Original Article

Satisfaction of diabetes patients in public outpatient department: prevalance and determinants

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Objective: To assess the prevalence and determinants of satisfaction among diabetes mellitus patients about the doctors in a major public diabetes clinic in Lahore.

Methodology: This cross-sectional study was conducted among 1,128 adult patients of diabetes mellitus. The questionnaire was based on the Urdu translation of an internationally validated tool: Patient Satisfaction Questionnaire 3. Data were analyzed using SPSS Version 22.0. The results are shown by Adjusted Odds Ratio (AOR), 95% Confidence Interval (CI).

Results: The overall prevalence of patient satisfaction with the doctors was 86%. Patient's gender male (AOR=.41; 95%CI=.26-.63) and higher education (AOR=.33; 95%CI=.17-.63) were found to be associated with lower likelihood of satisfaction. Patient's perception of low technical expertise, poor interpersonal aspects and inappropriate time provision was associated with lower odds of patient satisfaction.

Conclusion: Despite the prevalence of patient satisfaction was found to be high, the patients' perception of doctor's skills determines their satisfaction. Patient satisfaction studies should be conducted on regular basis to assess and improve the nature of patient experiences in public out-patient departments. (Rawal Med J 201;43:8-13).

Keywords: Diabetes, prevalence, patient Satisfaction.

INTRODUCTION

The assessment of patient satisfaction about the medical care is crucial for the continuous improvement in the quality of service delivery. In this regard, patient satisfaction survey is the most extensively used metric to evaluate the healthcare structure, processes and service providers.[1] There is much debate on the positive association of patient experiences and healthcare outcomes.[2,3] The developed countries have succeeded in achieving and maintaining positive patient experiences. The determinants of patient satisfaction are found to vary across rich and poor resource countries. Numerous studies in low resource settings have revealed that the disrespectful attitude of doctors is positively associated with the extent of patient satisfaction.[4-6] Whereas the negative associations are demonstrated among the same variables in rich settings.[7,8]

According to World Health Organization, patient satisfaction is mainly indicated by six medical care dimensions in any clinical setting: technical quality, interpersonal aspects, communication, financial cost, time and convenience.[9] These dimensions have been part of various versions of Patient Satisfaction Questionnaire (PSQ).[9] Numerous studies used this theoretical framework and questionnaires to measure patient satisfaction in different clinical settings.[10,11] A recent study used PSQ (18 items) to measure outpatient satisfaction in Malaysia and found low patient satisfaction with time spent with doctors and interpersonal aspects.[7] Unlike fee-for-service medical care, unaffordability is found to be associated with high patient satisfaction in free of cost public health services irrespective of the quality of procedures and infra-structure.[5]

The world prevalence of diabetes mellitus is 2.8%.[12] Pakistan is a poor resource country with world's tenth largest diabetic population.[13] In year 2013, only 2.8% of Gross Domestic Product was spent on the free of cost public health facilities.[14] According to a World Bank report, this percentage expenditure

in Pakistan was the lowest in comparison with the other South Asian countries.[15] During 2011-15, the share of public health in total health expenditure was 37% only because majority of the population relied on private healthcare facilities.[16] According to safe estimates in year 2000, around 23% of the total population used public health services, but only 27% demonstrated satisfaction with the services received. The significance of this study lies in the fact that none of the recent studies analyzed the prevalence and determinants of satisfaction among diabetes mellitus patients seeking consultation in public out-patient departments. Thus, we analyzed the prevalence and determinants of patient satisfaction with doctors in public diabetes care clinic in Lahore and the social demographic characteristics of patients determining patient satisfaction.

METHODOLOGY

This cross sectional study was carried out among 1128 patients attending a major public diabetes outpatient clinic, Jinnah Allama Iqbal Institute of Diabetes and Endocrinology, Lahore (JAIDE) as it caters the need of the highest number of diabetes patients in Punjab province. The detailed methodology of this research is published elsewhere.[4,17]

Face to face interviews were carried out by the principal author after seeking verbal consent from the patients. The respondents were briefed about the purpose of this study before they consented to participate. Criterion sampling method was used to identify the adult diabetes patients with minimum of three previous visits. The respondents were interviewed about their satisfaction on the basis of previous experiences, excluding the services received on the day of interview. No monetary benefit was given to the respondents for participation. The questionnaire comprised on social demographics of patient and Urdu translation of Patient Satisfaction Questionnaire (PSQ III).

Patient's baseline characteristics included: age, gender, occupation, education, marital status, religion and place of residence. Technical expertise of doctors was assessed by variables: careful checkup, thoroughness of examination, accuracy of diagnosis, knowledge of latest medical developments, lack of experience, competency, exposing unnecessary risk and advice about preventing illness.

The interpersonal skills of doctors were indicated by: impersonal attitude, sympathy, privacy, taking interest in patient as a person, friendliness and respect of patient. Indicators of doctors' communication were: explaining the reason for medical tests, use of medical terms without explaining, letting the patient say everything, ignore what patient tells and listening carefully. Time dimension indicators were: doctors spend plenty of time with patient and hurry too much while check-ups.

The patient responses were taken on a 5-items Likert scale: strongly agree, agree, uncertain, disagree, and strongly disagree. After analyzing the frequency distributions, the response categories for all the independent variables were collapsed into: agree, uncertain and disagree. The dependent variable was dichotomized as: 'satisfied' and 'dissatisfied' on the basis of frequency distribution because none of the patients responded as uncertain to this statement. In addition, most of the responses were either 'satisfied' or 'dissatisfied'. In addition, we measured the prevalence of patient satisfaction using the same dichotomous dependent variable.

We categorized the doctors to hold high technical expertise, interpersonal, communication and time management skills; if the variables indicating each dimension were significantly associated with higher odds of patient satisfaction. Thus the doctors possessed high technical expertise if the patients perceived that the doctors carefully checked everything, did thorough examination, diagnose accurately, keep the knowledge of latest medical developments, never expose patients to unnecessary risk, and advised about avoiding illness. The doctors possess low technical expertise if patients perceived adversely.

The doctors possessed high interpersonal skills if

they were not being too business like and impersonal towards patient, keep the patient from worry, keep patient's privacy, take genuine interest in patient as a person, do not make patient feel foolish, friendliness and respect. Doctors possessed high communication skills when patients thought that they: explained the reason for medical tests, did not use medical terms without explaining, allowed patient to say everything, paid attention to what patient said and listened carefully. Doctors managed time well if patients thought that the doctors gave them plenty of time and did not hurry while checkup.

SPSS version 22.0 was used for data analysis. The findings were based on multivariate logistic regression analysis. The variables found significant in binary logistic regression analysis were included in multivariate analysis. The multi-colinearity was checked before entering the variables to the logit model. $p<0.05$ was considered significant.

RESULTS

Out of 1128 subjects, 60.2% were women and 38% were men. Most of the patients were of age between 40 to 59 years. More than 78% of patients belonged to urban places of residence whereas 22% lived in rural residences. Overall, 86% of the patients reported satisfaction about the doctors (Table 1). Multivariate logistic regression analysis showed that male patients were less likely to be satisfied in contrast to female patients (AOR=.41, 95%CI=.26-.63). The education attainment of 13 years and above was also associated with lower odds of patient satisfaction (AOR=.33, 95% CI= .17-.63).

With regard to the technical expertise of doctors not careful to check everything, doubt about the accuracy of diagnosis, lack of experience, inability of doctors, exposure of unnecessary risk and rare advice about living healthy life were significantly associated with lower likelihood of satisfaction (Table 2). Six items out of ten indicating the dimension of technical expertise were found to be associated with less likelihood of patient satisfaction.

Table 1. Socio demographic characteristics of respondents (N=1128).

Variable	N (%)
Age	
18 to 39	139(12.3)
40 to 59	628(55.7)
60 to 85	337(30)
Gender	
Female	679(60.2)
Male	425(38)
Marital status	
Married	963(85.4)
Not in relationship	141(12.5)
Type of place of residence	
Rural	248(22)
Urban	856 (78)
City of residence	
Lahore	859(76.2)
Other cities of Punjab	231(20.5)
Other provinces of country	30(2.7)
Religion	
Christianity	35(3.1)
Islam	1069(95)
Occupation	
Work in private sector [1]	83(7.6)
Personal business [2]	106(9.4)
Low status jobs [3]	163(14.5)
No paid job [4]	678(60.1)
Government job and retired [5]	74(6.6)
Education	
Illiterate	558(50)
Attended school/ can read and write	50(4.4) 410(30.3)
Completed 5 to 12 years	86(7.62)
13 and above	
Mode of treatment ~	
Insulin	496(77)
Medicine	151(23)
Patient satisfaction	
Satisfied	969(86)
Unsatisfied	135(12)

1 work in low income jobs: education, printing press, hospitals, NGOs etc.
2 businesses (small scale), self-employed and agriculture land.
3 unskilled laborers, rickshaw and truck drivers, security guards, domestic workers, tailors, hair dressers etc.
4 not doing paid job: housewives, students, disabled (due to diabetic foot, loss of eye sight, severe illness).
5 in service and retired government servants receive almost free treatment in public hospitals ~ n=647

Table 2. Patient satisfaction in association with profile characteristics of patients and technical expertise of doctors (N=1128).

Variable	AOR (95%CI)	p value
Gender		
Female	1	
Male	.41(.26-.63)	.000
Education years completed		
Illiterate	1	
Attended school/ can read and write˜	2.71(.63-11.68)	.18
	.81(.51-1.29)	.38
Completed 5 to 12 years	.33(.17-.63)	.001
13 and above		
Doctors treat and examine carefully		
Yes	1	
Uncertain	.17(.04-.69)	.013
No	.054(.03-.11)	.000
Wonder if diagnosis is correct		
Yes	.215(.09-.50)	.000
Uncertain	.796(.29-2.16)	.65
No	1	
Doctors know latest medical developments		
Yes	1	
Uncertain	2.78(1.008-7.67)	.05
No	1.33(.55-3.21)	.52
Lack of experience		
Yes	.38(.14-.83)	.005
Uncertain	.34(.09-1.20)	.091
No	1	
Doubt about ability of doctors		
Yes	.24(.12-.49)	.000
Uncertain	.63(.24-1.65)	.35
No	1	
Never expose to unnecessary risk		
Yes	1	
Uncertain	.61(.31-1.18)	.14
No	.38(.19-.75)	.005
Rarely advice about ways of living healthy life		
Yes	.29(.18-.46)	.000
Uncertain	.37(.11-1.20)	.096
No	1	

This table presents results of multivariate logistic regression analysis
Abbreviations: AOR: Adjusted Odds Ratio. CI: Confidence interval. 1: reference category. Significant p<0.05

Table 3. Patient satisfaction in association with indicators of interpersonal aspects, communication and time dimension.

Variable	AOR (95%CI)	p value
Keep me from worrying		
Yes	1	
Uncertain	.25(.098-.62)	.003
No	.54(.31-.97)	.039
Take interest in me as a person		
Yes	1	
Uncertain	1.07(.26-4.45)	.925
No	.33(.19-.56)	.000
Make me feel foolish		
Yes	.29(.18-.49)	.041
Uncertain	.86(.23-3.149)	.000
No	1	
Friendly and courteous		
Yes	1	
No	.12(.07-.198)	.000
Usually give plenty of time		
Yes	1	
No	.36(.21-.59)	.000
Sometimes hurry too much		
Yes	.45(.26-.77)	.004
No	1	
Listen carefully		
Yes	1	
No	.14(.05-.38)	.000

The results of Multivariate analysis
Abbreviations: AOR: Adjusted Odds Ratio. CI: Confidence interval. 1: reference category
Significant p<0.05

Likewise, four out of seven indicators of low interpersonal aspects remained significantly associated with lower odds of patient satisfaction were not keeping patients from worry, not taking interest in patient as a person, making patient feel foolish and unfriendliness. Both the indicators of time spent with the doctors were also associated with lower likelihood of satisfaction: not giving plenty of time and hurry too much while check-up. While only inappropriate listening to patient was found to be significantly associated with lower odds of patient satisfaction amongst the five indicators of communication (Table 3).

DISCUSSION

In our analysis, we added an additional question to

the tool to assess the satisfaction of the patients. We found that almost 86% of the patients reported to be satisfied with their doctors.[17] Being male and higher level of education were significantly associated with the lower odds of patient satisfaction, which is in accordance with the findings of many international studies.[18-20] Female, illiterate and deprived strata of society were more satisfied with the healthcare facilities.[6-8] With regard to other baseline characteristics, age, marital status, place of residence and occupation did not show a significant association with outcome.

Studies on the patient satisfaction about the competence of doctors have demonstrated that high technical expertise, interpersonal skills and time management are positively associated with patient satisfaction.[1,21] Consequently, patient's perception of doctor performance as 'low' on the interpersonal aspects and short time provision are associated with a lower likelihood of satisfaction.[22] We analyzed the technical expertise, communication, interpersonal aspects, time provision and accessibility of doctors in association with patient satisfaction. Lower likelihood of satisfaction was associated with low technical expertise, low communication and interpersonal skills, low time provision and low accessibility of doctors.[7,12]

With regard to the technical expertise of doctors, majority of the patients responded as 'uncertain'. This may be because of the fact that majority of the patients were illiterate and belonged to least favored strata of society. The illiterate patients revealed unfamiliarity with the terms: latest medical developments, exposure to risk and right of privacy at the time of interview. Therefore, we found patient responses as: 'don't know/uncertain' about the indicators of technical expertise.

In developed countries, the approach to doctor-patient relationship has evolved to the extent that both are equal in status while interacting and making decisions. The patient is educated and well aware of his rights. In contrast, the doctor-patient relation is still working on traditional approach of health care provision. Patients believe that there doctor is superior because of his ability to save lives. Moreover, the right of privacy and respect are neither realized nor valued by the poor patients in public hospitals. Recent studies from similar contexts have also demonstrated that the patients are ignorant of their rights and reveal high level of for the disrespectful behavior of healthcare providers.[6] Another study by Imam et al reported high patient satisfaction level; even though the patients felt that low emotional support and inadequate information was provided by the paramedical staff. [23]

In developed countries, the average time provided for consultation is around 10-15 minutes. However, this duration is less than three minutes in public hospitals of Pakistan that limits the listening by the doctors.[24] We found that low time provision was associated with low patient satisfaction. But it should be noted that the doctor-patient ratio requires immediate attention of experts and policy makers. Employing three doctors to deal with 90 patients in four hours on daily basis is the obstacle in improving the time provided for consultation.

The study has some limitations. The data collection was completed by the primary author of this study to avoid the interviewer bias. Although we used a large sample size and internationally validated questionnaire to conduct this study, the survey in one public diabetes care clinic may not be enough to make generalizations. Limited time and resources were major limitations of this study. It is recommended that the future researches should focus on identifying causal relationships between variables as well as subjective assessment of context specific patient satisfaction.

CONCLUSION

We found that the lower likelihood of patient satisfaction was associated with low technical expertise, interpersonal and time management skills of doctors. It is also suggested that the average waiting time ought to be reduced while increasing the duration of consultation session by increasing the number of specialist doctors. The public health policy of Pakistan should be guided by regular evaluation researches to improve the status of patients as well as doctors.

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