

# The Croatian Health Survey – Patient's Satisfaction with Medical Service in Primary Health Care in Croatia

A. Babić-Banaszak, L. Kovačić, M. Mastilica, S. Babić, D. Ivanković  
and A. Budak

School of Public Health »A. Štampar«, School of Medicine, University of Zagreb, Zagreb, Croatia

## ABSTRACT

*The aim of the study was to investigate patient satisfaction with nurses and general practice organization in Croatia. A total of 2,252 patients 18 years of age and over from 47 randomly selected general practices were included in the study. 72.1% of patients were satisfied with nurses and general practice organization. Older and less educated patients were generally more satisfied. Patients were more pleased with nurses' behavior (81.9%) than with practice organization (62.3%). Factor analysis revealed two underlying discriminates of patient satisfaction – »positive attitude towards the nurse« and »inaccessibility of practice«. The former discriminate emphasized a great potential of nursing, which should be taken into consideration in the transformation of health care system in Croatia.*

## Introduction

Patient satisfaction can be defined as an evaluation based on the fulfillment of expectations<sup>1</sup>. Even though there is a large body of literature on patient satisfaction, it is mainly oriented towards patient satisfaction with physicians. The majority of early studies on patient satisfaction have explored the impact of physician care (55%) or both types of care provision (39%) rather than nursing care

(6%)<sup>2</sup>. Even though this issue is thoroughly studied in western countries, there are less studies of this type from countries in transition. In Croatia, Mastilica<sup>3</sup> explored attitudes towards nurses in Zagreb in 1990.

In this study, we conducted a research on patient satisfaction with nurse behavior and general practice organization. Our research was motivated by several facts. First, recent information on patient

satisfaction with physicians already exists<sup>4</sup> and it would be useful to have data on patient satisfaction with nurses and general practice organization. Second, nurses are numerically and even more functionally an important force in primary health care system, and patient satisfaction with nurse behavior is an important indicator of health care quality in general practice<sup>3</sup>. Third, since primary health care services are the most frequently used services in the health care system it seems especially important to elicit consumer satisfaction with these services<sup>5</sup>. Our objective was to explore patient satisfaction through evaluation of some characteristics of nurse behavior and general practice organization. We focused mainly on emotional response of patients since it has been found to be as important as their cognitive judgment of the medical encounter<sup>6</sup>. The specific goal of this survey was to determine whether there are differences in the evaluation of patient satisfaction with nurse behavior regarding some demographic characteristics of the respondents.

## Subjects and Methods

### *Organization of the Croatian health care system and the role of nurses*

Health care system in Croatia has been undergoing a process of continuous change since the political changes (introduction of parliamentary democracy) took place at the beginning of the nineties. The government decided to transform the previous health care system based on the national health insurance model with high degree of solidarity and virtually »free« services but with insufficient financial resources, into a public-private mix model with a higher financial responsibility for consumers<sup>7,8</sup>. The changes in the health care system that aimed primarily at the optimizing/rationalizing the financing of services and utilization con-

trol have affected the consumers' position as patients and have had significant impact on consumers' perception of quality of care and satisfaction with services<sup>9</sup>.

Primary health care services were the first part of the health care system affected by health care reforms – reduction in financing and control of provision. Primary health care in Croatia has a traditional and important role. It represents not only the first contact with health care system, but also a comprehensive level of health care. It is provided mostly by the general practitioners (one third of them are specialists of family practice). Beside general practitioners, mostly in urban areas, primary health care is also provided by pediatricians (for children under age of seven) and gynecologists (providing health care for women during pregnancy and for general gynecological problems)<sup>10</sup>. Occupational medicine health care, emergency medical care, dental care, medical care for school children and health visitors service are also specific parts of primary health care. The network of primary health care units is very developed and accessible. Physicians in primary health care have pre-paid per capita contracts with the Croatian Health Insurance Institute for rendering general health care services on this level. Secondary health care is organized through general and specialized hospitals as well as University Hospitals. They are paid by service for the outpatient treatments and from annual budget for hospital treatments.

Nurses are key members of primary health care teams. There were 2,435 nurses in general practice working in teams with physicians in Croatia in 1999, or one nurse per 1,529 persons in care<sup>11</sup>. Role of nurse comprises the administrative tasks such as taking care of medical files and writing epidemiological or statistical reports, and medical care for patients. Patients' contact with health care system

starts with the nurse. Nurses make appointments by phone, create waiting lists, collect information on socio-economic status and family situation of patients, assist and help the physicians during examinations of the patients and perform many therapy procedures by themselves. Nurses are also responsible for health promotion and health education as well as counseling the patients.

### *Subjects and the sampling strategy*

This study is a part of the project »Analysis of Transition of Healthcare System in Croatia«. The project has started in 1995 at School of Public Health, Medical School, University of Zagreb and is supported by the Ministry of Science and Technology of the Republic of Croatia. Patients from 47 randomly selected general practices in Croatia were included in the study.

Patients were interviewed in practices immediately after the consultation with the physician. Randomly chosen patients were interviewed face-to-face in the waiting rooms. Randomization was performed at two stages. First, a workday was selected randomly within each selected practice. Second, physicians were asked on their average daily number of consultations, and from the expected daily number of patients, ten percent of patients were randomly chosen respecting the order in which patients turned up. Only patients aged 18 years and over were included in the study. If a younger patient was to be selected according to the list of random numbers, he was skipped and the next referred patient was interviewed. The selected physicians and nurses gave informed consent for the procedure two to three months before the event. The interview took about 10 minutes and was led by trained interviewers – students of the Zagreb University Medical School. 2,282 adults were included in the study. Rejec-

tion rate was 1.3 percent, so the sample consisted of 2,252 adults.

The questionnaire was partly developed on the basis of the methodology used in the earlier works<sup>3,12,13</sup>. Most of the questions were originally designed for the purpose of this study. In stage 1, open-ended explanatory interviews were carried out to collect a full range of patient views on personal and professional qualities of their chosen family practices. A review of other questionnaires on patient opinion on medical staff behavior was undertaken<sup>14,15</sup>. In stage 2, a fixed closed questionnaire was designed. The questionnaire was anonymous, consisting of a series of statements on physician behavior during the consultation (ten statements), nurse behavior (five statements), conditions and organization of work (six statements) and also containing questions on socio-demographic characteristics (sex, age, education, and employment) of the respondents. While designing the statements on nurse behavioral characteristics (three affirmative and two negative), social component of the nurse's role which is modeled by individual (patient's) and wider social expectations was taken into consideration<sup>16</sup>. The last question in the questionnaire referred to the reason for encounter, and the respondents described it in their own words. The respondents were told to express the degree of their agreement or disagreement with the statements. The answers were based on five degrees – Likert scale ranking from »I completely disagree« to »I completely agree«. The questionnaire was »episode specific« meaning that patients were evaluating nurse behavior immediately after the consultation with the physician and not evaluating the health care system in general. In this paper, a part of the questionnaire on patient satisfaction with nurse's behavioral characteristics and organizational characteristics of the practice was analyzed.

Categorical data were compared by  $\chi^2$ -test. Variables consisted of five statements on nurse behavior, four statements on organizational characteristics of the practice, and three questions on socio-demographic characteristics (Table 1). In order to identify the underlying dimensions in patient satisfaction, the principal component model of factor analysis was used<sup>5</sup>.

The differences among the respondents regarding sex were analyzed by comparing the means of the factor scores using the t-test. The differences between age groups and education groups in the sample were analyzed by comparing the means of the factor scores using the analysis of variance (ANOVA).

**Results**

There were 891 (39.6%) male and 1,361 (60.4 %) female respondents in the sample. 776 (34.5%) respondents were between 18 and 40 years old, 941 (41.7%) were between 41 and 64 years old, and 535 (23.8%) respondents were 65 years of age and older. The education distribution showed that 693 (30.8%) respondents had

incomplete or complete primary school education, 1,205 (53.5%) had secondary or trade school education, and 353 (15.7%) respondents had completed university education.

Statistically significant difference was found regarding educational level of respondents: older respondents (65 years of age and over) ( $\chi^2 = 257.7$ ;  $df = 4$ ;  $p < 0.001$ ) and women ( $\chi^2 = 84.3$ ;  $df = 2$ ;  $p < 0.001$ ) were less educated. There was no statistically significant difference in age by sex.

To assess the nurse behavioral characteristics the respondents were asked to express their opinion on five statements (Table 2). A great proportion of respondents was satisfied with nurse behavior in general (81.9%). Nurse’s kindness and patience were the characteristics that the respondents were most satisfied with (87.3% and 87.1% respectively).

Patient satisfaction with nurse’s behavioral characteristics was analyzed according to age, sex and educational level (Table 3). Older respondents were more satisfied with nurse’s patience, kindness and compassion and considered that the nurse had enough time to listen to them. Difference among respondents was also

**TABLE 1**  
ANALYZED VARIABLES

Variable	Description
S1	She was very patient
S2	She was very kind
S3	She didn’t have time to listen to me
S4	She wasn’t helpful at all
S5	She was very compassionate
S6	You always have to wait long
S7	The practice is too far from where I live
S8	I’m not satisfied with practice working hours
S9	Many patients enter regardless of waiting order
Q1	Age
Q2	Sex
Q3	Education

**TABLE 2**  
DISTRIBUTION OF RESPONDENTS' OPINION ON STATEMENTS ON NURSE BEHAVIORAL CHARACTERISTICS

Nurse behavioral characteristics	Respondents' opinion (%)		
	I disagree	I neither agree nor disagree	I agree
She was very kind	7.0	5.7	87.3
She was very patient	7.5	5.4	87.1
She was very compassionate	9.0	20.6	70.4
She didn't have time to listen to me	78.6	9.3	12.1
She wasn't helpful at all	86.2	5.4	8.4

**TABLE 3**  
DIFFERENCES AMONG RESPONDENTS REGARDING AGE, SEX AND EDUCATION IN OPINION ON STATEMENTS ON NURSE BEHAVIORAL CHARACTERISTICS (DF = 4)

Nurse behavioral characteristics	Age	Sex	Education
She was very kind	<sup>2</sup> = 15.4; p < 0.01	ns	<sup>2</sup> = 10.1; p < 0.05
She was very patient	<sup>2</sup> = 10.5; p < 0.05	ns	ns
She was very compassionate	<sup>2</sup> = 23.6; p < 0.001	ns	<sup>2</sup> = 26.4; p < 0.001
She didn't have time to listen to me	<sup>2</sup> = 14.1; p < 0.01	ns	ns
She wasn't helpful at all	NS	ns	ns

ns = no significant difference among respondents

found regarding educational level of respondents. Examinees with lower educational level were more satisfied with nurses' kindness and compassion. Respondents did not differ significantly regarding sex.

Respondents were asked to evaluate organizational characteristics of the practices by expressing their opinion about four statements. Two of the characteristics (long waiting time and disrespect towards the waiting order) were partly the nurse's responsibility. The characteristics that referred to the distance of practice from the place of living and practice working hours described the attitude of the respondents towards practice organization (Table 4).

A total of 62.3% of the respondents were satisfied with the organizational

characteristics of the practice. Distribution by age showed that older patients agreed significantly less that many patients entered regardless of waiting order. Women were satisfied with the practice working hours more than men. Examinees with lower educational level were less satisfied with the distance of practice from the place of living (Table 5).

*Factor analysis*

In order to identify the latent dimensions in patient satisfaction with nurse behavioral characteristics and organizational characteristics of the practice, factor analysis was performed. Nine variables reflecting patients' opinion were used for factor analysis. Two principal components with eigenvalue above 1.0

**TABLE 4**  
DISTRIBUTION OF RESPONDENTS' OPINION ON STATEMENTS ON ORGANIZATIONAL CHARACTERISTICS OF THE PRACTICE

Organizational characteristics of the practice	Respondents' opinion (%)		
	I disagree	I neither agree nor disagree	I agree
You have to wait long every time	46.0	13.9	40.1
Many patients enter regardless of waiting order	51.2	23.2	25.6
Practice is too far from where I live	73.9	3.3	22.8
I'm not satisfied with practice working hours	78.0	5.0	17.0

**TABLE 5**  
DIFFERENCES AMONG RESPONDENTS REGARDING AGE, SEX AND EDUCATION IN OPINION ON STATEMENTS ON ORGANIZATIONAL CHARACTERISTICS OF THE PRACTICE

Organizational characteristics of the practice	Age	Sex	Education
You have to wait long every time	ns	ns	ns
Many patients enter regardless of waiting order	$\chi^2 = 16.6$ ; df = 4; p < 0.01	ns	ns
Practice is too far from where I live	ns	ns	$\chi^2 = 45.8$ ; df = 4; p < 0.001
I'm not satisfied with practice working hours	ns	$\chi^2 = 45.8$ ; df = 2; p < 0.05	ns

ns = no significant difference among respondents

were obtained by factor analysis (Table 6). They accounted for 55.3% of the total variance.

The first factor (eigenvalue 3.521) was recognized as »positive attitude towards the nurse« with the highest loadings of 0.71–0.89. The first factor loadings were predominantly described by statements S2, S1, S4, S5 and S3. This factor was dominantly described by positive perceptions of nurse's kindness, patience, helpfulness, compassion, and having enough time to talk to patient. The second factor (eigenvalue 1.457) was recognized as »inaccessibility of practice« with the highest loadings of 0.55–0.73 for statements S6,

S9, S8 and S7. The second factor was described predominantly by affirmative assessment of the given statements. It could be interpreted that the patients thought the organizational characteristics of the practice were not satisfying.

The differences in principal components regarding sex were analyzed by t-test. There were no statistically significant differences between male and female respondents in either of the factors. The differences between age and education groups were analyzed by ANOVA. The three age groups of respondents in the sample differed significantly in the first factor – »positive attitude towards

**TABLE 6**  
 FACTOR ANALYSIS: VARIMAX ROTATED FACTOR MATRIX

Variable	Description	Factor 1	Factor 2
S1	She was very patient	0.876	-0.032
S2	She was very kind	0.888	-0.053
S3	She didn't have time to listen to me	-0.706	0.187
S4	She wasn't helpful at all	-0.743	0.131
S5	She was very compassionate	0.727	-0.085
S6	You have to wait long every time	-0.205	0.733
S7	Practice is too far from where I live	0.042	0.547
S8	I'm not satisfied with practice working hours	-0.022	0.557
S9	Many patients enter regardless of waiting order	-0.265	0.719
Eigenvalue		3.521	1.457
Percent of variance		39.1	16.2
Cumulative percent		39.1	55.3

Loadings, eigenvalues, and percentage of variance calculated for responses of 2,252 subjects of the study

the nurse« ( $F = 7.85$ ;  $df = 2$ ;  $p < 0.01$ ). Tukey's multiple comparisons test (at  $p < 0.05$  level) showed that the group of the oldest respondents (65 years of age and over) was responsible for the difference in the first factor. The education groups were significantly different in both factors: »positive attitude towards the nurse« ( $F = 4.32$ ;  $df = 2$ ;  $p < 0.05$ ) and »inaccessibility of practice« ( $F = 4.05$ ;  $df = 2$ ;  $p < 0.05$ ). The difference between the group of respondents with the lowest educational level and the group of respondents with the highest educational level accounted for the difference in both factors.

## Discussion

Since there have been a lot of fundamental changes in health care system in Croatia during the last ten years, this study was conducted in order to describe levels of patient satisfaction with nurses and general practice organization.

The majority of patients in the study expressed satisfaction with nurse behav-

ior. Nurse's patience and nurse's kindness were the characteristics that patients were most satisfied with. Differences in answers showed that older and less educated patients were more satisfied with nurse behavior. Hall and Dornan have concluded that the correlation between socio-demographic characteristics of patients and patient satisfaction is relatively poor and inconsistent<sup>17</sup>. Nevertheless, patient's age seems to be a more consistently correlating variable than other socio-demographic variables and some authors agree that older patients are generally more satisfied<sup>18,19</sup>. In this study, older patients were significantly more satisfied with four out of five nurse behavioral characteristics: compassion, kindness, patience and time to listen to them. Patients with lower educational level were significantly more satisfied with nurse's compassion and nurse's kindness. These results are similar to those from Khayat and Salter's study, in which those who left school aged 17 years or older were more critical of primary care services than those who left

school before the age of 17<sup>19</sup>. In our study, this could partly be explained by the fact that older patients were significantly less educated than the others.

Patients were also generally satisfied with practice organizational characteristics. Two of these characteristics – long waiting time and disrespect towards the waiting order, were partly nurse's responsibilities. The other two characteristics – distance of practice from the place of living and practice working hours were not under nurse's influence but evaluation of these characteristics by patients reflects their attitude towards the organization of general practice. Among the four characteristics, patients were less satisfied with those partly under the nurse's responsibility – 40.1% of patients thought they had to wait long every time and 25.6% felt that many patients entered regardless of the waiting list. Also, almost one fourth of the patients neither agreed nor disagreed with the latter statement. Similar results were obtained in Kersnik's research of patient satisfaction with family practice care in Slovenia – waiting in the waiting room was the item rated poorest in that investigation<sup>20</sup>. In our study patients differed significantly with respect to age. Older patients agreed significantly less that many patients entered regardless of the waiting list. This could be interpreted having in mind that the oldest group of patients included retired citizens who had a lot of time. Women were significantly more satisfied with practice working hours. Several studies have shown the correlation between sex and overall satisfaction with medical service<sup>21</sup>. Patients with lower educational level were less satisfied with the distance of practice from the place of living. This may be due to the fact that older patients were less educated and because of their age and medical problems it was more difficult for them to come to the physician's office.

Factor analysis revealed two underlying dimensions in patient satisfaction: »positive attitude towards the nurse« and »inaccessibility of practice«. Positive attitude towards the nurse was less expressed in younger patients and patients with higher educational level. Our results were very similar to those of Mastilica, who has studied the attitudes of social groups towards nurses on a randomly stratified sample of the working population in Zagreb<sup>3</sup>. In our study, perception of inaccessibility of practice was less present among patients with lower educational level. In short, older patients, and patients with complete or incomplete primary school education showed satisfaction with nurse behavior and practice organization.

In our research, the average expressed satisfaction with nine explored characteristics was 72.1%. Generally, patients were less satisfied with organizational characteristics of the practice than with nurse behavioral characteristics. The difference in satisfaction with nurse behavioral characteristics and organizational characteristics of the practice showed that patients were more satisfied with interpersonal relationships with medical staff than with administrative aspects of the general practice organization. In Hall and Dornan's meta-analysis of the satisfaction literature, humanness of medical care was ranked near the top of the aspects of care<sup>22</sup>. This finding is also consistent with results from the Czech Republic where it was found that interpersonal interactions with physicians, nurses and healthcare personnel provided the greatest satisfaction for patients<sup>23</sup>. The importance of such an attitude has been emphasized by Luker et al. who concluded that patients valued nurses for their accessibility and approachability, which led them to discuss health issues which would not otherwise have been brought to the attention of the general practitioner<sup>24</sup>. Besides, the studies of health be-



havior have demonstrated that there is a strong connection between patient attitudes and the use of chosen outpatient health care as well as between the patient attitude and preventive health behavior<sup>25</sup>. Therefore, we believe that generally positive attitudes shown towards nurses in our research emphasized a great potential of nursing that should be seriously taken into consideration in the transformation of health care system in this country.

### Conclusion

Reforms of health care system in Croatia, although aimed at solving macroeco-

nomie problems of health care system, have affected the patients' position and influenced patients' satisfaction. We believe that our research can contribute to better understanding of patients' opinion on nurses' behavior and general practice organization. The importance of this study lies in the fact that this is the first research of patient satisfaction which included patients throughout Croatia and the results presented here could be useful because they show a great importance of personal dimension of medical encounter. These findings can be used in development of the human potential in health care system reform in order to promote patient satisfaction.

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A. Babić-Banaszak

School of Public Health »A. Štampar«, School of Medicine, University of Zagreb, Rockefellerova 4, 10000 Zagreb, Croatia

**HRVATSKI PROJEKT ZDRAVLJA: ZADOVOLJSTVO BOLESNIKA  
MEDICINSKOM USLUGOM U PRIMARNOJ ZDRAVSTVENOJ  
ZAŠTITI U HRVATSKOJ**

**S A Ž E T A K**

Cilj je ovog rada istražiti zadovoljstvo bolesnika medicinskim sestrama i organizacijom ambulanti opće/obiteljske medicine u Hrvatskoj. U istraživanje je uključeno 2252 bolesnika starijih od 18 godina iz 47 ordinacija opće/obiteljske medicine. Pokazalo se da je 72,1% bolesnika zadovoljno medicinskim sestrama i organizacijom ambulanti. Stariji i manje obrazovani bolesnici pokazali su veće zadovoljstvo. Također se pokazalo kako su bolesnici zadovoljniji ponašanjem medicinskih sestara (81,9%) nego organizacijom ambulanti (62,3%). Faktorskom analizom pronađene su dvije dimenzije zadovoljstva bolesnika – »pozitivan stav prema medicinskoj sestri« i »nedostupnost prakse«. Načelno pozitivan stav prema medicinskim sestrama naglašava veliki potencijal sestinstva, što bi moglo biti od značaja u reformi zdravstvenog sustava u Hrvatskoj.