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Determination of the anxiety and the needs of family members of critical care patients in emergency departments

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ABSTRACT

Aims: It is very important to find ways to meet the needs of patients' family members and to control their anxiety. This study aims to identify the needs and anxiety levels of family members of critically-ill adult patients in emergency departments (ED).

Methods: This descriptive study was conducted in the adult ED of a training and research hospital in Turkey. In order to collect data, we conducted face-to-face interviews with family members of critically-ill patients. The "Critical Care Family Needs Inventory-Emergency Department" (CCFNI-ED) and the "Spielberger State Trait Anxiety Inventory-State Scale" (STAI-S) were also used to identify the needs and the anxiety levels of the family members.

Results: The average age of the participants was 40.81±13.32 years. Of the participants (n=172), 61.6% (n=106) were female. CCFNI-ED results showed that eight of the ten needs expressed by family members were related to communication. Overall anxiety level of the family members was 49.67%. Additionally, a statistically significant correlation was found between being female and STAI-S scores (t=2.41, p=0.01). 18.6% of family members expressed that their needs were unmet, while 29.1% of the participants stated that their needs were met.

Conclusions: This study found no significant correlations between the scores obtained from STAI-S and CCFNI-ED. However, a statistically significant correlation was found between being female and STAI-S scores of relatives. Health professionals should take the higher anxiety levels of female family members into consideration, and they should pay attention to the needs of patients' relatives in order to manage their anxiety.

Introduction

Emergency departments (ED) are the environments that require skilled professionals to take care of critical patients (1,2). Patients and their family members face various problems in the EDs, both in Turkey and over the world. Essential elements of holistic patient care include considering family members as a part of critical care and engaging in attempts to protect and maintain the functions of patients and their families (3). Furthermore, identifying the needs of critically ill patients' family members will help ED professionals focus on and meet the urgent needs of the families. Understanding the feelings of patients' families and identifying their needs may improve health care and communication. In addition, identifying the needs of family members may increase families' confidence in health professionals and prevent negative and even aggressive behaviors (4,5).

EDs are traumatic environments that may create anxiety for patients and their families. The health problems of a family member influence the entire family. Patients' families may consider admittance to the ED as a crisis (1). Moreover, family members who wait for long hours in EDs face uncertainty, which in turn creates stress and anxiety (6). Evaluating the needs of patients and their families and attempting to meet their needs will not only reduce anxiety and stress of family members but also improve patient satisfaction and quality of healthcare (7,8).

Frequently, emergency professionals must turn their attention to saving the patient's life and decreasing the physical effects of trauma (6). Consequently, communication with the patient's family members, identification of their needs, and attempts to decrease their anxiety may fade into the background. Health professionals' attitudes, long waiting times to receive treatment, and remaining uninformed about diagnosis and treatment are among the main problems that patients and family members complain about in EDs (9). These problems may result in conflicts between health professionals and family members. Therefore, it is very important to identify family members' needs, to attempt to meet stated needs, and to control their anxiety (10). However, the number of studies on identifying the anxiety and needs of patients' family members is limited. This study aims to contribute to the literature by identifying the anxiety and the importance order of the needs of family members of critically-care adult patients in EDs.

Methods

Design

This study was conducted in the ED of a training and research hospital in Turkey between May 2016 and November 2017. This ED experiences more than 100,000 visits per year and is composed of two units: the triage area and general care. The clinical status of the outpatients is first evaluated by health professionals in the triage unit using the Emergency Severity Index, and the patients are directed to the appropriate physicians from the triage unit. The triage unit has four emergency treatment rooms, one blood sample collection room, one medical dressing room, one electrocardiogram room, and one orthopedic casting room. One emergency medicine specialist and two practicing physicians work in the ED. The general care unit of the ED has three trauma and resuscitation rooms and 10 monitored-observation rooms, which are allocated to critically-ill patients. Three emergency physicians provide health care services in the general care unit.

Participants and Procedure

This descriptive study was conducted with 172 family members of critically-ill patients, all of whom had accompanied patients to the ED. Family members were informed both verbally and in writing about that participation in the research was voluntary, they could withdraw from the study whenever they wanted, and their decision to withdraw from the study would have no impact upon the healthcare received by their patient relative. After their consent was obtained, family members were interviewed in a room in the ED at a time suitable for the relatives. Data collection lasted about 8-10 minutes for each participant. Given the fact that families' perceived needs could change over time, interviews took place between the first 30 minutes and the first 24 hours after the patient was admitted to ED (4). Family members over the age of 18 years, who accompanied the patient to the ED, were present in the ED for more than 30 minutes, and voluntarily agreed to participate, were included in the study.

Data Collection

We used the "Data Collection Form", "Critical Care Family Needs Inventory-Emergency Department" (CCFNI-ED), and "Spielberger State Trait Anxiety Inventory-State Scale" (STAI-S) for our data collection.

Data Collection Form: Data collection form was prepared by the researchers based on relevant literature and included questions on sociodemographic characteristics of patients and family members (age, gender, profession, educational status, marital status, etc.), relationship with the patient, hour of arrival at the ED, and length of stay in the ED.

CCFNI-ED: The CCFNI was developed by Redley and Beanland (2004) (3) and consists of 40 statements on family needs. Participants rate the importance of the 40 items using a four-point Likert type scale. The scale has four subscales: communication with family members, family member participation in ED care, organizational comfort, and family member support process. Reliability and validity of the Turkish version of the CCFNI-ED were tested by Sucu Dag et al. (11), who found that the Cronbach's alpha coefficient of the Turkish version of the CCFNI-ED was 0.91. We calculated a Cronbach's alpha coefficient of 0.90 for this study.

STAI-S: This scale was developed by Spielberger et al. (12) in order to determine a transitory emotional state at a certain time and under certain conditions; it has 20 items. Participants rate their emotional state using a four-point Likert type scale. Reliability and validity of the Turkish version of the STAI were calculated by Oner and Le Compte (13). Cronbach's alpha coefficient for our study is 0.64.

Ethical Consideration

We obtained permission from the Scientific Research and Publication Ethics Board of the university at which the research was conducted (April 5, 2016; no: 50687469-1491-286-16/1648-931). Participants were informed about the scope of the study and the confidentiality of their personal information, and their verbal and written consent was obtained.

Statistical Analysis

We used Statistical Package for the Social Sciences version 21 statistical software for data and statistical analysis. In terms of descriptive analysis, we used number and percentage for numerical data, and average ± standard deviation for measurable data. The chi-square, one-way ANOVA, and Spearman correlation tests were used for comparative statistical analysis; $p<0.05$ indicated a statistically significant difference.

Results

The average age of the family members coming to the ED with their critically ill patients was 40.81±13.32 years. 61.6% of the participants were female (n=106), 41.9% were high school graduates (n=72), 72.7% were married (n=125), and 55.2% were employed (n=95). In addition, 96.5% of the participants had health insurance (n=166), 28.5% of the participants had one or more children (n=49), 80.8% arrived at the ED with their critically-ill patients (n=139), and 52.3% expressed that their needs were met well in the ED (n=90) (Table 1).

Table 2 shows STAI-S and CCFNI-ED scores of the participants. The average STAI-S score of participants was 49.67±0.67, while the average CCFNI-ED score was 3.55±0.43.

In Table 3, there are sub-dimensions and mean scores of the CCFNI-ED scale. 1st sub-dimension of CCFNI-ED is "Communication with family members". The average score obtained for the "Communication with family members" sub-dimension of the participants is 3.62±0.43. The item "To know about the expected outcome" yielded the highest average score in this subscale (3.98±0.13) whereas the item "To have a staff member with you while visiting your relative" received the lowest score (3.25±1.00).

The second sub-dimension of CCFNI-ED is "family member participation in ED care". The score of "Family member participation in ED care" subscale of the CCFNI-ED was 3.43±0.57. The item "to see your relative as soon as possible" yielded the highest average score in this subscale (3.65±0.75), whereas the item "to be told about religious services" received the lowest score (3.23±1.02).

The 3rd sub-dimension of CCFNI-ED is "Organizational comforts". The average score obtained for the "organizational comforts" subscale was 3.60±0.53. The item with the highest average score in this subscale was "to be treated as individual" (3.70±0.70), whereas the item "to have questions answered honestly" received the lowest score (3.54±0.84).

The fourth sub-dimension of CCFNI-ED, which is the last dimension, is "Family member support processes". The average score of the "family member support processes" subscale was 3.56±0.51. The item "to have a person to care for the family" received the highest score (3.68±0.67), whereas the item "to find out the condition of your relative before being asked to sign papers" received the lowest score (3.42±0.91) (Table 3).

We found no statistically significant correlations between the descriptive characteristics of the participants and CCFNI-ED scores (p>0.05) (Table 4). Although we found a statistically significant correlation between gender and STAI-S scores (females got high scores in STAI-S (t=2.41, p=0.01), no statistically significant correlation was found between the other descriptive characteristics of the participants and STAI-S scores.

Discussion

This study analyzed the anxiety levels and needs of family members of critically-ill adult patients in the ED. In our study, 80.8% of the participants arrived at the ED with their critically ill relatives. Sucu et al.'s (7) study on the family members of 353 critical-care patients found that 82.2% (n=321) of the participants had accompanied their patients. Similarly, another study conducted by Sucu Dag et al. (11) on the relatives of 400 critical-care patients found that 80.1% (n=322) of the

Table 1. Demographic and descriptive statistics for participants (n=172)

Age (mean ± SD) years	40.81±13.32	
Gender	**n**	**%**
Female	106	61.6
Male	66	38.4
Educational level		
Elementary	22	12.8
Secondary	23	13.4
High school	72	41.9
University and above	55	32.0
Marital status		
Married	125	72.7
Single	47	27.3
Employment status		
Employed	95	55.2
Unemployed	77	44.8
Proximity status		
Partner	30	17.4
Child	49	28.5
Mother-father	46	26.7
Brother	17	9.9
Other relatives	16	9.3
Friends	14	8.1
Time for relatives to come to the ED		
With patient	139	80.8
After the patient	33	19.2
Health assurance of the patient		
Yes	166	96.5
None	6	3.5
Meeting the needs		
None	5	2.9
Moderate	27	15.7
Well	90	52.3
Completely	50	29.1

ED: Emergency departments, SD: Standard deviation

participants arrived at the ED with their critically-ill relatives. Yildirim and Ozlu (14) found that nearly all patients (91.6%) were accompanied by their relatives to the hospital. It will be better for health care professionals if family members accompany their critically-ill relatives, in order to receive information about the patient and their illnesses.

The analysis of the relationships between the family members and the patients showed that 28.7% of the participants were children of the patients, 26.7% were parents of the patients, and 17.4% were spouses of the patients. Hsiao et al. (8) found that critically-ill patients were mostly accompanied by their children and others, whereas Sucu et al. (2009) (7) found that family members that accompanied critically-ill patients to the EDs were mostly spouses. In our study, accompanying spouses ranked third. Parallel to our findings, the study by Yildirim and Ozlu (14) showed that critically-ill patients were mostly accompanied by their children (14). We can state that, in Turkey, critically-ill patients admitted to the ED are mostly accompanied by their first-degree relative(s).

In terms of time spent in the ED, our study found that 26.2% of the patients stayed for about 1-2 hours. In comparison, Redley and Beanland (3) found that family members of the critically-ill patients spent between 15 minutes and 36 hours (5.5 hours on average).

Al et al.'s (15) study on patients and families in the ED found no statistically significant relationship between relatives' satisfaction with the EDs and education, age, or transfer type of the patient. Similarly, we did not find any statistically significant relationship between these parameters and the order of importance of family members' needs.

We found that the needs of family members were not completely met in the ED. 18.6% of the participants expressed that their needs were unmet, whereas 29.1% stated that their needs were completely met. Satisfaction of patients and their relatives is frequently used as an indicator of quality of healthcare services in EDs. Satisfaction will increase when the needs of family members are met. So, healthcare professionals should be aware of the needs of family members. Botes and Langley's (16) study on family members in an ED found that although the communication subscale of the CCFNI was ranked as highly important, satisfaction with communication was low. Moreover, Bulut (9) found that informing family members increased their satisfaction.

Regarding the subscales of the CCFNI-ED, participants in this study ranked communication needs highest, followed by family member support processes, organizational comfort, and family member participation in ED care. In the study of Sucu et al. (7), the communication subscale ranked the second in importance, whereas family member participation ranked the first. However, family members in Hsiao et al. (8) ranked communication needs highest, followed by family member participation, support, and comfort. Yildirim and Ozlu (14) found that the most important need identified by the family members was communication, whereas the least important need was comfort. Finally, Botes and Langley (16) found that communication ranked the second in importance. Based on these studies, we can suggest that the 'organizational comfort' and 'family member support processes' subscales of the CCFNI-ED are relatively less important for patients' relatives. This indicates that patients' relatives place less importance on their own needs than on the needs of the critically-ill patients.

Item scores related to the needs of the family members in our study were similar to previous findings. All four items that had a score above 3.89 belonged to the 'communication with family members' subscale. Five of the items that had a score above 3.79 were related to the communication need: "to know about the expected outcome" (3.98), "to be given directions regarding what to do at the bedside" (3.91), "to know why things were done for your relative" (3.90), "to be spared distressing details about your relative's illness or injury" (3.90), and "to see what was happening to your relative" (3.81) (Table 2). These findings differ from the findings of Sucu and Sucu Dag et al. (7,11), Yildirim and Ozlu (14), and Hsiao et al. (8) in terms of the order of importance.

Patients' family members go through a unique, intense, and emotional experience in the ED (2). The chaotic structure of EDs often results in difficulties for health professionals,

Table 2. Participants' CCFNI and STAI-S scores

CCFNI sub-dimensions and STAI-S	Mean ± SD	Lower score	Upper score	Scale's ranges
CCFNI				
Communication with family members	3.62±0.43	2.20	4.00	1-4
Family member participation in ED care	3.43±0.57	1.50	4.00	1-4
Organizational comforts	3.60±0.53	1.56	4.00	1-4
Family member support processes	3.56±0.51	1.57	4.00	1-4
CCFNI total	3.55±0.43	1.94	4.00	1-4
STAI-S	49.67±0.67	48.50	51.50	20-80

CCFNI: Critical Care Family Needs Inventory-Emergency Department, STAI-S: Spielberger State Trait Anxiety Inventory-State Scale, ED: Emergency departments, SD: Standard deviation

Table 3. CCFNI-ED scores of the participants

CCFNI-ED Items	Mean	SD	Min	Max
Communication with family members	**3.62**	**0.43**	**2.20**	**4.0**
9. To know why procedures were done for your relative	3.90	0.36	2.00	4.00
10. To be spared distressing details about your relative's illness or injury	3.90	0.36	1.00	4.00
12. To talk to a nurse	3.67	0.70	1.00	4.00
13. To know about the expertise of staff caring for your relative	3.27	0.92	1.00	4.00
14. To know about the expected outcome	3.98	0.13	3.00	4.00
18. To stay out of the way during your relative's care	3.24	0.88	1.00	4.00
20. To have explanations about the treatment area before going in to see your relative for the first time	3.60	0.80	1.00	4.00
21. To have a staff member with you while visiting your relative	3.25	1.00	1.00	4.00
22. To see what was happening to your relative	3.81	0.51	1.00	4.00
24. To be given directions regarding what to do at the bedside	3.91	0.28	3.00	4.00
Family member participation in ED care	**3.43**	**0.57**	**1.50**	**4.00**
4. To have friends and relatives with you while in the emergency department	3.19	0.90	1.00	4.00
19. To see your relative as soon as possible	3.65	0.75	1.00	4.00
23. To be with your relative at any time	3.56	0.74	1.00	4.00
25. To feel helpful to your relative's care	3.63	0.65	1.00	4.00
26. To be included when decisions are made	3.59	0.79	1.00	4.00
27. To have time alone with your relative	3.48	0.81	1.00	4.00
28. To feel accepted by hospital staff	3.53	0.83	1.00	4.00
32. To be encouraged to express emotions	3.36	0.95	1.00	4.00
33. To be reassured as to what normal emotional responses should be	3.44	0.84	1.00	4.00
34. To share emotions with staff	3.09	1.05	1.00	4.00
36. To be told about religious services	3.23	1.02	1.00	4.00
37. To have food and refreshments nearby	3.35	0.89	1.00	4.00
38. To have a telephone in or near the waiting room	3.38	0.82	1.00	4.00
39. To have toilet facilities nearby	3.63	0.68	1.00	4.00
Organizational comforts	**3.60**	**0.53**	**1.56**	**4.00**
11. To talk to a doctor	3.57	0.80	1.00	4.00
15. To have questions answered honestly	3.54	0.84	1.00	4.00
16. To be told about transfer plans while they are being mad	3.61	0.71	1.00	4.00
17. To be assured that the best care possible has been given to your relative	3.60	0.81	1.00	4.00
29. To be treated as an individual	3.70	0.70	1.00	4.00
30. To feel hospital staff care about your relative	3.69	0.72	1.00	4.00
31. To be assured of the comfort of your relative	3.55	0.84	1.00	4.00
35. To feel there is hope	3.56	0.80	1.00	4.00
40. To be able to contact staff at a later date to ask questions	3.59	0.75	1.00	4.00
Family member support processes	**3.56**	**0.51**	**1.57**	**4.00**
1. To have a doctor or nurse meet you on arrival at the hospital	3.57	0.85	1.00	4.00
2. To have a person to care for the family	3.68	0.67	1.00	4.00
3. To find out the condition of your relative before being asked to sign papers	3.42	0.91	1.00	4.00
5. To have a private place to wait	3.45	0.83	1.00	4.00
6. To have explanations given in understandable terms	3.60	0.76	1.00	4.00
7. To be kept updated frequently	3.60	0.80	1.00	4.00
8. To know all the specific facts concerning your relative's progress	3.57	0.65	1.00	4.00
Total	**3.55**	**0.43**	**1.94**	**4.00**

CCFNI-ED: Critical Care Family Needs Inventory-Emergency Department, SD: Standard deviation, Min: Minimum, Max: Maximum

including communication with the patient (17). This may result in ED health professionals being unable to provide important medical information to patients and their families (18). Hsiao et al. (8) found that communication with family members was the most important need not only for family members but also for emergency nurses.

Health professionals should engage in active listening skills when communicating with the patients and their families. Communication in EDs may be verbal or nonverbal, and the communication method depends on the judgment of the emergency professionals. Health professionals working in EDs should maintain effective communication with patients and their families in order to improve the efficiency of healthcare (19). Shorofi et al.'s (20) study on family members found that the most important item of the CCFNI-ED scale was "to have questions answered honestly". In this sense, studies on critically-ill patients show the importance of communication.

EDs are loud and crowded, which may cause anxiety for patients and their families (21,22). However, unexpectedly, our study did not find any statistically significant relationship

Table 4. The descriptive characteristics of the participants and CCFNI-ED and STAI-S scores

Characteristics of participants	CCFNI		STAI-S	
	Mean ± SD	Analysis	Mean ± SD	Analysis
Gender				
Female	3.60±0.36	t=1.79	**49.57±0.63**	t=2.41
Male	3.47±0.51	p=0.07	49.83±0.71	**p=0.01**
Educational level				
Elementary	3.55±0.43		49.61±0.43	
Secondary	3.56±0.48	F=1.14	49.79±0.92	F=0.28
High school	3.56±0.43	p=0.33	49.67±0.63	p=0.83
University and above	3.59±0.38		49.65±0.70	
Marital status				
Married	3.58±0.41	t=0.13	49.70±0.69	t=0.90
Single	3.47±0.54	p=1.51	49.59±0.62	p=0.36
Employment status				
Employed	3.51±0.44	t=1.55	49.67±0.69	t=0.90
Unemployed	3.61±0.41	p=0.42	49.67±0.64	p=0.36
Proximity status				
Partner	3.52±0.47		49.58±0.78	
Child	3.58±0.39		49.59±0.59	
Mother-father	3.60±0.39	F=0.98	49.73±0.79	
Brother	3.60±0.47	p=0.42	49.78±0.59	F=0.57
Other relatives	3.34±0.58		49.84±0.51	p=0.72
Friends	3.51±0.35		49.65±0.59	
Time for relatives to come to the ED				
With patient	3.55±0.45	t=0.44	49.75±0.69	t=1.52
After the patient	3.46±0.22	p=0.65	49.32±0.53	p=0.13
Health assurance of the patient				
Yes	3.56±0.42	t=1.86	49.67±0.68	t=0.29
None	3.23±0.57	p=0.064	49.58±0.61	p=0.76
Meeting the needs				
None	3.66±0.23		49.65±0.67	
Moderate	3.58±0.43	F=0.17	49.31±0.62	F=5.79
Well	3.55±0.40	p=0.94	49.63±0.62	p=0.09
Completely	3.53±0.43		49.97±0.70	

CCFNI: Critical Care Family Needs Inventory-Emergency Department, STAI-S: Spielberger State Trait Anxiety Inventory-State Scale, ED: Emergency departments, SD: Standard deviation

between STAI-S and CCFNI-ED scores. The only statistically significant relationship was between being female and STAI-S scores (t=2.411, p=0.017). Dark et al.'s (2018) (23) study, which analyzed 1,213 ED visits with a discharge diagnosis of anxiety, found that 63.1% of the patients were female, whereas 36.9% were male. For the reason that anxiety disorder is more common among women, we may conclude that female patients and relatives may need special attention from health professionals. Additionally, various studies have assessed the extent to which music may be used to decrease anxiety of patients and their families. For example, a randomized pilot study by Belland et al. (18) found that listening to music reduced anxiety among older adults in the ED. Similarly, Kilic et al. (21) found that music therapy in the ED positively impacted patients' pain levels and anxiety. Based on these studies, we may suggest music therapy in EDs to reduce anxiety of both patients and family members.

Some patients demand to have their family members present in case of a health problem, and the presence of family members may reduce patient anxiety (24). Additionally, providing family-oriented education on communication skills may not only help family members but also reduce anxiety, depression, and stress in patients (14). However, this may not always occur. Batista et al. (2) found that the presence of family members in EDs increased family anxiety and health professional stress levels. The average STAI-S score of the participants in this study reflects a medium anxiety level (mean=49.67).

However, the recent guidelines of the American Heart Association and the European Resuscitation Council state that family members can be present in advanced health situations whenever possible (2). Paavilainen et al. (4) also suggest encouraging family presence in EDs. One advantage of family presence in EDs stems from the fact that family members may provide clinical information about the patient to the health professionals (1). Furthermore, being able to be with the patient helps family members adapt to the unexpected, critical situation. Psychological support to patient families, who experience intensive stress and sorrow, may reduce their anxiety and fears (14). In sum, deciding whether the presence of family members is good or bad is a hard decision; it may vary according to cultural values and perspectives (19).

Health professionals that are responsible for critically-ill patients should provide care that integrates knowledge, skills, experience, and attitudes, all of which are needed to meet the needs of patients and their families (25). Emergency professionals that are aware of patients' and families' needs may be able to meet these needs and thus reduce anxiety; this, in turn, may prevent possible confrontations between health professionals and family members.

Our study had some limitations, such as generalization difficulties because this study was conducted in only one ED. In addition, our working group does not reflect the general situation in the country. The stress levels of the patient relatives may be higher in other hospitals which are not education and research hospitals.

Clinical Implications for Emergency Nursing

Relatives of the patients often feel stressed and worried about the uncertainty of emergency services. These concerns can sometimes come to a dimension that goes back to conflicts with health personnel. It can be difficult for health personnel to manage uncertainty and concern. Health personnel should cooperate with the patient's relative to manage the case effectively and effectively. Otherwise, the situation may become complicated and problems may arise in medical and psychosocial issues. It is important for health personnel to understand the needs and concerns of their relatives. Thus, they can provide them with safe and effective emergency service intervention.

Conclusion

This study found no statistically significant relationship between the STAI-S scores of patients' family members and their CCFNI-ED scores. However, we found a statistically significant relationship between being female and STAI-S scores. The most important need identified by family members was communication, followed by family member support, comfort, and family member participation in ED care. Based on these findings, we suggest that the needs of the family members of critically-ill patients should be identified and met within the context of healthy communication. Emergency professionals should consider the possibility that the anxiety levels of female relatives may be higher, and these professionals should determine and meet the needs of family members in order to control their anxiety.

Ethics

Ethics Committee Approval: We obtained permission from the Scientific Research and Publication Ethics Board of the university at which the research was conducted (April 5, 2016; no: 50687469-1491-286-16/1648-931).

Informed Consent: Participants were informed about the scope of the study and the confidentiality of their personal information, and their verbal and written consent was obtained.

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Authorship Contributions

Surgical and Medical Practices: A.D., Concept: A.D., G.G., Design: A.D., G.G., Data Collection or Processing: A.D., A.K.U., Analysis or Interpretation: E.Ö., Literature Search: A.D., Ö.A., Writing: A.D.

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