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Comparison of Perceptions of Patients' Information Privacy in Dealing with Nurses in Japan

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Abstract and objective

It has become very important to maintain the proper balance between protecting the privacy of patients' information while adequately sharing their information in the era of ICT. This study aimed to compare perceptions regarding patients' information privacy between patients and nurses to discuss appropriate ways of future interdisciplinary communication. A self- administered survey was conducted to obtain perceptions on patients' information privacy among 595 patients and 1770 nurses from 37 hospitals in 3 prefectures in Japan. A factor analysis was performed to clarify the concept of patients' information privacy, and t-test was performed to compare the level of perceptions. As a result, the concept of patients' information privacy was almost the same between patients and nurses, while nurses were more aware of patients' information privacy than the patients themselves. This indicates the importance of asking patients their intentions with regard to information sharing among healthcare professionals in order to protect the patient's right to information privacy.

Keywords[1]:

interdisciplinary communication, privacy,
information sharing

Introduction

In Japan, an electronic medical health records system has been rapidly implemented to facilitate interdisciplinary communi- cation through information sharing. At the same time, a debate has ensued over whether information privacy is properly protected among healthcare professionals. Maintaining the proper balance between protecting the privacy of patients' information and adequately sharing patients' information has become a critical issue. The aim of the study was to compare perceptions on patients' information privacy between patients and nurses to discuss appropriate ways of future inter- disciplinary communication.

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Methods

A self-administered survey was conducted to obtain current perceptions of patients' information privacy among a total of 595 patients and 1770 nurses from 37 hospitals in 3 prefec- tures in Japan. The questionnaire contained 26 items that related to information privacy, such as "diagnosis," "name," "toilet habit," "history of family disease," and so on, that were scored using a 6-point Likert scale (1:high sensitivity to 6: low sensitivity). Patient surveyed were asked to complete an anonymous self-administered questionnaire. Also, nurse par- ticipants were asked to recall one specific patient, and reply to the questionnaire by assuming how the patient would respond to each question. The survey was conducted in accordance with a certain ethical procedure.

Results

The valid response rate was 40.2% (n=239) from patients and 51.4% (n=909) from nurses. As a result of a factor analysis for patient responses, four common factors were extracted, "Treatment-Related Information," "Identification-Related Information," "Daily Life Behavior-Related Information," and "Personal Life-Related Information," as shown in Table 1. The result of factor analysis for nurse responses showed ex- traction of four common factors, whose components were almost the same as the result of patients as shown in Table 2. By analysis of the score differences between patients and nurses, nurses responses were significantly lower to most questions than patients ($p<0.05$). No differences were found among three questions; "name," "birthday," and "allergy," as shown in Table 3.

Discussion

As a result of factor analysis for patient responses (Table 1), patients' perceptions of information privacy were confirmed to be composed of four factors. The items included in each extracted factor are considered very important information in the range of care provided by all healthcare professionals. In particular, nurses not only use medical information, but also various other types of information related to life at home in order to provide nursing care. Therefore, the proven four factors relating to information privacy are considered to be very meaningful for the col-

lection, use, and sharing of patients' information for treatment as well as protecting the hospitalized patients' information privacy.

Also, the result of factor analysis for nurse responses showed extraction of four common factors, whose components were almost the same as the result of patients. This result indicates that both patients and nurses shared virtually the same views about patients' information privacy.

However, the score differences between patients and nurses, nurses responses were significantly lower to most questions than patients, which means nurses are more sensitive to patients' information privacy than patients-selves. According to Ota's study[1)] conducted in 2002, nurses considered their own privacy more important than patients' privacy. Compared to Ota's result, Japanese nurses' concern for patients' infor- mation protection is growing. This may be influenced by the Personal Information Protection Law enacted in Japan in April 2005.

Conclusion

The study was conducted to compare perceptions on patients' information privacy between patients and nurses to discuss appropriate ways of future interdisciplinary communication.

This study revealed that both patients and nurses shared vir- tually the same views about patients' information privacy, but their level of awareness was the different. Therefore, it is important to ask patient themselves how they want healthcare professionals to share their privacy related information to protect their right to information privacy.

Table 1 - A factor analysis for patient responses

(n=239; KMO: α=0.950)

Q No.	Item	Factor Loadings: Factor 1	Factor 2	Factor 3	Factor 4	Communality
Factor 1: Treatment-Related Information (Cronbach's α=0.962)						
14	Laboratory Results	0.872				0.779
15	Medication	0.836				0.854
16	Medical History	0.768				0.829
17	Physical Disabilities	0.751				0.763
12	Progress of Treatment	0.675				0.825
11	Diagnosis	0.664				0.822
21	Toilet Habits	0.577				0.762
13	Infection Data	0.521				0.600
10	Worries during Hospitalization	0.511				0.664
Factor 2: Identification-Related Information (Cronbach's α=0.953)						
2	Name		0.988			0.834
3	Date of Birth		0.944			0.872
4	Occupation		0.753			0.788
1	Address/Telephone No.		0.710			0.711
6	Family Structure		0.686			0.826
5	Educational Background		0.604			0.740
Factor 3: Daily Life Behavior-Related Information (Cronbach's α=0.947)						
20	Sleeping Habits			0.786		0.898
19	Diet			0.760		0.831
18	Allergy			0.640		0.818
23	Alcohol or Smoking Habits			0.618		0.696
Factor 4: Personal Life-Related Information (Cronbach's α=0.894)						
26	Sexual Life				0.742	0.555
24	Personal Value				0.684	0.699
25	Leisure Activity				0.633	0.760
9	Financial Problem				0.590	0.723
8	History of Family Disease				0.463	0.649
	*Contribution Ratio	65.5	5.8	4.7	4.2	
	*Accumulated Contribution Ratio	65.5	71.2	75.9	80.2	

*Accumulated Contribution Ratio based on Initial Eigenvalues

Table 2 - A factor analysis for nurse responses

(n=909; KMO: α=0.961)

Q No.	Item	Factor Loadings: Factor 1	Factor 2	Factor 3	Factor 4	Communality
Factor 1: Treatment-Related Patients' Information Perceived by Nurses (Cronbach's α=0.947)						
14	Laboratory Results	0.875				0.772
16	Medical History	0.819				0.810
12	Progress of Treatment	0.809				0.774
15	Medication	0.804				0.809
11	Diagnosis	0.772				0.722
17	Physical Disabilities	0.711				0.714
13	Infection Data	0.690				0.574
10	Worries during Hospitalization	0.450				0.555
Factor 2: Identification-Related Patients' Information Perceived by Nurses (Cronbach's α=0.923)						
3	Date of Birth		0.924			0.811
2	Name		0.795			0.644
1	Address/Telephone No.		0.701			0.612
6	Family Structure		0.629			0.725
4	Occupation		0.624			0.574
Factor 3: Daily Life Behavior-Related Patients' Information Perceived by Nurses (Cronbach's α=0.900)						
25	Leisure Activity			0.806		0.716
23	Alcohol or Smoking Habits			0.784		0.730
20	Sleeping Habits			0.757		0.820
24	Personal Value			0.715		0.655
19	Diet			0.713		0.720
Factor 4: Personal Life-Related Patients' Information Perceived by Nurses (Cronbach's α=0.857)						
9	Financial Problem				0.762	0.696
7	Relationship with YourFamily				0.672	0.693
8	History of Family Disease				0.668	0.698
26	Sexual Life				0.614	0.416
22	Confidential Talk withYour Doctor and Nurse				0.484	0.439
	*Contribution Ratio	54.3	7.6	6.5	5.3	
	*Accumulated Contribution Ratio	54.3	61.9	68.4	73.7	

*Accumulated Contribution Ratio based on Initial Eigenvalues
(Extraction Method: Unweighted least squares-Promax Rotation)

Table 3 - The score differences between patients & nurses

	Item		N	Score Ave.	SD	p-value
1	Address/Telephone No.	NS	907	3.83	1.44	0.019 *
		PT	238	4.10	1.58	
2	Name	NS	909	4.71	1.35	0.166
		PT	239	4.56	1.52	
3	Date of Birth	NS	906	4.41	1.44	0.724
		PT	238	4.45	1.54	
4	Occupation	NS	906	3.93	1.46	0.000 **
		PT	238	4.45	1.55	
5	Educational Background	NS	904	3.36	1.46	0.000 **
		PT	239	4.19	1.63	
6	Family Structure	NS	909	3.78	1.38	0.000 **
		PT	239	4.14	1.58	
7	Relationship with Your Family	NS	909	3.28	1.37	0.000 **
		PT	239	3.92	1.63	
8	History of Family Disease	NS	907	3.09	1.33	0.000 **
		PT	239	3.77	1.65	
9	Financial Problem	NS	907	2.88	1.33	0.000 **
		PT	238	3.61	1.67	
10	Worries during Hospitalization	NS	908	3.40	1.28	0.000 **
		PT	238	3.96	1.52	
11	Diagnosis	NS	908	3.60	1.41	0.000 **
		PT	239	4.26	1.56	
12	Progress of Treatment	NS	909	3.67	1.37	0.000 **
		PT	238	4.27	1.51	
13	Infection Data	NS	903	2.87	1.41	0.000 **
		PT	231	3.71	1.66	
14	Laboratory Results	NS	909	3.31	1.36	0.000 **
		PT	239	3.96	1.57	
15	Medication	NS	908	3.84	1.37	0.000 **
		PT	237	4.30	1.51	
16	Medical History	NS	907	3.60	1.35	0.000 **
		PT	237	4.18	1.56	
17	Physical Disabilities	NS	907	3.83	1.44	0.000 **
		PT	237	4.22	1.54	
18	Allergy	NS	906	4.49	1.35	0.057
		PT	237	4.68	1.39	
19	Diet	NS	908	4.08	1.35	0.000 **
		PT	238	4.51	1.42	
20	Sleeping Habits	NS	909	4.17	1.33	0.000 **
		PT	239	4.63	1.37	
21	Toilet Habits	NS	908	3.34	1.37	0.000 **
		PT	238	4.11	1.52	
22	Confidential Talk withYour Doctor and Nurse	NS	909	2.61	1.21	0.000 **
		PT	238	3.68	1.63	
23	Alcohol or Smoking Habits	NS	906	4.13	1.37	0.000 **
		PT	237	4.68	1.42	
24	Personal Value	NS	907	3.58	1.33	0.000 **
		PT	238	4.01	1.59	
25	Leisure Activity	NS	908	3.81	1.35	0.000 **
		PT	239	4.23	1.51	
26	Sexual Life	NS	898	2.12	1.25	0.000 **
		PT	235	3.20	1.75	
	Total Score	NS	909	3.61	1.00	0.000 **
		PT	239	4.15	1.25	

*p<0.05; **p<0.01

References

[1] Ota K., Kobayashi A., Yahiro M. & Mayumi N. Japanese Nurses' of Perception of Patients' privacy and the Sharing of Patients' Information among Nurses. Japan Journal of Medical Informatics, 22(1): 119-126, 2002.