Patients' trust in physicians of general teaching hospitals of Gorgan: A Cross-Sectional Study

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Abstract

Background: Trust is considered a foundation of interpersonal and social communications. Since the patient's trust in the physician affects the exchange of an invaluable good, such as health, it is extremely important. The current study aimed to estimate the patients' trust in physicians of Shahid Sayyad Shirazi and 5 Azar teaching hospitals in Gorgan city in the north of Iran.

Methods: In this cross-sectional study, 243 hospitalized patients in the aforementioned hospitals were selected using the random stratified sampling method. Eventually, 231 complete questionnaires were received. The data-gathering tool was the Persian version of the Wake Forest questionnaire. Data were analyzed using Mann-Whitney, Kruskal-Wallis, and Spearman's correlation tests with SPSS-24 software.

Results: The average score of the patients' trust in physicians was 38.09±3.43, which is considered a good status. Most of the participants were male (58.4%), married (74.5%), self-employed (29.9%), and low-educated (51.1%). There was a significant relationship between the inpatient ward and the score of the patient's trust in physicians. No significant relationship was found between age, sex, marital status, education, basic insurance, complementary insurance, employment, and place of residence with the patients' trust in physician's score.

Conclusion: The acceptable score of patients' trust in physicians should not be an obstacle to necessary interventions for health and political officials of the province. Informing patients about their rights and dignity, teaching communication skills to physicians in collaboration with the medical council, strengthening the basic insurance funds, and supervising the performance of complementary insurance should continuously be considered.

Highlights

What is current knowledge?

A patient who trusts his physician more has greater adherence to following the treatment process and accepts more treatment recommendations. This patient will cope better if his condition becomes chronic.

What is new here?

The acceptable score of patients' trust in physicians should not be an obstacle to necessary interventions by health and political officials of the province.

Introduction

Trust is an important factor in the economic and social development of communities and one of the most significant aspects of social capital (1). Mutual communications reduce the cost of economic trading and facilitate public cooperation and participation in sharing information (2,3). This issue is especially important in the health industry compared to other industries. Informational asymmetry between providers and patients, along with uncertainty in the health environment, makes the patient worry that their physician may not have adequate and up-to-date knowledge to provide the best recommendations and may impose unnecessary costs. These concerns have made the search for the best treatment a risky endeavor. A patient who visits a doctor expects that the doctor will not make their emergency a burden for profit but will make the best decision for them. This expectation is referred to as "trust" in the scientific literature. Trusting the physician is also considered an instinctive choice (4). When patients cannot independently address their health problems, they are compelled to trust the service provider (5).

Studies have shown that patients who trust their physicians more exhibit greater adherence to their treatment process (6) and are more likely to accept treatment recommendations (7). These patients will cope better if their condition becomes chronic (8). Trust in the physician is also associated with continued service from a specific provider, no delay in starting treatment, and attendance at scheduled visits (9). Although it has been stated that doctors can increase the effectiveness of treatment by using verbal and non-verbal communication skills such as respecting the patient, paying attention and empathizing with the patient, asking open questions, actively listening, and using understandable words for the patient (10), this issue has become more complicated in Iran due to inciting issues such as the use of POS machines and inducing tax evasion by physicians, highlighting and widely publishing some medical errors, falsely criminalizing some medical complications by yellow pages and elusive monitoring social media, attributing brain drain among physicians to their extravagance by some statesmen, and the struggle between the government and the medical council over the right to determine the medical tariff and bring it to the community level via media.

Different studies show varying results regarding patients' trust in their physicians and its effects. Birkhäuer et al. (8) showed a weak relationship between patients' trust and treatment outcomes, while Tran et al. (11) demonstrated the opposite. Braksmajer et al. (7) also revealed that trust in physicians had a strong association with treatment compliance. In a cohort study, Gordon et al. (12) reported that patients' trust in physicians could be strengthened through improved communication. Graham et al. (13) in their prospective study, mentioned that although there is no significant relationship between patient satisfaction with the physician and treatment outcomes, it is associated with treatment consistency.

Most of the research conducted in Iran in this field has focused on the relationship between the physician and the patient, the patient's satisfaction with the doctor, or the factors affecting trust between the doctor and the patient (14-20). A similar study with this purpose was not found in Golestan province, which is why the research team decided to

design and implement this study to measure the level of patient trust in physicians in two medical teaching hospitals in Gorgan using the Wake Forest tool.

Methods

It was a cross-sectional study. The statistical population included all patients hospitalized in 5 Azar and Shaheed Sayad Shirazi educational centers affiliated with Golestan University of Medical Sciences. According to similar studies (21,22), with an SD of 6.2, a CI of 95%, and a precision of 8%, the sample size was estimated to be 243 people using the random stratified method and the following formula.

$$ n = \frac{\left(z_{1-\frac{\alpha}{2}}\right)^2 * s^2}{d^2} $$

Each medical education center was considered a stratum, and the patients were randomly selected on each floor according to the number of active beds. It should be noted that in each center, sampling was done from active wards and beds where the patients were able to answer the questions and met the conditions for inclusion in the study. The inclusion criteria for the study included patients who were willing to cooperate, were over 18 years old, had been hospitalized for more than three non-holiday days, and had been visited by doctors. The exclusion criteria for the study included not being able to read, not being alert, or not being able to communicate. In addition, if the patient was not present in their bed during two visits to their bedside, they were excluded from the study. To collect data, the researcher referred to the hospital reception office and selected the desired patients according to the patient's bed number from the table of random numbers. After attending the patient's bedside, the patient was examined in terms of their ability to complete the questionnaire and the characteristics of withdrawal from the study. If the patient met the above-mentioned conditions, they were given explanations about the research and the questionnaire. Unconscious patients and patients in heart and brain special care units and dialysis wards were not included in this research. During the initial examination, eligible patients were assured that the resulting information would remain confidential and be used only for research purposes. Informed consent was obtained orally from the patients. To collect data, a questionnaire called the Wake Forest Questionnaire was used, which was first developed in 2002 by Hall et al. (22). Foraty Kashani et al. (23) sent the Persian translation of the questionnaire for validation by three members of the related faculty. Changes were then made to the questions based on expert opinions. A final questionnaire with 10 questions was prepared, using a 5-point Likert scale (5 = completely agree to 1 = completely disagree) to express the participants' opinions. The reliability of the questionnaire in the pilot study, based on Cronbach's alpha, was 85%. The lower, middle, and upper limits of scores are 10, 30, and 50, respectively. A score between 10 and 20 indicates low trust in the physician, 20 to 30 indicates medium trust, and above 30 indicates high trust. Data were analyzed using SPSS statistical software (Version 23, SPSS Inc., Chicago, IL). To analyze the data, descriptive statistical methods were used (e.g., drawing tables, numbers, and frequency percentages for qualitative data, and mean and standard deviation for quantitative data). In addition, due to the non-establishment of the assumption of normality of data distribution (Checked with the Kolmogorov-Smirnov test), inferential statistical methods such as Spearman correlation, Mann-Whitney, and Kruskal-Wallis tests were used. The significance level in this study was set at 0.05.

Results

The demographic and background characteristics of the 231 participants in this study are described in Table 1.

Table 2 shows the average score of the patients' trust in physicians in Shahid Sayad Shirazi and 5 Azar teaching hospitals in Gorgan. The score was 38.09±3.43 for all patients, which is evaluated as a good level.

Table 3 shows the relationship between the level of the patients' trust in physicians and demographic and contextual variables. There was a significant relationship between this level of and the inpatient ward (P-Value = 0.015); specifically, the level of trust in the internal (P-Value = 0.012) and surgery wards (P-Value = 0.041) was higher than in other wards (Burns and psychiatry). However, no statistically significant relationship was observed between other demographic and contextual

variables (hospital, gender, marital status, employment status, education level, basic insurance, supplementary insurance, place of residence, age, and length of stay) and the level of the patients' trust in physicians (P-Value > 0.05).

Table 1. The demographic and background characteristics of the study participants

Variables		Number	Percent
Hospital	Shahis Sayyad Shirazi	99	42.9
	5 Azar	132	57.1
Gender	Male	135	58.4
	Female	96	41.6
Marital status	Married	172	74.5
	Single	54	23.4
	Other (Widow, Divorced)	5	2.2
Employment	Self-employment	69	29.9
	Housewife	65	28.1
	Unemployed	48	20.8
	Retired	28	12.1
	Civil servant	13	5.6
	Private employee	8	3.5
Educational level	Less than a high school diploma	118	51.1
	High school diploma	65	28.1
	Associate degree	48	20.8
	BSc	28	12.1
	MSc	10	4.3
	Doctorate or more	3	1.3
Basic insurance	Insured	197	85.3
	Uninsured	34	14.7
Complementary insurance	Insured	37	16
	Uninsured	194	84

Table 2. The average score of the patient's trust in the physician in the educational hospitals of Gorgan

Name of hospital	Average	SD	The least	The most
Shahid Sayyad Shirazi	38.09	3.43	30	50
5 Azar	36.98	4.77	22	50
Total	37.45	4.27	22	50

Table 3. Correlation between the patients' level of trust in the physicians with demographic and contextual variables

Variable	Stratum	Mean	SD	P-Value
Hospital	5 Azar	36.98	4.77	0.189
	Sayyad Shirazi	38.09	3.43	
Gender	Male	37.40	4.77	0.595
	Female	37.53	3.49	
Marital status	Married	36.88	4.46	0.183
	Single and others	37.65	4.20	
Occupation	Unemployment	37.08	4.12	0.375
	Self-employed	36.91	4.70	
	Employee	38.24	3.82	
	Housewife	37.60	3.89	
	Retired	38.50	4.59	
Education level	Less than a high school diploma	37.63	4.27	0.439
	High school diploma	37.71	3.94	
	Associate degree and more	36.69	4.70	
Inpatient ward	Internal	38.16	3.40	0.015
	surgery	37.50	4.33	
	Others	33.56	5.76	
Basic insurance	Insured	37.40	4.23	0.746
	Uninsured	37.76	4.37	
Complementary insurance	Insured	37.73	4.54	0.564
	Uninsured	37.40	4.23	
Place of residence	Urban	37.62	4.18	0.347
	Rural	36.98	4.55	

Discussion

Based on the present study, the patients' trust in physicians in both Sayyad Shirazi and 5 Azar Gorgan hospitals was determined to be at an optimal level. This rate was lower compared to the studies of Hall et al. (22) and Foraty et al. (24). Even though the result may be due to the high trust of the patients in physicians as a result of appropriate medical services and the high skill of physicians, patients admitted to medical teaching hospitals mostly include individuals with lower financial ability who may have lower expectations of medical services and higher trust in physicians. It seems that the expenses incurred in recent years, resulting from spending the funds of the Health Transformation Plan to purchase advanced medical equipment, renovate and improve the physical space of hospitals, and enhance care due to the increase in nursing manpower during the peak of the COVID-19 pandemic, are a confounding factor in measuring patients' trust in physicians. It should also be kept in mind that, despite emphasizing the confidentiality of the questionnaire information and its lack of impact on the treatment process, some patients may not have answered honestly.

The absence of a significant relationship between the trust score and background and demographic variables in the present study is largely consistent with the findings of Graham et al.'s study. In their study, there was no significant relationship between gender, race, and education with trust in the physician. The findings of Englehart et al.'s study, mentioning no significant relationship between demographic variables such as age, marital status, and education level with their level of trust, are consistent with the findings of the current study (25). The findings of Kim et al.'s study are in some respects consistent with the findings of the current study. In the mentioned study, no significant relationship was found between age, education, place of residence, type of insurance, and home ownership with trust in the physician. However, the study showed a significant relationship between the variables of income and gender and the level of trust in the physician, such that as income decreased, the level of trust in the physician also decreased, and female patients had 0.67 less trust in physicians than men (26). Zarei et al. observed no significant relationship between patients' trust in physicians and variables such as age, sex, and education, which is in accordance with the results of the current study. However, findings such as a significant relationship between covered insurance and trust in physicians are contrary to our findings (27).

Hwang et al.'s study, conducted to identify the determinants of mothers' trust in medical recommendations regarding the health of their babies, showed a significant relationship between education, income, and the race of mothers with their trust in physicians (28). These results are contrary to the findings of the current study. Freimuth et al.'s study, which examined the level of trust in African American women compared to white women, also reported a significant relationship between age, education, and income with the level of trust in white women, as well as between age and income in African American women, which differ from the results of the current study (29). Li et al.'s study contradicts the findings of the current study and shows that income, age, and settlement in a village have a significant relationship with the level of trust (30). Trust is considered a phenomenon influenced by culture, so the differences between the findings of previous studies and the current study can be largely attributed to cultural differences. The asymmetry of information between physicians and patients, especially in developing countries and particularly in centers where the vast majority of patients lack academic education (79.2%), is such that potential differences influenced by age, gender, education, and income may be overshadowed. In such societies, an intensified perception of the unquestionable scientific competence of doctors, combined with low self-confidence stemming from this information asymmetry, has created a sacred image of medical professionals. Thus, addressing the issue of trust in physicians and accurately determining its dimensions require broader mental evaluations and the use of more efficient tools. The findings of Green et al.'s study, which showed no significant relationship between family income and patients' trust in physicians, are consistent with the findings of the current study (31). The absence of a significant relationship between education and income in the present study can be interpreted primarily as a result of the high proportion of individuals with low income and education among those who visit university and government hospitals.

The difference between Zarei et al.'s study and the present study regarding the relationship between having insurance and trust in physicians can be attributed to the timing of the mentioned study (27). In 2013, the first year of implementing the health transformation plan in the country, significant financial resources were allocated to the Ministry of Health to cover the cost of inpatient treatment services and reduce out-of-pocket payments to 3-5%. Since patients attributed the incredible affordability of numerous inpatient treatment services to the efficiency of their basic or supplementary insurance coverage, this likely influenced their trust in all factors involved in the treatment process, including the doctor. Although, according to existing laws, basic insurance organizations must cover 90% of the costs of inpatient treatment services, the contribution of these organizations has been reduced for various reasons. These include indirect costs such as travel and accommodation, the prescription of drugs outside the official pharmaceutical system and outside the scope of insurance coverage, the financial inability of hospitals to purchase consumables, leading to patients being referred to buy items from the open market, and even the receipt of informal payments by a few service providers. These factors could explain the absence of a significant relationship between insurance coverage and trust in physicians in the current study. The lack of a significant relationship between having supplementary insurance and the patient's trust in the physician could be justified by the commercial nature of such insurance and its tendency to fulfill obligations minimally. Furthermore, the establishment of supplementary insurance coverage typically requires employers to conclude group contracts for employees, making it subject to the nature of these group contracts. As mentioned earlier, a large percentage of the patients in the studied hospitals represent the less privileged segments of society. Many are either unemployed and not officially affiliated with any organization capable of providing supplementary insurance contracts, or they cannot afford to pay the annual premiums for basic insurance, let alone supplementary insurance.

In the current study, the level of patient trust in the physician had a significant relationship only with the inpatient ward variable, with the trust score being higher among patients hospitalized in the internal and surgery departments compared to others. The significant correlation between the trust score and the inpatient department, as well as its higher level in the internal and surgical departments compared to burns or psychiatry, also appears reasonable, given the generally worse condition of patients in the latter departments and the extended length of their hospitalization. The relatively favorable score of patients' trust in physicians should be viewed with caution, and efforts should not be neglected to address some inherent shortcomings of the inpatient treatment service system.

Like any cross-sectional study, causal conclusions in this study should be drawn with caution. Furthermore, it is not certain that the patients' responses to the questions about trust in physicians were not influenced by their satisfaction with hospital services or their health status. Therefore, it is suggested that future studies administer the questionnaire at least one week after the patient's discharge or include variables such as satisfaction with hospital services and general health condition at discharge in the data collection process, controlling for these variables in the analysis. In addition, as the use of questionnaires as quantitative tools for evaluating phenomena has limitations in measuring subjective variables like trust, qualitative studies should complement and enhance the depth of information obtained from these quantitative approaches. Finally, it should be noted that since the study was conducted in academic medical centers, which predominantly serve poorer and less-educated patients, caution should be exercised when generalizing the findings of this study to the broader population.

Conclusion

The slightly high overall score of the patients' trust in physicians in the two academic medical training centers under study can be explained by the composition of the patients in these hospitals, who primarily belong to lower socio-economic deciles and naturally have fewer expectations and limited awareness of their rights. Educating the public about their citizenship rights to foster public demand for addressing non-medical needs, improving the coverage of inpatient treatment costs through the quantitative and qualitative strengthening of insurance funds, reliably

implementing means-tests to identify vulnerable groups and establish targeted financial support for them, and continuously enhancing the quality of physician-patient relationships with the collaboration of related organizations, particularly the medical council, are among the most critical strategies that should be considered by executive authorities in both governance and health sectors of the province.

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Ethical statement

This research project has been approved by the Ethics Committee of Gorgan University of Medical Sciences (IR.GOUMS.REC.1401.239).

Conflicts of interest

The authors declare no conflict of interest.

Author contributions

Abbas Badakhshan designed the study, Alireza Heidari wrote the article, Reza Mokhayyeri collected the data, and Khatirnamani performed the statistical analysis. All authors have read and approved the article.

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