



Original Research

Factors considered by patients in provider selection for elective specialty surgery: A questionnaire-based survey

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ABSTRACT

Background: This study was designed to comprehensively evaluate the factors considered by patients in provider selection for elective specialty surgery.

Materials and methods: A total of 200 patients (mean age 44.4 (range, 18.0–70.0) years, 51.0% were males), who were admitted to a tertiary care center for an elective surgery, participated on a voluntary basis in this cross-sectional questionnaire survey. The questionnaire form elicited items on sociodemographic characteristics of patients, characteristics of operation, factors contributing to physician selection by patients (physician-related factors, healthcare service/access related factors) and patients' view on factors contributing to physician selection.

Results: Amongst the physician-related factors, attitude of physician (all items considered very important by majority of patients) was the factor most significantly contributed to physician selection as followed by reputation (recommendation of physician by former patients considered very important by 58.5%) or professional experience (presence of subspecialty certificate in surgery considered very important by 67.5%) and social media presence of the physician (comments and ratings of users about the physician considered very important by 26.5% of patients) of the physician. Patients considered hospital hygiene (75.5%) as the most significant healthcare service/access related factor in physician selection.

Physician selection was considered to be of utmost importance in the treatment outcome by 95.5% of patients, while getting information about the physician before contacting her/him was considered important and actually performed for the current admission by 74% of patients.

Conclusion: In conclusion, our findings revealed that communicative skills of the physician, presence of subspecialty certificate in surgery, recommendations by former patients and comments and ratings of users were the leading factors contributed to physician selection by patients; being related to attitude, professional experience, reputation and social media presence of the physician, respectively. Hospital hygiene was the most significant healthcare service/access related factor contributed to physician selection.

1. Introduction

There is growing awareness of patient's enhanced role in healthcare decisions, such as provider selection [1] as well as the impact of this enhanced role on the cost and quality outcomes of health service use [2].

Accordingly, potential determinants of patient choices of health plans or healthcare providers have become addressed by increasing number of studies to better understand the factors that influence these decisions and to create resources to provide patients with serviceable and relevant information that guide them in decision-making [1–7].

Health services has unique characteristics such as inability to be deferred and replaced, non-exchangeable output, difficulty in pre-determining satisfaction and quality, absence of warranties or guarantees, intolerability of potential mistakes, irrational consumer behaviour and determination of scope and length of service by physicians [8]. Hence, selecting a healthcare provider is a highly consequential and challenging process and patients' choices are determined by a complex interplay between heterogeneous patient and provider characteristics [3,9,10]. Selection is often based on restricted data and marketing materials [3], while there is a consensus regarding the likelihood of the increased availability of health care information via the Internet to

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expand the role of consumers in shaping the health care delivery system over time [2,8,11]. Internet use and rising social media use affects the health service procurement, enabling the sharing of information, personal experiences, thoughts and ideas without the restriction of time and space [12,13].

Overall, clinical factors (surgeons with strong reputations and good interpersonal and technical skills, hospitals with superior reputations and quality of care) rather than nonclinical factors (health insurance, location, parking availability and home-to-clinic distance) have been considered more important in surgeon selection [9,14]. However, as compared with more extensive data available on patient preferences in selecting a primary care physician, process in selecting a surgery specialist, particularly in the real-choice situations, have been addressed more limitedly [1,2,4,6,10,14–16]. Thus, the factors considered by in selecting a specialist surgeon are considered to remain largely undefined [4,14], as well as the potential role of the progress in internet technology, as the major channel of communication, in healthcare acquisition [13].

This questionnaire-based survey was therefore designed to comprehensively evaluate the factors considered by patients in provider selection for elective specialty surgery, including physician related factors, healthcare service/access-related factors as well as the online resources of healthcare information.

2. Material and methods

2.1. Study population

A total of 200 patients (mean age: 44.4 years (range, 18.0–70.0), 51.0% were males) who were admitted to a tertiary care center for an elective surgery, participated on a voluntary basis in this cross-sectional questionnaire survey and were interviewed via face-to-face method in terms of factors contributing to their selection of the surgeon. Adult (18–70 years old) patients who will undergo surgery were included in the study on a voluntary basis. Emergency cases, patients with foreign nationality, patients to be re-assisted and patients with mental status disorders were excluded from the study.

This work has been reported in line with the Consolidated criteria for Reporting Qualitative Research (COREQ) criteria. Written informed consent was obtained from each subject following a detailed explanation of the objectives and protocol of the study which was conducted in accordance with the ethical principles stated in the “Declaration of Helsinki” and approved by the institutional ethics committee (Date of Approval: 10/01/2019; Reference number/Protocol No: 2019/01).

2.2. The questionnaire form

The questionnaire form elicited items on sociodemographic characteristics of patients (age, gender educational status, occupational status, economic status, use of internet/social media), characteristics of operation (type of planned surgery, rank of the current surgeon), factors contributing to physician selection by patients (physician-related factors, healthcare service/access related factors) and patients' view on factors contributing to physician selection.

Physician related factors item included reputation of the physician (recognition, advertisements, recommendation by another physician/family members of friends/patients), attitudes of the physician (sparing enough time for patients, communicative skills, paying attention to patient's needs/opinions, kindness, good-humor, personal care and hygiene), professional experience of the physician (age, years in practice, alma mater, an abroad experience, academic position, subspecialty certificate in surgery) and social media presence (personal website, sharing healthcare information, comments and ratings of users).

Healthcare service/access related factors item included contract with the health insurance company (physician, hospital), ease of obtaining an appointment, reasonable scheduling and wait time, cost of

surgery and hospital characteristics (recognition, atmosphere, hygiene/cleanliness and location). Importance of all these items in physician selection was assessed by patients based on a Likert scale (Not important, slightly important, moderately important, important, very important).

Patients' view on factors contributing to physician selection was assessed for 8 potential factors, based on patient's agreement for each factor using a Likert scale (totally disagree, disagree, neutral, agree, and totally agree).

2.3. Hospital characteristics and provider selection

Our hospital is a foundation private hospital that serves patients with multiple health coverage choices including contracts with insurance companies or Turkish government health insurance. In our country, healthcare system allows patients to freely choose their physician or change the physician or the hospital in any phase of the treatment. Accordingly, in our hospital, patients are the principal decision maker in provider selection for elective specialty surgery.

2.4. Statistical analysis

Statistical analysis was made using IBM SPSS Statistics for Windows, version 21.0 (IBM Corp., Armonk, NY). Descriptive statistics were reported including “mean (standard deviation; SD)” and median (min-max) for continuous variables and percentages for categorical variables. The data coding was done by single person and provided by the investigators.

3. Results

3.1. Sociodemographic and clinical characteristics

The study population was composed of 200 surgery patients with mean 44.4 years (range, 18.0–70.0) of age and 51.0% were males. Most of the patients were general surgery (40.5%) and orthopedics (32.0%) inpatients. The current surgeon was the first surgeon consulted only in 38.5% of the patients (Table 1).

Overall 166(83.0%) patients confirmed use of social media/internet with web (75.9%), Instagram (62.0%) and YouTube (49.4%) as the most commonly used sources (Table 1).

3.2. Physician-related factors in physician selection

Amongst the physician-related factors, attitudes of physician (communicating skills by 83.0%) was the factor most significantly contributed to physician selection rather than reputation or professional experience and social media presence of the physician (Table 2).

For the reputation of physician, recommendation of physician by former patients (58.5%), by family members or friends of the patient (43.5%) or by another physician (40.5%) rather than recognition (25.0%) or advertisements of the physician (16.0%) was considered very important by higher percentage of patients in their provider selection (Table 2).

For professional experience of the physician, presence of subspecialty certificate in surgery was considered the most significant factor (67.5%) contributing to physician selection (Table 2).

For the social media presence of the physician, comments and ratings of users about the physician (25.6%) rather than presence of personal website (16.0%) and share of healthcare information by the physician (17.5%) was considered very important by higher percentage of patients in their provider selection were considered to be very important by 16.0% and 17.5% of patients, respectively (Table 2).

Table 1
Sociodemographic and clinical characteristics of participants (n = 200).

Age (year)	Mean (SD)	44.4(16.5)
	Median (min-max)	42.0(18.0–70.0)
Gender, n(%)	Female	98(49.0)
	Male	102(51.0)
Educational status, n(%)	Primary education	53(26.5)
	Secondary education	72(36.0)
	Higher education	75(37.5)
Occupational status, n(%)	Employed	120(60.0)
	Housewife	48(24.0)
	Retired	19(9.5)
	Student	13(6.5)
Economic status, n(%)	Low-income	26(13.0)
	Middle-income	128(64.0)
	High-income	46(23.0)
Surgery clinic, n(%)		
	Neurosurgery	15(7.5)
	General surgery	81(40.5)
	Cardiovascular surgery	2(1.0)
	Otolaryngology	29(14.5)
	Orthopedics	64(32.0)
	Urology	9(4.5)
Rank of the surgeon consulted, n(%)		
	First surgeon	77(38.5)
	Second surgeon	68(34.0)
	Third surgeon	32(16.0)
	Fourth surgeon	12(6.0)
	Fifth surgeon	7(3.5)
	Sixth surgeon	3(1.5)
	Eighth surgeon	1(0.5)
Use of social media/internet, n(%)		166(83.0)
Primary source (n = 166)	Web	126(75.9)
	Facebook	71(42.8)
	Instagram	103(62.0)
	Twitter	27(16.3)
	YouTube	82(49.4)

3.3. Healthcare service/access related factors in physician selection

Patients considered hospital hygiene-cleanliness (75.5%) as the most significant healthcare service/access related factor in physician selection (Table 3).

Table 2
Physician-related factors considered by patients in surgeon selection (n = 200).

	Not important	Slightly important	Moderately important	Important	Very important
Reputation of the physician					
Recognition	20(10.0)	16(8.0)	57(28.5)	57(28.5)	50(25.0)
Advertisements	36(18.0)	32(16.0)	52(26.0)	48(24.0)	32(16.0)
Recommendation by another physician	13(6.5)	5(2.5)	29(14.5)	72(36.0)	81(40.5)
Recommendation by family members of friends	6(3.0)	6(3.0)	32(16.0)	69(34.5)	87(43.5)
Recommendation by his/her patients	8(4.0)	3(1.5)	17(8.5)	55(27.5)	117(58.5)
Attitudes of the physician					
Sparing enough time for patients	0(0.0)	1(0.5)	6(3.0)	38(19.0)	155(77.5)
Communicative skills	0(0.0)	0(0.0)	2(1.0)	32(16.0)	166(83.0)
Paying attention to patient's needs/opinions	2(1.0)	1(0.5)	7(3.5)	48(24.0)	142(71.0)
Kindliness	1(0.5)	2(1.0)	15(7.5)	42(21.0)	140(70.0)
Good-humor	0(0.0)	3(1.5)	6(3.0)	38(19.0)	153(76.5)
Personal care and hygiene	0(0.0)	4(2.0)	11(5.5)	35(17.5)	150(75.0)
Professional experience of the physician					
Age	36(18.0)	36(18.0)	57(28.5)	45(22.5)	26(13.0)
Years in practice	6(3.0)	18(9.0)	36(18.0)	76(38.0)	64(32.0)
Alma mater	17(8.5)	29(14.5)	42(21.0)	61(30.5)	51(25.5)
An abroad experience	24(12.0)	33(16.5)	60(30.0)	40(20.0)	43(21.5)
Academic position	18(9.0)	30(15.0)	55(27.5)	40(20.0)	57(28.5)
Subspecialty certificate in surgery	6(3.0)	7(3.5)	13(6.5)	39(19.5)	135(67.5)
Social media presence					
Presence of personal website	34(17.0)	33(16.5)	50(25.0)	51(25.5)	32(16.0)
Sharing healthcare information	34(17.0)	30(15.0)	51(25.5)	50(25.0)	35(17.5)
Comments and ratings of users	27(13.5)	16(8.0)	40(20.0)	64(32.0)	53(26.5)

3.4. Patients' view on factors contributing to physician selection

Physician selection was considered to be of utmost importance in the treatment outcome by 95.5% of patients, while getting information about the physician before contacting her/him was considered important and actually performed for the current admission by 74% of patients.

Higher importance of hospital rather than the physician in the treatment outcome (57.0%), usefulness of watching online videos for the surgery (44.0%) and safety of online resources on healthcare information (42.0%) were the factors most commonly disagreed by the patients (Table 4).

4. Discussion

Our findings revealed attitudes of physician rather than his/her reputation, professional experience or social media presence to be considered highly significant in the process of physician selection by surgery patients.

Physician manner, a friendly and understanding communication style and involvement of the patient in the decision making process have consistently been reported to influence provider choice positively, in primary care services [8,17–19]. However, technical expertise and experience rather than creation of a therapeutic alliance have been suggested to be more important determinants for selecting a surgical specialist as compared with selection of general practitioner or family physicians [3,20].

In this regard, our findings are in agreement with recent data from surgery patient populations, which emphasize that despite a tendency for the surgeon to primarily focus on operative quality, technical performance and risk-adjusted outcome measures, patients in fact place high value on the surgeon-patient interaction [1,4,21,22]. This seems to indicate an importance of a renewed awareness among surgeons about the patient priorities related to this basic aspect of patient care [4].

Recommendation of physician particularly by former patients (but also by family members, friends or another physician) was considered more important by patients than physicians' recognition or advertisements in our study. This seems to support that provider choice is mostly based on patient's own experiences or on advice of a physician, family or friends rather than the comparative consumer information,

Table 3
Healthcare service/access related factors considered by patients in physician selection (n = 200).

n(%)		Not important	Slightly important	Moderately important	Important	Very important
Contracted with the insurance company	Physician	17(8.5)	10(5.0)	32(16.0)	77(38.5)	64(32.0)
	Hospital	4(2.0)	3(1.5)	22(11.0)	57(28.5)	114(57.0)
Ease of obtaining an appointment		3(1.5)	2(1.0)	22(11.0)	73(36.5)	100(50.0)
Reasonable scheduling and wait time		1(0.5)	2(1.0)	11(5.5)	69(34.5)	117(58.5)
Cost of surgery		7(3.5)	9(4.5)	37(18.5)	67(33.5)	80(40.0)
Hospital characteristics	Overall	6(3.0)	8(4.0)	30(15.0)	86(43.0)	70(35.0)
	Recognition	10(5.0)	14(7.0)	53(26.5)	67(33.5)	56(28.0)
	Friendly atmosphere	2(1.0)	12(6.0)	17(8.5)	79(39.5)	90(45.0)
	Hygiene-cleanliness	1(0.5)	3(1.5)	8(4.0)	37(18.5)	151(75.5)
	Location	6(3.0)	8(4.0)	44(22.0)	62(31.0)	80(40.0)

Table 4
Patients' view on factors contributing to physician selection.

n(%)	Totally disagree	Disagree	Neutral	Agree	Totally agree
Physician selection is of utmost importance in the treatment outcome	0(0.0)	1(0.5)	8(4.0)	58(29.0)	133(66.5)
As I performed during current admission, getting information about the physician is important	16(8.0)	15(7.5)	21(10.5)	75(37.5)	73(36.5)
The hospital rather than the physician is important in the treatment outcome	34(17.0)	80(40.0)	46(23.0)	20(10.0)	20(10.0)
There is difference between therapeutic approaches adopted by each physician	6(3.0)	10(5.0)	34(17.0)	94(47.0)	56(28.0)
Getting information about treatment methods before contacting a physician is important	5(2.5)	7(3.5)	24(12.0)	83(41.5)	81(40.5)
Getting a second opinion from other physicians is an important step prior to surgeon selection	0(0.0)	17(8.5)	33(16.5)	78(39.0)	72(36.0)
Online resources are safe source of healthcare information for patients	29(14.5)	55(27.5)	74(37.0)	27(13.5)	15(7.5)
Watching online videos for the required surgical operation is useful	35(17.5)	53(26.5)	48(24.0)	36(18.0)	28(14.0)

[8,23–26]. Similarly, past surveys revealed significant reliance of patients on recommendations from family, friends, and other physicians in selecting specialists [2,4,27]. In a past study on factors related to patient selection of a spine surgeon, advertisements on radio, internet, and television were reported to be associated with the lowest patient rates, possibly due to presence of several commercials marketing the “most advanced medical center” or the “best physician” in various outlets [1].

Studies in surgery patient populations revealed surgeon reputation, training, certification and technical expertise to be the important factors contributing to surgeon selection by patients [1,14,21,23,28–32]. Presence of subspecialty certificate in surgery was considered the most significant factor contributing to physician selection in our study, which is consistent with the past studies indicated board certification and specialized training as the factors with highest patient ratings in surgeon selection [1,14].

Hospital quality, waiting time, reputation and case load have been reported to be the most important factors in the past studies addressing the hospital-related factors in provider selection [9,10,14,15,23]. Similar to our results, hospital cleanliness was also reported to be the most important factor in hospital selection as followed closely by hospital reputation [32], whereas factors such as location, parking availability and home-to-clinic distance have been the least important factors considered by patients [14].

Notably, while online resources are currently the first and influential source of health information for patients [33,34] and overall 83.0% of our participants were social media/internet users, social media presence of the physician was not considered important or very important in physician selection by at least half of our patients. Likewise, low rates of social media utilization (< 50%) in choosing physician and hospital was also reported in a past study from Turkey, and authors suggested the role of reliance on close circles (advice from families, friends and acquaintances) rather than the social media for information in observation of the low rates [13].

Nonetheless, comments and ratings of users about the physician (~60.0%) rather than presence of personal website and share of healthcare information by the physician (~40.0% for each) were considered important by higher percentage of our patients. While this supports the previously reported role of online physician ratings in

choosing a physician [35], it should be noted that online physician rating systems have also been criticized in terms of lacking sufficient reliability with no need for user identity verification and likelihood of ratings manipulation, jeopardizing accurate patient guidance and a physician's reputation [1,36–38].

Our findings revealed that majority of patients considered physician selection as of utmost importance in the treatment outcome. Similarly, in a past study among elective total joint arthroplasty patients, authors noted that 75% of respondents either agreed or strongly agreed that their choice of surgeon will have an important impact on the outcome [4].

Indeed, active choice of the healthcare provider has been suggested not to be performed by substantial proportion of patients, due to consideration of the selection process unimportant or difficult or that of the available information not sufficient or appropriate to base decisions [9].

Given the potential risk of a difference between the provider characteristics taken into account by patients in theory and in real choice situations [9], identification of majority of our patients to actually gather information about their current surgeon before contacting him/her is important. The selection process in our patients seems primarily to be based on physician manner which is more likely to be achieved through personal experience or recommendations by former patients or family members or friends. Notably, the current surgeon was the first surgeon consulted only by 38.5% of our patients. Indeed, even primary care physicians are considered to recommend a surgeon based on personal relationships or limited experiences rather than population-based data [27].

Having access to accurate, easily understood information is considered essential for patients to make the most informed choices regarding their surgical care [10]. Majority of our patients gathered information about their current surgeon before contacting him/her via Internet or recommendations by former patients, family members, friends of other physicians. Hence, our results suggest the likelihood of our patients to lack the objective resources and comparative public reports for information that would be most useful to them in choosing a surgeon, at least based on their priorities. However, this is also controversial, given the suggested gap between patient's interest in quality-of-care information and the incorporation of this information into the

decision making process for selecting a health care provider [5].

Certain limitations to this study should be considered. First, due to cross-sectional single-center design, it is impossible to establish any cause and effect relationship and to generalize our findings to entire surgery patient population. Second, given that provider choice was evaluated within a hospital setting, our findings may also not match the provider choice of healthy consumers not yet compelled to choose.

5. Conclusion

In conclusion, our findings revealed that majority of patients considered physician selection as of utmost importance in their treatment outcome and they actually had information about their current surgeon before contacting him/her, based primarily on personal experience or advice from former patients. Overall, attitudes (communicative skills, sparing enough time for patients, paying attention to patient's needs/opinions and kindness) of physician rather than his/her reputation, professional experience or social media presence seem more influential in the process of physician selection by surgery patients. Given the complex interplay between heterogeneous patient and provider characteristics in patient choice of the physician, there is a need for further research addressing the selection process in real-life situations across a wider range of surgical subspecialties and patient populations.

Ethical approval

Written informed consent was obtained from each subject following a detailed explanation of the objectives and protocol of the study which was conducted in accordance with the ethical principles stated in the "Declaration of Helsinki" and approved by the Istinye University Social and Human Sciences Research Ethics Committee (Date of Approval: 10/01/2019; Reference number/Protocol No: 2019/01).

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Author contribution

MAA contributed to study conceptualization, methodology and supervision, writing-review and editing; MAA and HBG contributed to data curation, formal analysis, validation, investigation, writing of original draft.

Conflicts of interest

Authors declare that they have no conflict of interest.

Trial registry number

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Guarantor

Mehmet Akif Aydin, M.D.

Provenance and peer review

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Data statement

Consistent with its questionnaire-based design, only descriptive

statistics were reported in the present study including "mean (standard deviation; SD)" and median (min-max) medians for continuous variables and percentages for categorical variables.

CRedit authorship contribution statement

Mehmet Akif Aydin: Conceptualization, Funding acquisition, Formal analysis, Writing - original draft, Writing - review & editing.
Huseyin Bahadir Gokcen: Formal analysis, Writing - review & editing.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ijssu.2019.07.007>.

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