

Assessing Patient's Satisfaction Using SERVQUAL Model: A Case of Sunyani Regional Hospital, Ghana

Augustine Awuah Peprah¹, Bede Akorige Atarah²

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ABSTRACT

The interaction between patients and healthcare providers is critical as it influences patients' satisfaction. This encounter provides the patient with the opportunity to assess and evaluate service quality and conversely it offers the provider an opportunity to manage patients' perceptions and service quality. This study was conducted at Sunyani Regional Hospital in Ghana to assess patients' satisfaction using SERVQUAL model by Parasuraman et al., (1988). The SERVQUAL instrument was adapted and modified to capture the relevant data. A total of 214 patients were employed in the study. Data were analysed using SPSS (version 16.0) for descriptive statistics and patients' satisfactions were determined by the service quality gap model. The result indicated that the overall satisfaction of patients concerning the service quality of the hospital was good. On the other hand the gap scores showed negative gaps for four of the service quality dimensions out of six used in the study, indicating that patients were not satisfied with the service quality in relation to those dimensions. This therefore calls for management action to improve service delivery in those areas. These dimensions were Reliability, Communication/interpersonal relationship, Assurance, and Responsiveness. On the contrary, Tangibility and Empathy dimensions scored positive which affirms patients' impression about the service.

1.0 Introduction

In providing responsive, quality healthcare delivery, the importance of understanding patients' satisfaction is widely acknowledged. According to Woodside et al.(1989) cited in Peprah (2014), Consumer satisfaction is a fundamental requirement for healthcare providers. Satisfaction become very imperative as patients themselves and institutional healthcare service buyers make selection decisions. Many studies add that in addition to its positive implications on patient retention and loyalty, patient satisfaction influences the rate of patient compliance with physician advice and the healing process of patients (Calnan, 1988; Roter et al., 1987).

Peprah (2013), argues that for the limited healthcare resources to be allocated and managed effectively, it is therefore prudent for healthcare providers to access and identify patients' priorities among various service quality dimensions and to improve these dimensions for patient satisfaction. According to Jackson and Kroenke (1997), healthcare service quality is an indicator aiding the discovering of the aspects of service quality that require changes to improve patient satisfaction. The importance of patients' views as an essential tool for monitoring and managing as well as improving service quality has been stressed by many studies. Many hospitals are shifting from the culture of the healthcare system from one formed by the preferences and decisions of medical professionals to one shaped by the views and needs of its users thus adopting a patient-centred attitude (Hendriks et al., 2002). As a result, a number of studies investigating patient satisfaction employ a wide range of measurements depending on their patient satisfaction definition (Al Qatari and Haran, 1999).

The Servqual model is a tool used for measuring service quality and consequently the satisfaction of clients. It begins with the assumption that service quality is a function of customer's expectation of a service and their perceptions of the service actually rendered. To ascertain satisfaction, the difference between these

¹ School of Business, Kwame Nkrumah University of Science & Technology, Kumasi, Ghana, Email: pepraha3@gmail.com

² Purdue University, West Lafayette, USA, Email: atarah82@yahoo.com

variables (customers' expectations and perceived service actually delivered) is determined. Zeithaml *et al.* (1990) asserts that Servqual is a reliable instrument for determining service quality and satisfaction of customers and have been applied in different studies in different service industries.

There are a number of critical issues relating to healthcare services that highlight the need to assess and measure patients' satisfactions and improve them. Sewell (1997) puts forward that health which is particularly the relief or cure of ill health, is universally necessary and creates the needed attention to provide high quality services in response to development in medicine. As a result, assessing and measuring patient's satisfaction and perceived service quality is an important issue for a healthcare provider to understand what is cherished by patients, and to know where, when and how service can be altered or possible improvement can be made as well as how the scarce resources of the healthcare service would be distributed.

Therefore the objective of the study is

- To assess patient's satisfaction using SERVQUAL model at Sunyani Regional Hospital in Ghana

The result of the study will be significant to all stakeholders; it can be used by hospitals to reengineer and redesign creatively their healthcare quality management processes and strategies from the patient's viewpoint. The patients stand to gain if it leads to better services revealing the pitfall of the hospital for rectification. Also, the study will be useful to researchers who will in future undertake similar study as it will serve as a source of reference.

2.0 Literature

2.1 Patients' Satisfaction

Sixam *et al.* (1998) explained satisfaction as the state of pleasure or contentment with an action, event or service and it is determined considerably by the expectations of customers and their experiences. Oliver (1981) sees satisfaction as clients' emotional feelings concerning a particular consumption experience. By this Oliver means that satisfaction is a consequence of a mental assessment and evaluation of what clients experience and the resulting outcome of the services provided. This therefore implies that perceived service quality is considered as a cognitive construct, at the same time as satisfaction is an affective reaction to a specific service experience as a consequence of an evaluation process.

Kotler (2003) advances a discussion that explains Satisfaction as a person's feelings of happiness or displeasure as a result of comparing a product's outcome in relation to his or her expectations. Stemming from this review, customer satisfaction is described as the result of a cognitive and affective evaluation, where some comparison standard are determined and compared to the actually perceived performance. If it happens that the expected performance exceeds perceived performance then, customers become dissatisfied. On the other hand, if the expectation is more than perceived performance, customers turn to be happy and satisfied. Otherwise, when the perceived performance equals to expectations, customers are neither satisfied nor dissatisfied creating what he termed as indifferent or neutral stage.

A number of studies report that Patient's satisfaction is influenced by a number of factors and according to Peprah (2014), the following factors play a critical role in the satisfaction of patients; the attitudes of nurses toward patients, the capacity to deliver prompt service without wasting time, ability to disseminate information to patients and the availability of up-to-date equipment. Others include the hospital's ability to render 24 hour service, the patience of the doctor to clearly explain what was wrong with patients before giving treatment, providing patients with detail information about their medication, and attractiveness and cleanliness of the hospital.

Parasuraman *et al.*, (1985) explained satisfaction in relation to service quality. They argued that service quality is defined as the gap between predicted or expected service (customer expectations) and perceived service (customer perceptions). If customers' expectation is greater than performance, then perceived quality is regarded less than satisfactory and a service quality gap arises. This in effect does not necessarily mean that the service is of low quality but rather customer expectations have not been met and therefore customer dissatisfaction occurs and this present opportunities for improving service to meet customer expectations.

2.2 SERVQUAL: A Tool for Measuring Service Quality

To identify and prioritize performance improvements that are required or to ensure that patients' needs and expectations are being met, both perceptions and expectations of service are needed to be measured (Accounts Commission for Scotland 1999a; Parasuraman et al., 1985, 1988). Hart (1996), upholds that the use of service quality dimensions provides both a structure for designing a service quality measurement instrument and a framework for prioritising results and findings. Parasuraman et al., (1988) designed the SERVQUAL instrument to specifically measure functional service quality using both the gap concept and service quality dimensions. The SERVQUAL instrument, in its original form, contains twenty-two pairs of Likert scale statements structured around five service quality dimensions:

These dimensions are:

- (i) Tangible: describes the appearance of physical facilities, personnel and equipment.
- (ii) Reliability: deals with the ability to perform the promised service dependably and accurately.
- (iii) Responsiveness: considers the willingness to help customers and provide prompt service.
- (iv) Assurance: talks about the knowledge and courtesy of employees and their ability to inspire trust and confidence, and
- (v) Empathy: ability to provide caring and individualized attention to customers.

Each statement appears twice. One measures customer expectations and the other measures the perceived level of service provided by an individual organization in that industry. The twenty-two pairs of statements are designed to fit into the five dimensions of service quality. The scale for measuring was made up of a seven-point scale starting from "strongly agree" (7) to "strongly disagree" (1) accompanies each statement. The "strongly agree" end of the scale is designed to correlate with high expectations and high perceptions (Parasuraman et al., 1985, 1988). Service quality occurs when expectations are met (or exceeded) and a service gap materializes if expectations are not fulfilled. The gap score for each statement is computed as the perception score minus the expectation score. The presence of a positive gap score means that expectations have been met or exceeded and a negative score also implies that expectations are not being met. Gap scores for each individual statement can be analysed and aggregated to give an overall gap score for each dimension. Potentially, this allows an organisation to assess where key gaps in performance, from the perspective of the customer, are occurring.

According to the Accounts Commission for Scotland (1999a), SERVQUAL results can be used in a variety of ways:

- (i) Understanding current service quality;
- (ii) Comparing performance across different customer groups;
- (iii) Comparing performance across different parts of the service;
- (iv) Understanding the internal customers;
- (v) Comparing performance across services; and
- (vi) Assessing the impact of improvement initiatives.

The SERVQUAL scales has been used in a wide array of studies in healthcare to assess customers' perceptions of service quality in a number of service categories for example: patient satisfaction (Bowers et al., 1994), acute care hospital (Carman, 1990); independent dental offices (McAlexander et al., 1994); at AIDS service agencies (Fuslier and Simpson, 1995); at public university health service (Anderson, 1995) with physicians (Brown and Swartz, 1989), and hospitals (Taner and Antony, 2006).

Buttle (1994) outlines the following as advantages of SERVQUAL.

- (i) It is accepted as a standard for accessing different dimension of service quality;
- (ii) It has been shown to be valid for a number of service situations;
- (iii) It has been known to be reliable;
- (iv) The instrument is parsimonious because it has a limited number of items. This imply that customers can fill it out easily and swiftly; and
- (v) It has a standardized analysis procedure to aid interpretation and results.

According to Newman (2001), despite the controversies regarding the validity and reliability of SERVQUAL, its application can be found in healthcare. The SERVQUAL dimensions have been modified to suit some study purposes. Lim and Tang (2000) introduce in "accessibility/affordability" while Tucker and Adams (2001) included "caring and outcomes" in their research. Johnston (1995), increased the SERVQUAL dimensions to eighteen. On the other hand, the dimensions were reduced from ten to seven dimensions by Reidenbach and Sandifer-Smallwood (1990). Their dimensions were "empathy", "patient confidence",

"quality of treatment", "physical appearance", "waiting time", "support services" and "business aspects". According to Fitzpatrick (1991) a number of researchers have derived measurement scales, which are employed to quantify the quality of service delivery at hospitals.

Hulka et al., (1970) based his assessment on only three dimensions namely "personal relationship", "convenience" and "professional competence".

Thompson (1983) made use of seven dimensions: "tangible", "communications", "relationships between staff and patients", "waiting time", "admission and discharge procedures", "visiting procedures" and "religious needs".

Baker (1990) focused on "consultation time", and "depth of relationship""professional care" Tomes and Ng (1995) conducted a content analysis of in-depth interviewing by making use of a total of eight dimensions namely; "empathy", "relationship of mutual respect", "understanding of illness", "dignity", "physical environment" "food", and "religious needs".

As for Camilleri and O'Callaghan (1998), the appropriate dimensions for measuring hospital service quality are as follows: "service personalization", "patient amenities", "price", "environment", "professional and technical care", "accessibility" and "catering". Andaleeb(1998) focused his studies on only five dimensions which are: "cost", "facility", "competence" "communication", and "demeanor. Jun et al., (1998) carried out focus group discussion and came out with eleven dimensions as appropriate for assessing service quality in healthcare settings. The dimensions were named as "courtesy", "tangibles", "reliability", "communication", "competence", "reliability", "understanding customer", "access" "patient outcomes" "responsiveness", "caring", and "collaboration".

Hasin et al., (2001) identified five dimensions which are "responsiveness", "courtesy", "cost" "communication", and "cleanliness". Yet, Walters and Jones (2001) establish several elements to be measured in hospital service quality such as "security", "aesthetics", "convenience", "performance", "economy" and "reliability". John (1989) recommends four dimensions of healthcare service quality: "curing", "caring", "access" and "physical environment".

2.3 A Conceptual Model of Service Quality

The service quality model of Parasuraman et al. (1985) is extensively used as a conceptual framework for assessing and measuring service quality delivery in healthcare services as depicted in Figure 1. The model point out that consumers' quality perceptions are influenced by a series of four unique gaps manifesting in the organizations. The gaps originating from the service providers' side impacts service delivery that is perceived by clients as either high or low quality. These gaps are presented below:

- (i) The differences between patient expectations and management perceptions of patient's expectations. i.e. not knowing what patients expect.
- (ii) The differences between management perceptions of patient expectations and service quality specifications. i.e. improper service-quality standards.
- (iii) The differences between service quality specifications and service actually delivered. i.e. the service performance gap
- (iv) The differences between service delivery and what is communicated about the service to patients.
- (v) The differences between patients' expectations and perceptions, which sequentially depends on the size and direction of the four gaps associated with the delivery of service quality on the service provider's side.

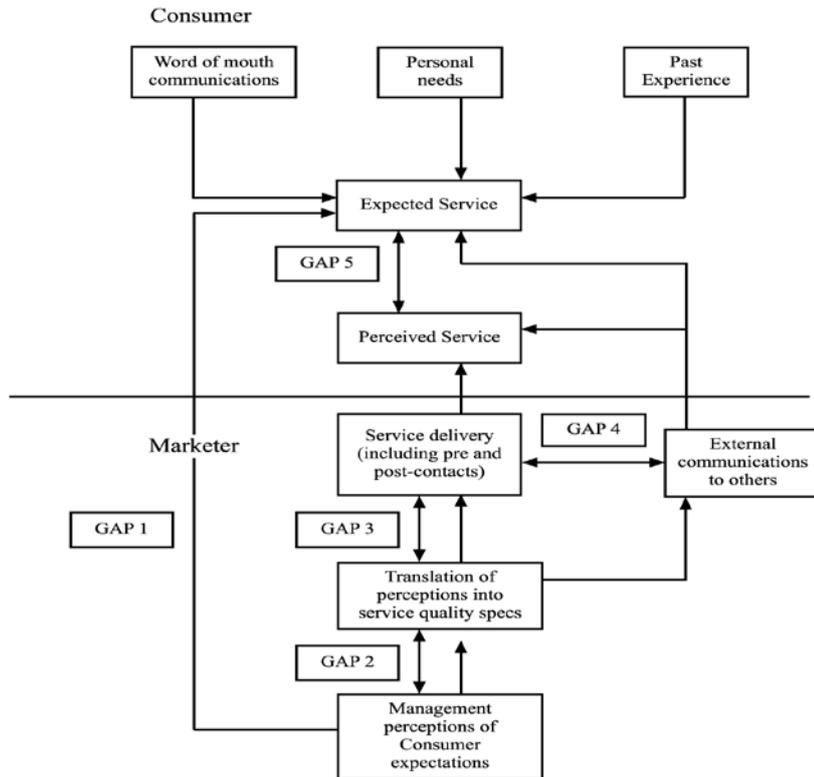


Figure 1: A Conceptual model of service quality
 Source: Parasuraman et al., (1985)

According to this model, the service quality is a function of perception and expectations and can be modeled as:

$$SQ = \sum_{i=1}^k (P_{ij} - E_{ij})$$

Where:

SQ = overall service quality; k number of attributes.

P_{ij} = Performance perception of stimulus i with respect to attribute j.

E_{ij} = Service quality expectation for attribute j that is the relevant norm for stimulus i.

Service quality manifest when expectations are met (or exceeded) resulting in satisfaction, and a service gap occurs if expectations are not met also producing dissatisfaction (Parasuraman et al., 1985). The gap score for each statement is calculated by deducting the expectation score from perception score. The manifestation of a positive gap score suggest that expectations have been met or exceeded and a negative score also means that expectations are not being met. Gap scores can be analyzed for individual statements and can be aggregated to give an overall gap score for each dimension.

3.0 Methodology

As a core objective of this study, it sought to assess patient's satisfaction using SERVQUAL model. The study population was made up of patients who had visited the hospital at the time of the research. Respondents for the study were selected by using simple random technique. It was possible and convenient to use this technique because the hospital had data on patients from which the researcher selected the respondents randomly. The SERVQUAL instrument by Parasuraman et al., (1985) was adapted and modified to capture the relevant data. The questionnaire was pre- tested, refined and finally administered to the target sample through personal contact by the researcher. Informed Consent information was attached to each

questionnaire. A total of three hundred and forty-five structured questionnaires were continuously administered. From this number, two hundred and ninety-eight were received and only two hundred and fourteen were valid and eligible for analysis. This produced a total response and active response rates as 86.4% and 62.0% respectively. According to Baruch (1999) cited in Saunder et al, (2007), response rate of approximately 35% is reasonable. This suggests that the number of responses used for the analysis were valid since the response rate was more than 35%. The data were analysed using SPSS (version 16.0) for descriptive statistics. The gap score which indicates patients' satisfaction was determined by the service quality gap model. According to this model, the service quality is a function of perception and expectations and can be modeled as:

$$SQ = \sum_{i=1}^k (P_{ij} - E_{ij})$$

Where:

SQ = overall service quality; k number of attributes.

P_{ij} = Performance perception of stimulus i with respect to attribute j.

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4.0 Analysis and Discussion

4.1 Demographic Profile of Respondents

Demographic characteristics such as age, gender, and educational level are very vital in determining and assessing patients' satisfaction and perceived service quality in healthcare delivery. These are important to be able to determine how they influence satisfaction of patients. Table 1 shows detailed information on demographic data and background characteristics of respondents. The respondents' age as depicted in table 1 indicated that the age range varied 18-30 (30.4 per cent), 31-40 (33.2 per cent), 41-50 (22.9 per cent), and > 50 years (13.5 per cent). 55.1 per cent of the respondents were females whilst the remaining 44.9 per cent were males. As a public hospital, it serves both males and females. In total, 74.3 per cent of the respondents had some form of formal education ranging from secondary (JHS/SHS) to tertiary while about 25.7 per cent did not have formal education. All these could have very important implications for how respondents perceived satisfaction of the service delivery.

Table 1 Demographic Profile of Respondents

Independent variable	Number (n)	Percentage (%)
Age		
18-30 years	65	30.4
31-40 years	71	33.2
41-50 years	49	22.9
51-60 years	17	7.9
60 +	12	5.6
Gender		
Male	96	44.9
Female	118	55.1
Educational level		
None	50	23.4
Primary	5	2.3
secondary(JHS/SHS)	80	37.4
Post Secondary	30	14.0
Tertiary	49	22.9

4.2 Patients' Satisfaction

Patients' satisfaction at the hospital was assessed by using the service quality gap model developed by Parasuraman et al., (1985). According to this model, service quality is a function of perception and expectations. The results indicated that overall satisfaction of patients concerning the service quality of the hospital was good. A total of one hundred and fifty-seven (73.4%) patients responded to this question with

all rating the hospital's service as good. Thirty-eight (17.8 %) of the patients also rated the service of the hospital as very good. On the other hand, a few thus, nineteen (8.8%) were not happy about of the general service quality of the hospital and therefore rated it as poor as shown on Figure 2. This result is in line with a similar study conducted by Wisniewski and Wisniewski (2005) in a Scottish colposcopy clinic.



Figure 2 Overall rating of the hospital

The service quality dimension gap score (see Table 2) which is the discrepancy between patient's expectation and perception about the dimensions of service quality revealed that negative gaps occurred in four of the dimensions out of six dimensions employed in the study. The dimensions with the negative gaps were Reliability, Communication/interpersonal Relationship, Assurance, and Responsiveness. Tangibility and Empathy had positive dimension gaps. The positive gap of tangibility and Empathy means that patients were satisfied with the service quality associated with these two dimensions. However, the negative gaps across the four dimensions indicated that patients' expectations generally were not being met with the largest gap being for Reliability (gap score -2.91) followed by responsiveness (gap score -2.31), Assurance (gap score -0.95), and Communication/interpersonal relationship (gap score -0.81) in that order as indicated in table 2. This suggest that, even though patients' overall satisfaction was good or high, there is more room for the hospital to improve service quality in relation to the dimension with the negative gaps.

Table 2 Service quality dimension gap score

Service quality dimension	Expectation score	Perception score	Gap score
Tangibility	22.06	22.57	0.51
Reliability	16.99	14.08	-2.91
Communication/interpersonal relationship	21.85	21.04	-0.81
Empathy	20.38	20.46	0.08
Assurance	21.73	20.78	-0.95
Responsiveness	20.76	18.45	-2.31

A more detailed analysis of the individual statements making up each dimension was undertaken. This was done to help ascertain the contributions of individual statements to total gap of each dimension thereby, determining the specific areas of the service quality dimension of the hospital that need improvement. Table 3 shows the statements that contribute significantly to their respective dimension gap score.

Table 3 individual statements that contribute to the gap score of service quality dimensions.

Reliability	Gap score
1. Prompt service delivery without waiting time	-0.85
2. The doctor has ample time to examine patients	-0.82
Responsiveness	Gap score
1. The hospital delivers 24 hours service quality all the time	-0.82
2. Nurses were willing to answer questions of patients	-0.39
3. Nurse made patients felt that patients were waiting their time	-0.46
Assurance	Gap score
1. The hospital has a good reputation	-0.25
2. The doctor's office (consulting room) had everything needed to provide detail medical care	-0.31
Communication / interpersonal relationship	Gap score
1. The doctor explained what was wrong with patients before giving treatment	-0.29
2. The doctor told patients their diagnosis	-0.33

As a diagnostic instrument, SERVQUAL has identified where the largest service quality gaps, as perceived by patients, occur across six service quality dimensions used in the study. The instrument also allows management to identify in further detail where such gaps are occurring by analysing the individual statements that make up each dimension. These statements are outlined in Table 3. Further, SERVQUAL allows for prioritisation across the six dimensions by assessing gap score of each dimension. Across the six dimensions, statistically significant gap scores were found for Reliability, Responsiveness, communication /interpersonal relationship and Assurance. Comparison of these gap scores suggests that the priority gap as far as patients' assessment of service quality is concerned is that of Reliability since it has the largest gap score. Anderson and Zwellling (1996) used the same approach to prioritise where improvements to service quality can best be achieved, concluding that Reliability is the priority dimension given that it had the largest negative gap score. Clearly, within the Reliability dimension there are different aspects of performance as denoted by the individual statements. It may be possible to prioritise further between these aspects of service quality by examining the gap scores for each. Other things being equal, priority can be given to statements that show higher gap (Accounts Commission for Scotland, 1999a). The mean gap score for statement 1 under Reliability would, on this basis, take priority given that it has the largest negative gap score of all the statements followed by statement 2 under reliability. This suggests that management should consider ways of rendering prompt and timely service to patients.

5.0 Limitations and Future Research

As observed in any study, this study was without limitations. Firstly, the respondents were made up of only outpatients thus views of inpatients could not be captured during the studies which in effect may affect the result to some extent therefore, future study could consider including inpatients. The study was also limited to patients of a public hospital only. As a result it is therefore suggested that further study be carried out in the private healthcare centres in order to ascertain a comprehensive understanding of patients' satisfaction in healthcare delivery. To fully assess the quality of healthcare delivery and patients satisfaction, it is expected that both technical and functional aspects of the service be considered. As another limitation to this study, it considered only the functional aspects of the service delivery thus only patients' view were used for the research.

6.0 Conclusion

The understanding and measurement of service quality and patients' satisfaction as seen by the patient is equally important to health care delivery because it is a concept integral to the provision of a better, more focused quality service for patients. In order to achieve this, it is clearly necessary to capture information on patient needs, expectations and perceptions so as to assess their satisfaction about the service they receive. This will then help health professionals identify where service improvements are needed.

References

- Accounts Commission for Scotland (1999a), *Can't Get No Satisfaction*, Accounts Commission for Scotland, Edinburgh.
- Al Qatari, G. and Haran, D. (1999), "Determinants of users' satisfaction with primary health care settings and services in Saudi Arabia", *International Journal for Quality in Health Care*, Vol. 11 No. 6, pp. 523-31.
- Andaleeb, S.S. (1998), "Determinants of customer satisfaction with hospitals: a managerial model", *International Journal of Healthcare Quality Assurance*, Vol. 11 No.6, pp. 181-7
- Anderson, E. (1995), "Measuring service quality in a university health clinic", *International Journal of Healthcare Quality Assurance*, Vol. 8 No.2, pp. 32-7.
- Anderson, E. and Zwelling, L. (1996), *Measuring service quality at the University of Texas M.D. Anderson Cancer Center*, *International Journal of Health Care Quality Assurance*, Vol. 9, n. 7, pp. 9-22
- Baker, R. and Streatfield, J. (1995), "What type of general practice do patients prefer? Exploration of practice characteristics influencing patient satisfaction", *British Journal of General Practice*, Vol. 45, pp. 654-9.
- Baruch, Y. (1999), *Response rate in academic studies – A comparative analysis*. *Human Relations*, 52, 421–38.
- Bowers, M.R., Swan, .E. and Koehler, W.F. (1994), "What attributes determine quality and satisfaction with healthcare services?", *Healthcare Management Review*, Vol. 19 No.4, p. 9.
- Brown, S. W. and Swartz, T. (1989), "A gap analysis of professional service quality", *Journal of Marketing*, Vol. 53 No.4, pp. 92-8.
- Buttle, F. (1994), "What's wrong with SERVQUAL ?", Working Paper No. 277, Manchester Business School, Manchester.
- Calnan, M. (1988), "Towards a conceptual framework of lay evaluation of healthcare", *Social Science and Medicine*, Vol. 27 No. 9, pp. 927-33.
- Camilleri, D. and O'Callaghan, M. (1998), "Comparing public and private hospital care service quality", *International Journal of Healthcare Quality Assurance*, Vol. 11 No.4, pp. 127-33.
- Carman, M. (1990), "Consumer perceptions of service quality: an assessment of the SERVQUAL dimensions", *Journal of Retailing*, Vol. 66 No.1, pp. 33-5
- Fitzpatrick, R. (1991), "Survey of patient satisfaction (part 1): important general considerations", *British Medical Journal*, Vol. 302 No. pp. 887-9.
- Fusilier, M.R. and Simpson, P.M. (1995), "AIDS patients' perceptions of nursing care quality", *Journal of Healthcare Marketing*, Vol. 15 No.1, pp. 49-53.
- Hart, M. (1996), "Incorporating outpatient perceptions into definitions of quality", *Journal of Advanced Nursing*, Vol. 24 No. 6, pp. 1124-240.
- Hasin, M.A.A., Seeluangawat, R. and Shareef, M.A. (2001), "Statistical measures of customer satisfaction for health-care quality assurance: a case study", *International Journal of Healthcare Quality Assurance*, Vol. 14 No.1, pp. 6-14.
- Hendriks, A., Oort, F., Vrieling, M. and Smets, E. (2002), "Reliability and validity of the satisfaction with hospital care questionnaire", *International Journal for Quality in Health Care*, Vol. 14 No. 6, pp. 471-82.

- Hulka, B.S., Zyzanski, S.1., Cassel, J.C. and Thompson, S.J. (1970), "Scale for the measurement of satisfaction with medical care: modifications in content, format and scoring", *Medical Care*, Vol. 12, p. 611.
- Jackson, J. L., & Kroenke, K. (1997). Patient satisfaction and quality of care. *Military Medicine*, 162, 273-277
- John, J. (1989), "quality in healthcare service consumption: what are the structural dimensions?", in Hawes, J.M. and Thanopoulos, J. (Eds), *Developments in Marketing Science*, Academy of Marketing Science, Orlando, FL, pp. 518-21, Vol. 12.
- Johnston, R. (1995), "The determinants of service quality: satisfiers and dissatisfiers", *International Journal of Service Industry Management*, Vol. 6 No.5, pp. 53-571.
- Jun, M., Peterson, R.T. and Zsidi, G.A. (1998), "The identification and measurement of quality dimensions in healthcare: focus group interview results", *Healthcare Management Review*, Vol. 23 No.4, pp. 81-96.
- Kotler P. (2003), *Marketing Management*, Pearson Education, Inc. Fifth edition.
- Lim, P.C. and Tang, N.K.H. (2000), "A study of patients' expectations and satisfaction in Singapore hospitals", *International Journal of Healthcare Quality Assurance*, Vol. 13 No. 7,
- McAlexander, J.H., Kaldenberg, D.O. and Koenig, H.F. (1994), "Service quality measurement: examination of dental practices sheds more light on the relationships between service quality, satisfaction, and purchase intentions in a healthcare setting", *Journal of Healthcare Marketing*, Vol. 14 No.3, pp. 34-40.
- Newman, K. (2001), "Interrogating SERVQUAL: a critical assessment of service quality measurement in a high street retail bank", *The International Journal of Bank Marketing*, Vol. 19 No.3, pp. 126-39.
- Oliver, R. (1981), "Measurement and evaluation of satisfaction process in retail setting", *Journal of Retailing*, Vol. 57, pp. 25-48.
- Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1985), "A conceptual model of service quality and its implications for future study", *Journal of Marketing*, Vol. 49 No. 10, pp. 41-50.
- Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1988), "SERVQUAL: a multi-item scale for measuring consumer perceptions of the service quality", *Journal of Retailing*, Vol. 64, No. 1, pp. 12
- Peprah, A. A. (2013), *Health Care Delivery in Sub-Saharan Africa: Patients' satisfaction and perceived service quality, A case study of Sunyani Regional Hospital in Ghana*. LAP LAMBERT Academic Publication, Germany.
- Peprah, A. A. (2014), "Determinant of Patients' Satisfaction at Sunyani regional Hospital, Ghana". *International Journal Business and Social Research (IJBR)*, Vol 4, No 1. Pp. 96-108
- Reidenbach, R.E. and Sandifer-Smallwood, B. (1990), "Exploring perceptions of hospital operations by a modified SERVQUAL approach", *Journal of Healthcare Marketing*, Vol. 10 No.4, pp. 47-55.
- Roter, D.L., Hall, J.A. and Katz, N.R. (1987), "Relations between physicians, behaviors and analogue patients' satisfaction, recall, and impressions", *Medical Care*, Vol. 25 No. 5, pp. 437-51.
- Saunders, M. Lewis, P. and Thornhill, A.(2009), *Research Methods for Business Students* fifth edition. London: Pearson Education Limited
- Sewell, N. (1997), "Continuous quality improvement in acute healthcare: creating a holistic and integrated approach", *International Journal of Healthcare Quality Assurance*, Vol. 10 No. 1, pp. 20-6.
- Sixam, H.J., Spreeuwenber, P.M. and Van Der Pasch, M.A. (1998), "Patient satisfaction with the general practitioner: a two-level analysis", *Medical Care*, Vol. 36, pp. 212-29.

- Taner, T. and Antony, L.(2006), "Comparing public and private hospital care service quality in Turkey", *Leadership in Health Service*, Vol. 19 No.2.
- Thompson, A.G.H. (1983), "The measurement of patients' perceptions of the quality of hospital care", unpublished doctoral thesis, UMIST, University of Manchester, Manchester.
- Tomes, A. and Ng, S.C.P. (1995), "Service quality in hospital care: the development of inpatient questionnaire", *International of Healthcare Quality Assurance*, Vol. 8 No.3, pp. 25- 33.
- Tucker, J.L. and Adams, S.R. (2001), "Incorporating patients' assessments of satisfaction and quality: an integrative model of patients' evaluations of their care", *Managing Service Quality*, Vol. 11 No.4, pp. 272-87.
- Walters, D. and Jones, P. (2001) 'Value and value-chains in health-care: a quality management perspective.' *The TQM Magazine*, 13(5) pp. 7-15
- Wisniewski and Wisniewski (2005), 'Measuring service quality in a hospital colposcopy clinic' *International Journal of Health care Quality Assurance*. Vol. 18 No. 3. Pp. 217-228
- Woodside, A.G., Frey, L.L. and Daly, R.T. (1989), "Linking service quality, customer satisfaction, and behavioural intention", *Journal of Healthcare Marketing*, Vol. 9 No. 4, pp. 5-17.
- Zeithaml, V. A., Parasuraman, A. And Berry, L. L. (1990), *Delivering Quality service: Balancing Customer perceptions and Expectations*, Macmillan, London.