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Assessment of Public Perception Regarding Patient Engagement for Patient Safety in Korea

Hyeon-Jeong Lee, PhD,* Seung Gyeong Jang, BSN, †‡ Ji Eun Choi, PhD, § Won Lee, PhD, || Jeehee Pyo, MC, ¶ Minsu Ock, PhD, ¶ and Sang-Il Lee, PhD*

Objectives: This study conducted a survey to examine how the general public in Korea perceives patient engagement for patient safety and to identify vulnerable groups and contents priorities of patient engagement education for the general public.

Methods: We developed a questionnaire based on previous studies and conducted one-on-one interviews with 600 individuals from the public. Then, we conducted descriptive statistical analyses (i.e., frequency, percentage, and averages) on the questionnaire items. Furthermore, we examined the individual differences of participants' sociodemographic characteristics in their responses to the questionnaire.

Results: The general public's awareness regarding accreditation programs for healthcare organizations was still low (47.4%). Nearly 60% of participants said that they did not agree with the practice of telling their own names and dates of birth before treatment. Approximately 80% of the participants would not ask medical staff to confirm washing their hands. Only half of the participants were aware of medical dispute mediation and arbitration programs. Nearly 90% of the participants agreed that patient safety is important. However, on participants' confidence in making the correct choice and safety in their treatment, the average score was 68.7 of 100 points. Participants tended to be less confident about engaging in patient safety activities if they were older, less educated, or had poor health status.

Conclusions: Participants in this study believed that patient safety is an important issue, but they were not confident about choosing the correct medical institution or about receiving safe treatment.

Key Words: patient safety, patient engagement, perception, general public, Republic of Korea

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Patient safety is affected by various factors and conditions, including patient, work, healthcare provider, team, and organizational factors, as well as working and institutional conditions.¹ Thus, a systematic and comprehensive approach is required to

raise the level of patient safety.^{2,3} Various stakeholders, such as policy makers, medical institution managers, medical professionals, and patients, need to work together to improve patient safety, with each playing a specific role.⁴ For example, medical institutions and medical professionals, who are directly involved in patient safety issues, are responsible for forming an organizational culture that emphasizes patient safety.⁵ Meanwhile, executives and clinical leaders are responsible for organizing activities that communicate patient safety issues among employees (e.g., leadership work rounds).⁶

In recent years, the role of patients and caregivers who are most directly affected by patient safety issues has been emphasized.⁷ With regard to medications, for instance, patients and their caregivers should ensure that their medication is the correct prescription to take and that they know what it is and its adverse effects. Indeed, previous work has shown that patient engagement is effective in preventing medication errors and drug adverse effects.⁸ To support these efforts, the Agency for Healthcare Research and Quality has provided guidelines to patients and their caregivers for preventing medication errors and drug adverse effects as well as for minimizing risks of medical errors during hospitalization and surgery.⁹ For example, if a patient undergoes a certain operation, he or she is encouraged to select a medical institution that has a great deal of experience in performing that operation.

Promoting awareness for issues on patient safety is critical for engaging patients and their caregivers in patient safety activities. It is necessary for the general public to recognize the significance of patient engagement to raising patient safety levels. However, the general public's awareness of patient safety seems to be quite limited. For example, compared with medical professionals, the general public tends to estimate a lower number of in-hospital deaths attributable to medical errors,¹⁰ and they perceive the hospital to be a safer environment than it actually is.¹¹ In addition, compared with medical professionals, the general public has lower awareness of patient safety–related systems, such as accreditation programs for healthcare organizations, as well as medical dispute mediation and arbitration programs.¹² Because the Korea Medical Dispute Mediation and Arbitration Agency was established in 2012 as an alternative dispute resolution agency responsible for medical dispute resolution in accordance with the Act on Medical Malpractice Damage Relief and Medical Dispute Resolution, it is important to assess the awareness of the general public about the medical dispute mediation and arbitration programs.¹³

To develop programs and strategies for increasing patient engagement for patient safety, it is necessary to understand the opinions of the general public about patient engagement for patient safety. Indeed, little is known about how the general public deems the various patient safety activities in which patients can participate. Here, we examined the opinions of the Korean general public on selecting medical institutions for patient safety, participating in activities to prevent patient safety–related incidents, their knowledge of medical dispute resolution methods, and their overall evaluation of patient safety, among others. We also examined the individual differences of sociodemographics on public perception;

From the *Department of Preventive Medicine, University of Ulsan College of Medicine; †Asian Institute for Bioethics and Health Law; ‡Doctoral Program in Medical Law and Ethics, Yonsei University; §Office of Research Planning and Coordination Department, National Evidence-based Healthcare Collaborating Agency; ||Division of Medical Law and Bioethics, Department of Medical Humanities and Social Sciences, Yonsei University College of Medicine, Seoul; and ¶Department of Preventive Medicine, Ulsan University Hospital, University of Ulsan College of Medicine, Ulsan, Republic of Korea.

Correspondence: Minsu Ock, PhD, Department of Preventive Medicine, Ulsan University Hospital, University of Ulsan College of Medicine, 877, Bangeojinsunhwangdo-ro, Dong-gu, Ulsan, 44055, Republic of Korea (e-mail: ohohoms@naver.com).

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these analyses will allow stakeholders to prioritize the content of patient engagement education for the more vulnerable groups in the general public.

METHODS

This study was approved by the institutional review board of Ulsan University Hospital (Institutional Review Board File Number: UUH 2017-12-033). Each participant was informed about the purpose of the study, and each provided consent to take part in the study.

Participants

To investigate the public perception of patient engagement for patient safety, we conducted a survey in Ulsan, South Korea, from November 28 to December 15, 2017. We used proportional quota sampling to obtain a representative sample of adults from Ulsan based on sex, age, and subregion. Specifically, the target population composed of adults older than 19 years living in Ulsan, defined by the resident registration data, as of June 2017, which was available from the Ministry of Administration and Security in South Korea. We recruited survey participants in the street according to the predetermined quotas. In total, we surveyed a total of 600 adults using a structured questionnaire and a one-on-one interview.

Development of Survey Items

We developed a questionnaire based on previous studies^{9,14,15} and discussion with other researchers. The questionnaire was designed to evaluate public perception of patient engagement for patient safety. The appropriateness of the wording and content was evaluated in a cognitive debriefing interview with three laypersons.

The questionnaire is composed of six parts: (a) opinions on selecting medical institutions; (b) opinions on patient engagement in the course of medical treatment; (c) opinions on the prevention of patient safety incidents; (d) awareness of medical dispute programs; (e) Overall awareness of patient safety and self-efficacy for patient engagement; and (f) Questions on sociodemographic characteristics. The full questionnaire is provided in Supplemental File 1, <http://links.lww.com/JPS/A202>.

All previously mentioned parts (except for the self-efficacy score and sociodemographic characteristics) used a scale from 1 (*strongly agree*) to 4 (*strongly disagree*). The self-efficacy scores for patient engagement were scored on a scale from 0 (*no confidence*) to 100 (*very confident*).

Conducting the Survey and Data Analyses

One of the authors conducted a training session for interviewers about the contents of the questionnaire. Interviewers conducted the face-to-face interviews with participants using the paper questionnaire. Each participant answered each question item, with support from the interviewer. The role of the interviewer was limited to helping the participants understand the contents of the questionnaire; they were instructed not to induce a response from the participant. During the survey, the interviewers explained the questions to participants in layman’s terms, so that the participants could understand difficult terms (e.g., accreditation, medical dispute mediation and arbitration program).

STATA software (version 13.1; StataCorp LP, TX) was for statistical analyses. For most items, we analyzed both the frequency and percentage of the responses to each question. For the self-efficacy scores, we calculated both the mean and median. We conducted Student *t* test and χ^2 test (or Fisher exact test) to examine the individual differences of sociodemographics in participants’

responses. *P* values less than 0.05 were regarded as statistically significant.

RESULTS

Table 1 shows the sociodemographic characteristics of the 600 adult participants in this study. More than half of the participants were male (308 males, 51.3%), and the average age of the participants was 46 years (age range, 19–79). Almost 90% of the participants completed high school, and almost half completed college or above. More than 80% of participants rated themselves as having “good” or “very good” health. The mean monthly household income was U.S. \$3827. These sociodemographic characteristics were similar to the sex ratio, age structure, and education achievement of adults older than 19 years in Ulsan, South Korea. However, the number of participants in this study who rated their own health status as “good” or “very good” exceeded the norm as stated in the nationwide 2015 Korea National Health and Nutrition Examination Survey (i.e., 31%).

First, we examined participants’ opinions on selecting medical institutions. Overall, when choosing a medical institution, our participants reported that they were more likely to consider the potential outcome of their treatment or surgery than to verify the accreditation of the medical institution (Table 2). That is, approximately 70.7% of participants agreed with the statement “When choosing a medical institution, I will choose an institution that has highly rated surgery performance or treatment, according to my needs,” but only 47.5% of participants agreed with the statement “When choosing a medical institution, I will verify that it has received accreditation.”

Regarding their opinions on patient engagement activities, participants tended to agree on most statements, except for one (Table 3). Interestingly, approximately 78.7% of participants

TABLE 1. Sociodemographic Characteristics of Participants

Factors	n	%
Sex		
Male	308	51.3
Female	292	48.7
Age, y		
19–29	110	18.3
30–39	111	18.5
40–49	128	21.3
50–59	131	21.8
≥60	120	20.0
Education level		
High school or below	322	53.7
College or above	278	46.3
Self-rated health		
Very good	195	32.5
Good	290	48.3
Moderate	93	15.5
Bad	21	3.5
Very bad	1	0.2
Monthly household income, U.S. \$		
Approximately 2645	161	26.8
Approximately 3527	141	23.5
Approximately 4409	180	30.0
≥4409	112	18.7

TABLE 2. Opinion on Choosing a Medical Institution

Questions	Answer	n	%
When choosing a medical institution, I will verify that it has received accreditation.	Strongly agree	74	12.4
	Agree	210	35.1
	Disagree	230	38.4
	Strongly disagree	85	14.2
When choosing a medical institution, I will choose an institution that has highly rated surgery performance or treatment, according to my needs.	Strongly agree	142	23.8
	Agree	280	46.9
	Disagree	129	21.6
	Strongly disagree	46	7.7

agreed with the statement, “If the doctor does not tell me the results of the medical examination, I will ask the doctor about the results.” However, almost 60% of the participants would not tell their names and dates of birth before receiving medical treatment.

Regarding their opinions on the prevention of patient safety incidents, participants were more likely to agree on all questions related to medication (61%–71%), but they responded differently to questions related to infection and falling (Table 4). Approximately 80% of participants would not ask medical staff to confirm whether they have washed their hands. As a whole, only 50% of the participants would ask a guardian or nurse for help when using the bathroom at night during hospitalization.

Regarding their awareness of medical dispute programs, participants expressed similar levels of agreement and disagreement on the item on using a medical dispute mediation and arbitration program (Table 5). Approximately 51.6% of participants agreed with

the statement “I know that medical dispute mediation and arbitration programs can be applied when there is a medical dispute.”

When asked about patient safety, almost 90% of participants agreed that it was important (Table 6). Overall, there were no individual differences of sociodemographics in their response to this question. However, the rate of agreement in the high-income group (90.9%) was statistically higher than that in the low-income group (85.1%). Meanwhile, when asked if they are confident in making the correct choice and receiving safe treatment, participants responded with an average of 68.7 points on a 100-point scale (Table 7). The individual difference of self-efficacy scores by sex or income level was not statistically significant. However, the older and less-educated group had a significantly lower self-efficacy score than the younger and more educated group, respectively. Furthermore, the self-efficacy score was significantly lower for participants who rated their health as moderate

TABLE 3. Opinion on Patient Engagement in the Course of Medical Treatment

Questions	Answer	n	%
I will give my opinion and participate in the decision-making process of the diagnosis, exam, and treatment of the disease.	Strongly agree	73	12.2
	Agree	274	45.7
	Disagree	205	34.2
	Strongly disagree	48	8.0
When I visit a medical institution, I will ask my family or friends to go with me.	Strongly agree	75	12.5
	Agree	256	42.7
	Disagree	201	33.5
	Strongly disagree	68	11.3
When I get medical treatment, I will tell first my name and date of birth.	Strongly agree	51	8.5
	Agree	206	34.3
	Disagree	220	36.7
	Strongly disagree	123	20.5
When I was asked to do tests or treatments that I do not know for any purpose, I will ask for their exact purpose or indicate refusal.	Strongly agree	56	9.3
	Agree	289	48.2
	Disagree	215	35.8
	Strongly disagree	40	6.7
I will not ask doctor for any unnecessary medical exam or treatments.	Strongly agree	66	11.0
	Agree	301	50.2
	Disagree	196	32.7
	Strongly disagree	37	6.2
If the doctor does not tell me the results of the medical exam, I will ask the doctor about the results.	Strongly agree	113	18.8
	Agree	359	59.8
	Disagree	105	17.5
	Strongly disagree	23	3.8

TABLE 4. Opinion on Prevention of Patient Safety Incidents

Type of Patient Safety Incident	Questions	Answer	n	%	
Medication error	I will talk to the doctor about the medicines I am taking (including oriental medicine and nutritional supplements).	Strongly agree	134	22.3	
		Agree	292	48.7	
		Disagree	139	23.2	
	I will talk to the doctor about all of the allergies or side effects of certain medicines.	Strongly disagree	35	5.8	
		Strongly agree	135	22.5	
		Agree	291	48.5	
		Disagree	141	23.5	
	When I receive a prescription or when I receive medicine from a pharmacy or hospital, I will make sure that it is mine.	Strongly disagree	33	5.5	
		Strongly agree	89	14.8	
		Agree	304	50.7	
	When I receive a prescription or when I receive medicine from a pharmacy or hospital, I will ask the medical staff about the reasons for taking them, the duration of taking them, their methods, and any of their side effects and precautions.	Disagree	162	27.0	
		Strongly disagree	45	7.5	
		Strongly agree	98	16.3	
	If I have any questions about the contents of the medicine manual, I will ask the doctor or pharmacist about it.	Agree	269	44.8	
		Disagree	201	33.5	
Strongly disagree		32	5.3		
Infection	If I am hospitalized, I will ask the medical staff with whom I come into direct contact whether they have washed their hands.	Strongly agree	87	14.5	
		Agree	334	55.7	
		Disagree	150	25.0	
	If I am hospitalized, I will ask a guardian or nurse for help when I go to the bathroom at night.	Strongly disagree	29	4.8	
		Strongly agree	20	3.3	
		Agree	114	19.0	
		Disagree	180	30.0	
	Fall	If I am hospitalized, I will ask a guardian or nurse for help when I go to the bathroom at night.	Strongly disagree	286	47.7
			Strongly agree	45	7.5
			Agree	240	40.0
			Disagree	234	39.0
			Strongly disagree	81	13.5

or below. Responses to these questions split by participants' sociodemographic characteristics are shown in the Supplemental Table, <http://links.lww.com/JPS/A202>.

DISCUSSION

The present study surveyed 600 individuals of the general public in Ulsan, South Korea, about their perception of patient engagement for patient safety. In summary, the general public's awareness of accreditation programs for healthcare organizations was still quite limited. Participants tended to agree on most questions about patient engagement, but almost 60% said that they would not tell their names and dates of birth before receiving medical treatment. Participants tended to agree on prevention activities related to patient safety incidents with respect to medication, compared with prevention activities related to infection and falling. Only half of the participants were aware of medical dispute mediation and

arbitration programs as a solution to medical disputes. Almost 90% of participants agreed that patient safety is important. However, participants rated their confidence in making the correct choice and receiving safe treatment as relatively low (68.7 points of a maximum of 100).

According to previous systematic reviews,¹⁶⁻¹⁸ the engagement of patients and caregivers in the care process can improve the level of patient safety by preventing adverse events and medical errors. Various interventions have been developed and implemented to prevent patient safety incidents, such as falls and adverse drug events.¹⁹⁻²¹ However, these interventions have mostly focused on the prevention of certain types of incidents. Patient engagement for patient safety begins with the general public choosing medical institutions that are interested in patient safety and are trying to improve it. The current study addressed a wide range of topics, such as the prevention of patient safety incidents, the importance of selecting the appropriate medical institutions,

TABLE 5. Awareness of Medical Dispute Programs

Questions	Answer	n	%
I know that medical dispute mediation and arbitration programs can be applied when there is a medical dispute.	Strongly agree	52	8.7
	Agree	257	42.9
	Disagree	202	33.7
	Strongly disagree	88	14.7

TABLE 6. Awareness of the Importance of Patient Safety, According to Sociodemographic Factors

Sociodemographic Characteristics	I think the problem of patient safety is important		P
	Agreement,* n (%)	Disagreement,† n (%)	
Sex			
Male	271 (88.0)	37 (12.0)	0.992
Female	257 (88.0)	35 (12.0)	
Age, y‡			
≤46	267 (88.4)	35 (11.6)	0.755
≥47	261 (87.6)	37 (12.4)	
Education level			
High school or below	278 (86.3)	44 (13.7)	0.177
College or above	250 (89.9)	28 (10.1)	
Self-rated health			
Good or above	426 (87.8)	59 (12.2)	0.798
Moderate or below	102 (88.7)	13 (11.3)	
Monthly household income, U.S. \$‡			
≤3527	257 (85.1)	45 (14.9)	0.028
≥3528	271 (90.9)	27 (9.1)	
Total	528 (88.0)	72 (12.0)	—

*Agreement means “strongly agree” or “agree.”

†Disagreement means “strongly disagree” or “disagree.”

‡Divided into two groups based on a median split.

the ability to cope with medical disputes, and general awareness of patient safety and patient engagement. This study adds to the literature by presenting the range of activities and roles that the

TABLE 7. Self-Efficacy of Patient Safety and Engagement According to Sociodemographic Factors

Sociodemographic Characteristics	Are you confident that you are making the correct choice and that you can receive safe treatment? Please rate from 0 (lowest) to 100 (highest)	P
Sex		
Male	68.9	0.804
Female	68.5	
Age, y*		
≤46	71.1	0.002
≥47	66.3	
Education level		
High school or below	67.0	0.017
College or above	70.7	
Self-rated health		
Good or above	70.0	0.001
Moderate or below	63.5	
Monthly household income, U.S. \$*		
≤3527	68.2	0.480
≥3528	69.2	
Total	Mean (SD): 68.7 (0.8) Median (interquartile range): 70.0 (25.0)	—

*Divided into two groups based on a median split.

general public can undertake to promote patient safety and by suggesting the range of knowledge that the general public should carry for patient safety.

The participants in this study reported that they believed that patient safety is an important issue, but they also agreed that they were not confident in whether they would be able to choose the correct medical institution and receive safe treatment. In the case of selecting medical institutions, participants were more likely to consider the success rates of the medical institution, rather than whether the medical institution has received accreditation. However, checking for the institution’s accreditation is a good example of an upstream activity (i.e., searching for information when choosing a medical institution). Nevertheless, it is possible that the general public may not be well aware of the accreditation programs for healthcare organization. Because the accreditation of medical institution is known to have a positive impact on improving the quality of health care services,²² such accreditation can be a good standard to consider when choosing a medical institution. Thus, it is necessary to publicize the meaning and importance of the accreditation of medical institutions. More in-depth qualitative studies are needed to shed light on why the general public does not refer to the accreditation of medical institutions.

Although participants had more positive than negative perceptions of most activities related to patient engagement for patient safety, there were more negative opinions on certain activities. For example, almost 60% of the participants said that they did not agree with the practice of telling their names and dates of birth before receiving medical treatments. Accurate patient identification is a key activity in patient safety; it is highly recommended in hospitals that medical professionals should ask for patients’ names and date of birth and that patients should provide this information to their medical staffs. However, it is likely that the general public considers these activities to be tasks that medical professionals should do, suggesting an overreliance on medical professionals in the issue of patient identification.²³

Although there were more positive opinions on patient engagement activities related to the prevention of medication errors, there were more negative opinions on patient engagement activities related to the prevention of infections and falls. In addition, most of the participants (77.7%) did not agree with the practice of asking their medical staff whether they had washed their hands. This percentage was lower than that in a previous Western study, in which approximately half (46%) of the subjects were very comfortable with asking about hand washing.²⁴ Taken together, it seems that the general public in East Asian countries are more reluctant to ask medical professionals about hand washing than the general public in Western countries. Further research is needed to determine why the general public has difficulty asking medical professionals about their hand washing and how to promote these activities. It is also important to note that a patient advocate may be helpful for patient engagement in patient safety.²⁵ Our study reveals that patients in South Korea have difficulty approaching medical staff about safety issues. Accompanying patient advocates, such as family and friends, can help patients feel more confident about participating in their treatment decision-making.

Future efforts should be directed toward improving the general public's awareness of patient engagement for patient safety. It is necessary to educate the general public about the reasoning and meaning behind certain patient engagement activities, so that there will be less patient safety incidents.²⁶ It would also be beneficial to develop ways to promote bringing specific patient advocates for shared decision-making.^{27–29} Furthermore, it is necessary to introduce patient engagement activities to medical professionals, so that they are not surprised or uncomfortable when patients and their caregivers conduct these patient engagement activities.

When examining individual differences of sociodemographic in self-efficacy, results showed that older, less-educated, less-healthy participants were less confident about engaging in patient safety activities. Although further research is required, our study suggests that the general public with these characteristics may be vulnerable in terms of patient safety. Thus, it is important to consider individuals with these characteristics as a priority target for programs on patient safety awareness by targeting the contents of these programs for them. For example, men were more hesitant of asking their family or friends to visit a medical institution with them or to tell medical staff their name and date of birth in the process of medical treatment, compared with women ($P < 0.05$, Supplemental table, <http://links.lww.com/JPS/A202>). Furthermore, older, lower-educated, and less-healthy participants were less likely to be aware of medical dispute mediation and arbitration programs ($P < 0.05$, Supplemental table, <http://links.lww.com/JPS/A202>). Thus, the limited resources involved in creating patient safety resources should be targeted toward the more vulnerable groups.

This study had a number of limitations. First, the participants in this study were recruited from a single city in South Korea, and as such, their generalizability to other geographic and sociodemographic contexts could be limited, and the possibility of selection bias cannot be totally excluded. Thus, it is necessary to conduct similar surveys in more regions and countries in the future. Secondly, our data are based on self-reported information, and it is not clear whether these self-reported data accurately reflect their behaviors in real life. In a previous study on patient engagement, participants' rate of taking action was lower than their level of awareness in taking action.²⁴ Thus, we expect that participants in our study also have lower rates of action than what they have reported in this study. Finally, we do not have information about participants' previous experiences of admission, outpatient visits, and experience of patient safety incidents. Future studies should investigate whether there are individual

differences of medical experience in patient engagement for patient safety.

CONCLUSIONS

This study confirms the persistent need to promote patient safety awareness and patient engagement. Our results indicate that there is room for improvement for improving the general public's awareness of patient safety issues, motivating the need to develop effective interventions for increasing patient engagement. In addition, the results of this study can be used to develop targeted content for educational programs on patient safety and patient engagement. Specifically, our results indicate that there are vulnerable subsections of the population that need to be prioritized for improving patient safety and patient engagement.

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