Evaluation of Quality Level in Health Sector: Which is the Relation to Demographic and Work Factors in Health Professionals?

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Abstract

The aim of the present study is to investigate the quality level in health sector as well as the relation to demographic and work factors in health professionals. The research involved 99 people (11 men and 88 women) with an average age of 44.00±7.55 years of life and with a seniority of 19.29±9.01 years. The SERVQUAL scale was used. The results showed no statistically significant associations of satisfaction and efficiency among health professionals with demographic and work factors (p>0.05). More studies must be conducted in the context of investigation of the above variables.

Keywords: quality; health sector; health professionals; demographic and work factors

Introduction

The structural blocks of a health service delivery system are the basics data and features used to implement any evaluation program of the services offered by it. An important tool for measuring the quality of health services are criteria. By using the criteria, the desired level of service quality is determined and standards are defined, against which the work provided is compared and evaluated. The approach of Donabedian [1], introduces the classification of criteria into three groups.

- Structural Criteria used to measure the structure of services. With their use evaluates the quality of logistical infrastructure and human resources. The structural criteria include the number of beds, available equipment, the number and composition of human resources, funding etc. These criteria are easily measurable but not in themselves are sufficient to evaluate the quality of the services provided.
- Process Criteria for evaluating production and supply processes health services. By using them, the degree of responsiveness is determined services in providing care.
- Results Criteria. The criteria are used to evaluate it result of the services provided. Their use evaluates care health depending on the result, short-term or long-term, the improvement, stabilization or deterioration of one's health condition patient.

Especially for the provision of services in the Hospital sector the use of the criteria aims to assess the quality associated [2] with:

- The level of professionalism from the medical, nursing and paramedical staff
- The efficiency in the use of available resources.
- The reduction of risks for patients, whether they concern healthcare, either hospital-acquired infections or surgical procedures.
- The patient's satisfaction with the health care and treatment provided.
- The final effect on the patient's health level through the application integrated health care, education and health promotion programs.

Measuring Job Satisfaction

Two strong imperatives for health care managers are to reduce cost of services provided and attraction and retention in particular committed and capable of caring for and supporting sick workers. From the one side, many of the factors that help an organization to recruit, satisfaction, and retention of the best professionals can be considered as incompatible with cost containment. Among these factors are superior pay and benefits, a supportive work environment, and the programs for the development and empowerment of employees, which may they are time-consuming, difficult to implement, or costly [3].

On the other hand, programs that improve the quality of working life of employees and increase their engagement when they connect with the right ones incentive mechanisms and structural designs, can increase the

incentives, to reduce organizational turbulence, as well as to improve it economic [4].

Key factors shaping the job satisfaction of employees in health services are the financial rewards, the work environment, the feeling of its autonomy and security, respect, recognition, educational opportunities, etc. The job satisfaction is measured with special questionnaires, which include questions and weighted scales [5].

The aim of the present study is to investigate the quality level in health sector as well as the relation to demographic and work factors in health professionals.

Method

This is a quantitative cross-sectional study including the dependent variable of quality and the evaluation from health professionals. The independent factors are the sociodemographic as well as the work variables.

The research involved 99 people (11 men and 88 women) with an average age of 44.00±7.55 years of life and with a seniority of 19.29±9.01 years. The majority of them were married (68.7%), 27.3% were single while 3.0% were divorced. The inclusion criteria of the sample were >18 years old, working at least 1 year in public hospitals, speaking the Greek language and having a good perceived ability.

The SERVQUAL scale has been used in numerous studies of the service sector health care but reflecting the users' point of view services for their quality [6-10]. The literature search to explore the views of professionals' health for internal quality issues has not identified similar studies. This finding strengthens the opinion that the internal quality of services has not been sufficiently studied and is one new and particularly interesting

research field (11). Based on the logic that the techniques and methods used for them external customers can also be applied to internal customers [12,13] several researchers focused efforts them in the modification of SERVQUAL to measure the internal quality at services [14,15]. According to the findings of Kang et al. [16] and Reynoso and Moore [17], the SERVQUAL scale can used to investigate internal quality in services.

In the present research, this scale was used and with appropriate vocabulary modifications of the Quality-of-Service Questionnaire [18] were created 22 variables presented above for the evaluation of the internal quality by the managers of the clinical departments on a 7-point Likert scale (I strongly disagree – I strongly agree).

All the participants were informed about the aim of the study as well as the right to discontinue their participation at any moment. The statistical analysis was performed using the SPSS statistical package.

Results

The research involved 99 people (11 men and 88 women) with an average age of 44.00±7.55 years of life and with a seniority of 19.29±9.01 years. The majority of them were married (68.7%), 27.3% were single while 3.0% were divorced. Regarding their educational level, 19 people had two years of study while 48 had a degree from university/technological education (higher education). Thirty-two individuals held master's/doctorate degrees. Regarding the position they held, 62 people were nursing staff, 24 people belonged to the medical staff, 11 people were midwives and only 2 people had a position of responsibility (supervisors).

n		99
gender		
(males) n (%)	11	11,1
(females) n (%)	88	88,9
education		
two-year course of study n (%)	19	19,2
university/technological n (%)	48	48,5
master n (%)	30	30,3
Ph.D. n (%)	2	2,0
marital status		
single n (%)	27	27,3
married n (%)	68	68,7
divorced n (%)	3	3,0
position		
medical staffn (%)	24	24,2
having position of responsibility n (%)	2	2,0
nursing staff n (%)	62	62,6
midwives/midwives n (%)	11	11,1

Table 1: Demographic and work characteristics of the participant

Below, the results of the study are analyzed.

	N	Lower value	Higher value	Mean	Standard deviation
Tangible evidence	97	4,00	28,00	15,6907	4,82692
Reliability	95	7,00	39,00	19,0632	7,61691
Connection	98	2,00	12,00	5,3878	2,39687
Ensure	97	3,00	19,00	8,6082	3,50760
Empathy	96	6,00	34,00	17,6563	6,72439
Total	91	24,00	107,00	65,5165	20,91324

Table 2: Descriptive data of questionnaire dimensions

In the table above, the descriptive elements of the five dimensions of the questionnaire are presented. In particular, the average of tangibles reached 15.69, reliability reached 19.06, responsiveness reached 5.38, assurance reached 8.60 and the dimension of empathy reached 17.65.

In table 3, the descriptive data of all the questionnaire items are presented.

	N	Lower value	Higher value	Meam	Standard deviation
Question 1	98	1,00	7,00	3,1837	1,50837
Question 2	98	1,00	7,00	3,6224	1,54996
Question 3	98	1,00	7,00	5,3673	1,38018
Question 4	97	1,00	7,00	3,5773	1,54674
Question 5	98	1,00	6,00	2,6633	1,25955
Question 6	97	1,00	6,00	2,8144	1,27745
Question 7	98	1,00	5,00	2,2653	1,18887
Question 8	98	1,00	5,00	2,4082	1,20853
Question 9	98	1,00	6,00	3,0408	1,37667
Question10	98	1,00	7,00	2,9694	1,48847
Question11	96	1,00	6,00	2,8646	1,25337
Question 12	98	1,00	6,00	2,6429	1,29432
Question 13	98	1,00	6,00	2,7449	1,22105
Question 14	98	1,00	6,00	2,7245	1,29854
Question 15	98	1,00	7,00	2,7041	1,35623
Question 16	97	1,00	6,00	3,2062	1,28240
Question 17	97	1,00	6,00	3,0000	1,25000
Question 18	98	1,00	6,00	2,5306	1,37131
Question 19	98	1,00	7,00	2,8265	1,32405
Question 20	97	1,00	7,00	3,7216	1,50515
Question 21	97	1,00	7,00	3,1340	1,44791
Question 22	97	1,00	7,00	2,7216	1,31293

Table 3: Descriptive data of all questionnaire items

In addition, it should be emphasized that the tool used in this research showed very good reliability, demonstrating a Cronbach a of 0.805. In table 4, the degree of reliability in all dimensions is presented.

	Cronbach's Alpha if Item Deleted
Tangible evidence	,800
Reliability	,719
Connection	,801
Ensure	,782
Empathy	,731
Total	,856

Table 4: Instrument reliability

Regarding sample normality, the Kolmogorov-Smirnov test was performed. The results presented in the table below showed that in the dimensions of tangible elements and empathy, respectively, as well as in the total score of the questionnaire, their values were normal ($p>0.05$) in contrast to the values of the remaining dimensions that were not normal ($p<0.05$).

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Tangible evidence	,075	91	,200*	,985	91	,365
Reliability	,113	91	,006	,958	91	,005
Connection	,123	91	,002	,941	91	,000
Ensure	,108	91	,010	,955	91	,003
Empathy	,085	91	,120	,977	91	,104
Total	,090	91	,065	,977	91	,110
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						

Table 5: Sample normality

However, based on the central limit theorem, according to which a sample of more than 30 individuals is large, parametric tests were performed as part of the statistical analysis.

		Tangible evidence	Reliability	Connection	Ensure	Empathy	Total	Seniority
Tangible evidence	Pearson Correlation	1	,442**	,376**	,341**	,406**	,591**	,109
	Sig. (2-tailed)		,000	,000	,001	,000	,000	,302
	N	97	94	97	96	95	91	91
Reliability	Pearson Correlation	,442**	1	,835**	,865**	,812**	,936**	,092
	Sig. (2-tailed)	,000		,000	,000	,000	,000	,393
	N	94	95	95	94	93	91	89
Connection	Pearson Correlation	,376**	,835**	1	,833**	,766**	,856**	,052
	Sig. (2-tailed)	,000	,000		,000	,000	,000	,619
	N	97	95	98	97	96	91	92
Ensure	Pearson Correlation	,341**	,865**	,833**	1	,878**	,902**	-,029
	Sig. (2-tailed)	,001	,000	,000		,000	,000	,782
	N	96	94	97	97	95	91	92
Empathy	Pearson Correlation	,406**	,812**	,766**	,878**	1	,928**	-,058
	Sig. (2-tailed)	,000	,000	,000	,000		,000	,589
	N	95	93	96	95	96	91	90
Total	Pearson Correlation	,591**	,936**	,856**	,902**	,928**	1	,037
	Sig. (2-tailed)	,000	,000	,000	,000	,000		,733
	N	91	91	91	91	91	91	86
Seniority	Pearson Correlation	,109	,092	,052	-,029	-,058	,037	1
	Sig. (2-tailed)	,302	,393	,619	,782	,589	,733	
	N	91	89	92	92	90	86	93

**. Correlation is significant at the 0.01 level (2-tailed).

Table 6: Correlation of age to satisfaction and efficiency

		Tangible evidence	Reliability	Connection	Ensure	Empathy	Total	Seniority
Tangible evidence	Pearson Correlation	1	,442**	,376**	,341**	,406**	,591**	,109
	Sig. (2-tailed)		,000	,000	,001	,000	,000	,302
	N	97	94	97	96	95	91	91
Reliability	Pearson Correlation	,442**	1	,835**	,865**	,812**	,936**	,092
	Sig. (2-tailed)	,000		,000	,000	,000	,000	,393
	N	94	95	95	94	93	91	89
Connection	Pearson Correlation	,376**	,835**	1	,833**	,766**	,856**	,052
	Sig. (2-tailed)	,000	,000		,000	,000	,000	,619
	N	97	95	98	97	96	91	92
Ensure	Pearson Correlation	,341**	,865**	,833**	1	,878**	,902**	-,029
	Sig. (2-tailed)	,001	,000	,000		,000	,000	,782
	N	96	94	97	97	95	91	92
Empathy	Pearson Correlation	,406**	,812**	,766**	,878**	1	,928**	-,058
	Sig. (2-tailed)	,000	,000	,000	,000		,000	,589
	N	95	93	96	95	96	91	90
Total	Pearson Correlation	,591**	,936**	,856**	,902**	,928**	1	,037
	Sig. (2-tailed)	,000	,000	,000	,000	,000		,733
	N	91	91	91	91	91	91	86

Seniority	Pearson Correlation	,109	,092	,052	-,029	-,058	,037	1
	Sig. (2-tailed)	,302	,393	,619	,782	,589	,733	
	N	91	89	92	92	90	86	93

**. Correlation is significant at the 0.01 level (2-tailed).

Tables 6 and 7 show the correlations of seniority and age with satisfaction and efficiency. Based on the results, there were no statistically significant correlations between the aforementioned variables (p>0.05).

	gender	n	Mean	p-value
Tangible evidence	male	10	15,70	
	female	87	15,68	0,995
Reliability	male	10	21,00	
	female	85	18,83	0,398
Connection	male	10	6,70	
	female	88	5,23	0,067
Ensure	male	10	10,00	
	female	87	8,44	0.187
Empathy	male	10	20,30	
	female	86	17,34	0.190
Total	male	10	73,70	
	female	81	64,50	0.191

Table 8: Differences between the two genders regarding satisfaction and efficiency

Based on the results of the table above, there were no statistically significant differences between the two genders in terms of satisfaction and efficiency (p>0.05).

		N	Mean	Std. Deviation
Tangible evidence	Single	68	15,3971	4,78224
	Married	25	16,4000	5,22015
	Divorced	3	15,3333	3,21455
	Total	96	15,6563	4,84024
Reliability	Single	65	18,3692	7,44473
	Married	26	20,9231	7,98460
	Divorced	3	18,3333	9,71253
	Total	94	19,0745	7,65694
Connection	Single	68	5,1324	2,41824
	Married	26	6,0385	2,30618
	Divorced	3	5,0000	2,64575
	Total	97	5,3711	2,40364
Ensure	Single	67	8,2537	3,54342
	Married	26	9,6538	3,28563
	Divorced	3	8,0000	4,58258
	Total	96	8,6250	3,52211
Empathy	Single	66	17,1515	6,89536
	Married	26	19,0000	6,05970
	Divorced	3	15,0000	9,00000
	Total	95	17,5895	6,72799
Total	Single	62	62,8710	20,26342
	Married	25	72,1600	21,47223
	Divorced	3	61,6667	28,09508
	Total	90	65,4111	21,00610

Table 9: Differences between marital status regarding satisfaction and efficiency

Based on the results of table 9, there were also no statistically significant differences between marital status in terms of satisfaction and efficiency (p>0.05).

		N	Mean	Std. Deviation
Tangible evidence	medical staff	22	15,8182	4,72719
	head	2	23,0000	5,65685
	nurse	62	15,6935	4,91431
	midwife	11	14,0909	3,56243
	Total	97	15,6907	4,82692
reliability	medical staff	23	18,6522	8,85545
	head	2	29,5000	,70711
	nurse	61	19,3115	7,09822
	midwife	9	16,1111	7,07892
	Total	95	19,0632	7,61691
ανταπόκριση	medical staff	23	5,8261	2,56997
	head	2	6,5000	,70711
	nurse	62	5,4355	2,33028
	midwife	11	4,0000	2,28035
	Total	98	5,3878	2,39687
Ensure	medical staff	23	9,0435	3,45725
	head	2	10,5000	2,12132
	nurse	61	8,5246	3,56654
	midwife	11	7,8182	3,62817
	Total	97	8,6082	3,50760
empathy	medical staff	22	18,9545	7,40963
	head	2	23,0000	1,41421
	nurse	61	17,2459	6,30253
	obstetrician/midwife	11	16,3636	7,96584
	Total	96	17,6563	6,72439
total	medical staff	21	67,6667	24,98066
	head	2	92,5000	2,12132
	nurse	59	65,2034	18,88603
	midwife	9	56,5556	22,10266
	Total	91	65,5165	20,91324

Table 10: Differences between position regarding satisfaction and efficiency

Based on the results of table 10, there were also no statistically significant differences between the position in terms of satisfaction and efficiency ($p>0.05$).

		N	Mean	Std. Deviation
Tangible evidence	two-year course of study	19	13,7895	4,39165
	graduate of University/Technological institute	46	16,2391	5,09982
	Master	30	15,7000	4,46558
	PhD	2	21,0000	1,41421
	Total	97	15,6907	4,82692
reliability	two-year course of study	18	20,0000	7,50686
	graduate of University/Technological institute	45	17,7111	7,73311
	Master	30	20,1000	7,48953
	PhD	2	25,5000	4,94975
	Total	95	19,0632	7,61691
connection	two-year course of study	19	5,5789	2,47915
	graduate of University/Technological institute	47	5,1064	2,26729
	Master	30	5,4333	2,43088
	PhD	2	9,5000	,70711

	Total	98	5,3878	2,39687
Ensure	two-year course of study	19	8,8947	3,75492
	graduate of University/Technological institute	46	7,9348	3,42800
	Master	30	9,1333	3,29821
	PhD	2	13,5000	2,12132
	Total	97	8,6082	3,50760
empathy	two-year course of study	19	16,8947	6,53958
	graduate of University/Technological institute	46	17,0217	6,51320
	Master	30	18,6667	6,89494
	PhD	1	31,0000	.
	Total	96	17,6563	6,72439
total	two-year course of study	18	65,8333	22,72146
	graduate of University/Technological institute	42	61,8810	19,14922
	Master	30	69,0333	21,09336
	PhD	1	107,0000	.
	Total	91	65,5165	20,91324

Table 11: Differences between educational level regarding satisfaction and efficiency

Based on the results of table 11, no statistically significant differences were noted between the educational level in terms of satisfaction and efficiency (p>0.05).

Discussion

The aim of the present study is to investigate the quality level in health sector as well as the relation to demographic and work factors in health professionals. The findings indicate that there is no relation of demographic and work factors in health professionals to satisfaction and efficiency of the health sector. More relevant research results have shown that this association is strong.

Specifically, in a study of Partheniadis et al. [19] regarding the role of demographic features in patients' satisfaction from healthcare, specific socio-demographic factors such as patients 'age, occupation and marital status seem to influence patients' level of satisfaction. In a study of Theofilou [20], concerning the investigation of outpatient satisfaction in a General Hospital as well as the effect of socio-demographic factors, there is a statistically significant correlation between socio-demographic variables (age, insurance and nationality) and patient satisfaction level [20,21].

Regarding the limitations of the present research, it is noted that the results obtained from the said study can be further investigated in samples from other hospital contexts, private or even public, giving the possibility to control the variables under study, to compare the results, so that more general conclusions can be drawn. However, it should be noted that this study was conducted in only one hospital and therefore, because the sample is small, the results cannot be generalized.

References

1. Donabedian, A. (1980). The definition of quality and approaches to its assessment. Ann Arbor, Health Administration Press.
2. World Health Organization (WHO) (1993). Continuous quality development: a proposal national policy, WHO Regional Office for Europe, Copenhagen.
3. Forrester, R. (2000). Empowerment: Rejuvenating a Potent Idea. Academy of Management Executive, Vol. 14 No.3, 67-80.
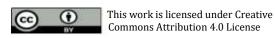4. Becker, B. E. and B. Gerhart (1996). The Impact of Human Resource Management on Organizational Performance: Progress and Prospects. Academy of Management Journal Vol.39, No.4, 779-801.
5. Landon, B. E, Reschovsky, J., & Blumenthal, D. (2007),´´Changes in career satisfaction among primary care and specialist physicians, 1997-2001´´, JAMA, Vol.289 No.4,pp. 442-449.
6. Canel, C. and Fletcher, E.A.A. (2001). An analysis of service quality at a student health center´´, International Journal of Health Care Quality Assurance, Vol. 14 No. 6, pp. 260-267.
7. Baldwin, A. and Sohal, A. (2003). Service quality factors and outcomes in dental care. Managing Service Quality, Vol. 13 No.3, pp. 207-216.
8. Youssef, F., Nel, D. and Bovaird, T. (1996). Health care quality in NHS hospitals´´, International Journal of Health Care Quality Assurance, Vol. 9 No. 1, pp. 15- 28.
9. Curry, A.C. and Stark, S. (2000). Quality of service in nursing homes´´, Health Services Management Research, Vol. 13 No. 4, pp. 205-215.
10. Lim, P. and Tang, N. (2000). Study of patients' expectations and satisfaction in Singapore hospitals´´, International Journal of Health Care Quality Assurance, Vol. 13 No. 7, pp. 290-299.
11. Hallowell, R., Schlesinger, L. A. and Zornitsky, J. (1996). Internal service quality, customer and job satisfaction: Linkages and implications for management´´, Human Resource Planning, Vol.19 No.2, pp.20-31.
12. Bowers, K. S., Regehr, G., Balthazard, C. G. and Parker, K. (1990). Intuition in the context of discovery´´, Cognitive Psychology, Vol.22,pp. 72-110.
13. Gremler, D., Bitner, M. and Evans, K. (1994) ´´The Internal Service Encounter´´, International Journal of Service Industry Management, Vol.5,pp. 34-56.
14. Boshoff, C., & Mels, G. (1995),´´A causal model to evaluate the relationships amon supervision, role stress, organizational commitment and internal service quality´´, European Journal of Marketing, Vol.29, No.2,pp. 23-42.

15. Cotter, R.S. (1993), Exploratory study in delivering quality service in an internal market large service organization, UMI Dissertation Services, Mississippi State University, MS.

16. Kang, G. D., James, J. and Alexandris K. (2002),´´Measurement of internal service quality: application of the Servqual battery to internal service quality´´, Managing Service Quality, Vol. 12, No. 5, pp. 278-291.

17. Reynoso, J. and Moores, B. (1995). Towards the measurement of internal quality service´´, International Journal of Service Industry Management, Vol.6 No.3, pp.64-83.

18. Scott M. (1987). An Examination of Hospital Service Center Positioning´´in W. Lancaster and M. Venkatesan (eds.), Advances in Health Care Research, Vol. 7.

19. Partheniadis S. et al. (2022). The Role of Demographic Features in Patients' Satisfaction from Healthcare: A Cross Sectional Study Using PSQ-18. EC Nursing and Healthcare 4.11: 1-15.

20. Theofilou, P. (2022). Investigation of Outpatient Satisfaction in a General Hospital: The Effect of Socio-Demographic Factors. World Journal of Nursing Research, 2(1), 11–20.

21. Theofilou, P. (2023). Healthcare: How do Greek Outpatients Evaluate it? A Descriptive Study in a General Hospital of Athens. In: Advances in Public Health. Wyoming, USA: Academic Reads.

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