



Patient satisfaction in Kazakhstan: Looking through the prism of patient healthcare experience

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ABSTRACT

Objectives: This study aimed to explore the relationship between patient satisfaction and patient experience after exposure to inpatient hospitalization.

Methods: A cross-sectional self-completed survey at the bedside in the Inpatient departments of the University Medical Center hospitals (UMC) in Nur-Sultan city, Kazakhstan was submitted. A total of 153 patients completed the survey from September 2017 to June 2018. The survey used the Picker Patient Experience questionnaire validated in Russian and Kazakh languages.

Results: The majority of patients were satisfied with their hospital stay (90.8 %). Only self-rated health status was associated with overall satisfaction (OR 1.922, 95 % CI 1.09–3.37). Patient experience assessment revealed an association of physical comfort and respect for patient preferences with overall satisfaction (OR 0.101, 95 % CI 0.01–0.91 and OR 0.317, 95 % CI 0.11–0.92).

Conclusions: Study findings support that patient satisfaction is an exaggerated image of healthcare performance. Groups with negative experience have shown lower overall satisfaction in the dimensions 'physical comfort' and 'respect for patient preferences'.

Practice implications: Improving patient centered communication and pain control in clinical practice may lead to the improvement in patient satisfaction.

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1. Introduction

Healthcare in Kazakhstan has been undergoing active reforms to achieve international standards in healthcare since the country's independence. Recent publications highlighted that both patient experience and patient satisfaction are integral components of a high-quality health system framework and target for improvement in the transition to high-quality health systems in low-income and middle-income countries [1].

Although patient satisfaction and patient experience are distinct entities, they showed to have variable degrees of association in different hospital systems and hospital settings when measured objectively [2–5].

Previous studies demonstrated that patients are generally satisfied with care [6]. Some studies showed associations between patient satisfaction and patient characteristics: age, ethnicity, spoken language, level of education, health status [5,7–11]. Other studies demonstrated associations of specific aspects of care extrapolated from patient experience [2,4,5,9].

Many tools were developed and applied at the national and cross-nation levels for variable hospital settings that capture the patient experience and patient satisfaction [12]. To date, assessment of patient-centered care in Kazakhstan substantially lacks data and contains very few published reports on the quality of care in Kazakhstan. No literature specifically targets measure of experience in inpatient care through standardized valid and reliable methods.

In this study, we adopted a 15-item Picker Patient Experience Questionnaire developed by Picker Institute Europe [13] to fit the bilingual setting of the local population. This study aimed to investigate the association of overall patient satisfaction including sociodemographic characteristics and patient experience in the hospital setting. Addressing patient satisfaction through patient experience would set the direction for patient-centered care. Experience surveys on their own have not shown to improve experience directly, but rather provide areas of focus to pursue improvements through campaigns, incentives, and penalties [14].

2. Methods

The data was collected from the inpatient departments of the University Medical Center (UMC) tertiary care hospital network in Nur-Sultan, former Astana, after approval from the ethics

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committees of Nazarbayev University and UMC. The aims of the study were explained to each participant and oral informed consent was obtained. Patients were recruited by a single research assistant from the inpatient wards on the day of discharge in the period September 2017 - June 2018 on a consecutive basis. Participants were legally competent adults (18 years and older) and citizens and permanent residents of the country. All were preparing for discharge on the day of recruitment, after planned hospitalization or having received emergency care.

Exclusion criteria were patients who had undergone palliative or intensive care and anyone with indicators of altered mental status. The above criteria were followed through discharge review with ward staff responsible for a discharge procedure. During survey administration, subjects were allowed time to respond and returned the self-completed survey. No identifiable data was collected from the patients.

The survey included twenty-five questions, fifteen of which were adopted from the Picker Patient Experience Questionnaire (PPE-15) and nine questions for sociodemographic characteristics [13]. Each question corresponds to one of the seven dimensions of patient hospital experience including:

- 1) Information and education (Question 1–2)
- 2) Coordination of care (Q 3)

- 3) Physical comfort (Q 10)
- 4) Emotional support (Q 4–8–9)
- 5) Respect for patient preferences (Q 5–6–7)
- 6) Involvement of family and friends (Q 11–12)
- 7) Continuity and transition (Q 13–14–15)

The fifteen questions from PPE-15 were translated and culturally adapted in a multistep process following the guidelines for the cross-cultural adaptation of self-report measures [15]. A pre-test of 23 patients was performed for comprehension and question understanding. Internal consistency reliability in the present study was high, Chronbach's $\alpha = 0.714$ and 0.701 in Russian and Kazakh languages, respectively.

Demographic data included questions about age, education, nationality, spoken language, residency, hospital stay funding, length of hospital stay and self-rated health status.

Overall patient satisfaction was evaluated on a five-point scale ranging from “not at all satisfied” to “very satisfied”. We dichotomized the outcome variable by distinguishing patients who were “very satisfied” from those “less satisfied” [16].

Questions from the PPE-15 were coded as dichotomous variables identifying the presence or absence of negative experience in seven dimensions. Bivariate analysis of sociodemographic factors, patient experience and overall satisfaction as a dependent

Table 1

Distribution of demographic characteristics of patients by satisfaction level with health services at the University Medical Center hospitals in Astana/ Nursultan (n = 153).

Patient-specific characteristic	Total n ^a (%)	Not Satisfied n (%)	Satisfied n (%)	p-value
Age				0.843
≤25	4 (2.8)	2 (50.0)	2 (50.0)	
26–35	17 (12.0)	9 (52.9)	8 (47.1)	
36–45	23 (16.2)	11 (50.0)	11 (50.0)	
46–55	25 (17.6)	11 (45.8)	13 (54.2)	
56–65	44 (31.0)	17 (43.6)	22 (56.4)	
>65	29 (20.4)	10 (34.5)	19 (65.5)	
Gender				0.895
Female	102 (67.1)	42 (43.8)	54 (56.2)	
Male	50 (32.9)	22 (44.9)	27 (55.1)	
Educational level				0.304
Incomplete general	3 (2.0)	1 (33.3)	2 (66.7)	
General education	35 (23.0)	18 (52.9)	16 (47.1)	
Specialized secondary	54 (35.5)	18 (34.6)	34 (65.4)	
Undergraduate and higher	60 (39.5)	27 (48.2)	29 (51.8)	
Ethnicity				0.154
Kazakh	100 (65.8)	41 (44.1)	52 (55.9)	
Russian	41 (27.0)	21 (51.2)	20 (48.8)	
Other	11 (7.2)	2 (18.2)	9 (81.8)	
Spoken language				0.760
Russian	57 (37.3)	23 (40.3)	34 (59.7)	
Kazakh	28 (18.3)	12 (46.2)	14 (53.8)	
Both Russian and Kazakh	67 (44.1)	29 (46.8)	33 (53.2)	
Funding				0.321
Governmental quota	143 (94.7)	60 (44.1)	76 (55.9)	
Insurance	3 (2.0)	0 (0.0)	3 (100.0)	
Self-funded	5 (3.3)	3 (60.0)	2 (40.0)	
Length of stay				0.350
≤ 1 weeks	96 (63.2)	44 (48.9)	46 (51.1)	
≤ 2 weeks	52 (34.2)	19 (36.5)	33 (63.5)	
≤ 1 month	4 (2.6)	1 (33.3)	2 (66.7)	
Region				0.247
Astana and vicinity	80 (52.6)	37 (48.7)	39 (51.3)	
Other regions	72 (47.4)	27 (39.1)	42 (60.9)	
Health status				0.036*
Very poor	1 (0.7)	1 (100.0)	0 (0.0)	
Poor	1 (0.7)	1 (100.0)	0 (0.0)	
Fair	47 (31.3)	24 (53.3)	21 (46.7)	
Good	61 (40.7)	28 (49.1)	29 (50.9)	
Very good	25 (16.7)	6 (24.0)	19 (76.0)	
Excellent	15 (10.0)	4 (26.7)	11 (73.7)	

^bChi-squared test or Fisher exact test.

^aTotal counts may vary because of missing values.

* Statistically significant at $p < 0.05$ level.

Table 2
Relationship between satisfaction level and patient experience represented as dichotomous variable^a.

	Question	Not satisfied ^b %	Satisfied %	p-value
1	Doctors' answers to questions not clear			0.077
	No	55 (41.3)	78 (58.7)	
	Yes	9 (69.2)	4 (30.8)	
2	Nurses' answers to questions not clear			0.460
	No	57 (43.2)	75 (56.8)	
	Yes	7 (53.8)	6(46.2)	
3	Staff gave conflicting information			0.045*
	No	54 (42.2)	77 (58.8)	
	Yes	10 (71.4)	4 (28.6)	
4	Doctor didn't discuss anxieties or fears			0.027*
	No	45 (39.1)	70 (60.9)	
	Yes	19 (61.3)	12 (38.7)	
5	Doctors sometimes talked as if I wasn't there			0.240
	No	57 (42.5)	77 (57.5)	
	Yes	5 (71.4)	2 (28.6)	
6	Not sufficiently involved in decisions about treatment and care			0.029*
	No	13 (30.2)	30 (69.8)	
	Yes	49 (50.0)	49 (50.0)	
7	Not always treated with respect and dignity			0.079
	No	56 (41.8)	78 (58.2)	
	Yes	6 (75.0)	2 (25.0)	
8	Nurses didn't discuss anxieties and fears			0.366
	No	34 (48.5)	50 (59.5)	
	Yes	27 (48.2)	29 (51.8)	
9	Not easy to find someone to talk to about concerns			0.005*
	No	32 (35.2)	59 (64.8)	
	Yes	31 (59.6)	21 (40.4)	
10	Staff did not do enough to control pain			0.005*
	No	35 (39.8)	53 (60.2)	
	Yes	9 (90.0)	1 (10.0)	
11	Family didn't get opportunity to talk to doctor			0.004*
	No	48 (38.4)	77 (61.6)	
	Yes	13 (76.5)	4 (23.5)	
12	Family not given information needed to help recovery			<0.001*
	No	43 (35.8)	77 (64.2)	
	Yes	19 (79.2)	5 (20.8)	
13	Purpose of medicines not explained			0.042*
	No	54 (40.3)	80 (59.7)	
	Yes	6 (85.7)	1 (14.3)	
14	Not told about medication side effects			0.036*
	No	36 (37.9)	59 (62.1)	
	Yes	24 (57.1)	18 (42.9)	
15	Not told about danger signals to look for at home			0.097
	No	38 (38.4)	61 (61.6)	
	Yes	22 (53.7)	19 (4.3)	

^a "No" response suggest absence of a problem, "Yes" response suggest presence of a problem.

^b Chi-squared test or Fisher exact test. * Statistically significant at $p < 0.05$ level.

variable was performed using Chi-square test and Fisher's exact test. Multivariable logistic regression analysis was conducted using overall satisfaction as a dependent variable. Likelihood-ratio test was applied to test the goodness of fit of the final model. Analyses were performed in SPSS V.23.0.

3. Results

A total of 153 patients returned the questionnaire with an overall response rate of 83 %. Among those 80.4 % (n = 123) of respondents have completed the questionnaires in the Russian language, and 19.6 % (n = 30) in the Kazakh language. The majority

of participants were very satisfied (56.2 %, n = 82) or satisfied (34.3 %, n = 50) with the provided services.

The sociodemographic characteristics of participants are summarized in Table 1. The mean age of participants was 53 years (SD 13.8) predominantly females 67.1 % (n = 102). Most respondents were educated having a 'general education level and above' comprising 98 % (n = 149), the 44.1 % of participants (n = 67) were bilingual. Ethnical distribution in collected sample was Kazakh 65.8 % (n = 100), Russian 27.0 % (n = 41) and other ethnicities 7.2 % (n = 11). No significant difference in overall satisfaction was found among different age groups and based on gender, level of education, spoken language, funding, length of stay

Table 3
Multivariable logistic regression model of associations between patient satisfaction and independent variables.

Variable	Adjusted Odds Ratio	95 % Confidence Interval	p-value
Health status	1.922	(1.09–3.37)	0.023*
Not sufficiently involved in decisions about treatment and care	0.317	(0.11–0.92)	0.036*
Staff did not do enough to control pain	0.101	(0.01–0.91)	0.041*
Family didn't get opportunity to talk to doctor	0.233	(0.05–1.01)	0.052

* Statistically significant at $p < 0.05$ level.

or geographical region. The majority of the patients reported self-rated health status as “good” and above 67.4 % (n = 101). Patients with better self-reported health status have shown significantly higher overall satisfaction (p = 0.036).

Lower levels of overall satisfaction were identified in six out of seven dimensions among patients with negative experiences (Table 2). Statistically significant dimensions were coordination of care (p = 0.045), physical comfort (p = 0.005), emotional support (p = 0.027 and p = 0.005), respect for patient preferences (p = 0.029), involvement of family and friends (p = 0.001 and p < 0.001), continuity and transition (p = 0.042 and p = 0.036).

Finally, multivariable logistic regression (Table 3) has shown that self-rated health status was associated with overall satisfaction. Moreover, one unit increase in self-rated health status was shown to increase the odds of being satisfied by 92.2 % (OR 1.922, 95 % CI 1.09–3.37). Physical comfort and respect for patient preferences were also associated with the overall experience. Where negative experience in these dimensions decreased the odds of being satisfied by 89.9 % and 68.3 % (OR 0.101, 95 % CI 0.01–0.91 and OR 0.317, 95 % CI 0.11–0.92).

4. Discussion and conclusion

4.1. Discussion

This is the first study to assess the relationship between patient experience and overall satisfaction of hospitalized patients in Kazakhstan. Study results agree with previous research that satisfaction is generally high [2,6].

Previous reports suggested that age is an important predictor of overall patient satisfaction [2,17]. In our study, age across different groups did not reveal significant difference in overall patient satisfaction according to studies from Sweden and Hong Kong [3,5]. In contrast to our findings, the Swedish study highlighted that foreign language, female gender, and higher education were factors associated with lower satisfaction, but better health status have demonstrated higher overall patient satisfaction.

Our findings agree with earlier reports suggesting that relatively low rates of negative experience lead to lower satisfaction [2]. Physical comfort appears to be one of two dimensions associated with satisfaction. It is worth noting that most patients (n = 101) experienced pain during hospital stay, approximately ten percent reported poor pain control (data not shown). The presence of pain at the discharge leads to lower patient satisfaction. Similar findings were demonstrated in the outpatient setting, where poor symptomatic control leads to decreased satisfaction [18].

This study emphasized the importance of patient decision making, time spent at discharge, and options given for post-hospital care. Lack of respect for patient preferences was the second dimension less likely to result in overall satisfaction. Similar findings were demonstrated in Hong Kong, using the same measurement scale, where respect for patient preferences was a predictor of patient satisfaction [5]. Physical comfort and patient preferences are integral parts of patient-centered care, where active collaboration between patient and care provider should be established. One report from Astana, Kazakhstan suggested that patient’s perception of healthcare is heavily doctor-oriented. The same report showed higher satisfaction with communication in patients who valued a patient-oriented approach [19]. Our findings highlight the need of a patient-centered approach to patient care and effective doctor-patient communication.

Several limitations were present during the study. A cross-sectional study design limited the establishment of a causal relationship. Besides study design, the sample size was relatively small. This study has limited generalizability. Patients were

recruited from a single hospital complex. Unlike city hospitals, UMC is a tertiary degree hospital network.

4.2. Conclusion

Our evidence suggests that patient satisfaction presents an optimistic picture, and one that is impacted upon by multiple factors.

The results of our study showed that overall patient satisfaction is associated with health status, physical comfort and patient preferences.

4.3. Practice implication

Areas identified through patient experience may be targeted to achieve improvement in the delivery of healthcare in a patient-centered manner. Special focus in future studies should be put on the improvement of patient-centered communication and patient comfort.

CRediT authorship contribution statement

Ilya Seleznev: Formal analysis, Methodology, Investigation, Writing - original draft. **Raushan Alibekova:** Investigation, Supervision, Methodology, Formal analysis, Writing - review & editing. **Alessandra Clementi:** Conceptualization, Methodology, Supervision, Writing - review & editing, Project administration.

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