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## Investigating Awareness and Attitudes Levels of Managers and Staff Members In Terms of Establishing Total Quality Management.

Farahnaz Jahangir<sup>1</sup>, Hoosein Akbari<sup>2</sup>, Shima Jahangir<sup>3</sup>, Mohammad Aghajani<sup>4\*</sup>, and Malihe Sadat Nezam Taheri<sup>5</sup>.

<sup>1</sup>MSN in Management, Kashan University of Medical Sciences, Kashan, Iran.

<sup>2</sup>Phd, Department of Statistics, Kashan University of Medical Sciences, Kashan, Iran.

<sup>3</sup>MSN, Trauma Nursing Research center, Kashan University of Medical Sciences, Kashan, Iran.

<sup>4</sup>MSN in Nursing, , Kashan University of Medical Sciences, Kashan, Iran.

<sup>5</sup>Medical Student of Tehran Medical Azad University, Iran.

### ABSTRACT

Health care practices have always been emphasized due to the commitment and the sort of services provided for the public. Therefore, improving the quality of health care practices can guarantee the health of everyone paying insurance premiums and compensate the high expenses of the services. The aim of this study was investigating awareness and attitudes levels of managers and staff members in terms of establishing Total Quality Management. This was a descriptive study to investigate the levels of awareness and attitudes among Kashan University of medical sciences managers and staff members. Out of 1004 staff members and 100 managers, 120 staff members and 41 managers were selected randomly using the list provided by the personnel department of the university. A questionnaire was devised regarding the levels of awareness and attitudes among the managers and staff members in terms of establishing Total Quality Management. Then, they completed the questionnaire. After collecting the data, it was analyzed statistically. In the study, 120 staff members and 41 managers were investigated in terms of the educational levels. The candidates were categorized into two groups, staff members and managers. Among the first group, 85 (70.8%) had BA, 21 (17.5%) Associate's degree, 8 (6.7%) M.A. and the rest had high school diploma. Also in terms of work place, in this group 85 (70.8%) worked in medical services and 22 (18.3%) in personnel office department. 43 (35.8%) passed TQM course. 93 (77.5%) were female and the rest were male. Among the second group, 28 (68.3%) were female and 24 (58.5%) passed the course. Also 26 (63.4%) were in the medical services. The results demonstrated that the levels of awareness and attitudes regarding establishment of TQM among the staff members and managers were not favorable and it was far from the goal. But some staff members and managers have wide and positive insight in this regard and also some staff members with higher educational level or some managers having long time years of service believed that the most powerful strategy to cope with the obstacles in health care practices was to implement TQM.

**Keywords:** Total Quality Management, awareness, attitudes

*\*Corresponding author*

## INTRODUCTION

Given the significance of the services provided by the health care practices having a key role in man's health, the health care providers have increasing concern about providing and maintaining the high quality services [1,2]. Due to increasing insurance premium and the high expenses of health care services imposed on the shoulder of the public, the higher expectations from the providers including hospitals and health care practitioners because of the increased awareness of the public on one hand; the huge financial investment to utilize novel medical technologies, and also to employ professional expertise on the other hand can increase the expenses of the services. Therefore, the managers encounter some obstacles that the elimination necessitates adopting appropriate decisions. It is expected that the managers utilize the latest developments and execute some innovations yielding favorable results such as providing high quality and efficient health care services accompanied by reducing the insurance premium. One of the valuable innovations that may overcome the obstacle is TQM which was firstly used in industry but nowadays it has been widely used in modern health care practices [3,4]. The key elements having prominent role in the success of an organization can include the experience, knowledge of staff members and managers, productivity, and especially the quality of the provided services [5,6].

Deming was the celebrated American researcher investigated on TQM. He believed the higher the quality, the more the price of a product. He also propounded that a manager had to find and solve his weakness before it could cause problems. In a study carried out by AbolfathLameii concerning TQM in public organizations, the following obstacles were founded: a) it cannot meet the needs of the service-providing sectors sufficiently, and b) it overemphasizes on the role of managers' commitment. A study conducted by Joseph Joran on TQM demonstrated that the relevant problems were contributed to management defaults which could be prevented by proper planning to augment the quality of the process through supervising the quality of a process. Quality should be regarded as the determining factor being formed and measured based on real experience of customers from the received services in health care centers including hospitals. The quality of health care services motivates the providers in one side to compete with their counterparts in providing the services to their customers and in other side it increases the satisfaction rate of the service takers. Therefore, to establish TQM properly, not only managers' but also staff members' participation will be needed [7]. Unfortunately, there have been limited studies in this literature in Iran. Instead, there have been more discussions about the related theories. Hence, the current study was accomplished to investigate Kashan University of medical sciences (KUMS) managers' and staff members' awareness and attitudes levels concerning establishing TQM.

## MATERIALS AND METHODS

This was a descriptive study fulfilled on KUMS managers and staff members having at least the experience of 1 years of service in 2011. Out of 1004 staff members and 100 managers, 120 staff members and 41 managers were randomly selected using the list of personnel department of the university. A questionnaire was devised and then submitted to the candidates by referring to them. The questionnaire had two sections: relevant to attitudes and to awareness. The first section encompassed three parts: a) the demographic data, b) whether the candidates passed the educational programs on TQM, and c) the attitude- related questions based on the concept of TQM considering Baldrige system having 18 questions designed as five-level Likert scale. The obtainable scale range was 0-90. Using two-half method, the questionnaire investigated 40 cases. The obtained reliability (0.79) was calculated by alpha Crunbach coefficient. Face and content validity were confirmed by 10 authorities. The second section (awareness-related questions) was designed as a self assessment based on MalcomBaldrige criteria having 16 components. Each question could obtain 1-10 score and every person could obtain 16-160 one. The validity of the awareness-related questionnaire in terms of face and content was confirmed by the authorities. The reliability (92%) was investigated by using two-half method. After collecting the data, firstly the awareness-related scores were summed as follows: 70-100 as "good", 70-40 as "moderate", and 40-10 as "weak". Secondly, the attitude-related questions were categorized as follows: more than 80 as "completely agree", 65-80 as "relatively agree", and less than 65 as "disagree". To determine the association between two quality criteria, chi square and one way ANOVA were used.

**FINDINGS**

In the study, 120 and 40 staff members and managers were investigated; respectively. Among staff members, 85 (70.8%), 21 (17.5%), 8 (6.7%) and the rest had BA, Associates' degree, BA, and high school diploma; consecutively. Also, 85 (70.8%) and 22 (18.3%) worked in health care services and administrative jobs; respectively. 43 (35.8%) passed TQM course. 93 (77.5%) were female and the rest was male. Among managers, 28 (68.3%) were female and 24 (58.5%) passed the course. Moreover, 26 (63.4%) were in medical services. The results demonstrated that the staff members having Associates' degree or less had good awareness (22.2%), while those having BA or more had the awareness level 36.6%. Additionally, there were no significant associations among the awareness level, educational degree, the years of service, gender, occupation, educational curriculum, and age (PV= 0.379). Table 1 demonstrated that the mean and standard deviation of awareness in staff members having BA or more and those having Associates' degree or less were 103.8± 27.6 and 98.1± 26.6; respectively. There were no comprehensible differences regarding the awareness of staff members having Associates' degree, years of service, gender, educational curriculum, and age (p >0.3). The mean and SD in administrative staff members and health care practitioners were 91.8± 27.3 and 104± 26.9; respectively. There was significant difference statistically between two groups (p= 0.04). Moreover, the results showed that the mean and SD concerning the awareness of staff members and managers were 102± 27.4 and 92.2± 40.5; consecutively. The findings showed that there was meaningful difference between two groups (p= 0.07). Also, the mean and SD regarding the attitudes of the staff members and managers were 60.04± 7.26 and 73.4± 7.26; respectively.

**Table 1: The prevalence distribution rates and statistical indexes of the level of the staff members' awareness regarding TQM based on background variable**

The variable	The staff members' awareness	weak	Moderate	Good	The test result of P correlation	X±SD Ω	P
	Status						
Degree	Associates' degree or less	7 (25.9)	14 (51.9)	6 (22.2)	0.379	98.1±26.6	0.37
	BA or more	20 (21.5)	39 (41.9)	34 (36.6)		103.8±27.6	
The years' service	<10	12 (17.9)	32 (47.8)	23 (34.3)	0.385	104± 25.5	0.5
	>10	15 (28.3)	21 (39.6)	17 (32.1)		100.6±29.7	
Gender	Male	7 (25.9)	11 (40.7)	9 (33.3)	0.872	100.7± 29.2	0.7
	Female	20 (21.5)	42 (45.2)	31 (33.3)		103±27	
Work field	Administrative	8 (36.4)	9 (40.9)	5 (22.7)	0.194	91.8± 27.3	0.04
	Health care	19 (19.4)	44 (44.9)	35 (35.7)		104.9± 26.96	
Educational curriculum	Yes	12 (27.9)	15 (34.9)	16 (37.2)	0.289	102.39± 28.8	0.97
	No	15 (19.5)	38 (49.4)	24 (31.2)		102.57± 26.7	
Age (years old)	≤ 35	17 (23.6)	31 (43)	24 (33.3)	0.928	101.7± 27.8	0.7
	≥ 35	10 (20.8)	22 (45.8)	16 (33.3)		103.7± 26.9	

**Table 2: The prevalence distribution rates and statistical indexes of the level of the managers' awareness regarding TQM based on background variables**

The variable	The managers' awareness	weak	Moderate	Good	The test result of P correlation	X±SD Ω	P
	Status						
Degree	Associates' degree or less	14(41.2)	15 (44.1)	5(14.7)	0.6	87.7±31.7	0.12
	BA or more	3(42.9)	2(28.6)	2(28.6)		114.1±68.5	
The years' service	<10	7(43.8)	7(43.8)	2(12.5)	0.82	84.8±30.7	0.35
	>10	10 40	10 40	5 20		96.9±45.5	
Gender	Male	5(38.5)	5(38.5)	3(23.1)	0.78	92.1±38.3	0.99
	Female	12(42.9)	12(42.9)	4(14.3)		92.2±42	
Work field	Administrative	5(33.3)	6 40	4(26.7)	0.43	103.3±54.4	0.185
	Health care	12(46.2)	11(42.3)	3(11.5)		85.8±29.01	
Educational curriculum	Yes	10(41.7)	9(37.5)	5(20.8)	0.7	95.7±44.6	0.5
	No	7(41.2)	8(47.1)	2(11.8)		87.2±34.4	
Age (years old)	<35	7(46.7)	640	2(13.3)	0.8	84.3±32.09	0.35
	>35	10(38.5)	11(42.3)	5(19.2)		96.7±44.5	

**Table 3: The prevalence distribution rates and statistical indexes of the staff members' attitude levels regarding TQM based on background variables**

The variable	The staff members' attitude Status	Agreed	partially Agreed	Completely agreed	The test result of P correlation	X±SD Ω	P
Degree	Associates' degree or less	2(7.4)	16(59.3)	9(33.3)	0.172	57.30±7.25	0.025
	BA or more	19(20.4)	55(59.1)	19(20.4)		60.83± 7.1	
The years' service	<10	12(17.9)	36(53.7)	19(28.4)	0.299	60.2± 7.79	0.780
	>10	9	35	9		59.8± 6.59	
Gender	Male	7(25.9)	16(59.3)	4(14.8)	0.287	61.7± 6.9	0.170
	Female	14(15.1)	55(59.1)	24(25.8)		59.5± 7.3	
Work field	Administrative	6(27.3)	14(63.6)	2(9.1)	0.142	61.86± 6.18	0.2
	Health care	15(15.3)	57(58.2)	26(26.5)		59.63± 7.4	
Educational curriculum	Yes	10(23.3)	26(60.5)	7(16.3)	0.257	60.9± 6.48	0.33
	No	11(14.2)	45(58.4)	21(27.3)		59.5± 7.6	
Age (years old)	<35	11(15.3)	38(52.8)	23(31.9)	0.024	59.3± 7.94	0.2
	>35	10(20.8)	33(68.8)	5(10.4)		61.08± 6.02	

**Table 4: The prevalence distribution rates and statistical indexes of the managers' awareness levels regarding TQM based on background variables**

The variable	The managers' attitude Status	Completely agreed	partially Agreed	The test result of P correlation	X±SD Ω	P
Degree	Associates' degree or less	30(88.2)	4(11.8)	0.62	73.1±7.43	0.62
	BA or more	6(88.7)	1(14.3)		74.7±8.2	
The years' service	<10	12	4	0.06	71.6±8.6	0.24
	>10	75	25		74.5±6.6	
Gender	Male	11(84.6)	2(15.4)	0.5	75.8±8.6	0.15
	Female	25(89.3)	3(10.7)		72.2±6.7	
Work field	Administrative	14(93.3)	1(6.7)	0.38	75.5±7.2	0.17
	Health care	22(84.6)	4(15.4)		72.1±7.4	
Educational curriculum	Yes	21(87.5)	3(12.5)	0.66	73.2±6.9	0.9
	No	15(88.2)	2(11.8)		73.5±8.3	
Age (years old)	<35	11(43.3)	4(26.7)	0.05	70.8±8.4	0.09
	>35	25(96.2)	1(3.8)		74.9±6.5	

**DISCUSSION**

As it was discussed, the staff members' awareness level regarding TQM was good (33.3%), while it was 17.1% for the managers. There was significant statistical association between TQM and staff members workplace (p=0.4%), as it was 22.7% and 35.7% for administrative staff members and clinical practitioners; respectively. There were no significant associations regarding other factors such as educational degree, gender, age, years of service, and passed educational curriculum with the level of awareness (p> 0.3). In a study carried out by Taghipoor on investigating the obstacles in implanting TQM in the views of the managers of Tabriz University of medical sciences demonstrated that the lack of sufficient awareness and knowledge were the main problems In this regard. To alleviate the problem, the current drawbacks in TQM concepts, regulations, and principles should be removed and then it should be implemented in a well- organized order in health care centers to provide an encouraging environment for the staff members. Another study accomplished by Raisimadani on the feasibility of utilizing TQM in affiliated hospitals to Isfahan University of medical sciences on 57 mangers in different positions (senior, junior, and administrative) and 35 staff members (health care and administrative) showed that there were discrepancies between the attitudes of the managers and staff members regarding TQM. Because the dominated rules and regulations in the afore-said hospitals were far from TQM'S one year objective, the implementation of TQM would encounter some problems. Therefore, it is recommended that the necessary conditions like conducting educational curriculum for the target groups, optimizing the rules and regulations, and creating the appropriate room for real

compete with other similar institutions be provided [8]. A study fulfilled by Rinanja and Hokvar in Slovenia on reclassifying health care practices to improve the processes such as collecting and the data processing concluded that existing reliable data and harmonizing health care practices with the system's objectives and needs could augment the quality of provided services. They also indicated major measurements paving the way to the goal as classifying the processes, teaching and learning the implementation of systematic rumination, team working, and supporting the proper management strategies which are considered as TQM principles. A study conducted by Tonz et.al. in a surgery ward in the USA in 1995 on applying TQM revealed that in order to implement TQM successfully, some elements should be considered such as incorporating management committee, educating pivotal workforces, providing interactive system, and considering the necessary staff for this purpose. The study demonstrated that TQM and proper management strategies could have successful outcomes. A research carried out by Mansoorian on the relation of TQM with educational collegiate affairs and the satisfaction rate among the Gonabad University students revealed that there was a comprehensible correlation between the obtained TQM scores of service provider centers and the satisfaction rate. The maximum scores belonged to educational affairs department, then to central library, and the minimum ones belonged to dormitory department, and due time of the university loan payment. Another study was performed by Siabani (2003) on trained staff members of Kermanshah University of medical sciences concerning the obstacles facing to increase the quality of the processes using method. In this study, 39 candidates of whom 45.7% and 71.8% had BA or more; respectively, 40.5% had the experience of more than 15 years of service, and 42.7% worked in health care services were studied and 88.5% were fully aware focus-PDCA method being a subjective one that was recommended as an appropriate instrument to improve the processes in the university. 45.5% took part at least in the improvement of one process. There was no meaningful association between the work field with persons' function and knowledge. 45.3% believed that management was as a hinder using focus PDCA. Obviously, the prevalence of staff members' appropriate attitudes regarding TQM was 17.5%, while it was 87.7% among the managers. There were significant correlations between managers' and staff members' regarding TQM in terms of age (P value= 0.024, and 0.05; respectively) so that the values for the staff members below the age 35 years of old and over 35 were 31.9% and 10.4%, namely fully agreed. Additionally, there was meaningful association between the managers' attitudes concerning TQM in terms of years of service (PV= 0.06), but there was no meaningful relation concerning staff members' attitudes so that 96% of managers were completely agreed with TQM, while only 17% of staff members were agreed. Also, there were no comprehensible associations in terms of other factors such as educational degree, age, gender, whether to pass or not to pass TQM curriculum. Moreover, there were no meaningful associations between staff members' attitude scores in terms of background factors but age (PV> 0.1). There was meaningful association concerning staff members' educational degrees and attitudes scores about TQM (PV= 0.02), while there were no significant associations among managers concerning background factors except age (PV> 0.1). A study conducted by Madani in Isfahan University affiliated hospitals concerning the feasibility of implanting TQM showed that the attitudes of the managers and staff members were far from the goal and the rules and regulations applied in this setting were incompatible with TQM concept. Another study accomplished by Hassin and coworkers in Swang private hospital, Thailand; on investigating the statistical rate of clients' satisfaction regarding high quality health care services demonstrated that although the hospital provided favorable services, it had to improve the quality of them using TQM. To achieve the goal, the hospitals had to apply the following parameters: a) some changes should have been taken place in staff members' attitudes to obtain clients' satisfaction, b) in modern terminology; omitting obsolete processes and substituting with new ones, and also executing reliable encoding system could improve the clients' satisfaction. A study conducted by Paul David in his thesis, "effective management strategy for executing TQM" in a university in Missouri emphasized more on the role of the managers than on the staff members. It also investigated the correlations between the management strategies and the ways of implanting TQM which ultimately it found there were various relations in this regard [9].

The study demonstrated that there was no favorable condition in terms of the levels of attitudes and awareness among the managers and staff members of Kashan University of medical sciences regarding implanting TQM which is far from the goal. Indeed, some departments having wide insight to TQM could facilitate implanting the goal with more positive attitudes. Moreover, those staff members having higher educational degrees or those managers having the higher experience of years of service had more positive attitudes in this regard because they were completely aware of the problems on the way of providing health care services and they believed that implanting TQM would be the best solution to resolve the problems.

## CONCLUSION

Implanting TQM is necessary to improve the quality of the services provided by the university. But what to be more important is to consider the goal and the philosophy of the implantation. On the other hand, if the senior managers do not support the goal, not only improvement in the clients' satisfaction rate will not be occurred but also the high financial expenses will be imposed on the university budgets and the process will be time consuming. Finally, the managers should bear in mind that the staff members are the most worthwhile assets of the university which their participations are necessary in implanting TQM. Hence, the managers and staff members should have sufficient awareness and attitudes on the principles of TQM to implant and execute it successfully.

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