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ORİJİNAL ARAŞTIRMA ORIGINAL RESEARCH

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The Determination of the Efficiency of Visual Communication Cards Developed for the Purpose of Communication with the Intubated Patients in the Intensive Care Unit of Cardiovascular Surgery

Kalp ve Damar Cerrahi Yoğun Bakım Ünitesinde Entübe Hastalarla İletişim Amacıyla Geliştirilen Resimli İletişim Kartlarının Etkinliğinin Belirlenmesi

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This study was presented as an oral presentation at the 3rd National Internal and Surgical Intensive Care Nursing Congress on 5-7 April, 2018, Gaziantep, Turkey.
This study was produced from the master's thesis prepared by Tuğba Albayram under the supervision of Ayla Yava at HKU Health Sciences Institute in 2016.

ABSTRACT Objective: This descriptive study has been conducted in order to determine the efficiency of coloured communication cards in improving satisfaction of communication for intubated patients. **Material and Methods:** The sample of the study was consisted of 47 volunteer patients who had undergone open cardiac surgery and intubated. The data were obtained from the patient thought-suggestion form used to determine the subjects of coloured communication cards prepared by making use of actual literature, questionnaire form determining patients' experiences about communication during intubation and communication process determination form. Besides the descriptive statistics, Pearson chi-square and Fisher-Freeman-Halton test were used regarding appropriateness. **Results:** The average age of patients was 56±14.6; mostly men, married, primary school graduated. The 82.98% of patients stated that coloured communication cards helped them to communicate with health professionals. It was determined that patients with a past history of intubation and intensive care unit faced more difficulties in communication ($p<0.05$). Of patients, 87.2% attended the study suggested that health care professionals use coloured communication cards to communicated with intubated patients.**Conclusion:** It is concluded that using coloured communication cards to communicate with intubated patients is an efficient method.

Keywords: Communication; nonverbal communication; intensive care units; cardiac surgical procedures

ÖZET Amaç: Entübe hastalarla iletişim sürecinde kullanılmak üzere geliştirilen resimli iletişim kartlarının hastalar ile iletişimi ve iletişime yönelik memnuniyetlerini arttırmada etkinliğinin değerlendirilmesi amacıyla tanımlayıcı olarak yapılmıştır. **Gereç ve Yöntemler:** Araştırmanın örneklemini erişkin kalp ve damar cerrahisi yoğun bakım ünitesinde yatan açık kalp cerrahisi gerçekleştirilmiş ve entübe edilmiş olan 47 hasta oluşturmuştur. Çalışmada veriler, litaratürden yararlanılarak hazırlanan resimli iletişim kartlarında yer alacak konuları belirleyici hasta görüş-öneri formu, entübe olduğu süre içinde hastanın iletişimle ilgili deneyimlerini belirlemeye yönelik soru formu ve iletişim sürecini değerlendirme formu kullanılarak elde edilmiştir. Verilerin analizinde tanımlayıcı istatistiklerin yanı sıra, Pearson ki-kare ve Fisher-Freeman-Halton testleri yapılmıştır. **Bulgular:** Hastaların yaş ortalamaları 56±14,6; çoğunluğu erkek, evli, ilköğretim mezunudur. Hastaların %82,98'i sağlık personelinin entübe hastalarla iletişiminde resimli iletişim kartlarının yardımcı olduğunu belirtmişlerdir. Çalışmada yer alan daha önce entübasyon ve yoğun bakım deneyimi olan hastaların sağlık personeli ile iletişimde daha fazla güçlük yaşadıkları belirlenmiştir ($p<0,05$). Çalışma kapsamında bulunan hastaların %87,2'si sağlık personelinin resimli iletişim kartlarını entübe hastaların iletişiminde kullanmasını önermişlerdir. **Sonuç:** Sonuç olarak entübe hastalarla iletişimde resimli iletişim kartlarının etkin bir yöntem olduğu belirlenmiştir.

Anahtar Kelimeler: İletişim; sözsüz iletişim; yoğun bakım üniteleri; kardiyak cerrahi işlemler

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Communication is a universal experience which impacts on all aspects of life. Communication has various definitions but in its simplest form can be described as a means of expressing one's emotions and ideas, requirements for oneself, and of understanding others.[1,2] The communication process is influenced by environmental factors and components such as individuals' perceptions, values, emotions, opinions, and cultural and physiological characteristics.[1-3] Among the stressful factors experienced by patients in the intensive care unit, the most common one was observed to be related to communication problems.[4,5] Patients in the intensive care unit, especially those who have mechanical ventilation, cannot talk about their physical needs during their dependency; therefore, the ventilators prevent patients sharing their opinions, emotions and requirements.[6,7] It has been stated that the most stressful and disturbing experience for ventilator-dependent patients is their inability to talk, to express their ideas, feelings and wishes; and this situation appears to lead to anxiety, fear, pain and insecurity on the part of the patients.[4,8] Body language, facial expressions, eye contact, yes-no questions, writing, various shapes and signs are most frequently used for communication with a patient in a mechanical ventilator.[9,10] In a study conducted with intensive care nurses, it was revealed that among the various non-verbal communication tools nurses used facial expressions 87.2% of the time, touch/contact 78% of the time, voice tone 74.4% and eye connections 67.7% of the time.[11] Patak et al. showed that a communication board developed to reduce communication problems experienced by patients during the intubation process following extubation proven to be helpful in 69% of the patients.[12]

One of the tools used to accelerate and facilitate communication with intubated patients is visual communication cards.[13] These cards are mostly colored pictures based on topics that affect intubated patients the most and that express the patient's need and emotions. It has been reported that colored communication cards facilitate communication in appropriate patients and are effective in reducing communication-related distress in patients.[12]

BACKGROUND

Obstacles and difficulties in communication can develop mainly due to the individuals themselves, the environment, the individual receiving the message as well as other factors.[1,2,12] Intubation, which is a stressful experience, is the most common basis for communication difficulties in intensive care units due to the clinical status of the patients.[12,13] Rotondi et al. discussed the experiences of intubated patients and the majority of patients (82.7%) remembered the intubation process as a process in which it was impossible to talk, and 80% of these patients reported this process as having been extremely disturbing.[14]

In the study by Yava and Koyuncu dealing with the communication experiences of intubated patients, the effect on healing arising from communication difficulties during the intubation process was examined, and it was found that correct and effective communication was productive in decreasing the anxiety of patients and shortening the intensive care process.[15] However, although the importance of patient-nurse communication in intensive care units is known, the applications related to this are often inadequate and the communication needs of the patients are ignored.[16]

The intubation phenomenon expresses the very delicate balance between death and life for the patients. This situation brings intense psychological difficulties for the patient and their family. Patients feel that their lives depend on a device and on health personnel whom they do not recognize and with whom they have difficulty communicating, while at the same time being aware of the possibility of death as well as the desire to extend their lives. Intubated patients need to communicate with the nurses caring for them. Therefore, it is vital to communicate with intubated patients.[17]

MATERIAL AND METHODS

THE AIM OF THE STUDY

The aim of this study was to evaluate the effectiveness of visual communication cards, developed for use in the communication process with intubated pa-

tients, for improving communication and communication satisfaction.

TYPE, TIME AND PLACE OF STUDY

This descriptive study was conducted at cardiovascular surgery intensive care unit in a university research and training hospital.

ETHICAL ASPECTS OF THE STUDY

This study is in accordance with the Helsinki declaration principles. It was approved by the non-existent clinical research ethics committee of Hasan Kalyoncu University dated 09 November 2015 and numbered 2015/6.

THE POPULATION AND SAMPLE OF THE STUDY

The population of the study consisted of 120 patients who underwent open heart surgery in the cardiovascular surgery clinic. The sample consisted of 47 patients who met the sampling criteria below and who had agreed to participate in the study.

- 18 years and older,
- Undergone open heart surgery,
- No diagnosis of psychiatric illness and therefore undertaking no drug treatment,
- Patients who had volunteered to participate were included in the study.

DATA COLLECTION TOOLS

Patient Opinion-Suggestion Form for Determining the Topics to be Included on the Communication Cards

Before collection of the research data required to develop the cards, the questions on the form were addressed to the patient group and thereafter the pictures to be used in the communication cards were determined.

Questionnaire for Determining the Patient's Experiences in Communication During Intubation

In this questionnaire used for data collection; sociodemographic variables, questions about the diagnosis and treatment process, and questions taken from the literature[6,12,18] for the evaluation of communication during the intubation process were included. This form consisted of 29 questions.

Communication Process Evaluation Form

This is an inspection form completed by the nurse taking care of the patient and follows the patient during the intubation period.

DEVELOPMENT PROCESS FOR THE COMMUNICATION CARDS

In order to determine the topics on which the in-patients, staying in a university research and application hospital cardiovascular surgery intensive care unit, wanted to be informed during their intubation process, the *"Patient Opinion-Suggestion Form for Determining the Topics to be Included on the Communication Cards"* were provided to 34 patients who were in the first postoperative day after cardiovascular surgery and who were conscious and cooperative, and who were able to respond to the questions on the form. The data for the 34 patients, whose opinions and suggestions were obtained during development of the communication cards, were not included in the study.

During the process of creating the visual communication cards, a consultancy was done with faculties of fine arts of two university, and features such as card structure, size, colors, dimensions and placement of the pictures were determined. The drawing phase was carried out by a teacher who had graduated from an art department and a person and students who had previous experience with drawing. Each card is A5 in size and can be used on only one side. On the front there are headings relating to the picture and the communication card.

The size of the images on the front was prepared in A5 size so that they could be seen clearly from a distance of at least 30 cm (Figure 1).

After the visual communication cards had been created, ten patients were pre-tested in terms of their intelligibility and visibility. All of the patients who underwent pre-testing indicated that they understood the cards and that the visual distance was adequate. The data from the ten pre-tested patients were not included in the study.

THE STAGES OF THE RESEARCH

The research was conducted in two stages. In the first stage, the communication cards that were going to be

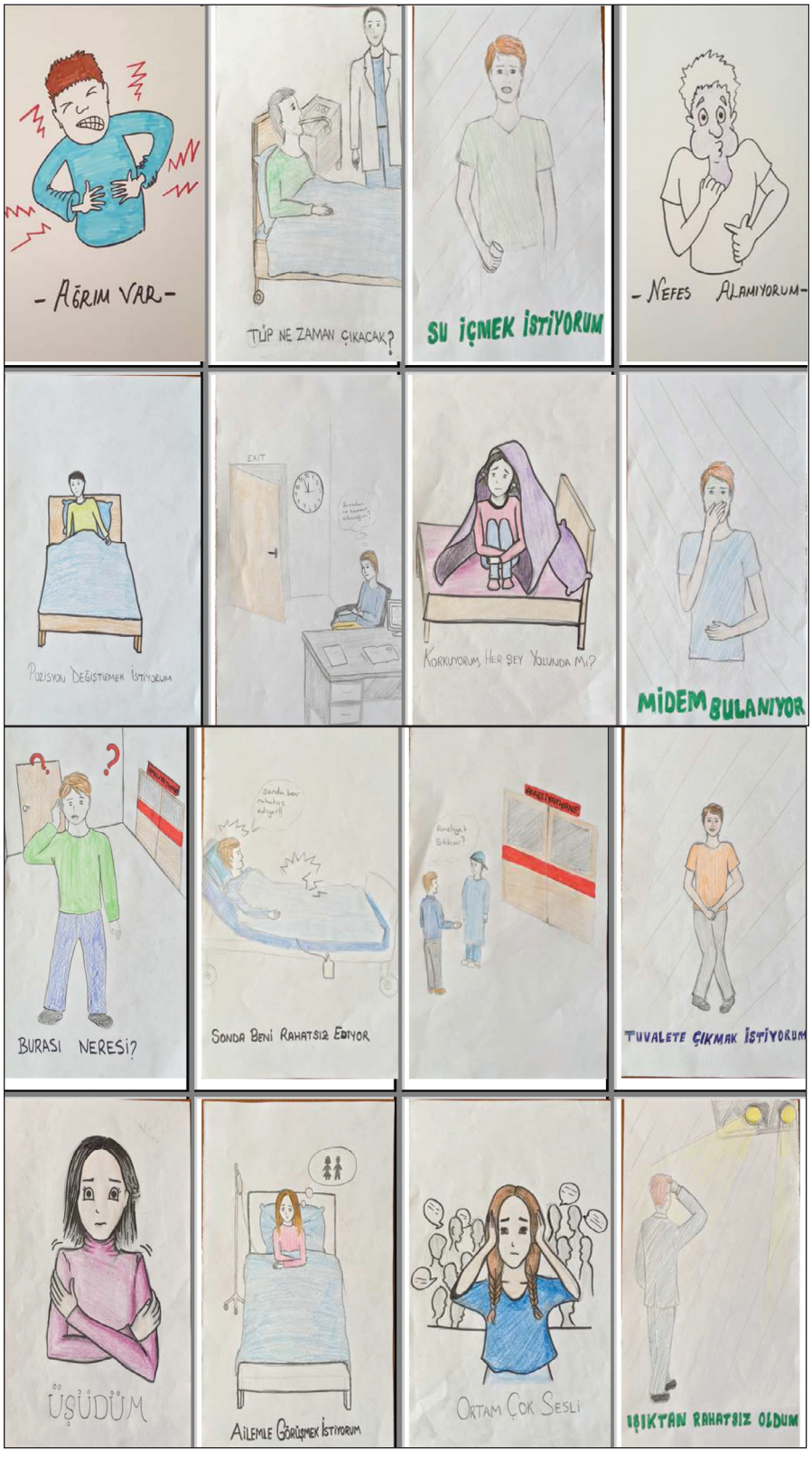

FIGURE 1: Visual communication cards.

used in the research were prepared. In the second stage, the questionnaire to determine the communication-related experiences of the patient during the intubation period and the communication process assessment form relating to the communication cards were administered to the patients. Descriptions concerning the first and second stages of the research are provided below.

Stage One: Preliminary preparations were carried out with at least 34 patients in order to create the communication cards after determining the issues that the patients, who had been admitted to the cardiovascular surgery intensive care unit, wanted to share while they were intubated. These patients consisted of the volunteer participants who met the sampling criteria. These patients were interviewed by the researcher during the daytime when they were available on the first day after extubation and 16 communication subjects were determined for the communication cards after the patients had been administered the patient opinion-suggestion form to determine the subjects that will be included on the visual communication cards (Table 1).

A separate card was prepared for each communication subject. Whether the prepared cards were comprehensible and suitable for the patients' communication needs were assessed by conducting a preliminary test with 10 different patients. In addition, the communication cards were also evaluated by two clinicians specializing in this field and the cards were then finalized (Figure 2).

TABLE 1: Subjects recommended to be included in the visual communication cards by the patients who participated in the preliminary test (n=34).

Subjects	Number	%
1. I am in pain.	32	94.1
2. When will you remove the tube in my mouth?	31	91.2
3. I want to drink water.	30	88.2
4. Is the surgery over?	18	52.9
5. I want to see my family.	14	41.2
6. I can't breathe.	13	38.2
7. I want to go to the restroom.	13	38.2
8. I want to change my position.	12	35.3
9. When am I getting out?	11	32.3
10. I am feeling nauseous.	8	23.5
11. The catheter is bothering me.	7	20.6
12. Where am I?	5	14.7
13. I am cold. (Requesting a blanket or to wear clothes)	3	8.8
14. I am scared, is everything okay?	2	5.8
15. This place is too noisy	1	2.9
16. I am disturbed by the light.	1	2.9

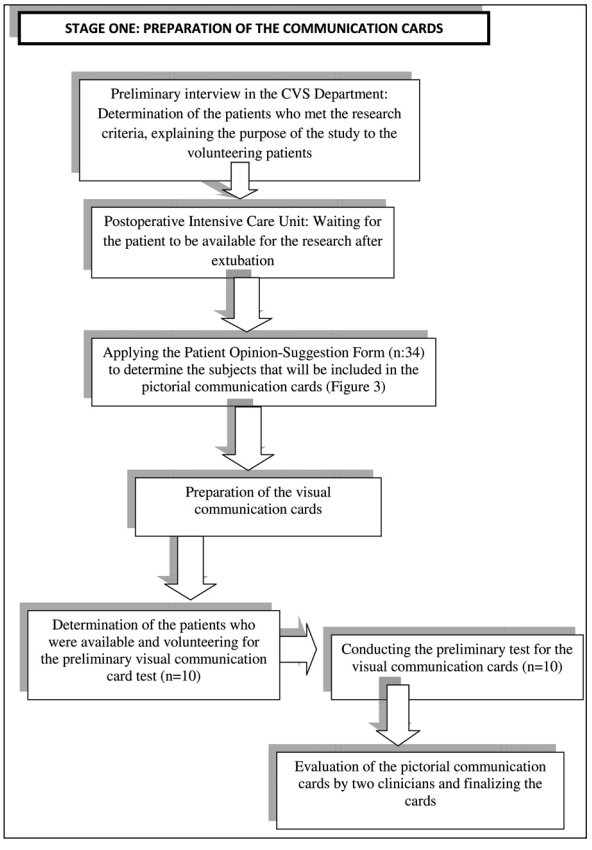

FIGURE 2: Flowchart of the first stage of the research.

Stage Two: Fourty seven patients who met the sampling criteria were included in the research. Since the researcher could not be present during every shift in the cardiovascular surgery intensive care unit, all nurses (being a total of ten nurses) working in the same unit were asked to assist the researcher with data collection. After at least one nurse working on each shift had agreed to participate in the data collection stage of the study, these ten nurses were provided with detailed information regarding the purpose and application of the research, the pictorial communication cards, how they were going to fill out the "Communication Process Assessment Form" and what they should evaluate. In addition, the form was filled out to provide an example of how to complete the Communication Process Assessment Form.

As part of routine practice, the patients are admitted to the cardiovascular surgery clinic one to two days prior to surgery. At this stage, the researcher identified the patients who met the research criteria and invited these patients to participate in the research after providing information on the purpose of the research in the postoperative period after the patients had adapted to the clinic. Patients who volunteered to participate were provided with information about the research process and the data collection forms.

Patient files were reviewed in order to determine their descriptive characteristics and the missing information in these files was sought by the researcher from the patients after they were extubated and the data obtained was recorded on the **questionnaire to determine the communication-related experiences of the patient during the intubation period.**

The patients were monitored while they were intubated and the communication process and duration, as well as the methods used for communication, were recorded on the **communication process assessment form** by the researcher or the nurse working on that shift (Figure 3).

The visual communication cards that were prepared for this research were used by the nurses for communication with patients while they were intubated. The visual communication cards were held at a distance of 30 cm from the patients, the environment was illuminated with a fluorescent ceiling light and necessary precautions were taken to reduce noise other than the sound of the monitors.

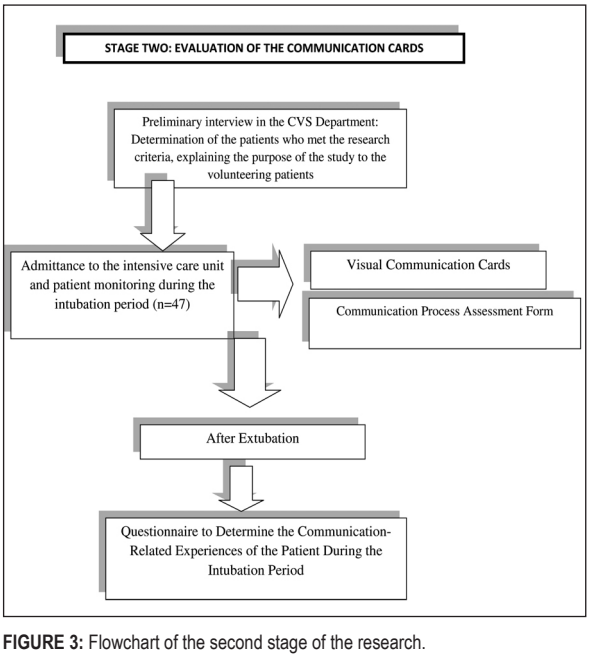

FIGURE 3: Flowchart of the second stage of the research.

EVALUATION OF THE DATA

The differences between some of the characteristics in terms of socio-demographics, depending on the nature of the characteristic, were observed with the more appropriate of the Pearson Chi-square or Fisher-Freeman-Halton tests. If the P value was <0.05 in the statistical evaluation, the result was considered to be statistically significant. The PASW (ver.18) program was used in the calculations. The SRQR checklist was used.[19]

LIMITATIONS

Although the intention was to include patients who had no previous intubation experience, it was decided to include patients who had intubation experience due to time limitations. Patients with intubation experience may have compared the communication cards with other methods as they had already used other methods of communication. Patients without intubation experience had no such opportunity. This situation could be evaluated in terms of reflecting the different perspectives of the experienced and inexperienced patients in the evaluation of the communication cards. In addition to the investigator, other nurses continued to monitor the patient when the intubation period was prolonged or if the primary nurse of the patient changed due to shift changes. Another limitation of the study was the limited number of sampling patients for the evaluation of the communication cards. The results of this study cannot therefore be generalized and limited to the sample group.

RESULTS

FINDINGS ABOUT THE DESCRIPTIVE CHARACTERISTICS OF PATIENTS

In this section, the descriptive characteristics of the patients, surgical, intubation and intensive care experiences, the conditions affecting the communication process and the findings of the communication experiences are presented.

According to the descriptive characteristics of the 47 patients included in the study, the mean age was approximately 56 years and the ratio of patients between the ages of 51 and 64 was 40.4%. The percentage of male patients was 66% and it could be seen that this significantly exceeded the number of female patients. Approximately half of the patients (48.9%) were primary school graduates, while the proportion of illiterate patients was 40.4%. 95.7% of the patients were married. According to the occupational status of the patients, 34% were housewives and 31.9% were retired (Table 2). Table 3 presents the distribution of the characteristics of the patients with respect to surgical intervention and the intubation process. The distribution of the patients undergoing coronary artery bypass grafts and valve surgery was 40.4%. 87.2% of the patients had not stayed in an intensive care unit and had not previously been intubated. The mean duration of the stay in the intensive care unit of the patients was 2.2. ± 1.37 days (minimum = 1, maximum = 6) and the total duration of intubation was 6.9. ± 4.62 hours (minimum = 4, max = 26).

TABLE 2: Distribution of introductory characteristics of the patients (n=47).

Characteristics	Number	%
Age (year)		
Mean± Standart Deviation :56.±14.60, Median: 60, Min-Max: 19-80 years old		
19-50	14	29.8
51-64	19	40.4
65-80	14	29.8
Gender		
Female	16	34.0
Male	31	66.0
Condition		
Single	2	4.3
Married	45	95.7
Education Status		
Can't read or write	19	40.4
Primary	23	48.9
High school and above	5	10.6
Occupation status		
Housewife	16	34.0
Retired	15	31.9
Officer / worker	8	17.0
Artisan / Farmer	6	12.8
Student	2	4.3

TABLE 3: Distribution of patient characteristics of surgical intervention, intensive care, intubation period and experience (n=47).

Characteristics	Number	%
Surgical Intervention		
Coronary artery bypass graft	19	40.4
Valve surgery	19	40.4
Other[1]	9	19.1
Previous Intensive Care Experience		
Yes	6	12.8
No	41	87.2
Previous Intubation Experience		
Yes	6	12.8
No	41	87.2
Intensive Care Duration (Day) Mean± Standard Deviation=2.2.±1.37, Min-Max= 1- 6 day(s)		
Intubation Duration (hour) Mean± Standard Deviation=6.9.±4.62, Min-Max= 4- 26 hours		

TABLE 4: The distribution of patients' experiencing a difficult condition for communication and the characteristics making communication difficult (n=47).

Characteristics	Number	%
Has there been a condition to make communication difficult?		
Yes	14	29.8
No	33	70.2
Conditions making communication difficult		
Pain	11	23.4
Anxiety	2	4.3
Nausea	1	2.1

FINDINGS OF PATIENTS' EXPERIENCES DURING INTUBATION

In this section, the patients' living circumstances that make it difficult to communicate during the intubation period, the subjects to be communicated during the intubation period and the findings of the methods used for communication are provided.

As shown in Table 3, it was determined that 74.5% of the patients did not experience any problems that made communication difficult, such as pain, nausea, vomiting or anxiety. Among those who suffered from a condition that would make communica-

TABLE 5: The distribution of the topics the patients conveyed to the nurse with the communication cards in intubation period (n=47).

Conveyed Topics	Number	%
I have pain	42	89.4
When will the tube be released?	28	59.6
I want to drink water	23	48.9
I can't breathe	16	34.0
I want to change position	14	29.8

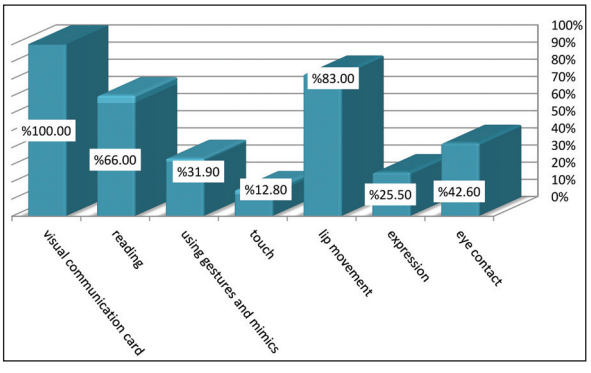

FIGURE 4: Distribution of communication methods in intubating patients.

tion difficult, it was observed that 11 patients could not communicate due to pain (23.4%).

As shown in Table 4, approximately one third (29.8%) of the patients did not experience any problem that made communication difficult when they were intubated.

Table 5 shows the distribution of the topics they conveyed to the nurse during the intubation period by using the visual communication cards developed for this study. The first five topics that patients most frequently conveyed to the nurse were determined to be "I have pain" (89.4%), "When will the tube be removed?" (59.6%), "I want to drink water (48.9%)", "I can't breathe (34.0%)", "I want to change position" (29.8%).

Figure 4 shows the distribution of the methods used by the patients during the period of intubation. All of the patients (n= 47) used their communication cards to communicate problems. In addition to the visual communication cards, the methods used by the patients to communicate were observed and recorded. Accordingly, 83% (n= 39) of the patients used lip movement, 66% (n= 31) used reading, 42.6% (n= 20) used eye contact, 31.9% (n= 15) used gestures and facial expressions and 25.5% (n= 12) communicated with health personnel using facial expression.

EVIDENCE OF PATIENTS' EXPERIENCES WITH VISUAL COMMUNICATION CARDS USED IN COMMUNICATION

In this section, the findings of the suitability of the picture communication cards used for communication with patients who had undergone the intubation procedure and the difficulties with communication with the patients are given.

In Table 6, the appropriateness of the methods used by the health personnel for communication when the patients were intubated are examined. 70.2% of the patients stated that they considered the methods used by the health personnel during the period that they were intubated to be appropriate.

Table 7 details the patients' difficulties in the communication process with the health personnel during the intubation period. 53.2% of the patients stated that they did not have difficulty in communicating with the health personnel during their intubation period.

TABLE 6: The appropriateness of the methods for the patients used by the health personnel for communication when they were intubated.

The Appropriateness of the Methods	Number	%
Appropriate	33	70.2
Partly-Appropriate	11	23.4
Not Appropriate	3	6.4

TABLE 7: Patients' difficulty in communication with health personnel in the period of intubation (n=47).

Difficult Situation	Number	%
No	25	53.2
Partly	11	23.4
Yes	11	23.4

TABLE 8: The comparison of patients communication difficulties according to the previous intensive care and intubation experiences (n=47).

	Communication Difficulties		
Introductory	Yes	No	
Characteristics	Number (%)	Number (%)	Test, p
Intensive Care Experience			
Yes	4 (66.7)	2 (33.3)	4.059,
No	10 (24.4)	31 (75.6)	0.044
Intubation Experience			
Yes	4 (66.7)	2 (33.3)	4.059,
No	10 (24.4)	31 (75.6)	0.044
Total Intubation Hour			
4-7 hours	10 (71.4)	26 (78.8)	4.473,
7.5-10 hours	1 (7.1)	6 (18.2)	0.034
10 or more hours	3 (21.4)	1 (3.0)	

THE FINDINGS OF THE COMPARISON OF THE CHARACTERISTICS OF THE PATIENTS FOR CERTAIN INTRODUCTORY AND SURGICAL INTERVENTIONS AND THE OPINIONS ON THE COMMUNICATION CARDS

Of the patients included in the study, 66.7%, who had previously experienced intensive care and intubation, stated that they had difficulty in communicating with the health personnel during their intubation period. The difference between the rates of difficulties in communication with patients, with and without prior intubation experience, was statistically significant ($p < 0.05$) (Table 8). In addition, the patients' intubation periods and difficulties in communicating with health personnel were compared and the difference was found to be statistically significant (Test = 4.473; p: 0.034).

In Table 9, the appropriateness of certain characteristics of the visual communication cards according to the patients is given. Of the patients, 53.2% found the color of the figures, 51.1% of the figures' clarity and size, and 48.9% of the number of figures to be suitable.

Of the patients, 87.2% (n=41) suggested that the visual communication cards should be used to facilitate communication with patients during the intubation process (Table 10).

DISCUSSION

Discussion of the findings of this study conducted to determine the effectiveness of visual communication cards developed for communication with intubated patients is given under the following headings:

DISCUSSION OF THE FINDINGS RELATING TO THE DESCRIPTIVE CHARACTERISTICS OF PATIENTS

The patient's condition and ability to communicate should be considered in the selection of the methods to be used to enable and maintain communication with the intubated patients. The communication techniques are determined taking into consideration the personal characteristics of the patients such as cultural patterns, perceptive ability, language, age, education level and communication skills.[20,21]

It was determined that the age of the patients in the study ranged from 18 to 80 years, and the mean age was 56±14.60. Age is a relevant factor in patient education, and the fact that the age range and the mean age mostly consisted of a group of middle aged adults required the education to be organized in a way that addressed all age groups.

TABLE 9: The appropriateness of some characteristics of the visual communication cards at the patients' intubation period (n=47).

Characteristics of Visual	Appropriate		Partly Appropriate		Not Appropriate	
Communication Cards	Number	%	Number	%	Number	%
Size of Card	26	55.3	12	25.5	9	19.1
Number of Shapes	23	48.9	21	44.7	3	6.4
Clarity of Shapes	24	51.1	17	36.2	6	12.8
Size of Shapes	24	51.1	14	29.8	9	19.1
Colours of Shapes	25	53.2	19	40.2	3	6.4

TABLE 10: The distribution of the patients' suggestion the communication cards to other patients (n=47).

Suggestion	Number	%
Yes	41	87.2
No	6	12.8

Of the participants, 40.4% consisted of patients who had undergone bypass and valve operations at the same rate. It was determined that the patients had stayed a minimum of one and a maximum of six days in the intensive care unit, and that the mean duration of their stay was 2.2±1.37 days. It was determined that the total duration of intubation was a minimum of four and a maximum of 26 hours, and that the mean was 6.9±4.62 hours. It is considered that these durations were sufficient to determine the effectiveness of the visual communication cards for the intubated patients.

DISCUSSION OF THE FINDINGS OF THE PATIENTS' EXPERIENCES DURING INTUBATION

In the study by Hweidi in which he sought patient's views on the stressors in the intensive care units, the presence of a tube in the mouth or nose, pain, machines, alarms and not being able to sleep, thirst and loss of their autonomy were identified as the first five stress factors as expressed by patients.[22] For the intensive care unit patients, intubation, ventilation or tracheostomy are among the most important procedures that negatively affect verbal communication between patients and nurses.[16] Intubation ranks first among the most important intensive care stressors for patients.[20,23] In a study of 43 patients who underwent cardiac surgery, the patients mostly complained of physical stressors and they reported that the most upsetting experience was the presence of a tube in their mouth or nose and the associated pain.[24] In this study, 23.4% of the patients had difficulty in communicating with the health personnel due to pain in the period during which they were intubated (Table 4).

In this study, the status of the topics included on the visual communication cards was one of the most important research questions as far as meeting the needs of the patients. In the period during which the patients included in the study were intubated, they raised topics such as "I have pain" (89.4%), "When will the tube be removed?" (59.6%), "I want to drink water (48.9%)", "I can't breathe (34.0%)", "I want to change position" (29.8%). It was determined that the topics that they wanted included on the communication cards for the patients were similar to the topics they conveyed to the nurse during the intubation period (Table 5).

During the fourth and fifth, in order of importance of the issues that patients want to have on their visual communication cards, patients requested the following: 'Is the surgery over?''(52.9%) and ''I want to see my family ''(41.2%) while 34% of the subjects communicated by the patient to the nurse during their intubation were ''I can't breathe'' and ''I want to change my position (29.8%)." The differentiation between the degree of importance for patients regarding these subjects during and after intubation may have been due to the picture on the picture contact cards reminding them of their needs in the present situation.[25]

In this study, intubated patients also used other communication methods in addition to the visual communication cards. In particular, this suggests that patients with impaired verbal communication will try to use a variety of methods to express their needs. In a similar study, which examined the patients' preferred methods of communication with medical staff, it was determined that 54% of patients wanted to use body language and touch, 32% wanted to use pen and paper, and 23% wanted to use yes/no questions. 36% of patients wanted different methods to be used together.[6] Fried-Oaken et al. compared different methods of communication and examined the preferences of patients to ensure communication with patients undergoing mechanical ventilation in intensive care. In their study, they determined the preference effects of most alphabets and magic writing boards, as well as electronic imaging tools.[26] However, no illustrated communication materials were used in this study.

DISCUSSION OF THE FINDINGS OF THE PATIENTS' EXPERIENCES WITH THE PICTURE COMMUNICATION CARDS USED FOR COMMUNICATION

Visual communication cards have an impact on meeting the needs of the patient more readily and on increasing the speed and effectiveness of com-

munication between nurse and patient.[24] If the patients are easily understood and their needs are met in a timely manner, it helps the patient to relax and feel safe. At the same time, the efficient use of time for communication allows the nurse to spend more time on other care activities.[22,27] The fact that the majority (70.2%) of the patients included in the study indicated that the communication cards were helpful in communicating with health personnel (Table 6) showed the majority of the patients were able to explain their needs with visual communication cards. Similar to our study, Patak et al.[12] reported that 41.4% of the patients considered the visual communication tool to be very useful and 27.6% found them to be useful, whereas only one patient stated that the communication tool was not useful. In a study evaluating the efficacy of visual communication tools for 40 patients undergoing mechanical ventilation after cardiac surgery, this tool was found to be beneficial in communication with patients.[28]

In the study with patients experiencing more than 48 hours of mechanical ventilation in the intensive care unit, Rotondi et al. found that 65% of the patients had difficulty in communication.[14] In a study that examined communications between intubated patients and nurses, 73% of the patients stated that the nurses were able to communicate with patients, while only 23% of them stated that the nurses could adequately understand the needs, feelings and thoughts of the patients.[6] Patak et al. reported that 62% of the patients with a mechanical ventilator (n= 29) had difficulty in conveying their needs and that nurses could only clarify 5% of the messages of the intubated patients.[24] Compared to the other research results, it can be stated that in this study, visual communication cards (53.2%) can reduce the difficulties that patients experience in communications with health personnel (Table 7).

DISCUSSION OF THE FINDINGS OF THE COMPARISON OF THE CHARACTERISTICS OF THE PATIENTS FOR CERTAIN INTRODUCTORY AND SURGICAL INTERVENTIONS AND THEIR OPINIONS OF THE COMMUNICATION CARDS

In this study, the patients' difficulty in communication was evaluated according to previous intensive care and intubation experiences. It was determined that patients with prior intensive care and intubation experience had less difficulty in communicating than those without intensive care and intubation experience (Table 8). Intubation is one of the most important stressors for intensive care patients and the length of stay in the intensive care unit and the prolongation of the intubation duration significantly increase the stress levels of patients.[29,30] The patients' previous intensive care experiences also affect subsequent hospital experiences. If the individual has had a positive experience before, this will also reflect positively on future hospital experiences. Similarly, if the intubation experience is positive for the patients, it contributes positively to future intubation processes. Since patients with intensive care and intubation experiences have been relieved of the fear of obscurity and since their questions have been answered; their coping mechanisms will therefore be better developed during subsequent experiences. Patients will be able to solve their problems with the help of their past experiences and have the ability to investigate how they can get help.[31,32] The fact that patients who have previous intensive care and intubation experiences have less difficulty in communicating than those who do not, can be explained in this way (Table 9).

The appropriateness of some characteristics of the visual communication cards was evaluated. Although the evaluation results were not statistically significant, 53.2% of the patients found the color of the figures, 51.1% of the figures' clarity and size, and 48.9% of the number of figures, as suitable (Table 10). Pictures and figures/graphics can facilitate learning in a variety of ways, provide tips and guidance to indicate interesting and important points, but can also make communication tools attractive and engaging.[33] For this reason, it can be said that the appropriateness of the characteristics of the visual communication cards during intubation is positive.

CONCLUSION

As a result, it was determined that patients who used the visual communication cards had less difficulty in communicating compared to intubated patients who used other means of communication. In addition, it

was determined that most of the patients found the communication cards to be helpful with intubated patients and suggested that visual communication cards should be used for communicating with intubated patients. As one of the main results of this study, it was concluded that the visual communication cards can be used for all age groups and education levels, and for patients of both sexes. From this study, however, it is possible to conclude that visual communication cards can facilitate communications with patients but cannot completely eliminate the problem of communication. Therefore, determining the other factors that may affect communications with patients will assist in explaining the communication problems which they experience due to the intensive care environment, health personnel and intubation.

RELEVANCE TO CLINICAL PRACTICE

Intubation refers to a very delicate balance between death and life for patients. This situation brings intense psychological difficulties for the patient and their family. Patients feel that their lives depend on a device and health personnel they do not recognize and with whom they have difficulty communicating, as well as considering the possibility of death as well as a desire to prolong their lives. Intubated patients need to communicate with the nurses caring for them. Therefore, communications with intubated patients are vital.

Patient-centered care in the context of cardiovascular surgery intensive care units challenges the current competence, as it requires advanced communication skills in addition to knowledge about how patients experience consciousness and alertness during mechanical ventilation while being unable to express themselves. Also, it requires constant attention by healthcare personnel to the subtle signs these patients use to express themselves.

The visual communication cards used in this study should be used to facilitate communication with intubated patients and a number of training programs for health personnel should be arranged and increased in order to ensure effective communication with patients who cannot communicate verbally.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

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