

Development of the Outpatients Satisfaction Survey for Korean Military Hospital

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요 약

This study aimed to verify the reliability and validity by revising and supplementing the previously developed outpatient patient satisfaction tool of the Korean military hospital to fit the current trend. The content validity index(CVI) were .78~1.0 content validity index for items(I-CVI) and .96 content validity index for scales(S-CVI) each. The Korean military satisfaction tool to military hospitals finally consisted of 44 items for outpatients. Study subjects of the construct validity test were 157 outpatients who admitted at Armed Forces Hospitals from October 25th, 2015 through February the second, 2016. The data were examined by factor analysis with SPSS. The items of the satisfaction tools for outpatients were categorized 5 factors with eigen value greater than 1.0. The internal consistency reliability with five factors was ranged from .78 to .95 for outpatients.

1. Introduction

There are considerable differences between the Republic of Korea (ROK) military hospital and the medical system in the private sector (Ji YG et al. 2010). The goal of the private hospital is to generate revenue, but the military hospital is to preserve combat power. The Korean military hospital has been using the same patient satisfaction survey tool that was developed back in 2000. Because this survey tool did not reflect the military's generational change and changing manpower demand, it is difficult to accurately measure the satisfaction of patients using military hospitals. Therefore, this study intends to develop an outpatient satisfaction measurement to provide service improvement in military hospitals and to provide objectivity and reliability of tools.

2. Purpose of the Study

The purpose of this study is to develop a tool that measures outpatient satisfaction regarding military hospitals that correspond

to the characteristics of military health institutions, and to evaluate the validity and reliability of the tool.

3. Study Method

3.1 Research Design

This study is a methodological study that developed a tool to measure the satisfaction of outpatient the ROK military hospital and verified the validity and reliability of the tool.

3.2 Preliminary Tool Development Process

The conceptual framework of ROK military hospital outpatient satisfaction was developed as follows based on a literature review and the concept of the tool [Figure 1]. A total of 45 preliminary questions, consisting of 8 sub-domains, were created through the literature survey, review of existing tool, and interviews. The general characteristics of subjects to the survey are as follows. [Table 1]. The item-level content validity index (I-CVI) ranged from 0.78 to 1.0 and the the scale-level content validity index (S-CVI) was 0.96 in the outpatient survey. So the preliminary

survey is explained to include all the questions.

And the preliminary survey was reviewed by experts and used a four-point scale to avoid a neutral response from the subject. The patient's experience measured of two-point scale, ten-point scale and an explanation of the choice of answers as needed, resulting in a total of 45 questions in the final draft of the survey.

who were excluded those who visited the mental health department or gynecology department.

The data were analyzed using SPSS 18.0 software and the data were analyzed using descriptive statistics, CVI, correlation coefficient, factor analysis.

4. Results

After using a primary component analysis and varimax rotation in the exploratory factor analysis that verifies the validity of 45 questions in the preliminary tool, there were five factors with an eigenvalue of 1 or higher and all 45 questions in the preliminary tool were significant with a factor load of 0.40 or higher. Although the factor load is less than 0.40, the area of kindness in five departments, including hospital medicament, were included because there are place where many outpatients visit. And in the final questionnaire, it was combined into one question about the kindness of medical staffs and modified to the form of multiple selection of unkind departments [Table 2].

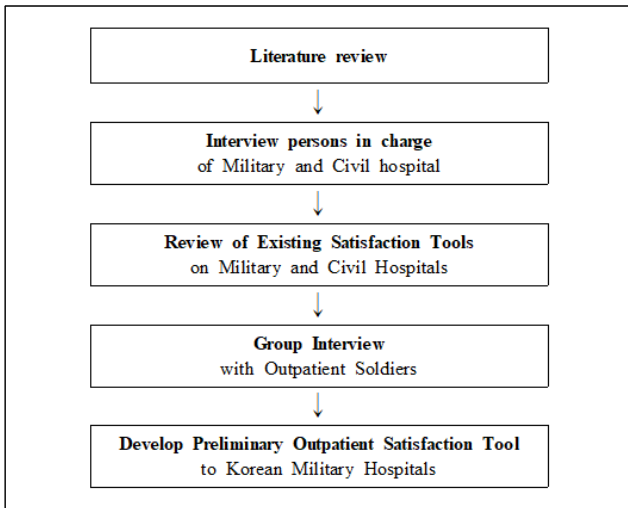
The correlation coefficient for each of the revised item-5 domains in order to assess the correlation of each question and the reliability of the 5 factors regarding 34 questions on satisfaction with military hospital service. The internal consistency of the health care service satisfaction measurement tool was high for each factor, hence all preliminary questions were used [Table 3].

5. Conclusion

The Purpose of this study was to improve satisfaction with the ROK military hospital. In the study, the outpatient satisfaction tool for military hospitals was finally composed of 44 items. According to the results of this study, the development of satisfaction tools for outpatients in military hospitals provided reliability and validity when measuring the satisfaction of military patients visiting the ROK military hospital. This satisfaction surveys developed to measure the experiences of outpatients in the military are believed to ultimately contribute to the quality of medical services for outpatients in the ROK military.

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[Fig. 1] Development process of preliminary outpatient satisfaction tool to Korean military hospitals

[Table 1] General Characteristics (N=157)

Characteristics	Categories	n(%)
Ranks	Officers	6(3.8)
	Non Officer	11(7.0)
	Enlisted man	134(85.4)
	Non response	6(3.8)
Gender	Male	147(93.7)
	Female	1(0.6)
Medical Subjects	Non response	9(5.7)
	orthopedics	31(19.4)
	neurosurgery	16(10.0)
	general surgery	6(3.8)
	plastic surgery	2(1.2)
	thoracic surgery	1(0.6)
	the department of neurology	6(3.8)
	the department of ophthalmology	21(13.1)
	the department of internal medicine	3(3.8)
	dental clinic	1(0.6)
	the department of urology	15(9.3)
	the department of otolaryngology	7(4.2)
	the department of dermatology	2(1.2)
	Multiple answers	41(26.0)
Treatment	Non response	5(3.0)
	First	61(38.9)
	Re-crae	92(58.6)
	Non response	4(2.5)

3.3 Data Collection and Analysis

Data was collected from October 25, 2015 to February 2, 2016 in the Armed Forces Capital Hospital by 2 researchers and 4 assistant researchers. The total for subjects was 200 outpatients

[Table 2] The Result of Orthogonal Varimax Rotation on Outpatient Satisfaction Questionnaire Items

Items	Factors				
	Facilities and Environment	Food	Conveniences of hospital usage	Health Services	privacy
Cleanliness in the Hospital	.210	.790	.199	.120	.047
Room Temperature	.348	.731	-.014	.214	.163
Comfort in thenWaiting area	.209	.779	.229	.029	-.079
Hygiene of Toilet	.103	.829	.068	.070	.219
Convenience of using Toilets	.088	.856	.090	.133	.256
Level of hospital facilities	.207	.414	.093	.574	.134
Taste of Food	.102	.113	.138	.908	.197
Hygiene of Eating Facility	.115	.127	.211	.902	.131
Hospital Facility Guidance	.394	.346	.240	.059	.583
Simplification of Appointment Process	.266	.161	.089	.211	.773
Explanation of Why Time is Delayed	.579	.090	.110	.138	.448
Kindness of Military Doctors	.747	.134	.289	.091	.201
Kindness of Laboratory	.154	.102	.730	.203	.027
Kindness of Radiology	.301	.104	.555	.327	.204
Kindness of a Hospital Administration Department	.469	.336	.165	.124	.418
Kindness of a Hospital Medicament	.281	.397	.360	.086	-.035
Kindness of Food Facility	.119	.033	.493	.702	-.139
Kindness of a Hospital Outpatient Department	.367	.099	.619	.196	-.255
Satisfaction with Time Spent on Treatment	.760	.354	.127	.052	.241
Explanation of Medical Result and Question	.883	.178	.086	.104	.073
Explanation of the Examination and Screening	.790	.213	.242	.201	-.033
Information on the follow up	.689	.178	.246	.083	.228
Considerations for body Exposure	.060	.160	.828	.094	.198
Considerations for the Confidentiality	.230	.179	.746	.107	.301

[Table 3] The Internal Consistency Reliability on Outpatient Satisfaction Questionnaire Items

Factors		Items Number	Cronbach's α
Facilities and Environment		6	0.908
Health Services	Kindness	7	0.952
	Explanation	4	
	Time Spent on Treatment	1	
Conveniences of Hospital Usage		2	0.782
Protection of Privacy		2	0.921
Food		2	0.895

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