International Journal for Research Trends in Social Science & Humanities
Volume 3, Issue 6
Nov-Dec 2025, PP 1-22

The Influence of Patients Demographic Characteristics On Service Quality in Outpatient Department in Komfo Anokye Teaching Hospital, Ghana

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Abstract- Patients' demographic characteristics as a paradigm for the assessment of service quality in hospitals have attracted considerable admiration in recent times. This report envisages the summary of the study that was drawn in the arena of patient influences on service quality delivery in a teaching hospital in Ghana. The present study indicates the influence of patients' demographic characteristics on service quality in the outpatient department at Komfo Anokye Teaching Hospital, Kumasi. The study was cross-sectional with a sample of 120 outpatients, selected randomly at the department. Data collection was made through questionnaires that consisted of 60 items. The questionnaires were subdivided into thematic headings such as Patients' Demographics, Levels of Service Quality, and Patients' Health Status. The only inclusion criteria for choosing the patients to answer the questionnaires were those who were willing to participate in the exercise. It was not compulsory to participate but the patients' desire and ability to participate based on their own free will. Patients aged 18 years and above who desired to participate were included in the procedure irrespective of their gender, race, or ethnic group. However, those that were unwilling to participate and those with severe illnesses, such as mentally retarded, stroke and physical dysfunctions were excluded from participation. Structured in-depth pretested interviews were conducted with the questionnaires. There were no right or wrong answers to the answers patients gave. All answers were considered correct. The data was analyzed using IBM SPSS version 20 software, regression, and correlation, were carried out, and descriptive statistics results were in standard deviation, percentages, pie charts, tables, and figures. The SERVQUAL instrument was used for the testing of service quality at the department. The findings of this research showed that, out of the total number of 120 outpatients, 58.3% were males and 41.7% were females with a mean age of 43 years and a standard deviation, of 16.7. There were 37.5% of patients from the rural areas and 62.5% from the urban areas. There were income disparities where most of the patients received low-income levels. The correlation coefficient between income and educational status was calculated as -0.74. These variables tend to move in the opposite direction. It was observed that many of the respondents had no formal education and that matter, had a lower income level. Educational levels have a direct impact on income. Patients with good health status were 8.3%, poor health status 66.7%, fair status 13.3%, and those with excellent health status were 11.7%. A regression analysis was conducted on the patients' health status, and the results revealed a sum of squares 12.99 residual value of 83.04 showing the difference between the observed and predicted values. F statistic value of 1.69, and a significant value of 0.09 indicating a weak correlation among the variables. Service quality dimensions gap analysis showed that there were gaps among Tangibility with a gap score of 5.0% Strongly Agree, 8.3% reliability in gap score, 6.5% gap for responsiveness strongly agreed,0.9% no gap for Assurance, and a 5.0%% gap for empathy in Agree option.

International Journal for Research Trends in Social Science & Humanities
Volume 3, Issue 6
Nov-Dec 2025, PP 1-22

Gender in the determination of respondents' perceived service quality indicated that more males influenced the decision in almost all dimensions except in the Tangibility dimension which had an equal number of males to females. There was a significant impact of respondents' gender on perceived service quality, and male respondents dominated it. Descriptive statistics of service quality construct with its overall service quality of patient's expectations were analyzed and results revealed that, in the Assurance dimension, courtesy and friendship to patients were ranked the least with a standard deviation of 1.13. In contrast, nurses' skills and expertise were highest with a standard deviation of 1.35. The efficiency of patients' requests and attendance in responsiveness was ranked first with a standard deviation of 1.37 whilst patients' feedback was the lowest with a standard deviation of 1.32. Regarding the tangible aspect of the hospital, the hospital has good facility status with modern equipment where the bathrooms and toilet facilities are clean, respondents ranked the environment the least as being not healthy. It can be attributed to the fact that the environment is exposed to a greater number of people. The order of importance of service quality dimensions by respondents were, Tangibles (2.77±1.40), Reliability (2.76±1.32), Assurance (2.68±1.65), Responsiveness (2.63±1.32), and Empathy (2.59±1.27).

Keywords- Patient Perception, Service quality, Patient Demographic Characteristics, Outpatient Department, Patient Expectation.

I. Introduction

The influence of patient demographic characteristics on service quality in the outpatient department is a major concern in recent times. Patients' perceptions, ideas, views, and feedback influence hospital service quality.
Service quality is the variation between what the clients anticipate, observe, and acknowledge. These variations can be used for patients' overall well-being and quality performance improvement in many hospitals (Abbasi, Zarei, Rafat Hosein, and Pouria, 2019).

The gap between customer expectations and perception of performance greatly determines the level of service quality from the customer's perspective (Parasuraman, Zeithaml, and Berry, 1985).
Service quality dimensions include Reliability, Responsiveness, Assurance, Empathy and Tangibility.

The Outpatient Department is the primary contact between patients and the hospital. The quality of services provided by the Outpatient Department adds a significant contribution to the overall impression of services given by the hospital. Revenues of Outpatient Department services exceed or break even with the inpatient department because of its increasing number of patients (Afridi, 2019).

A high rate of service quality is predominant in the Outpatient Department to ensure its survival and continuity.

II. Aims and Objectives

Aim
To assess the influence of patient demographic characteristics on service quality in the outpatient Department at Komfo Anokye Teaching Hospital, Ghana
Specific Objectives
1. To determine the level of service quality
2. To determine whether patients' demographic characteristics influence service quality
3. To determine how patient-experienced quality influences their health status.

III. Materials and Methods

Research design
Research design employs coherent and logical strategies adopted to answer research problems and questions using empirical data. The decisions about the overall research and approach are investigated.
A cross-sectional design was used to measure the differences between the varieties of patients. Cross-sectional design makes use of survey techniques to gather data, which makes the process inexpensive and takes less time to conduct. (Paul and Lavrakas, 2008). The method made use of primary research data as well as stratified sampling criteria evaluated to select the participants for the study.

Quality Assessment
The study made use of the SERVQUAL model based on five dimensions, subdivided into 22 questions or items, and measured based on a scale called 5-point Likert where patients responded to the questions that ranged from strongly disagree to strongly agree, (Pouragha and Eshan, 2016). Patients' perceptions and expectations of service quality were determined based on the scores associated with the five dimensions and they are, Reliability, tangibility, responsiveness, assurance, and empathy.
Service quality was first declared by the respondents followed by their perceived performance levels on the items. Responses were scored on a scale of one to five, where one signifies completely disagree, two represents, disagree, three shows uncertain four representatives agree, and five strongly agree.
The overall service quality (SQ) = Performance (P) less Expectation (E). This formula was used to evaluate service quality among the patients using the above-mentioned dimensions.

Inclusion and Exclusion Criteria
Patients who participated in the study did it out of their own free will and the only inclusion criterion was the willingness to participate and patients who are above 18 years irrespective of their gender or ethnic groups.

However, patients with severe physical dysfunctions, mentally retarded, and stroke, and those unwilling to participate in the study were excluded from the study.
Research evidence

The search for the literature review was conducted using targeted search engines. These academic databases and search engines are Science-Hub, ScienceDirect, Google Scholar, PubMed, Web of Science, Semantic Scholar, and Academic Search. For easier usage of these tools, the DOI of the journals or articles, and specific keywords such as patients' demographics, outpatient department, and service quality were used to search for related areas.

Statistical analysis

Structured in-depth pretested interviews of patients were conducted with pretested questionnaires. Data was collected based on the questionnaires at hand. The period of data collection was from April 2021 to October 2021 at the Komfo Anokye Teaching Hospital, Kumasi Ashanti, and lasted for 6 months.

To facilitate easy data collection, the questionnaires were divided into thematic headings such as patients' demographics, levels of service quality, and patient health status. The questionnaires were translated into the local language to aid respondents in answering the questions.

The data were analyzed using IBM SPSS version 20 software, correlation, and regression analysis as well as statistical tests carried out. For quality assessment, the SERVQUAL technique was employed. The data were analyzed by using descriptive statistics with the results presented in standard deviation, percentages, frequencies, and tabular forms.

Ethical consideration

The commencement of data collection for the research began by communicating with the management board of (Komfo Anokye Teaching Hospital- KATH) for their permission to carry out the research. A clearance letter was received from the Ethical Review Committee for the process of research to begin. Similar procedures were carried out at the Outpatient Department to seek their consent.

Patients were told that their direct involvement in such data collection was not compulsory, but out of their own free will. There are no right or wrong answers to the questions, so they should answer the questions as truthfully as possible.

The pre-tested questionnaires were developed based on international standards. Patients were interviewed in the outpatient department by experts. The interview was based on their demographic characteristics such as age, gender, educational background, economic status residential area, marital status, health status, and perceived quality as well as levels of service quality.

IV. Results and Discussion

Table 4.1 above shows the patients' demographic characteristics. Concerning the ages of patients, the mean age of 43 years was observed with a standard deviation of 16.7. One Standard deviation either above or below the mean age is from the range of 26.3 to 59.7. This implies that 68% of the patients will be aged between 26.3 and 59.7 years.

International Journal for Research Trends in Social Science & Humanities
Volume 3, Issue 6
Nov-Dec 2025, PP 1-22

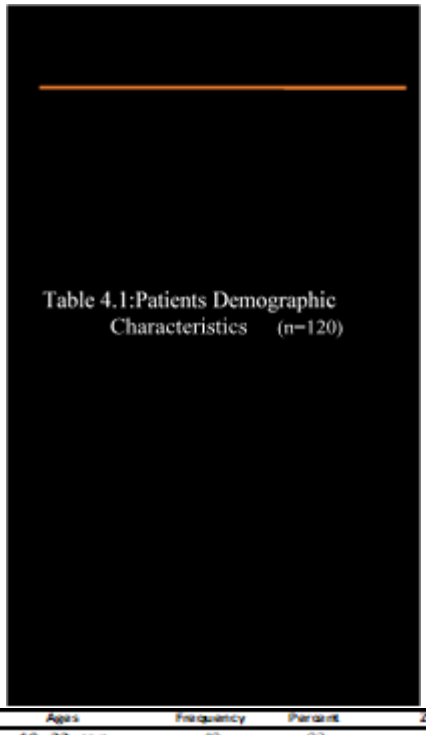

Table 4.1:Patients Demographic Characteristics (n=120)

Variables	Ages	Frequency	Percent	Z Value	SD	Mean
Age of Patients Mean ±SD 43.0 years ±16.7	18 – 22 years	10	8.3	0.09	1.4	20.0
	23 – 27 years	15	12.5	0.14	1.5	25.0
	28 – 32 years	5	4.2	0.22	1.6	30.0
	33 – 37 years	25	20.8	0.31	1.58	35.0
	38 – 42 years	14	11.6	0.43	1.58	40.0
	43 – 47 years	6	5.0	0.54	1.58	45.0
	48 – 52 years	5	4.2	0.65	1.58	50.0
	53 - 57 years	12	10.0	0.75	1.60	55.0
	58- 62 years	8	6.7	0.84	1.60	60.0
	63 – 67 years	11	9.2	0.90	1.60	65.0
	68 – 72 years	9	7.5	0.94	1.60	70.0
Gender	[illegible]	70	58.3	0.31	7.3	14.0
	Female	50	41.7	0.14	2.7	10.0
Residential Area	Urban	75	62.5	0.31	2.5	37.5
	Rural	45	37.5	0.32	2.5	22.5
Education	No Schooling	57	47.5	0.20	11.5	28.5
	Primary & Secondary	38	31.7	0.07	4.0	19.0
	University	25	20.8	0.03	4.5	12.5
Marital Status	[illegible]	25	20.8	0.08	2.5	12.5
	Single	40	33.3	0.43	5.0	20.0
	Widowed	35	29.2	0.45	7.5	17.5
	Divorced	20	16.7	0.02	5.0	10.0
Economic Status	Excellent	3	2.5	0.01	0.5	1.5
	[illegible]	28	23.3	0.04	4.0	14.0
	Average	34	28.3	0.06	4.0	18.0
	Low	55	45.8	0.18	12.5	27.5
Health Status	Excellent	14	11.7	0.08	3.0	7.0
	[illegible]	10	8.3	0.01	2.0	5.0
	Fair	16	13.3	0.02	12.0	23.0
	Poor	80	66.7	0.43	10.0	40.0
Employment	Housewife	50	41.7	0.14		
	Unemployed	40	33.3	0.43	10.0	20.0
	Employed	30	25.0	0.05	5.0	15.0

95% of the patients were 43.0 plus or minus 33.4 years. That is two standard deviations away from the mean. Again 99.7% of the patients were 43.0 plus or minus 50.1 years, three standard deviations from the

mean. The standard deviation for the patients' age is high, implying that the data points were dispersed from the mean. The Z score of 0.09 for patients with an age range of 18 to 22 years corresponds to 0.53 on the Z table. This means that patients within this age range are 53% above the mean age and are also 47% below the mean age of the distribution.

Conversely, patients from 68 to 72 years obtained a z score of 0.94 with its corresponding value of 0.82. This implies these patients are 82% above the mean and 18% below the mean. Lastly, the age of 63 to 67 years was 81% above the mean and 19.0% below the mean.

The impact of respondents' age on perceived service quality

With an increase in age, patients lowered their expectations that were assigned to the scores in the Reliability and responsiveness dimension where a lower number of respondents opted for strongly agree. There were insignificant correlations between respondents' age and the level of agreement attributed to the dimension. Empathy is the dimension where patients assigned strongly agree and was influenced by the age of respondents. However, Responsiveness also was influenced by the age of patients, in that, it was the only dimension that attracted a high percentage of scores for agreement.

Table 4.2 The level of respondents' Perception of service quality (SERVQUAL Model)

Dimension	Completely Disagree	Disagree	Uncertain	Agree	Strongly Agree
Tangible	26 (21.6)	28(23.3)	26(21.6)	22(18.3)	18(15.0)
Reliability	33(27.5)	28(23.3)	30(25.0)	20(16.6)	9(7.5)
Responsiveness	30(25.0)	25(20.8)	29(24.1)	30(25.0)	10(8.3)
Assurance	32(26.6)	35(29.1)	22(18.3)	20(16.6)	11(9.2)
Empathy	32(26.6)	22(18.3)	24(20.0)	23(19.1)	19(15.8)

Table 4.2 above shows the level of respondents' perception of service quality. In terms of physical facilities, equipment, and appearance of personnel (tangibles), 21.6% of the respondents completely disagreed, 23.3% disagreed, 21.6% were uncertain about their decisions, 18.3% agreed and 15% opted strongly agreed. In the performance of promised services depending on and according to accuracy, 27.5% completely disagree, 23.3% disagree, 25.0% uncertain, 16.6% agree and 7.5% strongly agree.

Responsiveness is the willingness and ability to assist customers and provide prompt services, 25.0% completely disagree, 20.8% disagree, 24.1% are uncertain, 25.0% agree and 8.3% strongly agree.

On the other hand, the courtesy and knowledge of employees coupled with their ability to inspire trust and confidence, 26.6% completely disagree, 29.1% disagree, 18.3% are uncertain, 16.6% agree and 9.2% strongly agree. Regarding caring and providing individualized attention by the firm, 26.6 completely disagree, 18.3% disagree, 20.0% are uncertain, 19.1 agree and 15.8% strongly agree.

International Journal for Research Trends in Social Science & Humanities
Volume 3, Issue 6
Nov-Dec 2025, PP 1-22

The totality of respondents' Perceptions of service quality were extremely low after the evaluation of the services the hospital firm provides because many respondents completely disagreed or disagreed in terms hospital's overall performance. Similarly, many respondents were uncertain about their choices of decisions about the hospital in that they were residing in rural areas or had not assessed the services of the hospital before.

Table 4.3 The level of respondents' Expectations of service quality

Dimension	Completely Disagree	Disagree	Uncertain	Agree	Strongly Agree
Tangible	10(8.3)	24(20.0)	30(25.0)	32(26.6)	24(20.0)
Reliability	10(8.3)	31(25.8)	27(22.5)	33(27.5)	19(15.8)
Responsiveness	8(6.6)	30(25.0)	29(24.1)	35(29.1)	18(15.0)
Assurance	17(14.1)	32(26.6)	30(17.5)	31(25.8)	10(8.3)
Empathy	12 (10.0)	27(22.5)	36(30.0)	29(24.1)	16(13.3)

Table 4.3 clearly illustrates the respondents' expectations of service quality. A greater proportion of the respondents had the mindset that service quality at the outpatient department is good. A greater number of the respondents agree or strongly agree that hospital performance is best beforehand. Respondents already had the feeling that the hospital provides better needs for its consumers.

Table 4.4 Service Quality Dimensions Gap Scores Analysis

Quality dimension	CD	DU	A	SA	CD	U	A	SA	CD	D	U	A
SA												
Tangible	21.6	23.3	21.6	18.3	15	8.3	0	25	26.6	20.0	13.3	3.3	-3.4	-8.3	-5
Reliability	27.5	25	16.6	7.5	8.3	25.8	22.	27.5	15	.8	19.2	-2.5	2.5	-10.9	-8.	3	23.3
Responsiveness	25	20.8	24.1	25	8.3	6.6	25	2	4.1	29.1	15	18.4	-4.2	0.0	4.1	-6.5	
Assurance	26.6	29.1	18.3	16.6	9.2	14.1	26.6	17.5	25.8	8.3	12.5	2.5	0.8	-9.2	0.9
Empathy	26.6	18.3	20	19.1	15.8	10	22.5	30	24.1	13.3	16.6	-4.2	-10	-5.0	2.5

NB: CD completely Disagree D- Disagree, U- Uncertain A- Agree SA- Strongly Agree
Table 4.4 shows the mean gap scores in patients' perceptions and expectations. In general terms, patients' expectations statistically are more than their perceptions except in the empathy and assurance dimension where patients' perceptions exceed their expectations. This implies that patients strongly agree with the individual attention

given to them by the hospital as well as the knowledge, courtesy, and the workers' ability to inspire trust and confidence.

A gap existed in reliability and tangibility dimensions. This implies patients were not contemptuous of the service delivery. In the case of the responsiveness dimension, there was no gap in the agreed sections, and this implies that respondents were content with the service.

The negative scores associated with reliability and tangible imply a gap and hospital managers should with immediate effect invest in equipment as well as technology in the hospital and enforce employee disciplines. This is because most hospital clients assess the hospital service based on the tangibles and the price they are charged. (Purcarea, Gheorghe, and Petrescu, 2013).

Table 4.5 The impact of gender on (1) the level of respondents' expectation of service quality and (2) the level of respondents' perceptions of service quality. SERVQUAL Model.

Dimension	Gender			P- Value	Mean	Standard deviation
	Respondents Perception					
	Median	IQR	range			
Tangibility	24	7	10	0.15	26	4.0
Reliability	28	17	24	0.18	28	9.7
Responsiveness	29	12.5	20	0.20	29	8.5
Assurance	22	18	24	0.10	22	9.6
Empathy	23	7.5	13	0.12	23	4.8
	Respondents Expectation					
	Median	IQR	range			
Tangibility	24	14	22	0.13	24	8.6
Reliability	27	17.5	23	0.17	27	9.4
Responsiveness	29	19.5	17	0.20	29	10.9
Assurance	30	18	22	0.17	30	9.9
Empathy	27	18.5	24	0.17	27	9.8

Table 4.5 shows respondents' Perceptions and Expectations of service quality. The least p values obtained in respondents' perception were observed in the Assurance and Empathy dimensions with values of 0.10

and 0.20 respectively with their corresponding standard deviations of 9.6 and 4.8. These values do not make the dimensions statistically significant. However, respondents' Expectations showed that the tangibility dimension had the lowest p-value score which is equally not significant.

International Journal for Research Trends in Social Science & Humanities
Volume 3, Issue 6
Nov-Dec 2025, PP 1-22

Table 4.6 Cross-tabulation of Gender and Patients' Perceptions. SERVQUAL model

Dimension Gender	Completely Disagree	Disagree	Uncertain	Agree	Strongly Agree
Assurance-male	5	17	17	12	19
female	2	12	11	11	14
Total	7	29	28	23	33
Reliability -male	5	10	18	21	16
female	3	12	10	10	15
Total	8	22	28	31	31
Tangible- male	3	20	18	17	12
female	5	10	10	12	13
Total	8	30	28	29	25
Empathy- male	4	16	15	20	15
female	5	10	11	15	9
Total	9	26	26	35	24
Responsiveness male	4	14	15	17	20
female	4	15	14	7	10
Total	8	29	29	24	30
Overall Total	40	136	139	142	143

Based on gender in determining the performance of the hospital, 2.7% of respondents completely disagree on the assurance, reliability, tangible empathy, and responsiveness on the part of the hospital. 13.3% disagreed, 24.7 were uncertain, 33.5% agreed and 25.8% strongly agreed. Given these percentages, 33.5% proportion of the respondents perceived and agreed that the performance of the hospital is good.

On the contrary, the value that the clients received based on their expectations levels in Table 6 indicates that service quality is abysmal, and they were not content with the hospital's performance. This percentage is 36.6% representing respondents who agreed to the performance based on the dimensions stated.

Moreover, 27.2% opted to strongly agree with their expectation levels as compared to 25.8% of respondents in perception levels. It is therefore obvious that the value of services received by the respondents does not exceed their expectations; hence the perception is not better than expectations.

Table 4.7 Cross-tabulation of Gender and Patient Expectations. SERVQUAL Model

Dimension Gender	Completely Disagree	Disagree	Uncertain	Agree	Strongly Agree
Assurance- male	8	8	10	27	17
female	10	8	7	10	15
Total	18	16	17	37	32
Reliability -male	2	9	20	14	25

female	1	8	17	10	14
Total	3	17	37	24	39
Tangible-male	3	9	8	21	29
female	7	10	9	14	10
Total	10	19	17	35	39
Empathy- male	2	11	10	22	25
female	3	9	12	10	16
Total	5	20	22	32	41
Responsiveness-male	6	8	10	28	18
female	3	10	13	14	10
Total	9	18	23	42	28
Overall Total	45	90	116	170	179

Table 4.7 above indicates cross-tabulation of gender and Patient Expectations. It is observed that 7.5% of respondents completely disagreed with their expectations of the hospital, 15% Disagreed, 19.5% of respondents were uncertain about their expectations of the hospital, 28.5% agreed and 29.8% strongly agreed with the expectations of the hospital. Respondents' expectation levels were high.

The impact of respondents' gender on perceived service quality.

There were 120 respondents sampled population for the study. There were 70 males representing 58.3% and 50 females representing 41.7%. In terms of gender in the determination of respondents' perceived service quality, more males influenced the decision in almost all dimensions except in the Tangibility dimension which had an equal number of males to females. There was a significant impact of respondents' gender on perceived service quality, and it was dominated by male respondents.

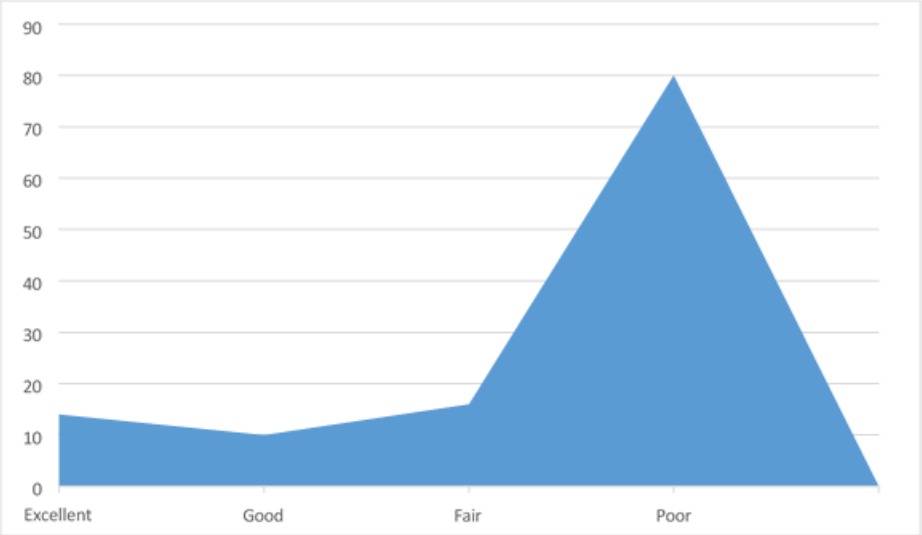

Figure 4.3. Patients Health Status

The chart shows Patients' health status which ranges from poor, fair, good, and excellent. Patients with poor health status constitute 66.7% of the respondents. Patients whose health status was fair represented 13.3%. Those who had good health status were 8.3% and patients with excellent status had only 11.7%.

It indicates that patients with good health status had a major percentage followed by patients with poor health status and they were patients of advanced ages. Those who had excellent health status were those from excellent economic status. Patients with fair health status are those from average economic status and patients with poor health status are from low economic areas.

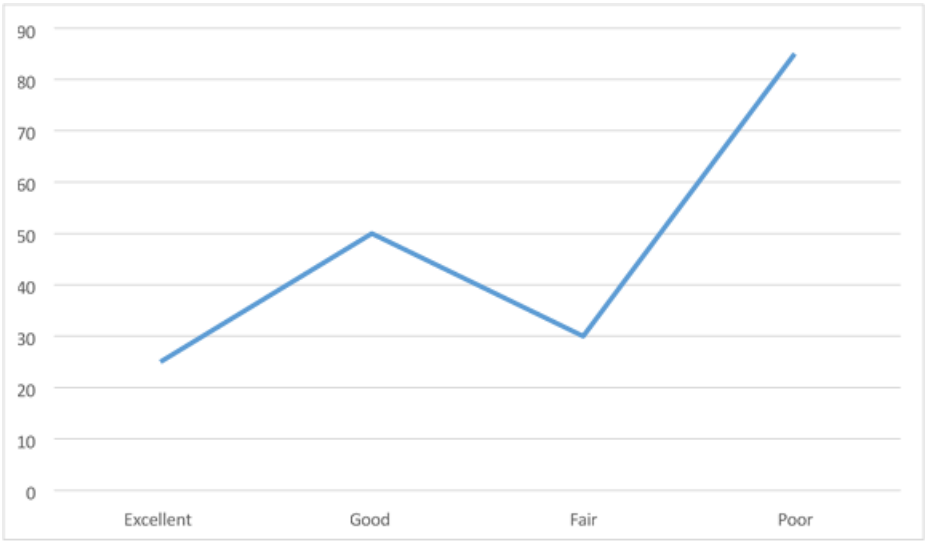

Figure 4.4. Patient's Health Status and Age

The Impact of Respondents' health status on perceived service quality

The graph of patients' health status and their ages. The health status ranged from excellent, good, fair, and poor. Patients with an age range of 18 to 27 years had excellent health status which represents 11.7%.

Those who had good health status were the patients from 25 to 50 years and they represented 8.3%. Patients with fair health status are those in their 30s and occupy 13.3%

Patients with poor health status are those who are above 50 years representing 66.7%. As patients increase in age, their health status declines. This is obvious in the graph above that, patients who are above 50 years had poor health status. There was no significant impact on respondents' health status and perceived service quality in the case of the questionnaires administered.

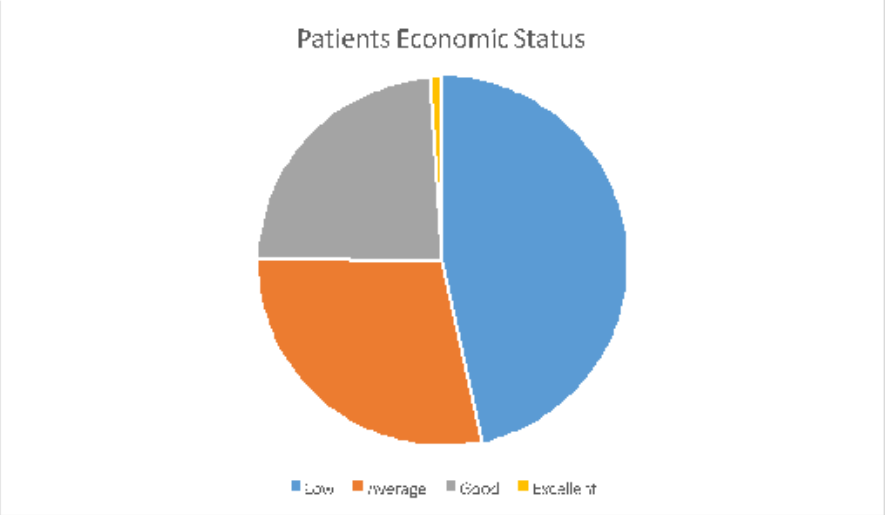

Figure 4.5. Patients' economic status

The figure above shows patients' economic status which ranges from excellent, good, average, and low. Patients with excellent economic status are only three patients representing 2.5%.

Patients with good economic status are 23.3% and they constitute 28 patients, those with average status are 28.3% with 34 patients and finally, those with low economic status are 45.8% comprising 55 patients.

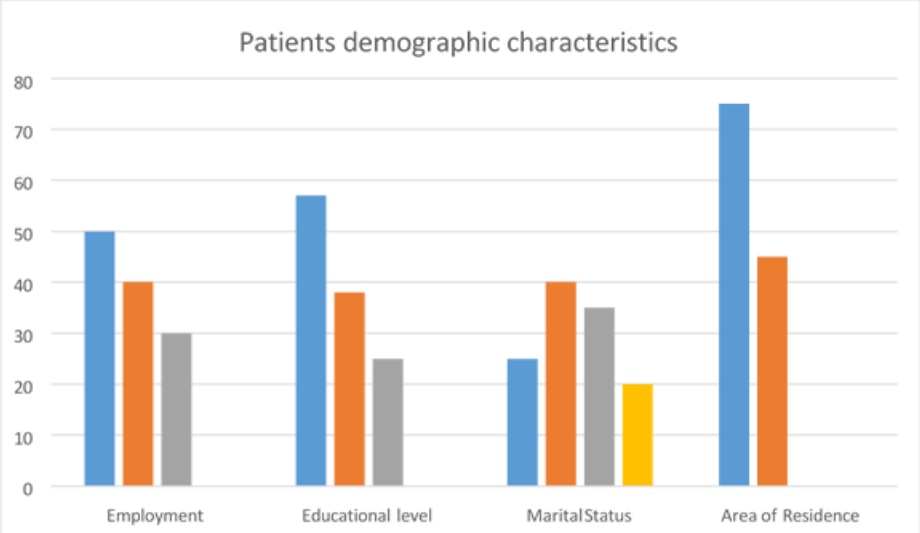

Figure 4.6. Patients' demographic characteristics

International Journal for Research Trends in Social Science & Humanities
Volume 3, Issue 6
Nov-Dec 2025, PP 1-22

NB.
Employment levels: From left to right: Housewife, Unemployed, and Employed Marital Status: Married, single, widowed, and divorced.
Educational Levels: No schooling, Primary, and Secondary and University Area of residence: Urban and Rural

The impact of educational level on Perceived service quality.
Concerning the graph above, many respondents had no formal education which constituted 48.0% of the entire population, those that had primary and secondary education were 36.5% and universities were 15.5%. Advancement in education constituted higher expectations of service quality. This can be seen in the responsiveness dimension where 19.5% opted to agree and in Empathy levels 14.5% strongly agree.

The level of respondents' education did not have a significant impact on the overall service quality, because most respondents were uneducated, and completely disagreed with reliability 34.0% and responsiveness 34.0% respectively. Respondents' level of education did not pose a significant impact on their scores for perception in questionnaires and in the dimensions.

Table 4.8 Distribution of responses from patients about different parameters of their health status

S. No	Questions regarding health status	Correlation	Mean	SD	Lower C. I	Upper C. I
1	How healthy do you see yourself	0.22	2.01	0.89	0.04	0.38
2	Do you have any chronic diseases	0.24	1.61	0.65	0.40	0.70
3	Do you have any hereditary disease	0.20	1.54	0.50	0.02	0.37
4	How often have you felt down or depressed over the past two weeks	0.01	1.83	1.21	-0.16	0.19
5	Have you been put on regular medication	0.28	1.65	0.65	0.11	0.44
6	How often do you get check-ups	0.18	1.67	0.76	0.06	0.35
7	Do you take your prescribed medications	0.18	1.62	0.72	0.01	0.34
8	What is the general attitude of the doctornurse relationship toward you	-0.06	1.38	0.48	-1.86	0.19
9	Do you have difficulties taking your medications	-0.72	1.55	0.53	-2.48	0.10
10	Has the hospital solved your health problems	-0.02	1.54	0.53	-0.18	0.17
11	Has any of your family members died after the diagnosis of a disease	-0.12	1.49	0.66	-0.29	0.05
12	Has the care rendered solved or worsened your problems	0.20	1.65	0.75	0.28	0.37

International Journal for Research Trends in Social Science & Humanities
Volume 3, Issue 6
Nov-Dec 2025, PP 1-22

A confidence interval of 95.0% was considered.

Table 4. 8 shows the responses from respondents regarding their health status. Correlation coefficients, mean, standard deviation, and upper and lower confidence intervals were calculated from their responses. There was a weak positive correlation between respondents' illness and health status. More so, there was a negative correlation between patients' health status and illness. An increase in respondents' illness resulted in a decrease in patients' health status.

Table 4.9 Regression Analysis of Patients' health status

Model	Sum of squares	df	Mean squares	F	Sig
Regression	12.922	10	1.29	1.69	0.09
Residual	83.04	109	0.76		
Total	95.97	119			
	Unstandardized Coefficients B Std. Error		Standardized fficients Beta	t	Sig
Constant	1.82 0.68			2.66	0.09
Do you have any hereditary disease	-0.330.17		-0.18	-1.94	0.05
Have you been put on regular medication	0.060.14		0.04	0.42	0.67
Do you have difficulties taking medication	0.210.16		0.12	1.27	0.20
Has the care given solved or worsened your condition	0.390.13		0.32	2.96	0.004
Has the provider solved your problems	0.140.17		0.08	0.85	0.39
How long do you wait beyond the appointment time	0.130.07		0.18	1.87	0.06
How often do you get a checkup	-0.03 0.11		-0.02	-0.27	0.78
Do you take your prescribed medications	-0.03 0.12		-0.02	-0.24	0.20
Has any family member died upon diagnosis of an illness	-0.23 0.14		-0.17	-1.62	0.1
is the general attitude of the doctor toward you	0.28 0.17		0.15	1.63	0.001

NB. Predictors (constant) questionnaires about respondents' health status

Table 4.9 shows a regression analysis of the patient's health status. The constant predictors questionnaires as the independent variable were tested against patient health status as the dependent variable. To obtain the relationship between dependent and independent variables, the p-value which in other words is known as the significant value should be a value below 0.01 that is ($p< 0.01$). The findings showed that there was no positive relationship between the constant predictors and patient health status where a p-value of 0.09 was obtained greater than 0.01.

Table 4.10. Descriptive Statistics of Service Quality Constructs and Overall Service Quality of Patients Expectations

Service quality Variables	Mean	S. D	Rank
ASSURANCE			
1.1 The patients trust doctors' expertise and skills	2.63	1.24	3
1.2 Patients trust the skills and expertise of nurses	2.85	1.35	1
1.3 Patients feel secure in using hospital services	2.76	2.88	2
1.4 hospital staff are courteous and friendly to patients	2.50	1.13	4
RESPONSIVENESS			
2.1 Patients' needs are met promptly by the hospital staff	2.69	1.29	3
2.2 Patients are attended to according to appointment schedules	2.70	1.31	2
2.3 Patient requests are attended to by doctors and nurses efficiently	2.71	1.37	1
2.4 Patients receive feedback promptly	2.45	1.32	4
RELIABILITY			
3.1 Hospital services are performed correctly from the first day	2.96	1.31	1
3.2 Patients problems and queries are catered for by the hospital	2.93	1.37	2
3.3 Patients are confident in receiving treatment at the hospital	2.63	1.29	4
3.4 Documents are submitted without error by the hospital	2.69	1.29	3
3.5 Services are provided within the time	2.62	1.35	5
TANGIBLE			
4.1The hospital has modern equipment	2.77	1.38	2
4.2 Facilities of the hospital have a good status for patients	2.85	1.65	1
4.3 The hospital has a healthy environment	2.70	1.31	4
4.4 The hospital has clean toilet and bathroom facilities	2.75	1.29	3
EMPATHY			
5.1The hospital gives individual attention	2.77	1.32	1
5.2 The hospital operates at a time convenient to patients	2.62	1.29	3
5.3 Traditions prevailing in society are taken into consideration	2.46	1.33	5
5.4 The interests of patients are prioritized by the hospital	2.47	1.23	4
5.5 The medical staff responds to patients' complaints promptly	2.66	1.22	2
OVERALL SERVICE QUALITY			

1. The totality of the hospital treatment is the best	1.40	0.49	3
2. The hospital's overall medical care is best	1.66	0.47	1
3. The overall nurses' patient relationship is the best	1.43	0.97	4
4. The totality of the hospital management practices is best	1.58	1.32	2
5. Doctor-patient relationship was the best	1.43	0.49	2

Table 4.10 shows the descriptive statistics of service quality and the overall service quality of patient expectations. Mean, Standard deviations, and ranking order of the service quality variables were obtained. The ranking order of the service quality variables was based on the means obtained in each variable.

Discussions

Patients' demographics are contemporarily used to measure the quality of service in the outpatient department.

A lot of studies critically examined service quality in various dimensions and contexts while ignoring some essential factors such as patient demographic variables. (Jerome and Ard, 2016).

The objective of this study was to determine the influence of patient's demographic characteristics on service quality in the outpatient department. Patients' demographic features that were covered in this study include gender, age, educational background, marital status, economic status, area of residence, employment levels, and health status. (Afzal, Rizvi, Azad, Rajput, and Tariq 2014), said that service quality means may be affected by gender, and gender differences in mean stages will be mixed. Women are more content and critical than men in terms of the medical care they receive.

This current study revealed that patient gender did not have a significant effect on service quality in the outpatient department even though, male patients were more than females. Patients' gender on perceived service quality was predominantly dominated by males but was not statistically significant.

It was observed in a few instances in empathy and responsiveness where there was an equal number of males to females. The P value 0.20 of respondents' Perceptions and Expectations in the responsiveness dimension tends to be equal but not statistically significant since this value is greater than 0.05 in Table 5. More so, respondents' perception showed low p values for Assurance and Empathy dimensions of 0.10 and 0.12 respectively but not statistically significant. In Respondent Expectations, Tangibility dimensions missed slightly the significance level with a value of 0.13, a mean value of 24, and a standard deviation of 8.6. However, a study conducted by (Fraihi, and Latif 2016) showed a significant association between gender and mean scores gap in tangibility and reliability dimensions.

The expectations of females were higher than males. Age has both significant and negative effects on service quality. Consumers who are advanced in age hold a less favorable ideology concerning the reliability of a service in terms of functional quality,

outcome quality, and the totality of service quality as compared to younger consumers. (Jerome et al 2016).

The results of this study clearly showed that patient age had a significant relationship with service quality. An increase in patients' age results in an increase in the z-value scores. This presupposed that patients were more dispersed from the mean as they increased in age. Higher Z values associated with an increased age give the assumption of a low probability of better service quality in the outpatient department. An increase in values increased in P value. As the patients increased in age, they realized that service quality was not better in the department.

As respondents increased in age, they lowered their expectations that were assigned to the scores in the reliability and responsiveness dimension where a lower number of respondents opted for strongly agree. There were insignificant correlations between respondents' age and the level of agreement attributed to the dimension. Empathy is the dimension where patients assigned strongly agree and was influenced by the age of respondents. However, Responsiveness also was influenced by the age of patients, in that, it was the only dimension that attracted a high percentage of scores for agreement. There was also a high impact of respondents' age on their health status. As patients increase in age their health status also declines. An increase in age results in poor health conditions in patients.

It is statistically proven that a person's income has a strong effect on the choice of decisions made. Higherincome earners achieve a higher level of education and are more often engaged in finding out information before embarking on a decision. (Jerome et al 2016).
Research conducted by (Afzal et al 2014), revealed that patients who were less educated or illiterate were more content with the quality of service they received than those who were more educated or literate. The study reveals that many respondents were uneducated, and their choice of decisions on overall service quality was not compromised.

Those who were educated influenced their decisions in responsiveness and empathy dimensions. The level of respondents' education did not have a significant impact on the overall service quality, because most respondents were uneducated, and completely disagreed with reliability 34.0% and responsiveness 34.0% respectively. Respondents' level of education did not pose a significant impact on their scores for perception in the questionnaires and in the dimensions.

Patients who receive less income expect to receive fewer expectations from their healthcare providers. Again, patients whose monthly income is low showed significantly higher levels of service quality as compared to patients with higher monthly income levels. (Afzal et al 2014).

In this study, most of the patients had low-income levels between 45 to 89 euros representing 54%, those that had an average income of 17% received between 89 to 177 euros, 27.5% of the patients' received salaries between 132 to 265 euros and only 1.5% had excellent status receiving above 265 euros.

Fewer expectations were observed in the Assurance and empathy dimensions, with 6.5 and 8.5 percent respectively. This was attributed to the fact that respondents receive low- and average-income levels.

On the grounds of patients' residential areas, (Manulik, Karniej, and Rosinczuk, 2018) in their study postulated that perceived service quality scores in the tangibility dimension significantly decreased in densely populated areas. In more populated areas competition is higher in cities among healthcare providers. In line with this study, many patients were from the urban areas, and thus because of competition patients chose to assess the hospital due to infrastructure design, hardware resources, their design, hospital personnel, and the fact that it is a teaching hospital. Meanwhile, it is observed that previous studies have not evaluated the impact of patients' places of residence on service quality delivery.

The study showed that the place of residence of respondents had an impact on scores related to expectation with 17.5% in the tangibility dimension. The study indicates that the more patients advance in age, the more their health issues decline. Younger patients had better health than older patients. There was no observed literature to support the assumption that patients' perceived health status was a major indicator of service quality delivery.

From Table 4.5 above, it is observed that 25% of the respondents in the dataset fall below 31.7, and 75% of the respondents from the dataset fall below 54.3. The spread of the data, which is the median 50% of the dataset is represented by 22.6. There was a strong correlation between respondents in the residential area and gender, in that the correlation coefficient between gender and residential area was one, suggesting a strong correlation. However, income and educational status have a negative correlation.

The correlation coefficient between income and educational status was calculated as -0.74. These variables tend to move in the opposite direction. It was observed that many of the respondents had no formal education and that matter, had a lower income level. Educational levels have a direct impact on income.

More so, respondents' education and employment status were correlated and there was a strong correlation between these two variables. The correlation coefficient was calculated as 0.99. The more respondents are educated the better employment opportunities they have. In the service quality constructs, the patients trust the skills and expertise of nurses with a mean of 2.85 followed by being secure in using the hospital services with 2.76. Meanwhile, the patients did not consider the nurses courteous, polite, and friendly but also trusted the doctor's skills and expertise as less important to the nurses.

On the part of responsiveness, even though patients' needs are attended to by the nurses and doctors within a specific time frame, results or feedback are delayed and not received promptly. This is because results and feedback were ranked the least. It can be observed that, although the patients truly rely on the services of the hospital, their working time can be changing, as patients can wait longer before they consult a doctor.

This is in line with research work by (Lee, Kim, Choi, and Sunhee, 2009) where patients spend more time with non-physicians before a doctor consultation. This makes the patients spend more time with nurses, receptionists, and other personnel of the hospital. Services are performed correctly by the hospital where patients' problems and queries are attended to through proper documentation with the needed trust and confidence from patients. It is observed that although these services are well and carefully performed by the hospital, patient waiting times are a major concern for the hospital.

Regarding the tangible aspect of the hospital, the hospital has good facility status with modern equipment where the bathrooms and toilet facilities are clean, respondents ranked the environment the least as being not healthy. It can be attributed to the fact that the environment is exposed to a greater number of people. This is in line with research conducted by (Ramesh Neupane and Manju Devkota 2017, which indicated an arithmetic mean score of 4.06 attributed to tangible service quality and was the least important among the dimensions. The hospital gives patients personal attention to their interests at heart at convenient times and appropriately. However, traditions that prevail in the community were not taken into consideration by the hospital. The mean score of the empathy dimension was 2.59 with a standard deviation of 1.27.

Research conducted by (Mesut Akdere, Mehmet Top, and Sabahattin Tekingunduz 2018) posed that the empathy dimension had a mean score of 3.83 and a standard deviation of 1.04. This dimension was ranked fourth among all service quality dimensions.

The overall service quality observed by respondents indicated that the overall medical care is best followed by the hospital management practices. The type of treatment the hospital gives to the patients was ranked third and the relationship between the patients and nurses was ranked the least by respondents.
The order of importance of service quality dimensions by respondents were, Tangibles (2.77±1.40),
Reliability (2.76±1.32), Assurance (2.68±1.65), Responsiveness (2.63±1.32), and Empathy
(2.59±1.27)

Table 4.9 elaborates on the regression analysis of patient health status and constant predictors that explained the beta value. The results of the beta value defined comparative influences on patient health status. The researcher can examine the types of independent variables that had the most impact on the dependent variables. The findings from the study showed the general attitude of doctors toward patients had the most impact on patients' health status ($b = 0.32$, $t = 1.63$, $p < 0.01$). The second influence independent variable on patients' health status is the care given by the hospital which has these values ($b = 0.32$, $t = 2.96$ $p < 0.01$).

According to (Emy Noor, 2016), the beta value should be between zero and one. Patient waiting time had a beta value of 0.18, $t = 1.87$, p-value more than 0.01, the beta value for easiness in taking medication was 0.12, $t = 1.27$, and p-value more than 0.01. Solutions to patients' problems recorded a beta value of 0.08, $t = 0.85$, and p-value of more than 0.01. Also, regular medication was recorded ($beta = 0.04$, $t = 0.42$, $p < 0.01$).

The findings indicated that doctors' general attitude toward patients and the care that the hospital gives had the most influence on the health status of patients. Results of this study showed a positive significant association between doctors' general attitude to patient health and the general care patients received.

Acknowledgement
I acknowledge Professor Luis Pedro Ribeiro, whose frantic efforts made this work a success. I also give reference to the Jury of the University of Algarve who made significant contributions to the entire work.

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