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An Evaluation on Medical Interns Satisfaction in Internship Course in Shahid Beheshti University of Medical Sciences by SERVQAUL Model

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Abstract

Aim: Education is a service, which is influenced by the provider. Nowadays, there are a lot of challenges in health care systems, which requires a proper preparation to meet them. Medical interns are one of the future components of health care system, who should be prepared very well to meet these challenges. We preformed this survey to assess the medical interns' satisfaction in Shahid Beheshti university of Medical Sciences (SBMU) by "SERVQUAL".

Methods: Medical interns of (SBMU), who have spent at least 6 months in their internship, were included in this research. They were 141 medical interns out of all (201).

Finding: This survey showed that all of SURVQUAL dimensions had gaps. Medical interns of SBMU were not satisfied with their internship. There was also no relationship between interns' dissatisfaction and their applied-year and gender.

Conclusion: The internship bylaws should be reviewed, and medical interns should have more attention from dean of medicine school, head departments, and hospital administrators.

Key words: Medical Intern, SURVQUAL, Satisfaction, Internship

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Introduction

Education is a service directly affected by the provider. To meet students' expectations and needs, higher education has been putting a lot of emphasis for this purpose [1]. Information, communication and technology revolution along with globalization and increasing of knowledge's demands have created a lot of challenges for higher education [2]. Higher education has been known as service industry, and must do the most of what can be done to pinpoint and solve true needs of its own customers who are its students [3]. Medical students and interns are the future of health systems, therefore the future quality of these system are dependent on quality of medical student's and interns education and training directly [4].

Because of the new challenges of health problem, source limitations, and increasing in population, the development of new strategies have urged to meet them [5]. By this increasing in population, the medical information in the communication also has been raised, and the demands for good and quality health services also diversified [6]. These challenges need medical education institutes with continuous assessment and quality improvement to introduce good experts into the health system [7].

Arbouni investigated the gap in students' expectation and provided services in Zajan's university of medical sciences which revealed the gap was presented in all SERVQUAL dimensions, in which the highest gap was for empathy dimension [8]. Zavvar found the students of Payamnoor University of the east and the west Azarbaijan were not satisfied with the services quality the educational center provided [9]. Aghamolaie also found a gap in all five dimensions among the students of Hormozgan university of medical science [4]. Kebriaie with a study of service quality in Zahedan university of medical science showed that (7,6%) of the students considered the services are good, and 34.1% considered them below the average, and the rest mentioned that the services are within average rate [10]. Barnes conducted a shortly form the Chinese post-graduate students on the services quality and demonstrated a negative quality gap in all five dimension [11]. Legcevic found negative quality pap in all five services quality dimensions among students in Faculty of Law Osijik, the most and the least negative quality gap means were in the empathy (-7.68) and reliability (-3.45) respectively [12]. In comparative analysis study of the satisfaction of the international educations on Hindi, Indonesian, Thai, and Chinese post graduate student studding at five different Australian universities brought that the priorities of each

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variable in different groups was totally different [2]. Enayti found the assurance dimension had the higher expectation among Mazandaran university of medical sciences student with the mean of 4.14 [13].

This study was planned to assess the service quality among medical interns of Shahid Beheshti University of medical sciences, and evaluate of their satisfaction of internship period. The finding of this research will provide the perception of the interns on the delivered services, and offer a picture of intern's perception and expectations beside what they actually experience in their medical field, and as mentioned earlier, the medical students are the future of the health systems and industries.

Materials and Method

Paraguayan et al (1998) defined service quality as the gap between the customer's expectation and perception. Gap analyses have been used in higher education for service quality purposes [14]. For instant, long et al (1999) used gap analysis to develop questions to compare what students are looking for "Expectations" and what they actually experience "Experience" in their courses in the college [15]. La Bay and Comm (2003) created measurement to evaluate expectations and perception of the students [16]. Saunder et al (2000) examined the undergraduate student's expectation and teaching, learning, and assessments [17]. The servqual measures the quality of services in five dimensions as the followings [18-20]:

1. Reliability: ability to deliver the service and it is the most important dimension for the consumer's services.
2. Tangibility: appearance of equipment, facilities, and communication materials.
3. Responsibility: the contribution to help the customers.
4. Assurance: knowledge to implant the trust and confidence in the customers and this is very important in the services that have a high risk.
5. Empathy: this means the capability to experience other's feelings and this can be achieved by fostering an individual's attention to the customers.

This study was a descriptive survey of the medical interns of Shahid Beheshti of medical sciences university (SBMU) who have been in internship for at least 6 months were included in this research, 141 out of 201 medical interns (70.1%) participated in this survey. All of participants were announced that their survey will be anonymous, and they had been informed not discuss the questions with themselves with purpose of decreasing peer influence. The questionnaire form was adapted

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version of student satisfaction measure questionnaire studies [6, 13]. All of the survey questions were given 9 points score with 1 highly disagreeing and dissatisfaction, 5 with no difference, and 9 highly agreed with satisfaction, Baseline characteristic between the five-dimension were compared by using independent-samples t test, We also used ANOVA to analyze the descriptive statistics to find any relationship between the 5-dimesntions and genders and applied-year, all of data were analyzed by SPSS. 19.0.

Table 1 Demographic information

		Frequency	Percent
Gender	Male	49	34.8%
	Female	92	65.2%
Age	25	100	70.9%
	26	24	17.02%
	27	17	12.05%
Applied year	Feb 2007	55	39%
	Sep 2007	39	27.7%
	Feb 2008	47	33.3%

Results

The participants of this study were from applied year 2007 (February, and September) and February 2008, 92 females 65.2% and 49 males 34.8%, demographic information are summarized in table 1. Reliability statistics was done by Cronbach's alpha test which was 0.85. Participants from Feb 2007, Sep 2007, and Feb 2008 were 39%, 27.7%, 33.3% respectively.

Adjusted duty-hours has 64.5% disagreement among participants, while 17.0% think that is average hours, and 18,4% say that these duty-hours are normal and reasonable one. 84.4% say that the teaching hospitals lack the quiet place to rest during duty or while having lunch or dinner. According to participants, residents, fellows, and attending physicians don't treat the medical interns appropriately 80.1%, and 79.9% illustrate that their treatment with interns is not the same as their colleagues. Nursing staff also treat medical interns inappropriately 73.8%. 43.3% think that the hospital staffs treat them inappropriately. Medical interns think that they have their rights but 53.3% of them do not have access to them. 63.8% of interns agreed that log-books should be existed.

Evidence-based teaching also isn't as interns expected. 74.5% of interns think that their learning during duty or inside the ward is far from evidence-based documents or when they are told to get help from their superiors, only 17% of interns say they received what they asked for. Discussion with residents, fellows, and attending physician isn't facilitated for 76.6% of interns. 89.9% of interns illustrate that they don't get the necessary preparations for their future career. 84.4% think that they don't get supervision learning, and with that kind of treatment and unsupervised education, 15.6% of them think that they have earned points from their superiors for their work, and 9.9% of all medical interns think that their

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works are recorded by senior residents or other supervisors. 56% agreed that they can get to any medical records they want. Even more the superiors' flexibility is not what they would have hoped. 75.9% of them showed that they are inflexible with any kind of problems that an intern may encounter. 88.7% of medical interns showed that the appearance of hospitals and their resting rooms are not attractive physically, and sometime they lack of what interns need such as coffee or tea, or hot water to get shower. According to 80.1 percent of Interns , hospital policies about their work and the goals determined for them do not take in administrators minds. The vast majority of Interns (89.4%) think that they should have a time for rest during duty, and must be determined by the supervisors and they should have access to consolers adjusted for them. All of participants also have been surveyed for any correlation between the applied-year and gender with all 5 dimensions of servqual and there is no correlation noted (Table 2, 3, 4).

Table 2 5-gap dimensions among medical interns with gender-base and mean with standard deviation.

	Sex	Number	Mean
Empathy	Male	49	3.3
	Female	92	3.03
Assurance	Male	49	2.87
	Female	92	2.63
Reliability	Male	49	2.59
	Female	92	2.55
Responsiveness	Male	49	2.66
	Female	92	2.41
Tangibility	Male	49	3.33
	Female	92	3.29

Table 3 Relationship between applied-year and 5 servqual dimensions using ANOVA

	The number of participants		Sum of Squares	df	Mean Square	F	Sig.
Empathy	141	Between Groups	.876	2	.438	.319	.728
	141	Within Groups	189.740	138	1.375		
		Total	190.616	140			
Assurance	141	Between Groups	.071	2	.036	.020	.980
	141	Within Groups	246.002	138	1.783		
		Total	246.073	140			
Reliability	141	Between Groups	5.279	2	2.640	1.118	.330
	141	Within Groups	325.682	138	2.360		
		Total	330.961	140			
Responsiveness	141	Between Groups	3.594	2	1.797	.766	.467
	141	Within Groups	323.654	138	2.345		
		Total	327.248	140			
Tangibility	141	Between Groups	7.587	2	3.794	1.462	.235
	141	Within Groups	358.182	138	2.596		
		Total	365.770	140			

$P<0.05$

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Table4 Relationship between gender and 5 servqual dimensions using t test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	**Sig.**	**T**	**df**	**Sig.(2-tailed)**
Empathy	Equal variances assumed	.002	.960	1.293	139	.198
	Equal variances not assumed	-	-	1.306	100.888	.195
Assurance	Equal variances assumed	.989	.322	.986	139	.326
	Equal variances not assumed	-	-	.959	90.671	.340
Reliability	Equal variances assumed	.041	.840	.149	139	.882
	Equal variances not assumed	-	-	.149	97.472	.882
Responsiveness	Equal variances assumed	2.653	.106	.924	139	.357
	Equal variances not assumed	-	-	.855	79.120	.395
Tangibility	Equal variances assumed	3.462	.065	.132	139	.895
	Equal variances not assumed	-	-	.139	113.970	.890

N= 141 P < 0.05

Discussion

Medical internship is a phase in which medical students have to experience medicine by its reality, and practice medicine with minimal supervision, and all of interns should have this opportunity to improve their ability to communicate with patients [21]. Our study demonstrated that all of medical interns that included in this survey were dissatisfied in all 5-dimensions of SERVQUAL.

The responsiveness had the highest level of dissatisfaction with score 2.53. Reliability came with the score of 2.57, assurance with 2.75 and empathy with 3.16. Meanwhile among all of the 5-dimnesions dissatisfaction, tangibility had the closest score to satisfaction with 3.3 score.

These results had a similarity to what Arbouni [8], Zavvar [9], Aghamolaie [4], Kebriaie [10] concluded in their studies.

As bylaw in SBMU every interns should have at least 8 full days duty per 4 weeks. Besides, he/she should continue their duty in wards the next day till 1P.M, which means at least 288 hours work in 4 weeks period, which leads to sleep deprivation. Good quality and enough sleep are important to earn and preserve cognitive performances and of course can help with avoiding health and psychiatric problems. Medical staff including interns has high level of stress because of their work, academic and people demands, which leads in indirect way to stress, which in turn leads to depression, anxiety, and probably drug abuse [22].

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Medical interns during duty-hours spend the most of their time in clinical computer works such as documentation, chart, and review, while receiving training is lower than what is expected [23]. Medical interns object about lack of sleeping time and its effect on their practice and learning abilities, which can lead in long-term depression and psychological problems [24]. By decreasing duty hours, sleep duration, education chances, and follow-up with patients have been increased [25]. Taking a few hour sleeps during duty-hour can prevent executive skills deterioration [26].

Teaching the medical interns to improve their abilities to handle the patients without being in stress conditions requires cooperation between interns, and both residents and attending physicians. Residents are usually the primary teachers of interns [27]. Meanwhile the attending physicians usually prefer the bed-side teaching during ward rounds, which somehow can be good for both medical staff and the patient [28], but the medical facts told during such rounds can make the patient worried about health problem [29]. Basic life support skills during cardiopulmonary resuscitation (CPR) requires review and retraining for all medical staff, according to Na JU after 6 and 12 month of receiving CPR training, just chest compression skill is preserved and other skills just diminished [30].

Interns underperformance in time-management, clinical judgment, and identifying the ill patients and triage them is seen mostly during emergency-medicine rotations [31]. Chan et al demonstrated that there is lack in clinical skills such as communicating with other coworkers, taking history, physical examination, setting intravascular drip, fundoscopy, adult and pediatric CPR, and dealing with acute and chronic drug use among medical interns [32]. Some authors revealed that stimulation training is good to improve interns and residents ability to perform clinical procedures [33-35].

Mistreatment and abuse is ethical challenge during medical internship. In one pilot study, Al-shafaee et al demonstrated that the majority of interns had been mistreated and abused, in which verbal and academic abuse were the most experienced, mistreatment was from all medical staff for both gender, specialists and consultants had the vast majority of this mistreatment to medical interns while residents and nurses had about one-third of it [36].

Direct observation and feedback can improve interns care skills by encouraging and giving advices to them [37]. The feedback can be effective by establishing respectful learning environment, objective feedback, direct observation, making it regular event, focusing on performance, and create and developing

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chances for staff [38].

Conclusion

Medical interns in SBMU are not satisfied with their internship, and all of 5 servqual dimensions have gaps. We advise that the internship policies should be reviewed and rewritten, and all of interns must have appropriate treat from all hospital staffs and they should be considered as their colleagues.

Hospital administrators and the dean of medicine should assign counselors for interns, and should be available when they are needed. Duty-hours and shift-time also need to be reviewed to reach the point of getting its goals to allow the maximum learning ability to be reached.

We suggest that medical interns must have appropriate treat from all staffs, minimal abuse forms from all kind, assigned counselors, facilitated education during ward round, and besides that appropriate learning of clinical procedures.

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Refferences

[1] DT A. How satisfied are our students? Quality management unit Office for institutional effectiveness university of Johannesburg, Johannesburg, South Africa 2006.

[2] Arambewela R, Hall J. A comparative analysis of international education satisfaction using SERVQUAL. Journal of Services Research 2006; 6: 141-63.

[3] De Oliveira OJ, Ferreira EC. Adaptation and application of the SERVQUAL scale in higher education. Proceedings of POMS 20th Annual Conference Orlando, Florida USA; 2009; 2009.

[4] Aghamolaei T, Zare S. Quality gap of educational services in viewpoints of students in Hormozgan University of medical sciences. BMC medical education 2008; 8: 34.

[5] Costa Font J, Sato A. Health systems futures: The challenges of technology, prevention and insurance. Futures 2012; 44: 696-703.

[6] Masic I. Quality assessment of medical education at faculty of medicine of sarajevo university–comparison of assessment between students in bologna process and old system of studying. Acta Informatica Medica 2013; 21: 76-82.

[7] Bahadori M, Sadeghifar J, Nejati M et al. Assessing quality of educational service by the servqual model: viewpoints of paramedical students at Tehran university of medical

[Downloaded from hehp.daneshafarand.org on 2026-09-17]

science. TTEM-Technics Technologies Education Management 2012; 6.

[8] Arbouni F, Shoghli A, Badri Poshteh S, Mohajeri M. The gap between students'expectations and educational services provided for them, zanjan university of medical sciences, 2007. Strides in Development of Medical Education 2008; 5: 17-25.

[9] Zavvar T, Behrangi MR, Asgarian M, Naderi E. Evaluating service quality in Educational Centers of University of Payam Noor in East and West Azerbaijan Provinces from students' point of view. Quarterly Journal of Research and Planning in Higher Education 2007; 13: 67-90.

[10] Kebriaei A, Roudbari M. Quality gap in educational services at Zahedan university of medical sciences: students viewpoints about current and optimal condition. Iranian Journal of Medical Education 2005; 5: 53-61.

[11] Barnes BR. Analysing service quality: the case of post-graduate Chinese students. Total Quality Management & Business Excellence 2007; 18: 313-31.

[12] Legčević J. Quality gap of educational services in viewpoints of students. Ekonomska misao i praksa 2010: 279-98.

[13] Enayati T, Zameni F, Nasirpoor Deravi N. Assessing the quality of educational service in Mazandaran University of Medical Sciences using Servqual Model. Journal of Health Promotion Management 2013; 2: 32-9.

[14] Paraguayan A, Zeithaml VA, Berry LL. SERVQUAL: A multiple-item scale for measuring consumer perceptions of service. Journal of Retailing 1988; 64.

[15] Long P, Tricker T, Rangecroft M, Gilroy P. Measuring the satisfaction gap: education in the market-place. Total quality management 1999; 10: 772-8.

[16] LaBay DG, Comm CL. A case study using gap analysis to assess distance learning versus traditional course delivery. International Journal of Educational Management 2003; 17: 312-7.

[17] Sander P, Stevenson K, King M, Coates D. University students' expectations of teaching. Studies in Higher Education 2000; 25: 309-23.

[18] Kilbourne WE, Duffy JA, Duffy M, Giarchi G. The applicability of SERVQUAL in cross-national measurements of health-care quality. Journal of Services Marketing 2004; 18: 524-33.

[19] Gorji H, Tabatabaei S, Akbari A et al. Using the service quality gap's model (SERVQUAL) in Imam Khomeini teaching hospital: 2012. Journal of Health Administration (JHA) 2013; 16: 7-18.

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[20] Gorji MB, S. Siami and F. Nouraee. Comparative studying of service Quality Status in the Islamic Azad University. Journal of industial and organizational psychology 2011; 4: 33-41.

[21] Gaarder K, Eide NA, Falck G. [Clinical skills among interns]. Tidsskrift for den Norske laegeforening : tidsskrift for praktisk medicin, ny raekke 2000; 120: 1512-7.

[22] Giri P, Baviskar M, Phalke D. Study of sleep habits and sleep problems among medical students of pravara institute of medical sciences loni, Western maharashtra, India. Annals of medical and health sciences research 2013; 3: 51-4.

[23] Fletcher KE, Visotcky AM, Slagle JM et al. The composition of intern work while on call. Journal of general internal medicine 2012; 27: 1432-7.

[24] Lin YH, Kuo TB, Ho YC, et al. Physiological and psychological impacts on male medical interns during on-call duty. Stress 2012; 15: 21-30.

[25] Desai SV, Feldman L, Brown L et al. Effect of the 2011 vs 2003 duty hour regulation-compliant models on sleep duration, trainee education, and continuity of patient care among internal medicine house staff: a randomized trial. JAMA internal medicine 2013; 173: 649-55.

[26] Tempesta D, Cipolli C, Desideri G et al. Can taking a nap during a night shift counteract the impairment of executive skills in residents? Medical education 2013; 47: 1013-21.

[27] Carr J, Deal AM, Dehmer J et al. Who teaches basic procedural skills: student experience versus faculty opinion. The Journal of surgical research 2012; 177: 196-200.

[28] Peters M, Ten Cate O. Bedside teaching in medical education: a literature review. Perspectives on medical education 2013.

[29] Adibi P, Enjavian M, Alizadeh R, Omid A. The effect of ward round teaching on patients: The health team and the patients' perspectives. Journal of education and health promotion 2013; 2: 35.

[30] Na JU, Sim MS, Jo IJ et al. Basic life support skill retention of medical interns and the effect of clinical experience of cardiopulmonary resuscitation. Emergency medicine journal : EMJ 2012; 29: 833-7.

[31] Aram N, Brazil V, Davin L, Greenslade J. Intern underperformance is detected more frequently in emergency medicine rotations. Emergency medicine Australasia: EMA 2013; 25: 68-74.

[32] Chan SC. Views of Malaysian interns and their supervisors on the adequacy of undergraduate clinical skills training.

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Singapore Medical Journal 2012; 53: 196-202.

[33] Kessler DO, Arteaga G, Ching K et al. Interns' success with clinical procedures in infants after simulation training. Pediatrics 2013; 131: e811-20.

[34] Pernar LI, Corso K, Lipsitz SR, Breen E. Using spaced education to teach interns about teaching skills. American journal of surgery 2013; 206: 120-7.

[35] Berg KT, Mealey KJ, Weber DE et al. Are medical students being taught invasive skills using simulation? Simulation in healthcare: Journal of the Society for Simulation in Healthcare 2013; 8: 72-7.

[36] Al-Shafaee M, Al-Kaabi Y, Al-Farsi Y et al. Pilot study on the prevalence of abuse and mistreatment during clinical internship: a cross-sectional study among first year residents in Oman. BMJ open 2013; 3.

[37] Shelesky G, D'Amico F, Marfatia R et al. Does weekly direct observation and formal feedback improve intern patient care skills development? A randomized controlled trial. Family medicine 2012; 44: 486-92.

[38] van der Leeuw RM, Slootweg IA. Twelve tips for making the best use of feedback. Medical teacher 2013; 35: 348-51.

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