

Research papers

Predictors of satisfaction with health care: a primary healthcare-based study

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ABSTRACT

Objective The main aim of this study was to examine the overall satisfaction with health care among a multi-ethnic primary healthcare practice population. The second aim was to explore the relations between satisfaction/dissatisfaction and socio-demographic characteristics, health status, healthcare utilisation and medicine use in Jordbro, Haninge, Sweden.

Method The study included 1055 out of 1442 consecutive adult patients visiting a Swedish healthcare centre. The relationship between satisfaction and socio-demographic characteristics, perceived health, chronic disease, complaint symptom, consultations with the general practitioner (GP) and healthcare need was assessed using final logistic regression analysis.

Results Age, perceived health and complaint symptoms were related to patient satisfaction with health care in the univariate analysis. However, only age and healthcare need remained significantly and independently related to patient satisfaction in the

logistic regression analyses when the impact of all confounders was taken into account. Age under 65 years and healthcare need were the strongest predictors of dissatisfaction with health care. Poor perceived health and low numbers of consultations with the GP were related to reporting that healthcare need was not met.

Conclusion Age and healthcare need were significantly and independently related to patient satisfaction in the logistic regression analysis adjusted for all confounders. Poor perceived health was related to dissatisfaction and unmet healthcare need in the univariate analyses. Maintaining a continuous relationship with patients with poor perceived health is essential, and efforts should be made to improve the quality of care for these patients.

Keywords: consultations, general practice, healthcare need, healthcare utilisation, perceived health, satisfaction, socio-demographic characteristics, symptoms

Introduction

A patient view of health care has become an important issue in recent decades and has been recognised as comprehensive assessment of quality of care. Satisfaction is a valid measure of quality of health care and has been used as a research outcome of the quality of healthcare delivery.^{1,2} Furthermore, it is known that patient satisfaction or dissatisfaction is a complicated phenomenon.³ Various instruments that measure different aspects of patient satisfaction have been developed for inpatient as well as outpatient care.^{4–10} Accessibility of medical care, organisation of healthcare services, treatment length, perceived competence of physicians, clinic size, general practitioner's (GP's) health services and the possibility of choosing one's own family physician are important factors related to

patient satisfaction.^{2,11–15} In addition to that, own doctor, doctor's behaviour and doctor–patient relationship were found to be very important and related to patient satisfaction.^{16–19} However, physicians' services were the strongest predictor of satisfaction with health care.²⁰

Socio-demographic characteristics such as age and sex have been shown to influence patient satisfaction in some studies.^{21–26} In general, older patients are more satisfied with health care than the younger patients, and males more than females. For example, Nguyen *et al* found that older age and better self-perceived health status at admission to hospital were the strongest predictors of satisfaction, and men tended to be more satisfied than women.²⁵ Jaipaul and

Rosenthal reported that satisfaction scores peaked at age 65 before declining in patients with poor to fair health.²⁶

Patients' expectations are another important issue related to satisfaction.^{27–29} For example, Williams and Calnan report that patients with greater numbers of their expectations met report significantly higher satisfaction with the consultation than those with lower numbers met, and Joos *et al* report that most patients have explicit desires or requests when they visit their physicians.^{28,29} Meanwhile, others suggest that patients' visit-specific expectations appear to affect satisfaction to a modest degree.³⁰

Furthermore, disease and perceived health have an important impact on satisfaction with care.^{25,31–34} Piette reports that perceived diabetes-related counselling and shorter waiting times contributed to differences in patient satisfaction but did not explain them completely.³¹ Kroll *et al* report that people with physical disabilities in managed care plans are less satisfied with how their providers communicate with them.³² Solberg *et al* suggest that to successfully maintain a key role in the care of depressed patients, primary care physicians may need to incorporate a more comprehensive and systematic approach to management that involves other team members and is more satisfying to patients.³³ However, continuity and need of care are other important variables related to satisfaction.^{21,34}

The main aim of this study was to examine the overall satisfaction with health care among a multi-ethnic primary healthcare practice population. The second aim was to explore the relations between satisfaction/dissatisfaction and socio-demographic characteristics, health status, health care utilisation and medicine use in Jordbro, Haninge, Sweden.

The study was approved by the Ethics Committee on Research at the School of Medicine, Karolinska Institute, Stockholm, Sweden, and conforms to the Declaration of Helsinki.

Methods

Setting and sample

A full description of the methodology is provided elsewhere.³⁵ This healthcare centre with five full-time positions for family physicians has a catchment area of 9500 patients. Patients from 80 countries attended the Jordbro Health Centre (JHC) during the study period, but only a few nationalities were represented among those patients who consulted a physician. Most participants had been born in Sweden, Finland, Turkey, former Yugoslavia, South America, Iran or Iraq. The median length of residence in Sweden for the patients born outside Sweden was 14 years.

This study was performed during 4 months between 14 January and 10 May 2002 among adult patients (16 years and older) who consecutively attended the JHC in Haninge municipality, Stockholm, Sweden. All patients contacting the JHC during the study period were asked to participate in this study independent of the reason for contact with the healthcare centre. A total of 1442 questionnaires were distributed. Participants received a questionnaire with a letter informing them about the study. Each questionnaire was given an identity code to identify patients who had already responded. Patients were also informed that participation in the study was voluntary and free, and they were requested to complete the questionnaire at the surgery if possible. Patients who received the questionnaire on their first visit to the health centre were registered on a list when we collected the questionnaires. Patients who had not responded within 2 weeks of the end of the study period were sent a reminder. Altogether 1055 (73%) answers were received. In this study we combined a questionnaire survey with information collected from the medical records, and the findings were matched. Patient consent was obtained in advance.

The questionnaire

The questionnaire contained questions about socio-demographic characteristics such as age and sex, marital status, educational level, occupation, and country of birth. The presence of 30 specific symptoms was assessed with the 'Göteborg quality of life instrument'.³⁶ The subjects were asked to indicate whether they had had any of the given symptoms during the previous 3 months. An ordinal scale ranging from 1 ('worst possible') to 7 ('best possible') determined self-perceived health.³⁶ Poor perceived health was defined as value of ≤ 2 on the scale. The questionnaire also contained a question on chronic disease or long-standing illness. The subjects were asked to indicate whether they were suffering from any chronic disease or not. The patients were finally asked to indicate whether they had any regular contact with a healthcare professional because of any diagnosed chronic disease or condition and if they had any such disease they were asked to name it.

There were two questions on overall satisfaction with health care and whether the patient's need was met. Respondents were asked to indicate 'yes = 1' if they were satisfied with the health care at Jordbro and 'No = 0' if they were not satisfied ('Are you satisfied with the health care? Yes or no'). If the healthcare need was met they answered 'Yes = 1', otherwise 'No = 0' ('If you consulted health care during the year 2001 was your need met? Yes or no'). In addition to that, the respondents were given the possibility to express freely their comments on the health care. The questionnaire

used in this study was tested in advance in a pilot study and was judged to be satisfactory.

Medical records

In addition to the questionnaire survey, information on consultations with the GP was also collected from the medical records for past (2001) as well as for future (2002) consultations. Information on prescriptions and sickness absence for 2001 and 2002 was also collected. Approximately 70% had consulted the GP during 2001 and 91% during 2002.

Statistical methods

The data were analysed using the JMP and Stata software packages.^{37,38} Standard methods were used for summary statistics, such as means and measures of dispersion. The satisfaction variable was regarded as the dependent variable in the first logistic regression analyses when calculating the odds ratios (OR) and the 95% confidence intervals (95% CI). In the second analysis, healthcare need was regarded as the dependent variable. All the other variables, i.e. age, sex, marital status, education, occupation, country of birth, perceived health, chronic disease, complaint symptoms and healthcare need were regarded as independent variables. All studied variables were analysed in dichotomised form.

Results

Table 1 shows the population distribution in relation to dissatisfaction and unmet health needs. In general 31.6% were dissatisfied with the health care in Jordbros and 8.7% reported that their need was not met. A higher percentage of young respondents, respondents with poor perceived health and with high complaint symptoms were significantly more dissatisfied with the health care than the older respondents, respondents with good perceived health and with low complaint symptoms. The percentage of respondents who reported that their need was not met was lower and the pattern varied somewhat. A higher percentage of respondents with poor perceived health reported that their need was not met as compared to respondents with good perceived health. From the free comments it was obvious that the dissatisfied respondents were less satisfied with the continuity of care.

The pattern of utilisation (high or low), and sickness absence days (<29 or >28 days), did not have any significant effect on either satisfaction with health care or on reporting that the need of care was not met. The dissatisfaction among high utilisers was in general

similar to those who had low utilisation. However, it appears that the dissatisfied respondents consult the GP to a greater extent and have a higher sickness absence, but use fewer medications than the satisfied respondents. Respondents who reported that their need was not met had slightly fewer consultations with the GP, used fewer medications and had fewer sickness absence days than respondents whose need was met (data not shown in the table).

Table 2 shows the logistic regression analysis of dissatisfaction with health care adjusted for all possible confounders. Respondents aged 16–64 years had a significantly 2.72 times higher OR of being dissatisfied with the health care than respondents aged 65 years or above. Females, married/cohabiting, high educational attainment, working respondents and respondents born in the Nordic countries had a higher OR for being dissatisfied with the health care. However, this was not significant. Healthcare need had a significant impact on satisfaction. It was the strongest predictor with an OR = 5.36 and 95% CI = 2.99–9.59. The impact of the age variable still remained significant.

Perceived health and the consultation volume measured as high or low utilisation were related to the satisfaction with the healthcare need variable (see Table 3). Only these two variables were significantly and independently related to satisfaction. Respondents with poor perceived health had their healthcare need met less than those who reported having good perceived health, and respondents with low utilisation reported that their healthcare need was not met. The figures were similar when we compared consultations, other utilisation outcomes and satisfaction with health care in 2001 with data from 2002 (data not shown in the table).

Discussion

The only socio-demographic characteristic variable significantly related to satisfaction was age, which is in line with some other reports.^{21–25} However, others report a somewhat different result. For example, Jaipaul and Rosenthal report that satisfaction exhibits a complex relationship with age, with symptoms increasing until age 65 to 80 years and then declining.²⁶ However, the high dissatisfaction among females in our study, even if it is not significant, is in line with other reports.^{21–25} Other factors appear to be more important than disease. For example, the perceived health variable is one strong predictor, measuring several aspects of life besides disease, and is related to increased health care utilisation, morbidity and mortality.^{39–43} For example, Weiss reports that predisposing factors, i.e. confidence in the community's

Table 1 Characteristics of the population in relation to dissatisfaction and unmet health needs

Variable	<i>n</i>	Dissatisfied		Need not met	
		%	<i>P</i> -value	%	<i>P</i> -value
Age (years)			0.0031		0.487
16–64	793	33.3		9.0	
65+	121	19.8		6.8	
Sex			0.1228		0.533
Female	574	33.5		9.2	
Male	341	28.5		7.8	
Marital status			0.7705		0.211
Married/cohabiting	554	31.8		7.6	
Other	357	30.8		10.3	
Educational attainment			0.2835		0.902
High	455	29.9		8.3	
Low	448	33.3		8.7	
Working			0.5524		0.319
Yes	523	32.3		9.0	
No	359	30.1		10.2	
Country of birth			0.4496		0.071
Nordic	612	30.7		7.4	
Other	301	33.2		11.4	
Perceived health			0.0484		0.005
Good	646	30.4		7.4	
Poor	183	38.3		14.5	
Complaint symptoms*			0.0055		0.069
1–9	426	27.0		6.7	
10–30	489	35.6		10.3	
Chronic disease			0.3409		0.898
No	354	33.3		8.8	
Yes	548	30.3		8.3	

* See Methods section for details.

medical care system, having a regular source of care, and being satisfied with life in general, are more important predictors of patient satisfaction than patient's age, sex, race, educational attainment, or income.⁴⁴

Disease and perceived health have been shown to have an important impact on satisfaction with health care.^{25,31–34} In spite of the fact that the older patients have more diseases and are sicker than young subjects, we found that the younger respondents were more dissatisfied than the older respondents.^{45,46}

Patient satisfaction or dissatisfaction is a complicated phenomenon, and identifying dissatisfied patients and knowing their views on health care is essential in order to improve the quality of health care.³ Using the

term 'satisfaction' is a valid measure of quality of health care delivery.² Although several instruments are available for measuring patient satisfaction, we used a simple overall definition of satisfaction in this study.^{4–10} We have explored patients' views and found that approximately 30% were not satisfied with their health care, which is similar to results from other studies.^{14,47} Kersnik reported that 72.9% of the respondents in their study were satisfied with the current organisation of the healthcare services, 95.5% of the respondents were satisfied with the possibility of choosing their own family physician and 58% of participants were very satisfied with the level of care received from their personal family practitioners.¹⁴

Table 2 Determinants of dissatisfaction with health care adjusted for age, sex, marital status, education, occupation, country of birth, perceived health, chronic disease, complaint symptoms, met need and consultations with the GP, year 2001

	Odds ratio	95% Confidence interval	P-value
Age (years)			
16–64	2.72	1.46–5.10	0.002
65+	Reference		
Sex			
Female	Reference		
Male	0.91	0.65–1.29	0.605
Marital status			
Married/cohabiting	Reference		
Other	0.92	0.65–1.28	0.608
Educational attainment			
High	Reference		
Low	0.99	0.71–1.39	0.971
Working			
Yes	Reference		
No	0.89	0.60–1.30	0.534
Country of birth			
Nordic	Reference		
Other	0.80	0.55–1.16	0.234
Perceived health			
Good	0.84	0.55–1.28	0.416
Poor	Reference		
Chronic disease			
No	1.18	0.82–1.68	0.367
Yes	Reference		
Complaint symptoms*			
1–9	0.74	0.51–1.05	0.095
10–30	Reference		
Need			
Yes	Reference		
No	5.36	2.99–9.59	0.000
High GP consultations			
Yes	Reference		
No	0.79	0.48–1.33	0.378

* See Methods section for details.

Polluste *et al* reported results comparable to ours regarding satisfaction with primary care doctors.⁴⁷ They reported from a survey using face-to-face interviews and structured questionnaires that 68% of their respondents were satisfied with their primary care doctor.⁴⁷

Patients' expectations are another important issue related to satisfaction.^{27–29} Nutting *et al* conclude

from their study that continuity of physician care is associated with more positive assessments of the visit.²¹ Our results show clearly that respondents who report that their need is met are more satisfied than others. Meanwhile others suggest that patients' visit-specific expectations appear to affect satisfaction to a modest degree.³⁰

Table 3 Determinants of 'healthcare need not met' adjusted for age, sex, marital status, education, occupation, country of birth, perceived health, complaint symptoms and consultations with the GP, year 2001

	Odds ratio	95% Confidence interval	P-value
Age (years)			
16–64	1.44	0.59–3.51	0.424
65+	Reference		
Sex			
Female	Reference		
Male	0.93	0.54–1.62	0.806
Marital status			
Married/cohabiting	Reference		
Other	1.19	0.70–2.00	0.523
Educational attainment			
High	Reference		
Low	1.10	0.64–1.88	0.733
Working			
Yes	Reference		
No	0.79	0.44–1.43	0.432
Country of birth			
Nordic	Reference		
Other	1.40	0.81–2.41	0.226
Perceived health			
Good	0.54	0.30–0.99	0.045
Poor	Reference		
Complaint symptoms*			
1–9	0.70	0.38–1.28	0.248
10–30	Reference		
High GP consultations			
Yes	Reference		
No	2.99	1.03–8.68	0.044

* See Methods section for details.

The response rate in the present study of 73% is acceptable, since a higher response rate is difficult to achieve in a questionnaire survey. Our response rate was higher than that reported in other, similar studies.^{48,49} The questionnaire used has previously been validated with regard to age and sex.^{35,36,45} In view of the large number of statistical analyses performed in this study, the problem of 'mass significance' should be considered and the results should be interpreted with caution. The strength of this study is that it investigated a multi-ethnic primary care population attending the healthcare centre for various reasons and complaints. It covered all the adult population consecutively visiting the healthcare centre. Another strength is that we were able to determine the overall

dissatisfaction with health care using a patient questionnaire and medical records. Finally, it would be valuable to explore in future research the relationships between healthcare need and accessibility and continuity.

Conclusions

Age and healthcare need were significantly and independently related to patient satisfaction in the logistic regression analysis adjusted for all confounders. Poor perceived health was related to dissatisfaction and unmet healthcare need in the univariate analyses. Maintaining a continuous relationship with patients with poor perceived health is essential, and efforts

should be made to improve the quality of care for these patients.

ACKNOWLEDGEMENTS

This study was supported by grants from the Stockholm County Council (the Dagmar and ALF Fund) and Haninge Community Council (Economic Target to Large Cities), Stockholm, Sweden.

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CONFLICTS OF INTEREST

None.

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Received 24 November 2004

Accepted 26 January 2005