

Perceptions and Expectations of Medical Students towards the Quality of Educational Services offered at A Sudanese University:

How Far is the Gap?

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ABSTRACT

Background: Students are the primary customers of high education service, and are becoming more aware of their consumer rights and of gaps between their expectations of service delivery and the reality of services.

Objective: of this study was to investigate medical students' perceptions and expectations of educational services quality at X University in Sudan.

Methods: One hundred ninety six registered medical students in the academic year 2013-2014, were enrolled; sample was collected through convenience sample technique. The study was conducted by the use of Modified SERVQUAL questionnaire. SPSS version 20 was used for data analysis.

Results: There was a negative mean score for quality gap in all dimensions of service quality. Students perceived tangibles as quality indicators of the service quality at university, and expect universities to have modern-looking equipment, so that staff can provide efficient service to them. There was a strong student concern about teaching staff promises regarding timetables and exam schedules to be fulfilled on time, which indicated the area of most concern amongst the respondents (gap score – 1.94). A clear communication problem regarding service delivery was inferred, as students perception towards solving their problems was very low (gap score -1.91).

Conclusion: students' perceptions of services delivered by X University falls below their expectations; that indicates student's dissatisfaction. This large gap constitutes a great challenge to the administrators and educational policy makers, who are recommended to consider students feedback as a quality indicator in the quality assurance process.

Keywords: medical student, quality education, Sudan.

The quality of education at higher educational institutions has become of utmost importance in the last two decades¹. This vital development in quality has been initiated and maintained by many synergistic factors.

Faculty and administrators want feedback to monitor and improve curriculum development and implementation. Students need precise information about the quality of education delivered by the university to select universities. Institutions want information about quality to benchmark and market their services. Governments and investors want information to warrant funding. For all these reasons, service quality measurement has become vital in the higher education system¹.

Stake holders in higher education institutions are becoming more aware about the role of students in the

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development of service quality, and their voice should be listened to². Students do have a definite stake in the learning process, and they are the central participants in higher education². As the question of service quality was the main object of our study, feedback from students, was considered as the key quality indicator, which was similarly considered in the quality assurance process in previous studies³. In recent years many universities adopted the student-centered curricula; hence, student perceptions of services offered to them are becoming more important. Therefore, all modern higher university institutions have adopted a concrete system of evaluation, tracking and management for the student perceptions of service quality⁴.

The main question of this research was to determine whether a gap exists between students' expectations of service quality and actual service delivery at the Faculty of Medicine, X University. This medical school is a representative sample for about 30 medical schools established in the 1990s after the so-called "Higher Education Revolution" in Sudan.

MATERIAL AND METHODS:

Study design: A quantitative, cross-sectional, educational facility-based study.

Study area: This study was conducted at the Faculty of Medicine - X University, X State – Sudan, in the academic year 2013-2014 (NB. The name and other identifiers of the university were intentionally obscured for ethical considerations). X University is a public university that encompasses many Faculties. The system of study in Faculty of Medicine is block module, integrated-courses system. Medicine is studied in ten semesters, (5 years).

Study population: According to the official data in the Registrar office, as in May 2013: 699 medical students were

registered across the various classes.

Sample Type: Sample was collected as non probability type, through convenience sample technique, that included registered students of the Faculty of Medicine- X University.

Sample size: The researchers used a 95% confidence level and based on the size of the population, Creative Research systems (2003)⁵ suggested a sample size of n =196.

Inclusion criterias: Medical students, who volunteered to participate, from the third to the fifth level were included.

Exclusion criterias: Students of the first and second year were excluded.

Data collection tools and procedure: The study was conducted by the use of questionnaire, which consists of socio-demographic data and the Modified SERVQUAL questionnaire⁶. A 5-point Likert scale ranging from 1=strongly disagree, to 5=strongly agree as an answer for each question.

Dimensions and Definitions of service quality: Parasuraman et al. (1985)⁶ identified five specific dimensions of service quality that apply across a variety of service contexts, including higher education institutions. These five dimensions are: reliability, responsiveness, assurance, empathy and tangibles^{6,7} and these dimensions were briefly defined below⁸:

Reliability: (Delivering on promises), is the ability to perform the promised service dependably and accurately.

Responsiveness: (Being willing to help), is the willingness to help customers and to provide prompt service. It focuses on attentiveness and promptness in dealing with customer complaints, requests, problems and questions.

Assurance: (Inspiring trust and confidence), is defined as employees' knowledge and courtesy and the ability of the service organization to inspire trust and confidence.

Empathy: (Treating customers as individuals), is defined as the caring, individualized attention a firm provides to its customers.

Tangibles: (Representing the service physically), is the appearance of physical facilities, equipment, personnel, and communication material.

Data Analysis: All data were double-entered and cross checked for consistency. SPSS version 20 was used for data analysis.

Ethical clearance: This research was approved by the Research committee in Educational Development and Research Center (EDRC) Faculty of Medicine, University of Gezira. Permission was taken from the administration of X University. Informed consent was obtained from the participants after being informed about the objective of the study and that their participation is totally voluntary. No harm has been imposed on anybody.

RESULTS:

A total of 196 questionnaires were correctly completed, resulting in a response rate of 100%. Females constituted 55.6% of participants. The academic level of respondents showed that 45.4% were from the fifth year, 40.8% from the fourth year and 13.8% were in their third year of study.

1. Analysis of Perceptions:

The mean score of perceptions, expectations and the gap analysis are depicted in Table 1.

1.1 Tangibles: students' perception towards the five components of tangibles used in the study were as follows:

1.1.1 The general appearance of the institution is modern and attractive:

Only 10.7% of the respondents agreed that the general appearance of the institution is modern and attractive, 44.4% strongly disagreed.

1.1.2 Lecture theatres are standard for

teaching and reading:

According to the study, 13.3% agreed and 42.9% strongly disagreed.

1.1.3 Laboratories has modern and latest equipment:

Only 20.4% agreed and 36.7% strongly disagreed.

1.1.4 Teaching hospitals are well prepared for teaching:

Only 9.2% agreed while 45.9% strongly disagreed.

1.1.5 Library has the latest literature students need:

Only 15.3% agreed while 41.4% strongly disagreed.

1.2 Reliability: students' perception towards the five components of reliability used in the study were as follows:

1.2.1 The staff must insist on error-free records:

According to the study, only 5.6% of the respondents agreed that staff must insist on error-free records, while 44.4% strongly disagreed.

1.2.2 Courses are updated and taught by highly knowledgeable staff:

Only 14.8% of the respondents agreed that courses are updated and taught by highly knowledgeable staff, whereas 40.8% strongly disagreed.

1.2.3 The teaching staff respects lectures and exams schedules:

Only 12.2% agreed that university to meet deadlines that are set, while 54.1% strongly disagreed.

1.2.4 Staff will perform the service right the first time:

Only 7.7% agreed to this point, 44.9% strongly disagreed.

1.2.5 University to show sincere interest in solving their problem:

Only 9.7% of the respondents strongly agreed that university staff show sincere interest in solving their problems, whereas, 48% strongly disagreed.

1.3 Responsiveness: students' perception towards the five components of

responsiveness used in the study were as follows:

1.3.1 Employees at a university to be willing to help students:

In this regard 11.7% agreed, while 35.7% strongly disagreed.

1.3.2 University staff must give prompt service to students at all times:

Only 5.1% agreed to this point, whereas, 46.9% strongly disagreed.

1.3.3 University employees will never be too busy to respond to students' requests:

Only 7.1% agreed to this point, while 39.8% strongly disagreed.

1.4 Assurance: students' perception towards the four components of assurance used in the study were as follows:

1.4.1 Behavior of employees while performing their work should instill confidence on students:

According to the study, 11.2% agreed, while 44.9% strongly disagreed.

1.4.2 Students feel safe in their transactions with the university:

Only 7.7% agreed to this point, while 41.8% strongly disagreed.

1.4.3 Faculty staffs are friendly and polite:

According to the study, only 9.7% agreed, whereas, 42.3% strongly disagreed.

1.4.4 University employees have the knowledge to answer students' questions:

Only 9.2% agreed to this point, while 38.8% strongly disagreed.

1.5: Empathy: students' perception towards the four components of empathy used in the study were as follows:

1.5.1 University to have the students' best interest as a major objective:

To this point, only 6.1% agreed;where as, 54.1% strongly disagreed.

1.5.2 Instruction methods are students centered:

To this point, 13.3% agreed, while 41.8% strongly disagreed.

1.5.3 The University has operating hours convenient to their students:

Only 10.2% agreed to this point, while, 48.5% strongly disagreed.

1.5.4 The University employees understand the specific needs of their students:

To this point, only 8.7% agreed, while 41.8% strongly disagreed.

1.5.5 The University has employees that give students personal attention:

Only 7.1% agreed, whereas, 46.4% strongly disagreed.

2. Analysis of Expectations:

2.1 Tangibles: students' expectation towards the five components of tangibles used in the study were as follows:

2.1.1 Expect the general appearance of the faculty is modern and attractive:

For this domain, 44.4% agreed with this statement, while 11.2 % of the respondents disagreed

2.1.2 Expect lecture theatres are standard for teaching and reading:

According to the study, 42.9% agreed that excellent universities should have lecture theatres standardized for teaching and reading, while 8.7% disagreed

2.1.3 Expect laboratories has modern and latest equipment:

According to the study, 42.9% agreed that laboratories should have modern and latest equipment while 7.7% disagreed.

2.1.4 Expect teaching hospitals are well prepared for teaching:

Study revealed 35.2% of respondents agreed, while 15.8% disagree.

2.1.5 Expect library has the latest literature in their area of interest:

For this domain, 40.3% strongly agreed with the statement, while 4.4% disagreed.

2.2 Reliability: students' expectation towards the five components of reliability used in the study were as follows:

2.2.1 Expect that the staff must insist on error-free records:

Here, 38.3% of respondents agreed and 8.2% disagreed.

2.2.2 Expect courses are updated and taught by highly knowledgeable staff:

In this regard, 34.2% of respondents agreed and 35.7% strongly agreed and expect courses are updated and taught by highly knowledgeable staff, while 18.4% were uncertain.

2.2.3 The teaching staff respects lectures and exams schedules:

The study showed that 38.3% of respondents agreed and 30.6% strongly agreed with the statement and expect the university to meet deadlines that are set while 19.9% were uncertain.

2.2.4 Expect staff will perform the service right the first time:

About this point, 43.4% of respondents agreed and 24.5% strongly agreed, and expect staff will perform the service right the first time while 20.4% were uncertain.

2.1.5 Expect a university to show sincere interest in solving their problems:

Here, 38.3% of respondents agreed and 28.6% strongly agreed with the statement and expect the university to show sincere interest in solving their problems, while 23% were uncertain.

2.3: Responsiveness: students' expectation towards the three components of responsiveness used in the study were as follows:

2.3.1: Expect employees at a university to be willing to help students:

For this point, 40.3% of respondents agreed and 20.4% strongly agreed with the statement and expects employees at the university to be willing to help students while 26.5% were uncertain.

2.3.2 Expect university staff must give prompt service to students at all times:

Here, 39.3% of respondents agreed and 18.4% strongly agreed with the statement that university staff must give prompt service to students at all times while 24.0% were uncertain.

2.3.3 Expect that university employees will never be too busy to respond to student's

requests:

Our study showed that 39.8% of the respondents agreed and 19.4% strongly agreed with the statement and expect that university employees will never be too busy to respond to students' requests while 25% were uncertain.

2.4: Assurance: students' expectation towards the four components of assurance used in the study were as follows:

2.4.1 Expect the behavior of employees whilst performing their work should instill confidence in the students:

For this point, 42.3% of respondents agreed and 23.5% strongly agreed with the statement that behavior of employees whilst performing their work should instill confidence in the students while 23.5% were uncertain.

2.4.2 Expect students to feel safe in their transactions with a university:

In this domain, 37.8% of respondents agreed and 24.5% strongly agreed with the statement and expects students to feel safe in their transactions with a university while 24.5% were uncertain.

2.4.3 Expect faculty staff friendly and polite:

Here, 37.8% of respondents agreed and 27% strongly agreed with the statement and expect faculty staff to be friendly and polite while 21.9% were uncertain.

2.4.4 Expect university employees to have the knowledge to answer students' questions:

For this point, 38.3% of respondents agreed and 26% strongly agreed with the statement and expect university employees to have the knowledge to answer students' questions while 24.5% were uncertain.

2.5: Empathy: students' expectation towards the five components of empathy used in the study were as follows:

2.5.1 Expect a university to have the students' best interest as a major objective:

In this regard, 37.2% the respondents

agreed and 19.9% strongly while 23% were uncertain.

2.5.2 Expect instruction methods are students centered:

Our result showed that, 38.3% of the respondents agreed and 19.9% strongly agreed with the statement and expect instruction methods are students centered while 17.9% were uncertain 5.6%% disagreed and 5.6% strongly disagreed.

2.5.3 Expect a university to have operating hours convenient to all their students:

For this point, 36.7% of the respondents agreed and 32.7% with the statement and expect the university to have operating hours convenient to all their students while 19.9% were uncertain , 5.6% disagreed and 8.7% strongly disagreed.

2.5.4 Expect a university to understand the specific needs of their students:

Here, 41.8% of the respondents agreed and 19.4% strongly agreed, while 27.6% were uncertain.

2.5.5 Expect a university to have employees that give students personal attention:

For this domain, 39.3% of the respondents agreed and 18.9% strongly agreed with the statement, while 25.5% were uncertain.

3. Gap Analysis:

Gap analysis, which is the difference between customers' expectations of the service they will receive and what they perceive they have received. The highest statement gap score on tangibles was (-1.75) for library, and the smallest gap score was (-1.40) for laboratories. The highest statement gap score for reliability was (-1.94) for the respect of the teaching staff for lectures and exam schedules and the smallest gap score was (-1.63) for error-free records. The highest statement gap score for responsiveness was (-1.91) for solving students problems while the smallest gap score was (-1.46) for willingness of employees to help students. The highest gap score for assurance was

(-1.74) and it was related to the behavior of faculty staff instilling confidence, while the smallest gap score (-1.64) was linked to the employees having the knowledge to answer students' questions. The highest gap score for empathy (-1.80) was for the instructional methods, while the smallest gap score for this dimension (-1.63) was linked to personal attention domain. (Table1).

DISCUSSION:

Based on the fact that SERVQUAL has proven to be the most extensively utilized instrument in the service quality field of study, the researchers used SERVQUAL as the basis for measuring students' perception of service quality at Faculty of Medicine, X University. SERVQUAL instrument evaluated service quality by comparing expectations with perceptions.

Expectations

In this study students had high expectations regarding the five SERVEQUAL dimensions. These results are consistent with the study done in Iran in 2008 by Aghamolaei, in which he found that students had high expectations that exceed their perception⁹. The highest expectation was on tangibles and related to the library. The least expectation was for empathy and related to faculty has students best interest as a major objective. Students look at tangibles as quality indicators of the service quality at university. From this study we found that students expect universities to have modern-looking equipments, so that staff can provide efficient service to them.

Expectations are formed before purchasing the service¹⁰. McColl suggest that customer's expectations form an important element of quality¹¹,Parasuraman reinforced this point by stating that companies need to be aware of customers' expectations and strive to meet or exceed them⁷.

Table 1: Gap analysis among medical students perceptions and expectations for educational services offered at X University, Sudan, 2013(n=196).

Dimension and (mean of gap)	Item	Perceptions Mean	Expectations Mean	The Gap
Tangibles (-1.61)	The general appearance of the faculty is modern and attractive.	1.91	3.52	-1.61
	Lecture theatres are standard.	1.97	3.65	-1.68
	Laboratories has modern and latest equipment.	2.33	3.73	-1.40
	Teaching hospitals are well prepared.	1.87	3.50	-1.63
	Library has the latest literature.	2.22	3.97	-1.75
Reliability (-1.77)	Staff insist on error-free records.	1.93	3.62	-1.63
	Courses are updated and taught by highly knowledgeable staff.	2.19	3.87	-1.68
	The teaching staff respects lectures and exams schedules	1.89	3.83	-1.94
	will perform the service right the first time.	1.92	3.75	-1.83
	Solving in students problems.	1.88	3.79	-1.91
Responsiveness (-1.65)	Staff always be willing to help students.	2.18	3.64	-1.46
	Staff will give prompt service to students.	1.88	3.52	-1.64
	Staff will never be too busy to respond to students.	1.98	3.56	-1.58
	The behavior of faculty staff instills confidence.	1.99	3.73	-1.74
	Students are feel safe in their transactions.	1.99	3.67	-1.68
Assurance (-1.69)	Faculty staff is friendly and polite.	2.02	3.71	-1.69
	Staff will have the knowledge to answer students' questions.	2.09	3.73	-1.64
	Faculty has students' best interest as a major objective.	1.74	3.46	-1.72
	Instruction methods are students centered.	2.07	3.87	-1.80
	Service hours of learning facilities accommodate all students.	1.95	3.72	-1.77
Empathy (-1.73)	Staff understands the specific needs of students.	1.93	3.65	-1.72
	Faculty provide personal attention to every student.	1.91	3.54	-1.63

Student expectations are a valuable source of information¹². The knowledge of student expectations may also help lecturers to design their teaching programs¹³.

Perception

In this study the highest perception score was on tangibles and related to laboratories followed by reliability which was related to courses. The least perception score was on empathy followed by responsiveness. The physical environment, along with the goods, can be seen as a tangible element¹⁴. The design of the external and internal building can be used by customers to compare the quality of service from one institution to another¹⁴. Only 10.7% of the respondents agreed that equipments at X university were modern-looking, which is not consistent with the study done in 2007 by Justin Arpin in South Africa in which he founded that 34% agreed that the Durban University of Technology has modern-looking equipment¹⁵.

Perception becomes an influential factor when measuring customers' satisfaction with the service they receive. Perceptions are considered relative to expectation. Customers perceive service in terms of the quality of the service they receive and whether or not they are satisfied with their experiences¹⁶. According to Brown et al. service organizations know that if their customers do not enjoy the experience, do not value it, and do not think it meets their needs and expectations, they will not return¹⁷.

Telford and Masson pointed out that the perceived quality of the educational service depends on students' expectations¹⁸. Telford and Masson also, believe that it is important to understand expectations and values of students in higher education. Perceptions of service quality can lead to student satisfaction and satisfied students may then attract new students¹⁸. Student satisfaction has also a

positive impact on fundraising and student motivation¹⁹.

Winsted (2000) mentioned that service providers will only be able to deliver service encounters that will satisfy customers if they know what their customers expect²⁰. In high education if lecturers know what their students expect, they will be able to adapt to their students expectations, which will have a positive impact on their perceived service quality and their levels of satisfaction²⁰.

Oldfield and Baron (2000) mentioned institutions should better pay attention to what their students want instead of collecting "data based upon what the institution perceives its students find important"²¹.

Service quality gap

After comparing the differences between students' perceptions and expectations about service quality, the results have shown a negative score, as the student's expectations exceeded their perceptions. This is consistent with the study done 2005 in Iran by Ali Kebriaei in which he found that the majority of students (81.6%) identified negative quality Gap in educational services²². Likewise, these findings are consistent with the study done in 2014 by Gholami in which he found that there was a notable gap between students' expectations and what they have actually received of educational services²³. Similar results are obtained by Mohammadi in his study (2014), where he found a negative mean score of quality gap in all dimensions of the service quality²⁴.

The smallest statement gap score (-1.4) was for the tangibility dimension was that for the laboratories as modern and are provided with the latest equipments, which means that students feel that the equipment looks outdated and should be replaced. The largest statement gap score for tangibility (-1.75) was for the library, which also indicates that the library needs

much work. The smallest statement gap score (-1.63) for the reliability dimension was that the staff insists on error-free records. The largest statement gap score (-1.94) was for the teaching staff carries out promises on time, which indicates the area of most concern amongst the respondents. The smallest statement gap score (-1.46) for the responsiveness dimension was that the staff willing to help students, while the largest statement gap score (-1.91) for responsiveness related to solving students problems giving clear communications regarding service delivery. The smallest statement gap score (-1.19) for assurance, was that the employees have the knowledge to answer students' questions. The largest statement gap score (-1.74) for the assurance dimension related to the behavior of staff which instill confidence. The smallest statement gap score (-1.63) for the empathy dimension related to the faculty provide personal attention for every student, while the largest gap score (-1.80) highlighted the fact that students do not feel that the university employees understand their specific needs regarding instructional methods.

Based on our study findings, we believe that it is high time for educators and educational policy makers and planners to consider the issue of quality in their agenda. More than 20 years have passed since the inauguration of the "Revolution in Higher Education", that was accompanied by explosive increase in higher education institutions and vast number of students were recruited for these new institutions but the issue of quality has not been keeping pace with this drastic change. Involvement of students and their social groups in defining quality education is of utmost importance.

This study has some limitations. Some participants who have no experience about other higher education institutions may not

expect better than what they already have. On the contrary, participants who studied abroad or came from well-off schools may have exaggerated expectations; likewise, for the perception domains. Another limitation was the issue of quality, which is difficult to define; however, some domains can roughly be measured. A third limitation was the social mood of participants at the time of the study. This can never be controlled and its magnitude in type of response is not predictable.

Despite these limitations, this study is novel and is the first in Sudan to measure perceptions and expectations of medical students about the educational services offered at universities. Therefore, we expect this study to constitute data base and a model for other similar studies in the country and other countries with similar circumstances.

In conclusion students' perceptions of services delivered at X University falls below their expectations; that indicates student's dissatisfaction. This large gap constitutes a great challenge to the administrators and educational policy makers, who are recommended to consider students feedback as a quality indicator in the quality assurance process.

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DECLARATION OF INTEREST:

The authors report no declaration of interest.

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