction among stakeholders.

First Subordinate Hypothesis

The hypothesis was measured by HSRP questionnaire with 26 questions and with 9 questions of stakeholders' questionnaire we measured the level of satisfaction among doctors. R^2 was calculated to be 0.261. it suggest that 26.1% of changes related to the level of satisfaction among working medical doctors in Tabriz state hospitals is caused by the successful administration of HSRP. Furthermore, Beta value came to 0.511 and the P value was less than 0.05 therefore it can be said that changes in independent variable (here the successful administration of HSRP) was effective on the changes of dependent variable (level of satisfaction among medical doctors of Tabriz state hospitals) at the level of 0.511.

Third subordinate hypothesis: by means of 26 questions of HSRP questionnaire and 5 questions about the level of satisfaction among nurses we assessed the hypothesis. R^2 value came to be 0.138. It means that 13.8 % of changes in the level of satisfaction among nurses can be demonstrated by the successful administration of HSRP. The calculated Beta value was 0.195 and the P-value was less than 0.05,therefore, we can conclude that changes in independent variable (successful administration of HSRP) was effective on the changes in dependent variable (the level of satisfaction among working nurses in Tabriz state hospitals) at the level of 0.195.

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