Investigating the Most Important Sources of Public Nursing Image from the Perspective of Patients Admitted to Hospitals in Zanjan-Iran

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Abstract

Background: The social image of nursing includes the beliefs and perceptions that people have about nursing. Due to their direct communication with nurses, hospitalized patients can provide a more realistic image of nursing.

Objectives: This study was conducted to ascertain the most important sources of the public image of nursing from the perspective of patients hospitalized in Zanjan-Iran hospitals.

Methods: This cross-sectional descriptive study was conducted on 698 patients hospitalized in Zanjan hospitals in July 2021. The subjects were recruited by the census sampling method. A demographic information checklist and a researcher-made questionnaire for nursing image resources were used to collect the data. The data were analyzed using SPSS 16 software, descriptive statistics, and the Chi-square tes.

Results: Most of the participants were female (54%), and the mean (standard deviation) age of the participants was 45.01 (16.8) years. Of the participants, 63.75% identified "presence in the hospital as a patient or a companion" as the most important source of the nursing image. Also, the sources of the nursing image from the perspective of patients varied significantly regarding variables such as age, sex, education, occupation, history of hospitalization, having a nurse among family members, interest in nursing and type of hospital. ($P<0.05$).

Conclusion: The most important source of the nursing image from the patients' perspective was "presence in the hospital as a patient or a companion". As patients can be an important source for transferring the nursing image to society, plans should be implemented to improve their relationship with nurses so that a correct and positive image of nursing can be propagated in society.

Keywords: public nursing image, source of nursing image, patients, nursing

Introduction

An image basically represents the reality of something, which refers to tangible or visible reflections and perceptions resulting from a person's behavior in a profession, and is related to competence and moral behavior [1]. In other words, the image is the assumption and perception that people in a society have about a person, occupation, or organization. Likewise, regarding nursing, society's view and public opinion's sensitivity towards this profession has created a unique public image of nursing [2,3]. The public nursing image includes the beliefs, ideas, and perceptions that people have about nursing and nurses, and this issue has always been considered a social cultural issue in this profession [1,4]. Despite advances in the nursing profession, nurses still face notable challenges with regard to the image of this profession, which affects nurses' self-confidence and self-esteem, as well as the

public nursing image [2,4]. In various studies, the nursing image has been reported to positively correlate with the self-esteem, job satisfaction, and professional identity of nurses [5,6].

Nursing image results from factors that role as the sources of its formation [7], directly affecting the choice of this profession as a job. These factors include the public image, social norms, media, nurses themselves, a family member being a nurse, doctor-nurse communication, nurses' behaviors, and occupational hazards [3,7,8]. In a study in Iran, the most important sources of the formation of the nursing public image from the perspective of people and nurses included being present in a hospital as a patient's companion or a patient, television series, movies, one of the relatives being a nurse, news, newspapers, journals, novels, and stories [4]. A review noted that the most important factors affecting the nursing image from the perspective of high school students were the viewpoints of the family and relatives, friends, media, and personal factors such as interest in nursing, personal experiences, gender, and academic achievement [9]. In this regard, Oncu (2022) noted that high school students' choice of nursing as a profession in the future was influenced by the social status and salary of nurses [10]. A study in the Netherlands argued that the public nursing image was contradictory in society, contributing to the spread of a negative image of nursing [11]. In the United Kingdom, parents and job counselors did not have a good perspective toward nursing and, therefore, were less likely to recommend students to study nursing and choose it for a living. In the United States, however, nursing is a respected profession and is recommended by most parents to their children [12].

In general, the nursing shortage is considered a long-lasting problem in all countries, reducing the quality of care, which can negatively affect the public nursing image [13]. On the other hand, it seems that the coronavirus outbreak at the time of conducting this study, when nurses would dedicate themselves to patient care despite shortages in nursing staff, could have contributed to the promotion of nurses' respect and position in the healthcare system and positively affected nursing public image. In this regard, Lotfi et al. (2021) reported in their study that the Coronavirus disease outbreak directed public attention toward nurses, and broadcasting images of nurses' efforts and sacrifices in the media has improved their social position, as well as public nursing image [14]. Also, Taghizadeh et al. (2020) stated that the coronavirus outbreak was a turning point for recognizing the value and position of the nursing profession in Iran and the world, causing society to acquire a more positive attitude toward the nursing profession and nurses' efforts [15].

As the results of these studies show, nursing public image, as a factor influencing the position of nurses in society, is also very important in attracting people toward the nursing profession, boosting the respect of nursing in the eyes of people, as well as nurses' job satisfaction and self-esteem. Therefore, investigating the sources of this image in society can help recognize its most important determinants, the true perspective of people about this profession, and the propagation of a good image of nursing. Meanwhile, due to their direct and sometimes long interactions with nurses, hospitalized patients can share a more realistic picture of nursing. Most studies in this field have sought the sources of the nursing image among people, nurses themselves, and students. In our literature review, we found no study exploring the sources of the nursing image from the perspective of hospitalized patients in Iran and Zanjan. Therefore, we decided to investigate the most important sources of the public nursing image from the viewpoints of the patients admitted to the hospitals of Zanjan city in 2021

Methods
This descriptive cross-sectional study was conducted on patients admitted to the adults' medical and surgical wards of Zanjan's hospitals in 2021. The minimum sample size was calculated as 663.57 subjects using an appropriate formula [16], considering a standard deviation of 9.2 based on a study by Ivan Rubbi (2017) [17] and the "d" value of 0.7. Finally, considering a 10% drop-out rate, a total of 730 questionnaires were distributed among the subjects, 698 of which were returned completed.

The study environment included the medical and surgical wards of five hospitals in Zanjan city (Valiasr, Mousavi, Bahman, Imam Hossein, and Artesh). For sampling, the names of the five hospitals were initially written on separate pieces

of paper; the papers were placed into a container, and the pieces were randomly taken out one by one. The order of hospital names taken out was determined as the order of referring to hospitals. For example, the first draw was related to Valiasr hospital, so we visited this hospital first for sampling. Similarly, other hospitals were visited, and eligible subjects were recruited among those admitted to the medical and surgical wards of these hospitals using the accessible sampling method. The distribution of questionnaires was proportional to the number of beds and patients, so more questionnaires were allocated to hospitals that had more beds and patients.

The participant's characteristics in this study were: hospitalization in the medical and surgical ward of one of the hospitals studied for at least 24 hours, age above 18 years, being fully conscious, ability to answer questions, and willingness to participate in the study.

Data collection tools in this research included a demographic and hospital information questionnaire and a researcher-made questionnaire for assessing the sources of the nursing image. Demographic information included patients' age, sex, residency, educational level, occupation, hospital of admission, prior history of hospitalization, having relatives who are nurses, and interest in the nursing profession.

The questionnaire of the sources of the nursing image used in the present study was a researcher-made tool. According to previous studies in the field, the sources of the nursing image were placed into two general categories, hospitals and media. The first factor (i.e., hospital) was regarded as admission to a hospital as a patient or presence in a hospital as a patient's companion, as well as having a relative who was a nurse or a hospital worker. The second factor (i.e., media) included radio, television, satellite television, cyberspace, social media, and written media such as newspapers, magazines, books, and novels [3,4,7,8,18]. The questionnaire of the sources of nursing image consisted of five questions (newspapers & magazines, radio-television, Internet & cyberspace, being in a hospital as a patient or a patient's companion, and having relatives who are nurses) with the answers of "yes" or "no". The content and face validity methods were used to determine the validity of the questionnaire. In this regard, the questionnaire prepared was approved by ten experienced and expert professors of the Faculty of Nursing and Midwifery of Zanjan University of Medical Sciences. The reliability of the questionnaire was approved by the Kuder-Richardson test, delivering a reliability coefficient of 0.78.

After being completed, the questionnaires were collected, and the data were coded and analyzed by SPSS software version 16. Descriptive statistics, including frequency (percentage), mean (standard deviation), median, and quartile ranges, were utilized for data description. Inferential statistics were applied for analytic purposes and comparison. The Chi-square test was used to analyze categorical variables such as demographic and hospitalization data. The statistical significance level in this study was considered $P < 0.05$.

This research received the ethical approval code of IR.ZUMS.REC.1399.346 from the Ethics Committee of Zanjan University of Medical Sciences. Written informed consent was obtained from the participants of this study, and they were assured that their personal information would remain confidential and be used anonymously for research purposes only.

Results

The participants' demographic and hospital-related data have been shown in Tables 1 and 2. A total of 698 patients (95.61%) completed the research questionnaires, of whom 46% were men and 54% were women. The mean (SD) age of the participants was 45.01 (16.8) years, and 70% of them were city dwellers. Most of the participants (>80%) had diplomas or less education, and regarding occupation, the majority of them were "housewives", "self-employed", or "worker-farmer", respectively. Overall, 79.22% of the patients were hospitalized in university-affiliated hospitals (i.e., Valiasr and Mousavi). Also, 34.38% of the participants had a relative who was either a nurse or a nursing student, and about 72% of the patients stated that they were interested in the nursing profession. As some of the variables had non-normal distribution, the first, middle, and third quartiles were reported for them. The median hospitalization length in patients was four days (the first and third quartiles were three and six days, respectively). The median of the episodes of prior hospitalization was two, and the

first and third quartiles were one and three, respectively. The median of the total length of prior hospitalizations was ten days, with the first and third quartiles being three and 25 days, respectively. Regarding the length of being present in a hospital as a "patient's companion", the first quartile, median, and third quartile were zero, five, and 12 days, respectively.

Table 1: Frequency Distribution of Demographic Variables of Patients Hospitalized in the Medical and - Surgery Wards of Hospitals of Zanjan City on a Qualitative Scale

Demographic variables		Frequency (%)
Gender	male	320 (46)
	female	378 (54)
Age (years)	<30	146 (20.91)
	31-45	266 (38.10)
	46-60	151 (21.64)
	>61	135 (19.35)
Place of residence	city	470 (70)
	village	228 (30)
Education	illiterate	157 (22.50)
	lower than diploma	276 (39.54)
	diploma	143 (20.48)
	bachelor's degree	98 (14.04)
	master's degree	24 (3.44)
Job status	Worker/farmer	106 (15.15)
	self-employed	134 (19.14)
	employee	87 (12.42)
	healthcare worker	7 (1.0)
	retiree	39 (5.57)
	student	30 (4.57)
	housewife	295 (42.15)

Table 2: Frequency Distribution of Hospital-Related Variables in Patients Hospitalized in the Medical Surgical Wards of Hospitals of Zanjan City on a Qualitative Scale

Qualitative hospital-related variables		Frequency (%)
Name and type of the hospital	Valiasr-university-affiliated	259(37.10)
	(Mousavi- university-affiliated	294(42.12)
	Imam Hossein (welfare organization,	66(9.46)
	Bahman (private)	65(9.32)
	Artesh (military)	14(2.0)
History of hospitalization	yes	576(82.52)
	No	122(17.48)
Being a patient's companion	Yes	488(69.91)
	No	210(30.09)
Having a nurse among relatives	Yes	240(34.38)
	No	458(65.62)
Interested in nursing (encouraging oneself or one's own children)	Yes	501(71.78)
	No	197(28.22)

In this study, 63.75% of the participants declared the most important source of the nursing image as "presence in the hospital as a patient or a companion", and 20.92% stated "radio and television" as the most important source (Table 3). Also, the frequency percentage for "newspaper, journal, and book", as a source of the nursing image, was "zero". The analysis of the data obtained using the Chi-square test showed that the type of the source declared for the nursing image from the perspective of hospitalized patients was significantly associated with the variables of age, gender, educational level, occupation, history of prior hospitalization, hospital of admission,

having a nurse relative, and being interested in   nursing (Tables 4 and 5, P<0.05).

Table 3: Ranking the Views of Patients Hospitalized in Hospitals of Zanjan According to the Positive Role of Each Source in Public Nursing Image Creation

Sources of nursing image formation	Frequency (%)		Rank
	Yes	**No**	
Radio and television	146(20.92)	552(79.08)	2
Internet and cyberspace	45(6.45)	653(93.55)	4
Presence in the hospital as a patient or a patient's companion	445(6375)	253(36.25)	1
Having a nurse among relatives	62(8.88)	636(91.12)	3
Newspapers, journals, and books	0(0)	698(100)	5

Table 4: Differences between the Sources of Public Nursing Image Based on Demographic Variables of the Patients Admitted to the Hospitals of Zanjan City

Patients' demographic variables			Frequency of the sources of nursing image based on demographic variables				Chi-square (total), P value
			Radio-television	**Internet/cyberspace**	**presence in hospitals**	**having a nurse among relatives**	
Gender	male	Yes	52 (16.25)	28 (8.75)	213 (66.56)	27 (8.44)	X^2_3 =11.877 p =0.008
		No	268 (83.75)	292 (91.25)	107 (33.44)	293 (91.56)	
	Female	Yes	94 (24.87)	17 (4.50)	232 (61.37)	35 (9.26)	
		No	284 (75.13)	361 (95.50)	146 (38.63)	343 (90.74)	
Chi-square test in separate sources of nursing image based on gender			$X^2_3 = 7.780$ p = 0.005	$X^2_1 = 5.196$ p = 0.023	$X^2_1 = 2.018$ p = 0.155	$X^2_1 = 0.145$ p = 0.704	
Age	≤ 30	Yes	42 (28.77)	29 (19.87)	62 (42.46)	13 (8.90)	X^2_9 =90.328 p < 0.001
		No	104 (71.23)	117 (80.13)	84 (57.54)	134 (91.10)	
	31-45	Yes	67 (25.19)	13(88.4)	163 (61.28)	23 (8.65)	
		No	199 (74.81)	253(12.95)	103 (37.72)	243 (91.35)	
	46-60	Yes	16 (10.60)	2 (1.32)	121 (80.14)	12 (7.94)	
		No	135 (89.40)	149 (98.68)	30 (19.86)	139 (92.06)	
	≥ 61	Yes	21 (15.55)	1 (0.75)	99 (73.33)	14 (10.37)	
		No	130 (84.45)	150 (99.25)	52 (66.27)	137 (89.63)	
Chi-square test in separate sources of nursing image based on age			$X^2_3 = 20.442$ p < 0.001	$X^2_3 = 58.500$ p < 0.001	X23 = 52.228 p < 0.001	$X^2_3 = 0.551$ p = 0.908	
Place of residence	City	Yes	105 (22.44)	28 (5.98)	287 (61.32)	48 (10.26)	X^2_3= 6.373 p = 0.095
		No	365 (77.56)	442 (94.02)	183 (38.68)	422 (89.74)	
	Village	Yes	41 (17.82)	17 (7.40)	158 (68.70)	14 (6.08)	
		No	187 (82.18)	211 (92.60)	70 (31.30)	214 (93.92)	
Chi-square test in separate sources of nursing image based on residence place			$X^2_1 = 1.981$ p =0.159	$X^2_1 = 0.507$ p =0.476	$X^2_1 = 3.626$ p = 0.057	$X^2_1 = 3.312$ p =0.069	
Education	illiterate	Yes	30 (19.11)	6 (3.82)	112 (71.34)	9 (5.73)	X^2_{12} =80.261 p < 0.001
		No	127 (80.89)	151 (96.18)	45 (28.66)	148 (99.27)	
	lower than diploma	Yes	60 (21.74)	23 (8.33)	182 (65.95)	11 (3.98)	
		No	216 (78.26)	253 (91.67)	94 (34.05)	265 (96.02)	
	Diploma	Yes	32 (22.38)	9 (6.30)	94 (65.72)	8 (5.60)	
		No	111 (76.62)	134 (93.70)	49 (34.28)	135 (94.40)	
	bachelor's degree	Yes	21 (21.43)	7 (7.14)	46 (46.94)	24 (24.49)	
		No	77 (78.57)	91 (92.86)	52 (53.06)	74 (75.51)	
	master's degree	Yes	3 (12.50)	0 (0.0)	11 (45.84)	10 (41.66)	
		No	21 (87.50)	24 (100)	13 (54.16)	14 (58.34)	
Chi-square test in separate sources of nursing image based on education			$X^2_4 = 1.651$ p = 0.800	$X^2_4 = 5.161$ p = 0.271	$X^2_4 = 20.048$ p < 0.001	$X^2_4 = 73.379$ P < 0.001	

Job			Radio-television	Internet/cyberspace	presence in hospitals	having a nurse among relatives	Chi-square (total), P value
	Worker/farmer	Yes	15 (14.15)	4 (3.77)	80 (75.48)	7 (6.60)	
		No	91 (85.85)	102 (96.23)	26 (24.52)	99 (93.40)	
	self-employed	Yes	27 (20.30)	17 (12.78)	86 (64.67)	3 (2.25)	
		No	106 (79.70)	116 (87.22)	47 (35.33)	130 (97.75)	
	employee	Yes	16 (17.02)	2 (2.12)	45 (47.88)	31 (98.32)	
		No	78 (82.98)	92 (97.88)	49 (52.12)	63 (02.67)	
	retiree	Yes	2 (5.26)	0 (0.0)	29 (76.31)	7 (18.43)	$X^2_{18} = 236.860$
		No	36 (94.74)	38 (100)	9 (23.69)	31 (81.57)	p < 0.001
	student	Yes	5 (15.62)	14 (43.75)	13 (40.63)	0 (0.0)	
		No	27 (84.38)	18 (56.25)	19 (59.37)	32 (100)	
	housewife	Yes	(27.46) 81	(2.71) 8	192 (65.08)	14 (4.75)	
		No	(72.54) 214	(97.29) 287	103 (34.92)	281 (95.25)	
Chi-square test in separate sources of nursing image based on job			$X^2_6 = 18.951$ p = 0.004	$X^2_6 = 96.341$ p < 0.001	$X^2_6 = 34.335$ p < 0.001	$X^2_6 = 1.309$ p < 0.001	

*Chi-squared test

Table 5: Analysis of the Statistical Difference between the Sources of Nursing Image Based on Hospital-related Variables in Patients Admitted to Hospitals of Zanjan

Patients' demographic variables			Frequency of the sources of nursing image based on demographic variables				Chi-square (total), P value
			Radio-television	Internet/cyberspace	presence in hospitals	having a nurse among relatives	
Type of hospital	university-affiliated	Yes	120 (21.70)	40 (7.23)	343 (62.02)	50 (9.05)	
		No	433 (78.30)	(92.77) 513	210 (37.98)	503 (90.95)	$X^2_3 = 4.656$
	non-university-affiliated	Yes	26 (17.93)	5 (3.45)	102 (70.35)	12 (8.27)	p = 0.199
		No	119 (82.07)	140 (96.55)	43 (26.95)	133 (91.73)	
Chi-square test in separate sources of nursing image based on the type of hospital			$X^2_1 = 0.986$ p = 0.321	$X^2_1 = 2.729$ p = 0.099	$X^2_1 = 3.441$ p = 0.064	$X^2_1 = 0.083$ p = 0.773	
Name of the hospital	Valiasr	Yes	24 (9.27)	24 (9.27)	165 (63.70)	24 (9.26)	
		No	235 (90.73)	235 (90.73)	94 (36.30)	235 (90.74)	
	Mousavi	Yes	74 (25.17)	16 (5.44)	178 (60.54)	26 (8.85)	
		No	220 (74.83)	278 (95.56)	116 (46.39)	268 (91.15)	
	Imam Hossein	Yes	20 (30.30)	2 (3.03)	44 (66.67)	0 (0.0)	$X^2_{12} = 34.863$
		No	46 (69.70)	64 (96.97)	22 (33.33)	66 (100)	p < 0.001
	Artesh	Yes	2 (14.28)	2 (14.28)	9 (64.29)	1 (7.15)	
		No	12 (85.72)	12 (85.72)	5 (93.74)	13 (92.85)	
	Bahman	Yes	4 (6.15)	1 (1.54)	49 (75.38)	11 (16.93)	
		No	61 (93.85)	64 (98.46)	16 (24.62)	54 (83.07)	
Chi-square test in separate sources of nursing image based on the type of hospital			$X^2_4 = 17.226$ p = 0.002	$X^2_4 = 9.206$ p = 0.056	$X^2_4 = 5.360$ p = 0.252	$X^2_4 = 11.726$ p = 0.020	
Prior history of hospitalization	yes	Yes	107 (18.58)	22 (3.82)	393 (68.22)	54 (9.38)	
		No	469 (81.42)	554 (96.18)	183 (31.78)	522 (90.62)	$X^2_3 = 55.175$
	No	Yes	(31.97) 39	(18.85) 23	(42.62) 52	8 (6.56)	P < 0.001
		No	(68.03) 83	(81.15) 99	(57.38) 70	114 (93.44)	
Chi-square test in separate sources of nursing image based on the history of hospitalization			$X^2_1 = 10.913$ p = 0.001	$X^2_1 = 37.723$ p < 0.000	$X^2_1 = 28.566$ p < 0.001	$X^2_1 = 0.988$ p = 0.320	
Being a patient's companion	Yes	Yes	108 (22.13)	24 (4.92)	310 (63.52)	46 (9.43)	$X^2_3 = 7.578$
		No	380 (87.77)	464 (95.08)	135 (36.48)	442 (90.57)	p = 0.56

No	Yes	38 (18.10)	21 (10.0)	135 (64.28)	16 (7.62)	
	No	172 (81.90)	189 (90.0)	75 (35.72)	194 (92.38)	
Chi-square test in separate sources of nursing image based being a patient's companion		$X^2_1 = 1.446$ $p = 0.229$	$X^2_1 = 6.287$ $p = 0.012$	$X^2_1 = 0.037$ $p = 0.848$	$X^2_1 = 0.592$ $p = 0.441$	
Having a nurse among relatives	Yes	42 (17.50)	16 (6.67)	127 (52.91)	55 (22.92)	$X^2_3 = 89.910$ $p < 0.001$
	No	198 (82.50)	224 (93.33)	113 (47.09)	185 (77.08)	
	No	104 (22/70)	29 (6.33)	318 (69.44)	7 (1.53)	
	No	354 (77/30)	429 (93.67)	140 (30.56)	451 (98.47)	
Chi-square test in separate sources of nursing image based on having a nurse among relatives		$X^2_1 = 2.582$ $p = 0.108$	$X^2_1 = 0.029$ $p = 0.864$	$X^2_1 = 18.588$ $p < 0.001$	$X^2_1 = 89.009$ $p < 0.001$	
Being interested in nursing	Yes	117 (23.35)	25 (5.0)	315 (62.87)	44 (8.78)	$X^2_3 = 11.118$ $p = 0.011$
	No	384 (76.65)	476 (95.0)	186 (37.13)	457 (91.22)	
	Yes	29 (14.72)	20 (10.15)	130 (65.99)	18 (9.14)	
	No	168 (85.28)	177 (89.85)	130 (34.01)	179 (90.86)	
Chi-square test in separate sources of nursing image based on being interested in nursing		$X^2_1 = 6.370$ $p = 0.012$	$X^2_1 = 6.248$ $p = 0.012$	$X^2_1 = 0.594$ $p = 0.441$	$X^2_1 = 0.022$ $p = 0.882$	

[*]**Chi-squared test**

Discussion

The aim of the present study was to investigate the most important sources of the nursing image from the perspectives of the patients hospitalized in the medical and surgical wards of five hospitals in Zanjan city (Valiasr, Mousavi, Bahman, Imam Hossein, and Artesh) and to determine their associated demographic and hospital-related determinants. Our results showed that 63.75% of the patients recognized "presence in the hospital as a patient or a patient's companion" as the main source of the nursing image. Also, 20.92% of the participants declared "radio and television", 8.88% "having a nurse relative", and 6.45% "Internet and cyberspace" as the most important sources of nursing image. It was notable that the frequency percentage of "newspaper, journal, and book", as a source of the nursing image, was obtained zero, which can somehow reflect the participants' low per capita of studying and theirs paying less attention to written media. Needless to say, 22.43% of the subjects in this study were illiterate, so they could not read written words. In line, the study of Heshmati Nabavi et al. (2014) in Mashhad showed that the most important sources of the public nursing image from the viewpoints of people and nurses were the presence in the hospital as a patient's companion, hospital stay as a patient, TV series, movies, having a nurse relative, news, newspapers & magazines, as well as novels and story books. The results of the recent research also delineated that the least important sources of the public nursing image from the perspective of nurses and people were novels & story books, as well as newspapers & journals [4], which was consistent with the results of the present study, reflecting Iranians' low attention to written media. One possible reason for this phenomenon may be the fact that nursing authorities and nurses tend not to publish relevant and influential nursing-related content in journals, newspapers, and books, highlighting the need to pay attention to this gap so that these information sources can also play their roles in creating a positive public nursing image. For illiterate people, it is applicable to use a combination of texts and influential pictures so that written media can be used as an effective resource by all social groups.

In one study, Glerean et al. (2017) described that the most important factors linked with nursing image among high school students were the viewpoint of the family, relatives, and friends, as well as media, interest in nursing, personal experiences, gender, and academic success [9], contradicting our findings in some points, probably due to differences in the research environment and participants' characteristics (students vs. patients). So, it can be stated that the attitudes of family and friends in the formation of the nursing image are relatively more important for high school students. Also, in the present

study, none of the participants who were students recognized "a relative being a nurse" as a source of the nursing image, while the highest frequency in this age group belonged to "Internet and cyberspace", specifying the key role that this entity plays among this class of society. In a study by Abdelrahman (2018), the most important determinants of nursing image and choosing nursing as a profession included public nursing image, social norms, media, nurses themselves, having a nurse in family members, doctor-nurse interactions, and occupational hazards [3]. Also, Rezaei Adriani (2012) affirmed the role of the media, television, newspapers, journals, nurses' clothing style, interprofessional communication, and nurses' behaviors in the formation of the public nursing image in society [7]. The results of these studies indicate that the media and nurses' behaviors are associated with the public nursing image, which is in agreement with the results of the present study.

Regarding the type of the source of the nursing image between men and women, we noticed significant differences in terms of "radio-television" and "Internet and cyberspace", with the latter claiming a higher frequency among men, while among women, "radio-television" showed a higher frequency. Overall, "radio-television" was placed as the second most important source of the nursing image among all participants, and the highest frequency of this entity was related to housewives, reflecting the popularity and influential impact of this type of media among this group of people. Also, in the study of Heshmati Nabavi (2013), the second most important source of the public nursing image from the viewpoints of people and nurses after residing in a hospital was mass media, such as television series and movies, highlighting the crucial role of this source in portraying a favorable nursing image in society [4]. Studies by Grivin (2016) and Lopez (2021) also showed that social media, such as TV, were among the main sources forming the public nursing image; however, they often seemed to fail to display the correct image of nursing [19,20]. In another study In Iran, Ameri (2018) also reported that "national television" played the main role in broadcasting the wrong and unprofessional picture of nursing in society and among people [21]. Nevertheless, there have also been inconsistencies between the present study

and the above-mentioned studies. Our study was conducted during the coronavirus outbreak when the nursing image could have been influenced by the media's extensive coverage of nurses' efforts and sacrifices of nurses in caring for coronavirus-infected patients. In fact, the media played a prominent role in propagating a positive picture of nursing during this period.

Regarding other findings in the present study, our results showed that most male and female participants, regardless of their age group, educational level, or occupational status, declared that "presence in the hospital as a patient or a patient's companion" was the most important resource of the nursing image, except for students who noted "Internet and cyberspace" as the most important source of the nursing image and then "presence in the hospital". This observation testifies that the youth and teenagers have more connection with and are more influenced by cyberspace and the Internet, as their main sources of information, compared to other age groups.

Furthermore, there was a significant difference in terms of the type of source used by the participants except for "having a nurse among relatives" across different age groups (P < 0.001). The highest frequency of "presence in the hospital as a patient or a patient's companion" was related to the participants in the age group of 46 years and older (46-60 and ≥61 years, i.e., middle-aged and elderly people). This observation can be explained by more frequent hospitalizations in this age group due to chronic diseases, resulting in longer hospital stays and more communication with nurses during hospitalization. Regarding the level of education, a statistically significant difference was observed in the sources of "presence in the hospital as a patient or a patient's companion" and "having a nurse among relatives". In addition, the type of nursing image source varied significantly amongst all occupational categories (P<0.001).

No significant difference was reported in the source of the nursing image in terms of the type of hospitals where the patients were admitted. However, there were significant differences in all nursing image sources (except for "having a nurse among relatives") in terms of a previous history of hospitalization (P < 0.001). In this regard, 68.22% of the patients who had a history of previous hospitalizations declared the "presence in the

hospital as a patient or a patient's companion" as their main source of the nursing image, while this percentage was 42.62% in patients who had no history of prior hospitalization. In both groups, after "presence in the hospital", the most frequent sources of the nursing image, were "radio-television", "Internet and cyberspace", and "having a nurse among relatives", respectively. One of the reasons for the considerable contribution of television to the propagation of the public nursing image can be the fact that our study coincided with the coronavirus outbreak and a barrage of radio-television programs and reports praising the nursing profession and nurses' efforts in caring for coronavirus patients and fighting against the disease.

Overall, 34.38% of the patients had a nurse or a nursing student among their relatives, of whom 22.92% reported "having a nurse among relatives" as the most important source of the nursing image, which was significantly higher compared with the patients who did not have a nurse among their relatives (less than 2%). Two of the sources of nursing image (i.e., presence in the hospital as a patient or a patient's companion" and "having a nurse among relatives") were significantly associated with having or not having a nurse among one's relatives (P < 0.001). This finding seems to be reasonable as nurses generally have close relationships with their relatives and explain the circumstances of this profession to them, and in addition, their relatives are witnesses to nurses' capabilities and efforts. Also, 71.78% of the patients reported that they were interested in nursing, and accordingly, a significant difference was observed in two of their sources of nursing image; "radio-television" and "Internet and cyberspace" (P < 0.05). In line with the results of the present study, Rubbi et al. (2017), in a study on the Italian community, reported that having contact with a nurse either during "hospitalization" or by "knowing a nurse, e.g., as having a nurse among close relatives" were important sources of nursing image and had significant effects on individuals' perceived image of nursing [13]. It should be noted that in both of the above groups, "presence in the hospital as a patient or a patient's companion" still remained the most prominent source of the nursing image. In this vein, Varei et al. (2012), in a study conducted on nurses, showed that having

a nurse family member, working in a hospital, encouraging by the family and relatives, and being admitted to the hospital contributed the most to the nursing image of the participants [22]. Although these results were inconsistent with ours in terms of the priority of nursing image sources, which is probably related to differences in the population studied (nurses vs. patients), there was an agreement between these findings regarding the sources of "hospitalization" and "having nurses among relatives". In another study, Raymond (2018) announced that the most important sources of the nursing image among students were family and friends, television, movies, online media, and written media [18], contradicting the order of some of the sources observed in the present study probably due to differences in research populations. In fact, in studies conducted on students, the main focus is on investigating the factors influencing the choice of job and professional nursing image.

As we found no study on the sources of the nursing image from the perspective of patients, we had limitations in comparing our results with the available literature in the discussion section. Also, the present study was conducted amid the coronavirus outbreak, when people may have been under the influence of media praising nurses' efforts constantly. In addition, some hospital wards were either closed or merged with each other, limiting the number of wards and admissions of elective patients, especially in non-educational hospitals. Controlling these variables was beyond the researcher's power. Moreover, in the present study, we used the accessible non-random sampling method, so caution is recommended when generalizing the results.

Conclusion
The results of the present study showed that the most important source of the nursing image from patients' viewpoint was "presence in the hospital as a patient or a patient's companion". Also, the sources of the nursing image from patients' perspectives varied significantly based on age, sex, education, occupation, history of prior hospitalization, hospital of admission, having a nurse among relatives, and being interested in nursing. Because patients have the longest relationship with nurses, they can portray a more realistic image of nursing. Therefore, it is

necessary to plan to improve the communication between patients/their companions with nurses, to solve the concerns and problems of nurses and patients in the hospital environment, to pay more attention to patients' legal charters, and to improve the quality of nursing services. These measures can increase patient satisfaction, leading to the creation of a correct and positive image of nursing, dignifying the nursing profession in society, and increased job motivation and satisfaction among nurses. Nurses and nursing authorities are recommended to consider publishing more nursing-related materials and content in written media, newspapers, and journals for the general public. It is advisable to conduct similar studies to investigate the sources of the nursing image in other social groups, including nurses themselves, so one can better compare the results in this field.

Conflict of interest
Authors have no conflict of interest or relationships with any particular organization.

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