



Determinants of Patients' Satisfaction with Musculoskeletal Dysfunction and Stroke Physiotherapy Health Care: *Community-Based Evidence*

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Summary

BACKGROUND

Patients' satisfaction is an individualistic construct that has overbearing role in physiotherapy service delivery. Even though physiotherapy is under public health services in Ghana, there was no information about patients' satisfaction at the community level.

OBJECTIVE

This study aimed to assess the factors that determine patients' satisfaction with physiotherapy health care delivery in a community setting in Ghana.

MATERIALS AND METHODOLOGY

299 patients with severe musculoskeletal dysfunction (190, 63.5%), stroke (109, 36.5%), and observed under physiotherapy health care for at least three months were recruited for the study. The samples had mean age of 53.9 ± 10.2 years, mostly females (57.2%) and married (59.5%). Modified SERVQUAL questionnaire was used as tool for data collection.

RESULTS

Majority of the patients (96.0%) were 'at least satisfied' with physiotherapy care. The hierarchy of determinants was neatness and cleanliness of treatment area (98.3%); kindness, caring and courteousness (96.0%); consideration for privacy, dignity and comfort during care (91.4%); provision of adequate instructions regarding treatment (79.3%); involvement in decisions on care (71.4%) and involvement in treatment plans (68.45). Age ($P=0.010$) and personal factors ($P=0.001$) significantly determined patients' satisfaction with physiotherapy health care.

CONCLUSION

The study provides insight and evidence into community-based physiotherapy service delivery as veritable avenue to meet regenerative health care. Determinants with pecuniary advantages should be used prominently while those with challenges should be given educational orientation for sustainable satisfaction.

Key words: Community-Based, Patients' satisfaction, Physiotherapy care, Ghana

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Introduction

Soliciting and utilizing feedback from patients in order to make appropriate changes in health care delivery are vital tools for solving problems in a typical physiotherapy care setting [1-2]. Patients' satisfaction has been identified as a prime determinant of success in health service delivery [3]. Level of satisfaction is a predictive status that can facilitate appreciation of health care services and evaluation of health care providers [4]. Patient satisfaction with physiotherapy reports are seen as relatively under-utilized outcome measure of physiotherapy health care services [5-7].

Turkson [8] envisaged that patients' satisfaction and quality of care might be improved through paying more attention to the perspectives of the patient, improving the competencies and skills of providers and improving the working environment by better management, provision of medical equipment, supplies and motivation of staff.

Patient satisfaction is captioned as the contentment that patients experience having used a service [9]. In the principle of health care of Ghana, patient care is presented as the primary function of every hospital [10] and has been one of the yardsticks to measure the effectiveness, where effectiveness of a hospital is related to the provision of quality care. Swamy [11] indicated that patients' satisfaction is the real testimony to the efficiency of hospital administration. It implies that hospital staff has the responsibility to create a conducive environment that will make the patient comfortable in receiving care [12].

In Ghana, the Ministry of Health (MOH) has a five-year programme of work which indicates that patient's satisfaction is essential to health service delivery and quality care [13]. MOH further notes that improving patient satisfaction and the quality of healthcare is one of its five key objectives in the health sector reforms in Ghana [13].

Report(s) on the possible achievement or attainment of this one but most peculiarly vital objective has not been documented. Even if people within the urban settings show contentment, at the community level information about satisfaction is need. Patients at the community level would expect to benefit from physiotherapy services for improved quality of life. Hence satisfaction

would potentially influence patients' compliance with instruction on personal home care prescribed by physiotherapists on outpatient basis, patient expectation and overall benefit from physiotherapy treatment.

According to Ampiah, Ahenkorah and Karikari [14], data on patient satisfaction with physiotherapy services are scarce generally and uniquely unavailable as a community-based practice. The scarcity of information may not be unconnected to undermining the population and /or neglect of community-based health care services. An insight into this knowledge would enable patients at the community level to value their money, time, effort to seek treatment and appreciate government commitment to judicious use of taxes.

Furthermore, the outcome of the study could serve as a basis for management to ensure efficient and quality physiotherapy services offered at community level in Ghana. The outcome of this study would indicate direction of evidence-based physiotherapy practice and provide data on patient satisfaction with physiotherapy health care service with regards to community approach.

Materials and Methodology Study Design

The study adopted a cross sectional descriptive survey of a community. This analytical cross-sectional study was conducted among patients with severe musculoskeletal dysfunction and stroke who received physiotherapy care at Obuasi community of the Ashanti Region of Ghana. Obuasi is located between latitudes 5 °35'N and 5 °65'N, and longitudes 6°35'W and 6°90'W. It is located in the South- Western part of the Ashanti Region. It is 64 kilometers from Kumasi, the regional capital [15]. Agriculture and mining form some of the major occupations in the municipality. These occupations predispose workers to much pain and disorders associated with musculoskeletal dysfunction and stroke which is why consistent demand for physiotherapy services is high. There are nineteen health facilities in Obuasi, of these, only four are government owned. Three are mission hospitals and the remaining twelve are privately owned. There are eight hospitals, four clinics, three maternity homes, two health centers and two community-based health planning and services (CHPS) compounds [16].



Study Sample

Patients were recruited from AGA Health Foundation which provides hospital services such as out-patient and in-patient care, physiotherapy clinic, reproductive and child health services within Obuasi municipality. Patients aged 18 years and above who receive physiotherapy healthcare at AGA Health Foundation and consented to be part of the study were included in the study. Simple random sampling method was used to recruit participants. The participants were numbered and were covered up, where the patient randomly picked numbers from a bowl. The samples were taken randomly from the bowl by choosing folded pieces of papers in a random manner as reported in literature [17]. Epi Info sample size calculator with a confidence level of 95% and a margin of error of 5% was used to calculate the sample size of 299 among the patients who received care at the physiotherapy unit. Patients were excluded when unstable and not in sound condition of health, unable to communicate or declined consent of participation.

Instrumentation

Items of the widely used SERVQUAL questionnaire on satisfaction [18-22] were modified and used to structure the main instrument for the study.

The modified instrument has three sections. The first section elicited demographic information. The second section had 12 items that centered on general knowledge of physiotherapy services. The third section focused on the determinants which had four factors {organizational and environmental, therapeutic, personal, and economic}. Five statement items were structured for each of the factors with regards to patient satisfaction with physiotherapy service delivery.

Patients were required to respond to each of the items based on the extent of agreement on a five-point Likert-type scale [Strongly Agree (SA), Agree (A), Unsure (U), Disagree (D), and Strongly Disagree (SD)]. The modified questionnaire was pre-tested at a hospital with similar characteristics to eliminate unclear and ambiguous questions. The pre-test activity assisted authors to establish that: 8 minutes was required to complete the instrument, identify the need to recruit two additional research assistants from the community

for effective communication, and make modifications in some of the statement items in line with study objectives.

Ethical Consideration

Approval of AGA Health Foundation, Obuasi was obtained and submitted to seek ethical approval of the Committee on Human Research, Publications and Ethics, Kwame Nkrumah University of Science and Technology and Komfo Anokye Teaching Hospital, Kumasi (Ref No.CHRPE/AP/340/19). An informed consent form was signed by the participants who voluntarily accepted to be part of the study after they were educated on the essence of the study.

Statistical Analysis

Stata version 14.0 was used to analyze all data collected. The results were presented in tables and chart. Continuous variables such as age were categorized into groups. Chi-square test analysis was used to assess the association between categorical variables and patient satisfaction with a level of significance of $p < 0.05$.

Results

The mean age of the patients was 53.9 ± 10.2 years. Most (36.1%) of the participants were within the age range of 50-59 years. Females were 57.3% and 42.7% were males. More than half of the respondents (59.5%) were married. About one-third (34.3%) had completed secondary education and 16.0% had tertiary education. More than half of the respondents (60.2%) were unemployed. Most respondents (61.7%) lived in the rural community. Income distribution varied among respondents, with most respondents (59%) earning less than 1000 Ghana cedis (Ghc). About 84.9% of the respondents were registered with the National Health Insurance Scheme (NHIS) that subsidizes their cost of physiotherapy healthcare. 160 (53.7%) had utilized physiotherapy health services for less than one year, 40.7% between two and five years and 5.7% for over five years (*table 1*).



Table1. Demographics and Clinical Characteristics of the Patients

Characteristics		Frequency	Percent (%)
Age (years)	25-39	35	11.7
	40-49	63	21.0
	50-59	108	36.1
	60+	93	31.1
Gender	Male	127	42.4
	Female	172	57.5
Marital Status	Single	12	4.1
	Married	178	59.5
	Divorced / Widowed	109	36.3
Educational Attainment	No Formal Education	75	25.1
	Basic Education	73	24.4
	Secondary Education	103	34.3
	Tertiary Education	48	16.2
Work Status	Employed	116	38.7
	Unemployed	180	60.2
	Student	3	1.0
Income Level (Ghc)	Less than 1000	177	59.2
	At least 1000	122	40.8
Health Coverage Type	NHIS	254	84.9
	Fee for Service	37	12.5
	Co-payment	8	2.6
Type of Diagnosis	CVA(Stroke)	109	36.5
	Musculoskeletal	190	63.5
Duration under physiotherapy treatment	Less than 1 year	160	53.7
	Between 2 and 5 years	122	40.6
	Between 5 and 10 years	17	5.7



Table 2: Chi-Square Distribution on Degree of Agreement to Physiotherapy Service

STATEMENT	SAN(%)	AN(%)	UN (%)	DN(%)	SD(%)	χ^2	Pvalue
I received good advice on physiotherapy care	0	202(67.6)	2(0.6)	1(0.7)	94(31.5)	364.453	.000
The treatment received from physiotherapy care is good	85 (28.3)	203 (67.7)	4 (1.3)	7 (2.7)	0 (0.0)	346.853	.000
The physiotherapy care I received is adequate	80 (26.7)	196 (65.3)	4 (1.3)	16 (5.7)	3 (1.0)	450.967	.000
Physiotherapist listened to my concerns	85 (28.3)	184 (61.4)	9 (3.0)	21 (7.3)	0 (0.0)	360.967	.000
My personal questions are understandably answered	71 (23.7)	180 (60.0)	9 (3.0)	37 (12.7)	2 (0.6)	322.933	.000
I was involved in decisions regarding physiotherapy care	61 (20.3)	145 (48.4)	12 (4.0)	71(24.00)	10 (3.3)	189.633	.000
I received adequate explanations/ instructions regarding my treatment	67 (22.3)	171 (57.0)	1 (0.3)	55 (18.7)	5 (1.7)	314.867	.000
I see myself as part of physiotherapy care plans for me	62 (20.7)	152 (50.7)	7 (2.3)	66 (22.3)	12 (4.0)	140.000	.000
I received kind, caring and courteous care	138(46.0)	156 (52.0)	0 (0.0)	5 (2.0)	0 (0.0)	274.747	.000
The time and location of physiotherapy care are convenient	97 (32.6)	161 (54.0)	5 (1.7)	29 (10.0)	5 (1.7)	318.567	.000
The physiotherapy treatment area is neatly arranged and clean	139(46.3)	156 (52.0)	0 (0.0)	4 (1.7)	0 (0.0)	137.180	.000
I received considerable privacy, dignity and comfort during physiotherapy care	116(38.7)	158 (52.7)	3 (1.0)	18 (6.3)	4 (1.3)	229.787	.000



Table 2: *Presents Unanimous Agreement That Community-Based Physiotherapy Health Care is a Worthwhile Intervention. The Extent of Agreement is at Least More 60.0% in all the Items.*

Age (years)	Variables	Satisfied	Unsatisfied	Neutral	P-value
	25-39	30 (10.1)	5 (1.7)	0 (0.0)	0.010
	40-49	53 (17.7)	10 (3.4)	0 (0.0)	
	50-59	82 (27.4)	21 (7.0)	2 (0.7)	
	60+	85 (28.3)	10 (3.4)	1 (0.3)	
Gender	Male	102 (34.1)	23 (7.7)	2 (0.7)	0.240
	Female	149 (49.8)	22 (7.4)	1 (0.3)	
Marital Status	Single	10 (3.4)	3 (1.0)	0 (0.0)	0.801
	Married	148 (49.5)	27 (9.0)	2 (0.7)	
	Divorced / Widowed	93 (31.1)	15 (5.0)	1 (0.3)	
Educational Attainment	No formal Education	70 (23.4)	6 (2.0)	0 (0.0)	0.062
	Basic Education	58 (19.4)	13 (4.3)	1 (0.3)	
	Secondary Education	84 (28.2)	19 (6.4)	0 (0.0)	
	Tertiary Education	39 (13.0)	7 (2.3)	2 (0.7)	
Income Level Ghc	Less than 1000	143 (47.8)	30 (10.1)	3(1.0)	0.141
	1000+	108 (36.1)	15 (5.0)	0(0.0)	
Location	Urban	97 (32.4)	17 (5.7)	0 (0.0)	0.375
	Rural	153 (51.2)	29 (9.7)	3 (1.0)	
Occupation	Employed	95 (31.6)	20 (6.7)	2 (0.7)	0.733
	Unemployed	153 (51.2)	26 (8.5)	1 (0.3)	
	Student	3 (1.0)	0 (0.0)	0 (0.0)	
Satisfaction with health coverage		220(73.6)	50(16.7)	29(9.7)	0.352
Satisfaction with service delivered		250 (83.6)	46(15.4)	3(1.0)	0.652



Determinants	Statement items	Mean \pm SD	SA N (%)	AN (%)	UN (%)	DN (%)	SD (%)	P-value
Organizational and Environmental Factors	Well-functioning, available and correct equipment were used	3.61 \pm 1.26	21(7)	61(20.33)	11(3.67)	126(42)	81(27)	0.300
	There is sufficient treatment space	3.56 \pm 1.29	13(4.33)	88(29.34)	3(1.00)	109(36.33)	87(29.00)	
	Patient privacy is ensured	3.32 \pm 1.32	16(5.33)	111(37.00)	3(1.00)	100(33.34)	70(23.33)	
	There is adequate treatment time	2.63 \pm 1.13	25(8.33)	173(57.67)	9(3.00)	74(24.67)	19(6.33)	
	The Facility is easily accessible	2.43 \pm 1.03	30(10.00)	192(64.00)	7(2.33)	60(20.00)	11(3.67)	
Therapeutic Factors	There is consistency and progression in treatment	2.48 \pm 1.07	27(9)	192(64)	8(2.67)	56(18.66)	17(5.67)	0.695
	Quality of information given at the end of treatment regarding the future	2.67 \pm 1.12	28(9.33)	155(51.67)	18(6)	84(28.00)	15(5.00)	
	Treatment was adapted to my problem	2.28 \pm 0.92	32(10.67)	208(69.33)	12(4.0)	39(13)	9(3.0)	
	Felt secured during treatment	2.50 \pm 1.10	37(12.33)	168(56)	16(5.33)	65(21.67)	14(4.67)	
	The treatment had an impact on my problem	2.15 \pm 0.85	38(12.67)	222(74)	5(1.66)	27(9)	8(2.67)	
Personal Factors	The pain experienced prevents me from going to urban area for treatment	2.63 \pm 1.41	74(24.67)	112(37.33)	5(1.67)	68(22.66)	41(13.67)	0.001
	The treatment in the community met my set self-goals	2.26 \pm 0.88	30(10)	214(71.33)	10(3.34)	40(13.33)	6(2.00)	
	There is simplicity of scheduling and time to get new appointments	2.39 \pm 1.03	39(13)	181(60.33)	11(3.67)	61(20.33)	8(2.67)	
	There is the feeling of being emotionally burdened	2.33 \pm 1.38	104(34.67)	109(36.33)	2(0.67)	53(17.66)	32(10.67)	
	There is no new other way of doing things.	3.37 \pm 1.33	24(8)	87(29)	16(5.33)	100(33.34)	73(24.33)	
OPersonal Factors	Physiotherapy services are expensive	2.37 \pm 1.30	84(28.00)	130(43.34)	1(0.33)	59(19.67)	26(8.67)	0.115
	There should be a payment structure	2.16 \pm 1.08	73(24.33)	173(57.67)	2(0.67)	37(12.33)	15(5)	
	Insurance should cover the cost involved	1.86 \pm 0.97	116(38.67)	150(50)	2(0.67)	23(7.66)	9(3)	
	Co-payment should be changed	2.12 \pm 1.15	97(32.33)	141(47)	2(0.67)	47(15.67)	13(4.33)	
	Physiotherapy services should be made free for the vulnerable	2.03 \pm 1.22	129(43)	108(36)	4(1.33)	43(14.34)	16(5.33)	

Chi-Square Test, P-value- 0.05



The *table 3* showed the determining factors associated with patients' satisfaction with physiotherapy services. Age ($P=0.010$) and personal factors ($P=0.001$) significantly determined patients' satisfaction with physiotherapy services within community setting. Age group of 50-59 years had the highest odds ratio of satisfaction with physiotherapy services (OR: 2.84; CI: 1.20-6.70; p -value: 0.017).

Discussion

This study investigated the determinants of patients' satisfaction with healthcare services delivered by physiotherapy in a community setting. Results revealed that majority of the patients agreed to be satisfied with the community-based physiotherapy services rendered to them. This type of satisfaction supports the goals of the Ghana Ministry of health (MoH) policy [9]. This is also in line with earlier studies that stressed the importance of community health care services such as health literacy, self-efficacy and self-management [23-26].

Most (96.0%) of patients in this study agreed that, community based physiotherapists enabled them to have access to good advice and treatment which has been identified as a perspective patients showed in a scoping study of sociocultural factors influencing physiotherapy management in culturally and linguistically diverse people with persistent pain [27].

In the same vein, 98.3% and 86.5% of the participants were satisfied with the environmental sanitation put in place for physiotherapy service delivery and the timing, location and convenience of service respectively. Studies have shown appreciation of outstanding health services centered on the perception of consumers on health education, personal hygiene, environmental, sanitation, education and training [28-29].

Findings from the present study indicated that 83.7% of the participants were satisfied with the various domains of physiotherapy services delivered within the community. This includes knowledge of the length of services delivered and the effectiveness of physiotherapy treatment on the patient.

It has been concluded in a study on public perception of physical therapy scope of practice, that, the public is usually not satisfied when there was lack

of complete knowledge and not sure of how to access physical therapy services [30]. It suffices to emphasise that unless communities are well informed about the particular health service delivery, obtaining appropriate physiotherapy health care will be efforts in futility.

The predominantly musculoskeletal problems inclined occupations which orchestrate the lifestyle of the people are also risk factors of orthopedic ailments like; degenerative disease, osteoporosis, pain and postural disorders as reported [31]. Majority of the participants were satisfied with the effectiveness of the treatment, privacy, communication, kindness and caring behavior associated with the community-based physiotherapy services for securing patient's dignity and confidentiality as previously reported [32].

Majority of the patients in the study confirmed that, providing physiotherapy services to the community was convenient for them. Casserley [33] reported that participants showed negative feedback related to the location of the physiotherapist's clinics largely due to the challenges associated with transportation.

A study on satisfaction level of patients with low back pain concluded that, patients were comfortable with the duration of session and there was strong association between time factor and satisfaction of patients [34].

In this study, age and personal factors - pain experienced, treatment self-goals, simplicity of scheduling and time to get new appointments, emotional burden and no new other way of doing things - of the patients were the independent factors that significantly influenced patients' satisfaction with community-based physiotherapy services. Correlation between patients satisfaction and personal factors [socio-demographic, disease-related variables, patient escort, geographical location, education, gender, marital status, occupation and income in healthcare service delivery has been well reported [6-11, 14, 35-38].

This study presents that respondents with lower level of education had higher level of satisfaction with community-based physiotherapy services as compared to those with higher educational level. Which comparably contradicts the systematic review conducted by Jin et al [39] where well-educated patients are more satisfied with physiotherapy treatment regimens. Variation in respondents' location, global information technologies and broad coverage by modern mass media might explain the differences observed.



An unpredictable drift regarding the influence of gender on patient satisfaction with community-based physiotherapy services is in view. In this study, there was no significant association between patient satisfaction and gender. Hills [40] however observed that females were more satisfied than males given the theory and conceptualization of satisfaction, while a study on gender and patient satisfaction with primary care favoured males [41]. The reason, although unclear, may be attributed to satisfactory judgement indices by both sexes.

Married respondents have higher percentage of satisfaction as compared to the single, though, not statistically significant. This is contrary to previous finding by Dornan [42] where patients who are not married expressed dissatisfaction with health services received, tended to be more intolerant and easily aggravated when expectations were not met compared to married patients.

An unexpected discovery of this study was that occupation of the patients did not significantly influence satisfaction with community based physiotherapy health services as previously documented [24, 43] and hypothesized. This finding can suggest that the premium placed on occupation, irrespective of monetary demands and expectations of health services received by most of the unemployed respondents is unjustified. Rather, it should be income –based, in that, patients who earned less than Ghc1000 were more satisfied with community based physiotherapy services as compared to those who earned more than Ghc1000 and above. It could also suggest the financial strength of patients who are able to pay for health services anywhere and at any rate which was inconsistent with a previous study that positioned socioeconomic background as determinant of patients' satisfaction with health care services [31].

Study Limitations

Data collected were self-reported satisfaction from the patients which is highly subjective to social desirability bias. This could also be based on event that patients might have given responses to please healthcare providers instead of true reflection of their satisfaction. Patients responses were below median-split approach applied which might underestimate the proportion of patients who were satisfied with community based physiotherapy health care.

Conclusion

Community based physiotherapy health care was satisfactorily appreciated by most patients in this study. Satisfaction was associated with accessibility, availability, privacy, communication, behavior of the physiotherapists (care givers) and involvement in decision making. Age and personal factors significantly determined patients' satisfaction with physiotherapy health care.

The study provides insight and evidence into community-based physiotherapy service delivery as veritable avenue to meet regenerative health care. Determinants with pecuniary advantages should be used prominently while those with challenges should be given educational orientation for sustainable satisfaction. Policy makers through the Ministry of Health should ensure a continuous evaluation of physiotherapy services in different settings within Ghana for quality assurance purposes. Stimulation of health care providers should be prioritised for consistently appreciated service, focusing on all dimensions of service for improved overall quality of health care.

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