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Research Article

RELATIONSHIP BETWEEN PAY FOR PERFORMANCE AND SERVICE QUALITY AT THE HASHEMI NEJAD HOSPITAL TEHRAN

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ABSTRACT
Pay for performance for doctors and health care service providers called as a reward system that aims to improve efficiency policies and reducing costs. Rising costs and a growing imbalance between primary and specialized care, caused payment for health care has a basic need to major reforms. The aim of this study is descriptive and analytical, which cross sectional carried out at Shahid Hashemi Nejad Subspecialty Hospital in Tehran in 2013. Research population consisted of hospitalized patients and health care workers that the sample size for hospitalized patients (n = 120) using the formula for estimating the mean and for health care personnel (n = 120) determined by using Cochran's formula, data analyzed through a questionnaire of the quality of service and performance-based payment using SPSS 21 software and with the Pearson statistical test. The findings of the quality of services provided at hospital showed that at acceptable levels (55.48 ± 16.03) and status of Pay for performance in a good level is (76.92 ± 6.98). Significant relationship between Pay for performance and selection of service providers, advocacy groups, continuity of service, quality of facilities, respect, timely and immediate attention, safety, prevention, access and trust and there was no significant relationship between Pay for performance and communication aspect and interaction and having option. The results showed that Pay for performance improves the dimensions of services quality, and according to a few studies in the field of performance-based payment in the health sector, there is a need for further studies in the country.

Keywords: *Payment system, Pay for performance, Service Quality, Hospital*

INTRODUCTION
Health care as an essential commodity is very sensitive, because inadequate attention to this category can damage the health of the society and also causes huge resources spent and wasted in this section (Mokhtareh et al., 2008). Nowadays, Importance and status of health as one of the major concerns of human, Researchers throughout the world have prompted as in such a systematic way studies issues related to health system reform (Raeisi et al, 2009).
Rising costs and a growing imbalance between primary and specialized care led payment for health care have a basic need of major reform (Castaldi et al., 2011). Research on health care quality shows even in countries with extensive healthcare resources are has large budget deficits (Van Herck et al., 2010). Research about the quality of health care shows evidence of treatment in more or less than reasonable limit, and also shows a lack of proper treatment (Baker, 2004 & McGlynn, 2003). Targeted interventions that clearly linking the rewards arising from care to the results of the survey, based on structural, process or outcome indicators, is known as a mechanism of "performance-based payment" (Van Herck et al., 2011). The term of Pay for performance used in different ways by authors and practitioners, But a good and general definition is motivation systematic application of payments for physicians and health care providers, which leads to improve in organizational performance by increasing the quality and reducing costs (Anonymous, 2011). Another definition of the medical system (2007) interpreted performance-based payment as "using from measure payment motivation that recognize high level of the quality and

quantity and reward them accordingly" (Wilensky, 2007). The meaning of Pay for performance t is different from fee payment system (fee-for-service). That provides Motivational factors for offering health services such as outpatient, hospitalization (Anonymous, 2011). Performance-based payment for Medical and health care providers called as a reward system that aims to improve the efficiency Policies and reducing costs (Liu and Mills, 2005). Pay for Performance to accelerate progress in the provision of hospital care are considered, But there is still little information about the advantages of this method from providing incentives for improving known care methods (Lindenauer et al., 2007). Today one of the major tasks of human resource managers is to design, draw and implementation of the system of the Salaries and wages and benefits for employees. Payment System design will follow a variety of purposes, one of the most important of them is the system based on fair rewarding and balanced for all employees (Ebadi et al,. 2002)

To establish an effective link between payment and performance should be measure performance in a valid way, if we cannot important reward such as payment bond with results will lead to loss of motivation and decline of function. Wage payment and the lack of transparency and determining the standards of obliged the surplus work of staff and criteria to measure merit As well as the lack of monetary value of the daily activities of employees Cause Employees dissatisfaction and the resulting loss of human and financial resources of the organization (Raeisi et al., 2009)

If the payments to employees occur regardless of their performance, it can create high and inefficient costs for organizations. An appropriate approach to pay the employees is that the foundation to pay them To their performance practice with a special emphasis on output And dependent on the organization income (Maali Tafti & Tajaldin, 2008). Performance-based payment plans for Consistent paying with the specific purpose of paying for health care are designed to improve quality. Performance-based payment appears to be another step in the health care environment changes (Loyd, 2006).

Only in the last decade, payment-for-performance programs discussed in health care, despite the lack of evidence supporting the efficacy and lack of consensus on how to design and implement it (Anonymous, 2011).

However, recent studies show the benefits of Pay for Performance improvement in improving hospital's commitment to providing quality care (Vina et al., 2009). Current applications of performance-based payment in terms of motivation, the purpose of the health care provider, Functional criteria of quality, Assessment methodology of applications and the underlying aspects associated with the program are Heterogeneous. This variability is partly depending on the discrete basis and extent of implementation of performance-based payment (Van Herck et al., 2010).

METHODOLOGY

This study in terms of purpose of research is Descriptive and analytical and in terms of the nature and research method is quantitative, which carried out in A cross-sectional way in Shahid Hashemi Nejhad Subspecialty Hospital in Tehran in 2013. Hospitalized patients and clinical staff (doctors, nurses, health workers) at Hashemi Nejhad Subspecialty Hospital Tehran were the research population. To determine the sample size of patients (n= 120) used formula to estimate the average, In this formula, according to study results, the quality of service in hospitals of Tabriz University of Medical Sciences, mean the standard deviation of data collected in the field of quality of service in two sections the importance and performance is 2.9 is And hospital personnel to determine the sample size (120 patients) were used from the Cochran formula. Instruments for gathering for both populations were service quality questionnaire at 12 dimensions, and questionnaire of performance-based payment at 6 dimensions. To determine the validity of questionnaire, they given to a number of scholars and teachers, and ask them about the content of each question of the questionnaire survey was completed, And after the reform Comments has been reformulated and applied in research, to measure The reliability of each of them 20 patients from the participants (For quality of service, performance-based payment scale for patients, clinical staff) which are not Samples, Selected randomly and assist them in completing the questionnaire, After completing the

questionnaire by participants, the score related to quality of service questionnaire and performance-based payment calculated and Cronbach alpha test measure its amount of reliability.

The degree of Cronbach's alpha for the questionnaire of service quality and performance-based payments among participants obtained respectively, 0.83 and 0.91; Mentioned numbers indicate the appropriate reliability of questionnaire of quality of service and performance-based payment. After collecting the data, initially data extracted from the questionnaires, then all data analyzed using computers and through SPSS software on two sections descriptive and inferential (Pearson test).

FINDING

In this study, 65 percent males and 35 percent of subjects were women. Also the age group of patients is as follow, 13.3 percent of patients between the age group of (1-20 years), 34.2 percent of patients between the age group of (21-40), 43.3 percent of patients between the age group of (41-60) years and 9.2 percent of patients between the age group (61-80) years. 32.5 percent of patients were employees, 27.5 percent was self-employed, and 11.7 percent was housewives, 15 percent retired, 7.5 percent of patients were students, 5.8 percent of patients were children had formed. Also 53.3 percent of recipients of health services have Social Security insurance, 33.3 percent of patients had health services insurance, 5.8 percent of patients with health insurance from Comite Emdad and 7.5 percent of patients had rural health insurance 5.8 percent of patients were illiterate, 7.5 percent of patients had low literacy, 5.8 percent of patients had primary school degree, 9.2 percent of patients guidance school degree, 6.7 percent of the patients had under diploma degree, 18.3 percent of patients had diploma, 17.5 percent had associate degree, 20.8 percent of patients had BA degree and 8.3 percent of patients had post-graduate education. In this study, 15 percent of patients within 2 days, 23.3 percent of patients

throughout the 3 days, 22.5 percent of patients for 4 days, 16.7 percent of patients during 5 days, 10 percent of patients for 6 days, 5 percent patients for 7 days, 7..5 percent of patients were hospitalized for more than 7 days.

24.2 percent of providers were male and 75.8 percent were female, 35 percent of providers were between the age group of (20-30 years), 44.2 percent of providers were between the age group of (31-40), 18 percent of Providers between age groups of (41-50 years) and 5.8 percent of providers were over 50. 33.3 percent of providers had Associate Degree, 58.3 percent had BA degree and 8.3 percent of providers had postgraduate education and 55 percent of providers were (1-10) years of work experience, 35.8 percent with (11-20) years of work experience and 8.3 percent of providers (21-30) years of work experience had formed.

Table 1: The frequency of the service quality dimensions from the Patients Perspective (N=120)

Row		never	Some times	often	always	mean	Standard deviation	Standard error
1	Selection of service provider Dimension	9.46	22.2	38.6	29.73	57.18	30.65	2.79
2	Communication and interaction dimension	7.02	20.34	44.00	28.64	57.79	28.21	2.57
3	Having option dimension	10.4	20.43	41.88	27.28	55.73	30.74	2.80
4	Support groups dimension	7.92	23.94	43.95	24.2	54.58	29.57	2.69
5	Continuation of services dimension	9.46	22.8	40.00	27.8	55.83	30.48	2.78
6	Quality facilities and basic amenities dimension	9.2	22.67	45.17	22.95	54.58	29.57	2.69
7	Respect dimension	10.32	20.18	41.88	25.62	56.16	30.57	2.79
8	Immediate and timely attention dimension	10.32	20.52	41.56	25.58	56.53	30.42	2.77
9	Safety dimension	9.46	23.36	41.1	26.06	55.08	29.93	2.73
10	Prevention dimension	9.46	23.36	42.76	24.4	53.97	29.40	2.68
11	Availability dimension	9.2	23.03	41.66	26.1	55.36	29.78	2.71
12	Confidence dimension	10.00	20.85	40.45	28.7	55.22	31.60	2.88
Total average		9.45	21.98	42.02	26.52	55.48	16.03	1.46

According to the Table 1 Which shows the status of quality of services offered at Shahid Hashemi Nejhad Hospital in Tehran. Quality of service has desirable condition in the hospital and highest score related to communication and interaction dimension with an average score of 57.79 and the lowest score related to prevention dimension with an average of 53.97.
According to Table 2 that shows the status of the Pay for performance Hashemi Nejad Hospital in Tehran. Pay for performance in hospitals have desirable situation ,The highest score was related to increasing interest and motivation to work dimension with an average of 83.58 and the minimum score is related to Commensurate with the proportional to work dimension with an average of 61.66.

Table 2: Frequency distribution of Pay for performance

Status of Pay for performance	Being based on justice	proportional to work	increasing interest and motivation to work	increasing organizational commitment	increasing the quantity of work	increasing the quality of work	The overall satisfaction with the payment
	Number (percent)	Number (percent)	Number (percent)	Number (percent)	Number (percent)	Number (percent)	Number (percent)
Dissatisfied	30 (25)	36 (30)	7 (5.8)	8 (6.7)	23 (19.2)	11 (9.2)	19 (15.8)
Average satisfaction	48 (40)	48 (40)	17 (14.2)	19 (15.8)	18 (15)	20 (16.7)	28 (23.4)
Satisfied	42 (35)	36 (30)	96 (80)	93 (77.5)	79 (65.8)	89 (74.2)	73 (60.8)
Sum	120 (100)	120 (100)	120 (100)	120 (100)	120 (100)	120 (100)	120 (100)
Mean	64.91	61.66	83.58	82.38	75.33	81.66	
Standard deviation	13.71	24.12	15.21	10.89	21.65	19.67	
Standard error	1.25	2.20	1.43	0.99	1.97	1.79	
Overall status of Pay for performance							74.92 ± 6.98

Pearson correlation coefficient was used to examine the relationship between of Pay for performance and service quality among the participants that the findings are reported in Table 3. According to the table of results, except for communication and interaction and having authority, all aspects service quality had a significant positive relationship with pay for performance.

Table 3: Pearson correlation between Pay for performance and service quality

Row		Number	Mean	Standard deviation (SD)	Test result	
					R	P (value)
1	Dimension of selecting the service provider	120	57.18	30.65	-0.325**	0.001
2	Dimension of communication and interaction	120	57.79	28.21	0.021	0.819
3	Dimension of having authority	120	55.73	30.74	-0.150	0.103
4	Dimension of advocacy groups	120	54.58	29.57	-0.199*	0.029
5	Dimension of the service continuity	120	55.83	30.48	-0.356**	0.001
6	Dimension of the quality of basic facilities	120	54.58	29.57	-0.199*	0.029
7	Dimension of respect	120	56.16	30.57	-0.266**	0.003
8	Dimension of immediate attention and timely	120	56.53	30.42	-0.235**	0.01
9	Dimension of safety	120	55.08	29.93	-0.365**	0.001
10	Dimension of prevention	120	53.97	29.40	-0.346**	0.001
11	Dimension of access	120	55.36	29.78	-0.353**	0.001
12	Dimension of trust	120	55.22	31.60	-0.182*	0.047
13	Overall service quality	120	55.48	16.03	-0.424**	0.001

*.Correlation is significant at the 0.05 level (2-tailed)

CONCLUSION

This study aims to investigate the relationship between Pay for performance and service quality in Shahid Hashemi Nejhad Hospital in Tehran. Findings related to the Pay for performance showed that they are in good condition (mean 74.92) and findings related to the quality of services in 12 dimensions were the indicator of a good status of services providing for the hospitalized patients was proposed. Results of Nomura et al (2007) concerning the autonomy of patients visiting primary health care in Japan showed that the preference for decision-making increases by increasing the quality of patient willingness to participate in the decision process (median 51), and also the ratio of women to men among patients with decreasing the age of service providers (doctors), priorities of decision making, and communication skills increased (Nomura et al., 2007). The service quality has shown that satisfaction of services among patients, who have chosen their doctors by themselves have increased between 16% and 20% at the level of excellent or very good, compared to patients who have been referred to other doctors; thus, there was a positive relationship between a doctor and patient satisfaction (Schmittdie et al., 1997). Kalda study (2003) on the choice of physician and satisfaction with care in Estonia showed that 68% of clients were satisfied with the services that are consistent with the results of this study (Kalda et al., 2003). Study of Lee et al (2009) surveyed 430 hospitals based on performance-based payment have estimated a good quality of work environment; average with 4.6 patients per nurse and a poor working environment, average with 5.3 patients per nurse, the relationship between nurse and patient and physician in good working environments is 69.9%, and the poor working environment is estimated 59.9 percent and the difference was not significant (Kutney Lee et al., 2009). The study showed patients who were hospitalized in a good working environment are more satisfied with health services which are consistent with the results of this study. Research of Rodriguez et al (2009) between 2004 and 2007 showed that the relationship between doctors and their patients in a performance-based payment programs got 0.74 points each year core that it has increased 2.2 percent on average at a total of 4 years (Rodriguez et al., 2009). The results of Chien et al (2012) in New York on the effect of performance-based payment programs to improve the care of diabetic patients showed that attention to the views of patients in participation and decision-making has fallen from 87% to 80% during the second year, which is consistent with the results of this study (Chien et al., 2012). Study of Border et al (2005) in Texas which was associated with patients' participation and decision-making (with the confidence interval of 95% and OR= 0.82) and had less pain is significantly inconsistent with the results (Borders et al., 2005).

Study of Street et al (1997) in examining the patients' authority about participation and making decisions in treatment of breast cancer showed that 85% of patients who had collaborated with the service provider in treatment and decisions in comparison with patients who did not participate in partnership and decisions returned to their normal health condition after 12 months of the assessment of quality of life (Street & Voigt, 1997). Lindenauer and Remus study (2007), which was about the comparison of Shahed hospital and control with performance-based payment showed that continuity of care in diseases of acute myocardial infarction, heart failure, pneumonia was recovered from 1.4% to 5 .2% within 2 years; thus they are not consistent with study results (Lindenauer et al., 2007). The results of the study of Serumag et al (2011) about examining the impact of performance-based payment on the surveillance of blood pressure in 7 years including frequency of treatment, medication monitoring, blood pressure percentiles, and high levels of blood pressure control and clinical outcomes (prevalence, incidence, and mortality) showed that significant changes had been observed in blood pressure percentiles of 5, 25.75, 95 before the implementation of performance-based payment programs and blood pressure reduction was 0.04 every month respectively. There has been made no changes in blood pleasure after the application of the program. Moreover, the cumulative incidence of clinical outcomes at the end of the program was increased linearly which is inconsistent with findings of study (Serumag et al., 2011). Study of Rodriguez et al (2009) between 2004 and 2007 showed that the coordination of medical care from patients in the performance-based payment programs has been improved over four year and the difference is significant,

which is consistent with the research (Rodriguez et al., 2009). Results of the study of Lindenauer and Remus (2007), which was about the comparison of Shahed hospital and control with performance-based payment, showed that the waiting time for patients to receive services has dropped from 35 minutes to 15 minutes so the patients satisfaction also increased from 52 percent to 80 percent, which is consistent with the results of this study (Lindenauer et al., 2007). Study results of Lindenauer and Remus (2007) investigating the effects of drug and prescribing drug within two years of examining Shahed hospitals and control performance-based payment programs showed that in acute myocardial infarction, the mean (aspirin and beta-blockers at discharge, and upon arrival) has risen from 2 to 5.94, in the heart failure, the mean has risen from 5.8 to 9.53 and in pneumonia measures, the mean has risen from 9.4 to 14.46 (Lindenauer et al., 2007). The research of Sutton et al (2012) in the UK showed that 18 months before and 18 months after implementing performance-based payment, the rate of deaths caused by Pneumonia and insufficiency of acute myocardial in northwest England has been dropped from 21.9% to 20.1% and it has been dropped from 20.3% to 19.3% in rest of the United Kingdom that was greater in the Pacific Northwest in comparison with other parts (Sutton et al., 2012). The results of this research with the study of Campbell et al (2008) and qualitative research were examined with participating 22 doctors, 21 nurses and 41 families and also they examined four important dimensions of performance-based payment programs including counseling, monitoring performance and competition that were reinforced about increasing the role of nurses in the prevention and educating patients about services and chronic disease management. Furthermore, it has shown increasing of the continuity of care from doctors which is consistent with the research (Campbell et al., 2008).

Yang Chen et al research (2011) which examines the impact of performance-based payment programs on improving cardiovascular disease between the years 2000 to 2006 in a sample of 16341 patients selecting after removing 2130 patients who were treated and had inclusion criteria showed that the quality of care with monitoring fat and treatment on the quality of the results of care prevention (new events of coronary disease, hospitalization and blood lipid control) has a positive impact and it is associated with 15 percent reduction in the likelihood of coronary heart disease, hospitalization and improved blood lipid control (Judy Ying Chen et al., 2011). Research of Rodriguez et al (2009) between 2004 and 2007 showed that patients' access to care based on payment programs has improved over four years and it got 0.32 points every year, and the difference was significant in this study which is consistent with the research (Rodriguez et al., 2009).

Findings of Alshamsan et al (2010) in the United Kingdom with a review of performance-based pay inequalities in health was often studied the social inequality and economic situation. Age, gender and ethnic inequality was less studied. There was a weak evidence of disparities in the utilization of financial incentives in the management of chronic illness in two groups of social and economic. Disparities in chronic disease management among age, sex and ethnic groups was still continued after using these incentives that is inconsistent with the results of this study (Alshamsan et al., 2010).

Research of Bernacki et al (2012) in relation to patients' access to palliative care patients in two hospitals based on the studied performance-based payment programs is the indicator of increasing the improvements in access to palliative care patients from 15 percent to 48 percent at one hospital and 16 percent to 48 percent at another hospital that the results of this study are consistent (Bernacki et al., 2012). Study of Lee et al (2009) on implementing performance-based payment programs shoed that trust among recipients of health services also increases with increasing communication between health care provider and the patient. This is consistent with the study (Kutney Lee et al., 2009). The results of Murphy et al (2001) in relation to the quality of the relationship between patient and physician during four years, including the assessment of the quality of primary care in 4 dimensions of communication, interpersonal therapy, confidence and knowledge to improve patient showed a significant reduction in the duration of the trust, association, and individual treatment and the access increased that is inconsistent with this research (Murphy et al., 2001).

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