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RESEARCH ARTICLE

THE PRIORITIES OF DISCHARGE TRAINING ACCORDING TO LUNG CANCER PATIENTS AND HEALTH CARE WORKERS: A DESCRIPTIVE STUDY

Esin Cetinkaya Uslusoy[1], Melda Tezcan[2], Medet Korkmaz[3]

[1] Suleyman Demirel University, Faculty of Health Sciences, Department of Nursing, Isparta, Turkey.
[2] Süleyman Demirel University Research and Practice Hospital, Isparta, Turkey
[3] Inonu University Faculty of Nursing, Malatya, Turkey

Address for Correspondence: Assoc.Prof. Esin Cetinkaya Uslusoy, **E-mail:** esinuslusoy@sdu.edu.tr
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ABSTRACT

Purpose: This study was carried out to determine the discharge training priorities of lung cancer patients, their nurses and doctors after chemotherapy using the card-sorting technique.

Methods: The study sample consisted of patients with lung cancer (n = 60) who received care in the Chemotherapy Clinic and nurses (n = 25) and doctors (n = 25) who give care to these patients. The data were collected using the sociodemographic information form and ten cards with discharge training related subjects who were asked to be ranked in order of importance. Frequency, percentage, arithmetic average, chi-square and Fisher's exact tests were used for data analysis.

Results: As a result of the analyzes, it was determined that the average age of the patients was 61.91 ± 7.27, the average age of the doctors was 27.56 ± 1.78, and the average age of the nurses was 36 ± 6.52. It has been determined that there are differences between the doctors, nurses and patients in their ranking of the priority given to learning subjects in many aspects. In addition, while there was no significant difference between the patients' positioning the learning subjects according to their gender, it was determined that there was a significant difference according to the stage of cancer.

Conclusion: According to these results, doctors and nurses should determine the primary learning needs of patients by using card sorting technique prior to training. In this way, it can be ensured that each patient / relative takes an active role in the management of the disease and that the education is more effective.

Keywords: Patient education, doctors, nurses

INTRODUCTION

Globally, lung cancer accounts for 11.6% and 18.4% of all cancer cases and deaths respectively1. In 2018, lung cancer accounted for 1.79 million deaths globally, with 2.09 million new cases diagnosed. (1). The chemotherapy used in cancer treatment aims to stop or eliminate the growth and proliferation of tumor cells without damaging the patient's normal cells. However, chemotherapeutic agents may cause side effects such as fatigue, sleep problems, nausea, vomiting, loss of appetite, suppression of bone marrow, alopecia, mucositis, skin problems, neurological problems, pain, eye problems and sexual dysfunctions. In addition, cancer treatment causes distress, pain and anxiety in individuals (2).

Patients need training to cope with their diagnosis and treatment. An important part of patient education is discharge training. Discharge is a process starting

with hospitalization of the patient that includes collecting data by the involved team members, determining the actual and potential problems of the patient, and evaluating the training and effectiveness planned in order to resolve the problems identified (3). In discharge training which requires a teamwork, physicians and nurses, who are in the position of key person, have important duties and responsibilities in providing intra-team communication in planning and implementation of discharge training given to patients with lung cancer and their relatives.

In order for healthcare providers to achieve patient education in the desired way and to reach the educational goal, training of patients should be comprehensively discussed, based on a scientific basis and this training should be performed by professionals (4). In this way, the persistence of care can be ensured and the transition from hospital to home environment can be facilitated.

It is important that the healthcare provider who will give discharge training should know the principles of adult individual education and ensure that the adult individual is ready to learn. The learning model of an adult individual is mainly “problem-centered”. The most efficient learning takes place when the participant is ready to learn. The choice of methods and techniques to be used in patient education should take into account factors such as the content of the training, the environment in which the training will take place, the duration of the training and the patient's preferences and learning needs (4).

Studies on discharge training and learning requirements indicated that the information given to patients by healthcare providers did not meet the needs of the patient (5-7), the patients and their relatives were not informed according to their needs (8), the information and learning needs of patients differ according to their sociodemographic characteristics (age, gender, marital status, region of residence , etc.) and that they have different priorities (9-12).

For this reason, this study was conducted to investigate the status of patients with lung cancer, their nurses and doctors in giving priority to discharge training after chemotherapy using card sorting technique.

METHODS

This is a descriptive study. The study was carried out with patients receiving care in the oncology and chemotherapy clinics of a university hospital (N = 60) and the nurses (N = 25) and the doctors (N = 25) giving care to these patients. The study included patients who were aged 18 years and above, had at least literate level of education, had been diagnosed with lung cancer and received at least one course of chemotherapy, who were conscious, oriented, and cooperative, had no visual and hearing problems, and had verbal communication. Patients with another cancer diagnosis and lung metastases were not included in the sample. Doctors and nurses who did not work in the oncology clinic were not included in the sample.

Data collection instruments

Sociodemographic data form: In order to collect data, data collection forms were used containing sociodemographic data, (age, gender, marital status etc.) prepared separately for patients, nurses and doctors. The data of the study were collected by face-to-face interview by the researcher using card sorting technique with patients, nurses and doctors. Pilot application data were not included in the study.

Card sorting technique: Various methods can be used to determine the priorities of individuals in discharge training. The Q method is a method that can handle both quantitative and qualitative methodology. The Q method is a method that guides the research in terms of determining and interpreting the subjective views, perceptions and behaviors, consensus or disagreement of the sample. It also allows comparison between individuals and groups that share similar opinions, based on personal views of individuals, and the findings are interpreted (13-15).

Card sorting technique was originated from the Q method. This approach focuses on understanding, interpreting and describing the individual's particular situation. This approach measures the individual's opinions, attitudes and beliefs about a particular subject area. In the method, the individual is asked to rank the cards from high importance to low importance. This process requires the individual to decide and compare the importance of the problem on each card. Their answers are judged neither right nor wrong. Instead, the patient's perception and viewpoint are reflected (16, 17).

Card sorting is a technique that can meet the needs of patients and nurses, thereby allowing patients to determine their learning needs and to participate in their care plans. Thus, their approach to learning subjects helps them to focus on what subjects they care about and to create their own training plans. This

Table 1. Distribution of Descriptive Characteristics of Nurses

Descriptive Characteristics		N(25)	%
Age	20-24	6	24
	25-29	6	24
	36 and above	8	32
Mean Age		36±6,52	
Gender	Female	24	96
	Male	1	4
Education	High School	7	28
	University	16	64
	Graduate School	2	8
Length of Study	0-60 months	14	56
	61-120 months	5	20
	121 months and above	6	24
Length of treatment application to lung cancer patients	0-60 months	20	80
	61-120 months	2	8
	121 months and above	3	12
	Total	25	100

technique allows healthcare teams to train their patients starting from the most important need to the less important need by enabling them to prioritize the educational needs of individuals. With this strategy, it is also possible to strengthen the active participation of each patient in self-care and understanding the importance of their role in the management of their disease. The card sorting technique allows patients or families to sort their training needs, indicating that they are given importance as a decision maker. It allows patients or their families to participate in their care plans. Based on the subjects that patients choose as the most important, health workers can meet the educational needs of patients confidently without wasting time (16, 17).

The cards which are used as a data collection tool consist of topics that should be in the discharge training of patients diagnosed with lung cancer and received chemotherapy. The relevance of the learning subjects in the cards has been decided based on the opinion of the specialists in internal medicine nursing and by doing a pilot study with lung cancer patients who received 15 courses of chemotherapy. The training topics in the cards are as follows:

- Effect on daily activities (such as nutrition, excretion, sexual life, work and social life); Side effects (infection, nausea, hair loss, fatigue); Follow-up process; Alternative medicine applications for disease; New medical treatments on trial; Pain; Shortness of breath; Home care services after chemotherapy; Emergency situations; Family education

Statistical analysis

In the study, data obtained by using data collection tools were analyzed by using SPSS 20 software. Frequency, percentage, arithmetic mean, chi-square and Fisher's chi-square test were used to summarize the descriptive characteristics of patients, nurses and doctors and to determine the status of prioritizing learning subjects.

In order for the data to be interpreted more easily, the ranking of the learning subjects in the cards by the patients, nurses and doctors is categorized as the first place, the first three places, the last three places and the last place.

Ethical consideration

In order to conduct the research, permission was obtained from the University Hospital and the Ethics Committee (TR-72867572-3756). Verbal consent was obtained from all participants.

RESULTS

Sociodemographic characteristics of doctors, nurses and patients

There are three separate sample groups (nurses, doctors and patients) in the study. The sociodemographic data of these participants are shown in Tables 1, 2 and 3.

Status of giving learning subjects first place; Chemotherapy's "effect on daily activities" was not ranked in the first place by doctors, but by 24% of nurses and 10% of patients. It was determined that the doctors considered this subject less important than the nurses and patients (X2=7, 121; p=0.025). Similarly, the subject of "new medical treatments on trial" was not ranked in the first place by doctors and nurses but 28.3% of the patients wanted to get information about this subject at first. Compared to the doctors and nurses, it was determined that patients had given more importance to this subject and ranked it in the first place (X2=17, 583; p=0,000).There was no difference between the

Table 2. Distribution of Descriptive Characteristics of Doctors

Descriptive Characteristics		N(25)	%
Age	20-24	1	4
	25-29	19	76
	30 and above	5	20
Mean Age	27,56±1,78		
Gender	Female	10	40
	Male	15	60
Length of Study	0-12 months	7	28
	13-24 months	9	36
	25-36 months	5	20
	37-60 months	4	16
Length of treatment application to lung cancer patients	0-12 months	10	40
	13-24 months	10	40
	25-36 months	3	12
	37-60 months	2	8
	Total	25	100

groups in the status of giving first place to other learning subjects (p> 0.05) (Table 4).

Status of giving learning subjects the first three places; The patients ranked the learning subjects of "alternative medical applications for the disease" and "new medical treatments on trial" in the first three places at a rate of 18.9% (X2=6.120; p=0.045) and 45.9% (X2=29.819; p=0.000), respectively. It was determined that patients give significantly more importance to these subjects compared to doctors and nurses. The patients ranked subjects of "side effects" and "emergency situations" in the first three places at a rate of 31.9% (X2=12, 138; p=0.002), 30.6% (X2=8,893; p=0.014), respectively. This result shows that patients give significantly less importance to these subjects compared to doctors and nurses. There was no difference between the groups in terms of ranking other subjects in the first three places (p> 0.05) (Table 4).

Status of giving learning subjects the last three places; The patients ranked the subjects of "alternative medicine applications for disease" and "new medical treatments on trial" in the last three places at a rate of 44.2% (X2=22.159; P=0.000) and 30.6% (X2=37.628; P=0.000). It was determined that patients ranked these subjects in the last three places at a significantly lower rate compared to the doctors and nurses. In other words, patients care more about these subjects than healthcare providers (Table 4).

It was observed that the patients ranked subjects of "pain" and "shortness of breath" in the last three places at a rate of 42.5% (X2=15.417; p=0.000) and 45.9% (X2=17,069; p=0.000). This situation reveals that patients do not care about these subjects as much as doctors and nurses (Table 4).

The subject of "home care services after chemotherapy" was ranked in the last three places by nurses at the lowest rate (52%). This result shows that nurses care more about home care services than doctors and patients (X2=9,748; p=0.008). There was no difference between the groups in other learning subjects (p>0.05) (Table 4).

The status of giving learning subjects the last place; It was determined that the subject of "alternative medicine applications" was ranked in the last place by patients (26.7%) at a significantly lower rate compared to doctors and nurses (X2=11.821; p=0.003). In this case, it can be said that patients care more about this subject than healthcare providers. It was observed that "pain" was ranked in the last place mostly by patients (21.7%). It was determined that doctors and nurses cared more about this subject (X2=8,033; p=0.016). There was no difference between the groups in other learning subjects (p> 0.05) (Table 4).

DISCUSSION

During the discharge training, problems can be experienced when subjects are considered important by one group while the other group is considered it insignificant. Patients may remain attached to the subject they want to learn and may not be able to focus on other subjects that the nurse has been explaining to them. In this situation, it will be difficult to achieve the educational goals.

In this study, it is observed that the doctors and nurses have the same ranking in some subjects, the nurses and patients have the same ranking in some subjects and in some subjects, each group makes different rankings in the learning subjects. This situation shows how useful and important the card sorting technique is in determining the training needs. The daily activities of life are closely related to the care as the fundamental subject of nursing profession and it is an important subject in the nursing

Table 3. Descriptive Characteristics of Patients

Descriptive Characteristics of Patients		N(60)	%
Age	29	1	1,7
	50-60	22	36,7
	61-70	32	53,3
	71 and above	5	8,3
Gender	Female	7	11,7
	Male	53	88,3
Education	Illiterate	2	3,3
	Literate	49	81,7
	High School	6	
	University	3	5,0
Profession	Housewife	6	10,0
	Government officer	4	6,7
	Worker	8	13,3
	Freelancer	13	21,7
	Retired	29	48,8
Marital Status	Married	58	96,7
	Divorced	2	3,3
Income	Income Less Than Outgoing	8	13,3
	Income Equal to Outgoing	50	83,3
	Income More Than Outgoing	2	3,3
Social Security	Yes	59	98,3
	No	1	1,7
Help for care	Yes	58	96,7
	No	2	3,3
Smoking	Yes	1	1,7
	No	8	13,3
	Used to	51	85

Table 3. Descriptive Characteristics of Patients (Continuous)

Descriptive Characteristics of Patients		N(60)	%
Cigarette Use package	1 package	41	68,3
	2 package	10	16,7
	3 package	1	1,7
	None	8	13,3
Time of Diagnosis	1-12 months	41	68,3
	13-24 months	15	25
	25-36 months	1	1,7
	37 and above	3	5
Stage	Stage 1	1	1,7
	Stage 2	22	36,7
	Stage 3	22	36,7
	Stage 4	15	25
Type	SCLC	28	46,7
	NSCLC	32	53,3
Chemotherapy Course	1-3	30	50
	4-7	18	30
	8-10	12	20
Other Chronic Illness	Yes	13	21,7
	No	47	78,3
The most common problems after receiving chemotherapy*	Nausea	26	43,3
	Cough	1	1,66
	Weakness	21	35
	Anorexia	11	18,3
	Mouth sores	1	1,66
	Shortness of breath	2	3,32
	Vomiting	6	9,96
	Constipation	1	1,66
	Pain in the Iv region	4	6,64
	Diarrhea	4	6,64

***The most common problems after receiving chemotherapy were answered more than once.

curriculum. The individual has some activities that must be fulfilled regularly and independently. When the patient fails to perform these activities, the nurse will support him / her until he / she becomes independent again. On the other hand, doctors are more interested in the medical treatment. Therefore, it may be concluded in this study that doctors do not give importance to daily life activities as much as nurses and patients. Mankind has always tried to combat with the diseases from past to present and tried to find the formulas of living longer.

In addition, individuals with any disease wanted to know the methods that would reestablish themselves when medical treatments were not sufficient. Therefore, the patient group in this study may have ranked the subject of “new medical treatments on trial” in the first place in contrary to doctors and nurses. When ranking the learning subjects in the first three places, the fact that patients give less importance to the subjects of ”side effects” and, emergency situations” compared to doctors and nurses may be due to the fact that the patients give more importance to the subjects of “alternative medicine applications” and “new medical treatments on trial”.

Table 4. Priority Status of Learning Subjects for Doctor, Nurse and Patients

Learning Subjects	First Place			First Three Places			Last Three Places			Last Place		
	Doctor[a] N(25) %	Nurse[b] N(25) %	Patient[c] N(60) %	Doctor[a] N(25)%	Nurse[b] N(25) %	Patient[c] N(60) %	Doctor[a] N(25) %	Nurse[b] N(25)%	Patient[c] N(60) %	Doctor[a] N(25)%	Nurse[b] N(25) %	Patient[c] N(60) %
1. Effect on daily life activities	- -	6 24	6 10	8 32	12 48	14 23,8	1 4	1 4	9 15.3	- -	- -	1 1.7
	X^2 = 7,121	***p=0.025*** ****a<b,c***		X^2 =5,046	*p>0.05*		X^2 =2.972	*p>0.05*		X^2 =1.124	*p>0.05*	
2. Side Effects (nausea, fatigue, etc.)	4 16	6 24	7 11,7	13 52	18 72	19 31,9	- -	1 4	9 15.3	- -	- -	1 1.7
	X^2 =2,159	*p>0.05*		X^2 =12,138	***p=0.002*** ****c<a,b***		X^2 =5.166	*p>0.05*		X^2 =1.124	*p>0.05*	
3. Follow up Process	4 16	1 4	4 6,7	8 32	6 24	27 45,9	3 12	8 32	9 15.3	1 4	1 4	1 1.7
	X^2 =2,480	*p>0.05*		X^2 =3,717	*p>0.05*		X^2 =3.870	*p>0.05*		X^2 =1.252	*p>0.05*	
4. Alternative Medicine Applications	- -	- -	1 1,7	- -	2 8	11 18,9	24 96	18 72	26 44.2	16 64	13 52	16 26.7
	X^2 =1,124	*p>0.05*		X^2 =6,120	***p=0.045*** ****c>a,b***		X^2 =22.159	***p=0.000*** ****c<a,b***		X^2 =11.821	***p=0.003*** ****c<a,b***	
5. New Medical Treatments in Trial	- -	- -	17 28,3	- -	- -	27 45,9	23 92	21 84	18 30.6	2 8	6 24	4 6.7
	X^2 =17,583	***p=0.000*** ****c>a,b***		X^2 =29,819	***p=0.000*** ****c>a,b***		X^2 =37.628	***p=0.000*** ****c<a,b***		X^2 =4.977	*p>0.05*	
6. Pain	3 12	1 4	7 11,7	8 32	6 24	15 25,5	- -	6 24	25 42.5	- -	2 8	13 21.7
	X^2 =1,218	*p>0.05*		X^2 =0,539	*p>0.05*		X^2 =15.417	***p=0.000*** ****c>a,b***		X^2 =8.033	***p=0.016*** ****c>a,b***	
7. Shortness of Breath	2 8	3 12	5 8,5	8 32	7 28	23 38,3	1 4	4 15	27 45.9	- -	- -	2 3.3
	X^2 =0,582	*p>0.05*		X^2 =0,926	*p>0.05*		X^2 =17.069	***p=0.000*** ****c>a,b***		X^2 =0.984	*p>0.05*	
8. Home Care Services	- -	- -	2 3,3	- -	- -	6 10,2	23 92	13 52	42 71.4	6 24	2 8	18 30.6
	X^2 =0,984	*p>0.05*		X^2 =0,395	*p>0.05*		X^2 =9.748	***p=0.008*** ****b<a,c***		X^2 =4.734	*p>0.05*	
9. Emergency Situations	5 20	3 12	6 10	16 64	12 48	18 30,6	- -	3 12	10 17	- -	1 4	1 1.7
	X^2 =1,692	*p>0.05*		X^2 =8,893	***p=0.014*** ****c<a,b***		X^2 =5.075	*p>0.05*		X^2 =1.315	*p>0.05*	
10. Family education	7 28	5 20	5 8,3	14 56	12 48	20 34	- -	- 5	8.5	- -	- -	3 5.1
	X^2 =5,809	*p>0.05*		X^2 =4,235	*p>0.05*		X^2 =2.987	*p>0.05*		X^2 =1.435	*p>0.05*	

**Fisher exact test was applied.*

p<0.05

X^2= chi-square

When ranking the learning subjects in the last three places, it is expected that doctors will consider “pain” more seriously than nurses and patients. Since the subject of pain is one of the treatment subjects for doctors directed to symptom management, doctors may not have been placed it in the last three places at all. The reason why patients did not rank “alternative medicine applications” and “new medical treatments in trial” in the last place is due to the fact that they ranked these subjects in the first place. The reason why the majority of the patients rank “shortness of breath” in the last three places may be due to the fact that they do not have serious problems on this front.

When ranking the learning subjects in the last place, it is seen that the patients do not give priority to “pain” as doctors and nurses, instead, they rank the subject of “alternative medicine applications” in the last place at the lowest rate. This result shows that the patients are very interested in this subject while the doctors and nurses do not care about this subject.

When other studies in the literature are examined, it is seen that there is a significant difference in the opinions of nurses and patients in the information/learning requirements of the patients similar to the studies on learning requirements in discharge education (18,19) In addition, it was found in some studies that the nurses did not adequately meet the needs of the patients regarding the problems they experienced and the nurses did not have sufficient awareness in this front (6, 8).

This study was carried out to determine whether there were any differences between the priorities of the doctors, nurses and patient groups in the subjects of discharge training.

As a result of the research, it was determined that doctors placed the subject of family education, nurses placed the subject of daily life activities and the patients placed the subject of new medical treatments in the first place. In this case, it can be said that the priorities of the three groups are different. Card sorting technique can be used in outpatient clinics and services in discharge training because each patient / family has an active role in the management of the disease and feels that their decisions are important.

Study Limitations

The limitation of the study just includes of patients with lung cancer, their nurses and doctors in giving priority to discharge training after chemotherapy.

CONCLUSION

As a result, healthcare providers should take into consideration the socio-demographic conditions of patients when planning their discharge training and should give priority to the subjects by identifying what kind of subjects the patients want to be informed about using card sorting technique. Thus, patients can be helped to overcome the difficulties associated with their illness by appropriate training according to their learning needs.

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