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The Relationship between Efficiency and Effectiveness among Staff of Zahedan University of Medical Sciences

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ABSTRACT

This study aimed to investigate the relationship between efficiency and effectiveness among administrative staff of Zahedan University of Medical Sciences. The population consisted of 360 people. Based on Morgan table, 185 people were randomly selected as the study's samples. To collect data, two researcher-made questionnaires were used: the 23-item Efficacy Questionnaire and the 27-item Effectiveness Questionnaire. After reviewing the items, a group of professors and experts confirmed face validity and content validity of both questionnaires. To determine the reliability of the questionnaires, they were distributed among 30 people out of the whole samples and Cronbach's alphas of 0.91 and 0.90 were determined using the SPSS software. To determine the relationship between efficiency and effectiveness of staff of Zahedan University of Medical Sciences, Pearson Correlation test was conducted and a significant relationship was found. There was also a significant relationship between efficiency and effectiveness in terms of education level; however, the results showed no significant relationship between the mentioned variables in terms of gender, marital status, age and years of service.

Keywords efficiency, effectiveness, administrative staff

INTRODUCTION

Statement of the problem

Today, education and development of human resources are considered one of the major strategies for positive adaptation to changing conditions and an institutional competitive advantage. The effectiveness of an institution is largely dependent on the level of knowledge and skills of its employees and higher levels of institutional knowledge leads to higher levels of adaption to the changing conditions (Sam Khanian, 2005).

In any organization, the first consideration is to survive and then to be efficient and effective. Organizational survival depends on the dynamism of interactions between internal and external environments. Management is the process of resolving issues related to the achievement of organizational goals in a changing environment through an appropriate use of available resources (Irannejad & Parizi, 2003).

Paying attention to human resources, as the biggest and the most important organizational assets, is a phenomenon that has become worldwide in the last two decades. Today, with the growing access to information and the complexity of professional practices, staff training has become an important issue. Toffler (1993) believed that

education is the most important way to deal with changes in the future. Effective training enables people to grow and achieve their goals more efficiently. If people are provided with effective in-service trainings, they can improve their job-related knowledge and then give better ideas regarding their responsibilities (Al-Hoseini, 2000).

Efficiency is the ratio of performance (unit) to the costs incurred to achieve it. Therefore, managers can increase their employees' efficiency by providing them with rich in-service training programs. Appropriate training programs can be identified by using work measurement techniques. In fact, organizational activities are divided into sub-activities in the process of work measurement and then areas of weakness will be identified and eliminated through appropriate trainings (Rezaeian, 2007). Organizational effectiveness can be defined as the degree or extent of an organization's goal achievement which is dependent on its employees' intellectual and practical capabilities. Accordingly, organizational members need to be aware of organizational responsibilities, objectives and expectations in order to be effective. It is obvious that this awareness can only be obtained through appropriate education.

Much research has been done on the concept of effectiveness. Effectiveness in the dictionary has been defined as 'effect size' that usually means the degree to which an organization is successful in producing a desired result (Alvani, 1998). The first and the most simplistic view on the concept of effectiveness was provided in 1950s. In that view, effectiveness was defined as the extent of an organization's goal achievement (Robins, 1998). Alvarez and colleagues (2004) defined training effectiveness as "the study of the individual, training and organizational characteristics that influences the training process before, during and after training".

After many years of experience, the world has come to the conclusion that an organization needs skilled human resources for not falling behind in the business competition. Today, organizations must be managed in a competitive environment with amazing transformations. In such a condition, managers do not have much time to control their employees because they have to spend most of their time and energy to the identification of internal and external sources; thus, they have to delegate everyday tasks to their staff. However, employees can handle their responsibilities only by having necessary knowledge and skills to do so (Fitzsimons, et al., 2003).

Due to the existence of a direct association between Iranian medical universities and training of skilled human resources in the field of health care, these universities are among the most important areas of sustainable development in the country. This association can be strengthened only by the availability of healthy, knowledgeable and highly motivated educators in medical universities. These educators consist of faculty members, staff and students whose efficient performance leads to increased life expectancy and awareness of people. In line with the country's development program, these issues have slightly attracted the attention of authorities in recent years. Nonetheless, due to geographical dispersion and lack of facilities and skilled human resources, the mentioned issues have still been neglected in many parts of the country, especially in deprived regions including Sistan and Baluchistan Province. On the other hand, the development of educational institutions, including universities of medical sciences, depends on the effectiveness and efficacy of their employees. Effective tools to increase the effectiveness and efficiency of staff and optimize their capacities are in line with the overall goal of these universities which is the development of efficient and effective human resources. Therefore, in order to achieve this goal, factors affecting staff efficiency and effectiveness must be identified first and then their effect size must be determined.

Considering the availability of skilled human resources including staff and faculty members of Zahedan University of Medical Sciences, this university can play an important role in increasing its staff efficiency and effectiveness and reducing various diseases in the region and neighboring countries (Afghanistan and Pakistan). Thus, due to the importance of the mentioned issues and personal interest of the researcher, he tried to identify factors affecting efficiency and effectiveness of staff in Zahedan University of Medical Sciences in order to provide practical and scientific suggestions for the improvement of Iran health system.

In examining the impacts of human resources' innovative performances on organizational productivity, Mack Dafi (1995) used four indicators of employment, payment, promotion barriers and education to show human resources' innovative performances. He found that the integration of human resources' practices is significantly associated with organizational productivity. In a similar study, Yechnewski and colleagues (1997) examined the impacts of innovative performances on productivity. However, they used different indicators including incentive payments, recruitment and selection, teamwork, flexible work practices, ensuring employment, communication and education

to show innovative performances. They concluded that compared to traditional approaches such as the availability of a limited number of jobs, inflexible work practices, payment on an hourly basis and careful monitoring, their examined innovative practices lead to higher levels of productivity. Using four dimensions of human resources management (i.e. recruitment, education, performance assessment and payment), Youndt and colleagues (1994) showed that the system of human resources management is directly related to dimensions of performance. Although previous studies have mainly focused on the impacts of human resources management practices on organizational outcomes, few studies have examined the impacts of human resources' practices on knowledge management and innovation performance. Lepak and Snell (1998) have done a similar classification termed operational, interactive and revolutionary human resources management. The operational human resources management includes the main activities in the field of executive human resources (e.g. payment management and employees' information management). The interactive human resources management is mostly involved in human resources' advanced activities. Instead of focusing on executive issues, the interactive human resources management focuses on human resources tools that support business processes (e.g. selecting of new employees, education, evaluation, performance management and rewards) (Armstrong, 2002). Finally, the revolutionary human resources management includes strategic human resources activities.

Authorities, planners and experts in the field of human resources management always try to answer the question 'what factors are effective in the efficiency and effectiveness of employees in an organization?'

Accordingly, in the present study, it was tried to identify factors affecting efficiency and effectiveness of staff in Zahedan University of Medical Sciences. Therefore, after reviewing the related literature, 9 factors (regardless of either positive or negative impact on efficiency and effectiveness) were identified: effectiveness components including staff understanding of organizational goals and policies, workplace health, decentralization, organizational communications, wages and salaries and efficiency components including in-service training, occupational stress, workplace mental health and motivational factors.

Research hypotheses

- ❖ There is a significant relationship between efficiency and effectiveness among staff of Zahedan University of Medical Sciences.
- ❖ There are significant relationships between effectiveness and efficiency components (occupational stress, in-service training, motivational factors and workplace mental health) among staff of Zahedan University of Medical Sciences.

MATERIAL AND METHODS

The population in the present correlational study consisted of all administrative staff of Zahedan University of Medical Sciences in the year 2014. Out of the whole population, 185 people (based on Morgan table) were randomly selected as the study's samples. Data were collected using two researcher-made questionnaires (the 23-item Efficiency Questionnaire and the 27-item Effectiveness Questionnaire). Both questionnaires were scored on a 5-point Likert scale. Face validity and content validity of both questionnaires were confirmed by a panel of experts and professors. Cronbach's alphas of the Efficiency Questionnaire and the Effectiveness Questionnaire were 0.91 and 0.90 respectively.

This research has approved by Council of Research affiliated to Islamic Azad University, Zahedan Branch. Iran.

RESULTS

According to the results, %26 of the participants aged below 30 years old, %41 between 31 and 40 years old, %33 and %33 above 41 years old; %31.4 of them had between 5 and 10 years job experience, %20 between 11 and 15 years, %26.5 between 16 and 20 years and %9.7 had more than 26 years of job experience.

❖ There is a significant relationship between efficiency and effectiveness of staff of Zahedan University of Medical Sciences.

To determine the relationship between efficiency and effectiveness, Pearson correlation test was conducted. The results are presented in table (1).

Table 1. Pearson correlation test results for the relationship between efficiency and effectiveness

Source	Frequency	r	Sig.
Efficiency and effectiveness	185	0.41	0.027

As indicated in table (1), there was a significant relationship between the two examined variable ($r=0.41$; $p<0.05$). Thus, the first hypothesis of the present study regarding the existence of a significant relationship between efficiency and effectiveness of staff in Zahedan University of Medical Sciences was confirmed.

❖ **There are significant relationships between effectiveness and efficiency components (occupational stress, in-service training, motivational factors and workplace mental health) among staff of Zahedan University of Medical Sciences.**

A multiple regression analysis was conducted to answer the second hypothesis of the present study. The results are presented in table (2).

Table 2. Multiple regression test results for determining predictive power of each efficiency component

Pattern	Efficiency components	Non-standardized coefficients		Standardized coefficient (beta)	T	Sig.
		Beta	Standard error			
Simultaneous regression	Constant value	108.30	0.225 5.752	-	18.828	0.000
	Occupational stress	0.73	0.069	0.048	0.568	0.040
	In service training	0.115	0.111	0.078	1.031	0.031
	Motivational factors	0.134	0.133	0.107	1.012	0.313
	Workplace mental health	-0.043	0.157	-0.027	-0.27	0.048

As shown in table (2), there was a significant relationship between effectiveness and occupational stress ($t=0.568$; $p<0.05$); thus, occupational stress can predict staff effectiveness. There were also significant relationships between effectiveness and in-service training ($t=1.031$; $p<0.05$) and between effectiveness and workplace mental health ($t=-0.27$; $p<0.05$); thus, the two efficiency components of in-service training and workplace mental health can predict staff effectiveness as well. Therefore, the second hypothesis of the present study regarding the existence of significant relationships between effectiveness and efficiency components of staff of Zahedan University of Medical Sciences was confirmed excepts for the component of motivational factors.

DISCUSSION

Regarding the first hypothesis of the present study, the results showed a significant relationship between effectiveness and efficiency among staff of Zahedan University of Medical Sciences ($r=0.41$; $p<0.05$). The obtained correlation coefficient of $r=0.41$ indicated an average correlation between the two variables. Moreover, the obtained coefficient of determination showed that almost %17 of the variance in effectiveness scores can be predicted by efficiency scores. These results indicated a significant relationship between the examined staff effectiveness and their efficiency. This finding was in line with results of other studies including Hoseinimehr (2005), Rezazadeh and colleagues (2011), Karnama (1990), Ebadi (1990), Hadi and Asian (2002), Alvarez and colleagues (2004) and Winfred and colleagues (2003). As mentioned, this finding was in line with results of a study conducted by Hoseinimehr ("factors affecting efficiency and productivity in government organizations"; 2005). In this study, he examined the effects of work-related pressures on employees' productivity and found that increasing work-related pressures and job dissatisfaction along with lack of delegations, incentives and conducive environments can lead to increased costs and employees' inefficiency. As results of this study indicated it seems that components of efficiency such as delegation, identification of goals and policies, wages and benefits, quality of activities, workplace equipment and facilities, relationships between employees and managers, workplace mental health, occupational stress, in-service trainings and motivational factors influence the effectiveness of staff in Zahedan University of Medical Sciences.

Regarding the second hypothesis of the present study, the results showed that there is a significant relationship between effectiveness and occupational stress ($t=0.586$; $p<0.05$) indicating that the component of occupational stress can predict staff effectiveness. There were also significant relationships between effectiveness and in-service

trainings ($t=1.031$; $p<0.05$) and between effectiveness and workplace mental health ($t=-0.27$; $p<0.05$); thus, the two efficiency components of in-service training and workplace mental health can predict staff effectiveness as well. The results showed that organizational effectiveness or the achievement of organizational goals can be affected by the level of employees' occupational stress. Theories in the field of industrial and organizational psychology highlight the effects of occupational stress on employees' personal and organizational life. In the same way, the results of this study showed a significant relationship between occupational stress, as a component of efficiency, and effectiveness of staff in Zahedan University of Medical Sciences. This finding was consistent with results of other studies conducted by Hoseinimehr (2005), Rezazadeh and colleagues (2011), Karnama (1990), Ebadi (1990), Hadi and Asian (2002), Alvarez and colleagues (2004) and Winfred and colleagues (2003). As stated, this finding was in line with results of a study conducted by Rezazadeh and colleagues (2011). They examined the effects of in-service trainings on efficiency of staff in Islamic Azad University South Tehran Branch based on the Kirkpatrick Model and found that in-service trainings significantly affect staff efficiency ($p<0.01$). Karnama (1990) also examined the effects of job training programs on enhancing staff efficiency and found that when an organization's employees lack information regarding organizational general affairs and policies or specialized job-related issues, they cannot help their organization achieve its goals. Ebadi (1990) assessed the effectiveness of briefing courses and in-service training programs held for coaches of educational affairs and concluded that the courses are quite effective and that they can be even more effective if no certificate of completion is awarded to the participants. In a study entitled "the effects of in-service trainings on efficiency of teachers in the city of Torbat-e-Jam", Hadi and Asian (2002) found that the ability to solve students' educational problems is higher in teachers who have participated in in-service training programs compared to those who have not. Moreover, they specified that the rate of students' academic failure is lower in classes whose teachers have experienced in-service training courses. They concluded that by participating in in-service training programs, teachers become able to better manage their classes, cooperate with other coworkers and improve their efficiency. The results of this study indicated that among the components of efficiency, in-service training and motivational factors have respectively the highest and the lowest impacts on staff effectiveness while components of occupational stress and workplace mental health have the second and the third highest impacts on staff effectiveness. Therefore, employees' efficiency has a positive significant relationship with their effectiveness and higher levels of efficiency lead to higher levels of effectiveness. In other words, employees' effectiveness is significantly affected by their efficiency.

According to the results of this study, the following recommendations were made:

- ✓ As stated, occupational stress negatively affects staff efficiency; therefore, managers are supposed to provide required program through which their staff become able to tolerate sudden changes. In order to rebuild efficient universities, their future prospects must be adequately considered in a way that their future structures become partly predictable. Nonetheless, rapid environmental changes in the current situation have made it difficult to predict the future; thus, it is very important to create peaceful environments that can be modified in changing environmental conditions.
- ✓ Given that in-service training is an important component of staff efficiency, the ideal atmosphere prevailing in universities must be based on teaching and learning philosophies. However, universities' moods are highly affected by their managers' and decision-makers' views; therefore, they are recommended to hold training courses and seminars since the first step toward change is to gain knowledge and knowledge can be obtained through appropriate education.
- ✓ Since the efficiency component of workplace mental health is an important factor in staff effectiveness, university managers are highly recommended to delegate more responsibilities to their employees, so that employees can show their talents and use their innovation. As a result, innovative approaches will be created in work environments and mental health of employees will be strengthened.

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