

# The Validity-Reliability Study of Turkish Version of Electronical Symptom Screening Tool (8-18) in SSPedi-Pediatric Patients with Cancer

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## ABSTRACT

**Objective:** The first step in symptom management is symptom screening which is necessary to keep the symptom under control. This study aimed to determine the validity and reliability of the Turkish version of the Electronic Symptom Screening Tool in Pediatrics for children aged 8-18 (SSPedi 8-18) with cancer.

**Methods:** The research was conducted between September 2020 and June 2021. The sample in our study consists of 80 children (8-18 years) with cancer. For content validity, the scale was first translated into Turkish and then adapted using Davis' correspondence analysis technique. The construct validity of the scale was assessed using the Barlett test and Kaiser-Mayer Olkin. For the scale's reliability, Cronbach Alpha Reliability Coefficient, Equivalent Forms Method, bisection method and Item Total Score Correlation Coefficient correlation tests were analyzed. Before starting the study, ethics committee approval and written permits from institutions and individuals were obtained.

**Results:** The content validity index was found between 0.93 and 1. The reliability of the scale of the equivalent form method was  $r=0.57$ , and bisection method was  $r=0.85$  and the Cronbach internal consistency coefficient of scale= $0.86$ . The correlation coefficient between the items and the total score was greater than  $r=0.20$ . The Kaiser-Meyer-Olkin coefficient was 0.82. The  $\chi^2$  value (Bartlett test) was statistically significant ( $p= .001$ ).

**Conclusion:** The SSPedi 8-18 is a reliable and valid tool that can be used to assess the symptoms of Turkish children with cancer. Nurses' use of the scale while providing nursing care to children diagnosed with cancer and their families will guide them in objectively determining symptoms, understanding the relationship between symptoms, and managing symptoms.

**Keywords:** Cancer, children, nurse, symptom, scale, validity

## 1. INTRODUCTION

Childhood cancer is a growing chronic health problem worldwide. Childhood cancers refer to cancers seen in children aged 0-19 years (1). Childhood cancers consist of 0.5%-4.6% of all cancers. Depending on the developments in cancer treatment in recent years, early diagnosis and appropriate treatment have improved the prognosis of childhood cancers (2,3). While 5-year survival rates were 58% in children diagnosed with cancer in the 1970s, this rate has increased to 80% today (4). However, cancer treatment is a long-term treatment that includes various methods (chemotherapy, radiotherapy, transplants, surgical procedures, targets in cancer therapy, etc.) (5-7). Children could show many physical and psychosocial symptoms related to the diagnosis and treatment of cancer (8,9). The most general physical symptoms in children can be listed as fatigue, loss of comfort, weakness, nausea, pain, constipation, diarrhea, mouth sores, lack of appetite, taste changes, numbness in the hands and feet, and hair loss (7,10,11). Psychosocial symptoms, on the

other hand, are feeling sad, anxious, or angry, stress, fear, sleep difficulties, and anxiety (9,12,13).

Symptoms can inhibit the child's physical, emotional development, and psychosocial. They may negatively affect their ability to participate in activities and the quality of life of their families and themselves. Studies show that only one-dimensional study of cancer-related symptoms is evaluated, and they are tried to be managed accordingly (14,15). Initial studies assessing symptoms related to cancer or its treatment usually focus on a single symptom. This has provided a detailed understanding and management of specific symptoms (nausea, vomiting, pain, fatigue, anxiety, difficulty sleeping, etc.) (16).

On the other hand, treatment and care focused on a single symptom could not provide symptom control at the desired level (9). Symptoms that cannot be evaluated and managed effectively may lead to a prolonged hospital stay, interruption

of treatment, changes in drug doses, protocols, or treatment (17,18). Other symptoms often accompany symptoms and have a synergistic effect (17,19-21). Therefore, identifying symptoms that affect and are affected by each other may lead to a better understanding of the complexity of symptoms and the development of interventions for their management (22).

Symptom management is essential for healthcare outcomes of the children and their families since the continuity of treatment, the life span and quality of the child, morbidity, and mortality are affected by symptoms in children with cancer (23,24). Assessing individual symptoms and their relationship to each other is the first step in symptom management (16). The symptoms experienced by the child should be evaluated objectively and from a holistic perspective (25). The number of adequate measurement tools is limited in the world, which collectively evaluates the symptoms in children followed up with the diagnosis of cancer. There are scales generally used to assess symptoms around the world, such as Advanced Symptom Management System, Memorial Symptom Assessment Scale (MSAS) 7–12, MSAS 10–18, Symptom Distress Scale, Sitaresmi, Therapy-Related Symptom Checklist for Children, Rotterdam Symptom Checklist, SSPedi (8-18), and SSPedi (4-7) (13,26). The Memorial Symptom Assessment Scale (MSAS) 10-18 is a multi-symptom assessment tool with validity and reliability in Turkey. MSAS is a scale that can be used for 10 to 18-year-olds and filled in on paper (27). The Symptom Screening Tool in Pediatric Patients (SSPedi), one of these measurement tools, has been developed by Tomlinson et al. to evaluate the symptoms seen in children aged 8 to 18 years with oncological problems. The tool evaluates 15 symptoms in terms of frequency and severity (11). SSPedi (8-18) can be filled on paper or electronically (13). It is thought that the broad age range and electronic use of SSPedi 8-18 will provide the opportunity to evaluate the child's symptoms 24/7 and in any environment. Considering the place of technology in our lives and the passion of children and young people for technology, it is clear that there is a need for multiple symptom assessment tools that can be used electronically in the assessment of symptoms in children with cancer (28).

## 2. METHODS

### 2.1. Aim

This study aimed to conduct the reliability and validity of the Turkish version of the Electronic Symptom Screening Tool in Pediatrics for children aged 8-18 with cancer.

### 2.2. Design

Linguistic and content validity were tested in this methodologic study.

**Linguistic validity** was tested using the translation-back translation method for the SSPedi 8-18. First, a native Turkish translator with good English skills translated the tool. Two English-speaking academics independently checked the translated texts of SSPedi. Then, the translator translated the tool into English again.

**Content validity** was determined by getting feedback from eight experts about the content of the tool. Experts were from the fields of pediatric nursing as the professor (2), assistant professor (4), research assistant in Ph.D. level (1), and pediatric nurse (1). They were asked to evaluate the intelligibility and relevance of each item for measurement using a 4-point rating scale (4=very relevant, 3=quite relevant, 2=somewhat relevant and 1=not relevant) (29). The original version of the tool was compared with its English version by the researchers. After experts' feedback, a pilot study was conducted with ten children aged between 8 and 18.

### 2.3. Sample

Eighty-three children and their families who met the research criteria were interviewed between September 2020 and June 2021. Three families declined to participate in the study. The sample in our study consists of 80 children (8-18 years) with cancer. The sample of the study consisted of 80 children diagnosed with cancer. For reliability and validity studies, it is recommended that the sample size should be 5-10 times the number of items (30,31). Therefore, in our study, the sample size for the 15-item tool was determined as 80. Inclusion criteria were: a) Cancer diagnosis and follow-up, b) 8-18 years of age, c) Turkish speaking, (d) chemotherapy treatment started (at least five days ago), (e) voluntary participation (children and their parents), and (f) children with an android phone, tablet or computer. Exclusion criteria were: (a) organic brain syndrome, etc., cognitively or visually impaired, (b) diagnosed medically with psychological problems, and (c) end-of-life in children.

### 2.4. Data Collection

The researcher filled out the descriptive data form with the data obtained from the child, family, and child's hospital records. The children were asked to fill out the MSAS (10-18) scale and an electronic version of the SSPedi 8-18 tool by themselves in their hospital room. The equivalent forms method was used instead of re-test because the symptoms can change instantaneously. MSAS (10-18) is the only valid and reliable multi-symptom assessment tool in Turkey, so this scale was used as an equivalent form. MSAS (10-18) and SSPedi (8-18) were requested to be filled out consecutively in the same time period by the child because symptoms can change quickly. After the child filled out the MSAS written form, the researchers collected a scale from the child. Since the number of items of the scales differed from each other and in order to perform correlation analysis between the scales, the two scales were sent to 7 different expert opinions in order to ensure item compatibility. In this second expert opinion, which was different from the content validity, the compatible items and the compatibility scores for the items were determined. On the other hand, after SSPedi was filled in by the children on their phones or tablets, the data was immediately seen on the results screen of the researchers. Children were informed that if they needed help while filling the scales, they would be helped. During the scales filling process, no request for assistance was required from the children. Each participant completed the scales in approximately 15 minutes.

## 2.5. Data Instrument

The Descriptive Data Form, MSAS (10-18), and SSPedi (8-18) were used as data instruments.

**The Descriptive Data Form** consisted of 14 items related to gender, age, child and parent education, child illness and treatment, and was developed by the researchers in accordance with the literature. (diagnosis of the child, age at diagnosis, duration of treatment, etc.) (11,13,32,33). Data about the illness and treatment of the child was checked from the hospital records.

**The Memorial Symptom Assessment Scale (MSAS 10-18)** was developed by Collins et al. (2000) to assess the frequency, severity, and bother of the symptoms experienced in children aged 8-18 with cancer. There are 30 items on the scale that children are asked to evaluate according to their experiences in the last week. Each item is of 4 or 5 Likert types to measure a symptom's frequency, severity, and discomfort. However, eight symptoms (weight loss, etc.) that are not suitable for frequency questioning were evaluated only in terms of severity and discomfort. In the study of Collins et al., Cronbach's alpha coefficients of the Physiological, Psychological, and General Condition Index sub-dimensions were determined as 0.87, 0.83, and 0.85, respectively (12). The Cronbach's alpha coefficients of the Physiological, Psychological, and General Condition Index sub-dimensions of the Turkish reliability and validity study of the scale by Atay et al. were found to be 0.92, 0.93, and 0.93, respectively (27). The total MSAS score is obtained by averaging the symptom scores of thirty symptoms. The total MSDS score and its sub-dimensions can be a minimum of 0 and a maximum of 4. As the score increases, the symptoms' frequency, severity, and discomfort increase.

**Electronic Symptom Screening Tool in Pediatrics (SSPedi 8-18)** validity study was made by Dupuis et al. (2018) to evaluate the symptoms experienced in children aged 8-18 years receiving cancer treatment. The tool consists of 15 symptoms that assess the symptoms that the children have experienced today and yesterday. A 5-point Likert scale is used to rate each symptom. The tool has a form that can be filled both on paper and electronically (11,13). In 2018, Dupuis et al. did a validity and reliability study of the electronic form of SSPedi in children aged 8-18 years who had cancer diagnosis follow-up. The validity and reliability of Cronbach's alpha coefficient for the electronic form of the screening tool were found to be 0.88. The tool score range varies between 0 (none) and 60 (worst possible) (13).

## 2.6. Ethics Consideration

Permission to conduct a reliability and validity study of the electronic SSPedi 8-18 was obtained from Dr. Lillian Sung via email. The study was approved by the Gazi University Ethics Committee (No: E-77082166-604.01.02-251580) of the university and the hospital. Both the children and their parents provided written informed consent.

## 2.7. Data Analysis

Data were analyzed using SPSS for Windows version 21.0 (SPSS, Chicago, IL, USA) at a significance level of .05. Validity analyses were confidently conducted using content and construct validity.

The Davis technique was confidently employed to ensure content validity. The minimum value in the content validity index is taken as 0.70 (34). While calculating the content validity index, the total score of each item was divided by the total number of experts. Kaiser-Meyer-Olkin (KMO) and Bartlett's sphericity tests were used to determine power and sample size, respectively.

Equivalent forms method, bisection method and internal consistency were used in reliability analyses. For the reliability of the tool, Cronbach's alpha reliability coefficient and item-total score correlation coefficient correlation tests were calculated. To determine the consistency of the tool over time, we also tested the equivalent forms method (MSAS 10-18 and SSPedi 8-18) using Spearman's correlation coefficient (total instrument score  $p < .001$ ). In addition, bisection method used to calculate the reliability coefficient of the whole test.

## 3. RESULTS

### 3.1. Descriptive Variables

The descriptive characteristics of children are given in Table 1. The mean ages of children who participated in the study were  $12.65 \pm 2.90$ , and the mean treatment duration (month) of children was  $15.34 \pm 11.96$ . and the age of diagnosis of children was  $11.56 \pm 3.90$ . In the study, 46 (57.5%) were male and 32 (39.9%) were diagnosed with lymphoma. The majority of the children had no relapse (77.5%). Previous treatments of the children participating in the study included chemotherapy, radiotherapy, and surgery (41.25%).

**Table 1.** Descriptive characteristics of children (n=80)

Descriptive properties	Mean $\pm$ SD	Min-Max
Age (years)	12.65 $\pm$ 2.90	8-18
Treatment duration (month)	15.34 $\pm$ 11.96	2-60
Age of diagnosis (month)	11.56 $\pm$ 3.90	5-25
	n	%
<b>Gender</b>		
Female	34	42.5
Male	46	57.5
<b>Income status*</b>		
Income lower than expenses	47	58.8
Income equal to expenses	29	36.2
Income higher than expenses	4	5.0
<b>Diagnosis</b>		
Leukemia (ALL, AML)	18	22.5
Lymphoma	32	40
Solid tumors	30	37.5
<b>Relapse status</b>		
Yes	18	22.5
No	62	77.5
<b>Previous treatment</b>		
Chemotherapy+radiotherapy+surgery	33	41.25
Chemotherapy+radiotherapy	21	26.25
Chemotherapy+surgery	7	8.75
Chemotherapy	19	23.75

\*The income status is as declared by the children.

### 3.2. Content Validity

Item content validity index ranged from 0.93 to 1.00, while total scale content validity index was 0.96. Word and verb conjugation changes were made after expert opinions such as “nervous instead of angry.” No item was omitted during the content validity process.

### 3.3. Construct Validity

The Kaiser-Meyer-Olkin coefficient demonstrated a high level of sampling adequacy (KMO=0.825). Additionally, Bartlett’s test indicated a statistically significant  $\chi^2$  value, supporting the suitability of the data for analysis ( $p < .001$ ). In this study, the eigenvalues between the first and second factors were 5.67 (33.81%) to 1.75 (11.64%) in the exploratory factor analysis.

### 3.4. Reliability

The Cronbach’s alpha value and the correlations between the items and the total score of the SSPedi (8-18) are shown in Table 2. The total item correlations of SSPedi is ranged between 0.15 and 0.72. The Cronbach’s alpha coefficient is 0.86 ( $p < .01$ ). Item-total score matching of the SSPedi (8-18) and MSAS (10-18) scales, which are used as equivalent scales, is given in Table 3. According to correlation tests of SSPedi and MSAS, correlations ranged from 0.17 to 0.67 (Table 4). Other items have a statistically significant correlation, except for items 11 and 12. The item-total score correlation coefficient is above  $r = 0.20$  ( $p < .01$ ). The correlation (SSPedi and MSAS) results of the relationship between the total scale score and its items are shown in Table 4.

**Table 2.** Item Cronbach values and analysis of SSPedi (n = 80)

		M	SD	Total item correlation ( $p < .001$ )	Scale coefficient of reliability if item deleted ( $p < .001$ )
Item 1	Feeling disappointed or sad	1.20	0.84	0.55	0.85
Item 2	Feeling scared or worried	1.15	0.88	0.56	0.85
Item 3	Feeling cranky or angry	1.11	0.82	0.43	0.86
Item 4	Problems with thinking or remembering things	0.62	0.80	0.45	0.86
Item 5	Changes in how your body or face look	2.50	0.72	0.67	0.85
Item 6	Feeling tired	2.56	0.82	0.72	0.84
Item 7	Mouth sores	2.22	0.72	0.54	0.85
Item 8	Headache	2.10	1.26	0.67	0.84
Item 9	Hurt or pain (other than headache)	2.20	1.12	0.64	0.85
Item 10	Tingly or numb hands or feet	0.99	0.72	0.44	0.86
Item 11	Throwing up or feeling like you may throw up	2.60	0.66	0.51	0.85
Item 12	Feeling more or less hungry than you usually do	1.89	0.82	0.51	0.85
Item 13	Changes in taste	1.70	0.96	0.63	0.85
Item 14	Constipation (hard to poop)	2.29	1.04	0.15	0.87
Item 15	Diarrhea (watery, runny poop)	1.04	1.16	0.34	0.86
	<b>Total Items</b>	<b>26,17</b>	<b>8.06</b>	<b>Total <math>\alpha = 0.86</math></b>	

Abbreviations: M = Mean, SD = Standard Deviation

**Table 3.** Item matching of the SSPedi and MSAS scales

Item number	Item text	Item number	Item text	Expert opinion suitability score Total score: 0.95
SSPedi 1	Feeling disappointed or sad	MSAS 15	Feeling sadness?	0.93
SSPedi 2	Feeling scared or worried	MSAS 17	Worrying?	1
SSPedi 3	Feeling cranky or angry	MSAS 5	The feeling of being nervous?	0.93
SSPedi 4	Problems with thinking or remembering things	MSAS 1	Difficulty concentrating or paying attention?	0.89
SSPedi 5	Changes in how your body or face look	MSAS 29	“I don’t look like myself.”	0.93
SSPedi 6	Feeling tired	MSAS 3	Lack of energy?	1
SSPedi 7	Mouth sores	MSAS 23	Mouth sores?	1
SSPedi 8	Headache	MSAS 2	Pain	1
SSPedi 9	Hurt or pain (other than headache)	MSAS 2	Pain	0.93
SSPedi 10	Tingly or numb hands or feet	MSAS 9	Numbness/tingling or pins and needles feeling in hands or feet?	0.96
SSPedi 11	Throwing up or feeling like you may throw up	MSAS 7 MSAS 12	Nausea or feeling like you could vomit? Vomiting or throwing up?	0.96
SSPedi 12	Feeling more or less hungry than you usually do	MSAS 19	Lack of appetite or not wanting to eat?	0.93
SSPedi 13	Changes in taste	MSAS 24	Change in the way food tastes?	0.96
SSPedi 14	Constipation (hard to poop)	MSAS 27	Constipation or uncomfortability because bowel movements are less frequent?	0.93
SSPedi 15	Diarrhea (watery, runny poop)	MSAS 14	Diarrhea or loose bowel movement?	0.96

**Table 4.** Correlation tests (SSPedi and MSAS) results of the relationship between total scale score and its items

		SSPedi 1	SSPedi 2	SSPedi 3	SSPedi 4	SSPedi 5	SSPedi 6	SSPedi 7	SSPedi 8	SSPedi 9	SSPedi 10	SSPedi 11	SSPedi 12	SSPedi 13	SSPedi 14	SSPedi 15	TOTAL SSPedi	
MSAS 15	r(p)	.321(.004)																
MSAS 17	r(p)		.257(.021)															
MSAS 5	r(p)			.274(.014)														
MSAS 1	r(p)				.437(.001)													
MSAS 29	r(p)					.243(.030)												
MSAS 3	r(p)						.394(.001)											
MSAS 23	r(p)							.247(.027)										
MSAS 2	r(p)								.409(.001)									
MSAS 2	r(p)									.517(.001)								
MSAS 9	r(p)										.334(.002)							
MSAS 7	r(p)											.017(.879)						
MSAS 12	r(p)												.061(.588)					
MSAS 19	r(p)													.059(.603)				
MSAS 24	r(p)														.343(.002)			
MSAS 27	r(p)															.649(.001)		
MSAS 14	r(p)																.674(.001)	
<b>TOTAL MSAS</b>	r(p)																	<b>.57(.001)</b>

#### 4. DISCUSSION

Identifying and measuring symptoms in children with cancer can positively improve the prognosis of treatment and care and the child's health (17,22). Evaluating the symptoms individually and using the scales in paper form may cause them not to be assessed in every setting and all the time. Therefore, using multiple assessment tools in the electronic environment is essential in evaluating and managing symptoms (9,13). The SSPedi can be filled in by the child herself/himself electronically; previous data can be easily accessed and evaluated, which can contribute positively to the child's self-care and self-evaluation.

This study determined the reliability and validity of the Turkish version of the Electronic Symptom Screening Tool in Pediatrics for children aged 8-18, which was applied in electronic form by Dupuis et al. to 502 participants (13). The sample in our study consists of 80 children who have been diagnosed with cancer. In the original study by Dupuis et al. the exploratory factor analysis suggested that one factor was appropriate, as the eigenvalues between the first and second factors decreased from 5.23 to 1.34 in the scree plot. Therefore, factor analyses were not performed (13). The eigenvalues between the first and second factors were 5.67 to 1.75 in the exploratory factor analysis in this study. Adequate sampling is indicated if the KMO value is greater than 0.70 (34). The KMO value was 0.825 in this study. For this reason, this study continued as a single factor without performing factor analysis.

If the alpha coefficient, which measures the internal consistency of scale items, is in the range of  $0.79 > \alpha > 0.60$ , the scale is considered highly reliable, and if  $\alpha > 0.80$ , the scale is considered very reliable (35). The validity and reliability of the Cronbach alpha coefficient for the electronic form of the screening tool of the original one was found to be 0.88 (13). In our study, Cronbach alpha of the SSPedi 8-18 was 0.86. This value shows that it is quite reliable. SSPedi 8-18 is validated in multiple languages, including Spanish, French, Brazilian, and Australian. Invalidity and reliability studies show that the scale is valid and reliable in different cultures and religions (26,36). The use of valid and reliable tools in symptom assessment can contribute to obtaining objective and evidence-based data. Thus, effectively managed symptoms will have a positive impact on the child's health care outcomes.

Item-total correlations were examined for each item to identify the item distinctiveness of the scale. In this study, the item-total correlation of more than 0.30 was regarded as the criterion for item retention (37,38). In our study, the correlations between the items and the total score ranged from 0.15 to 0.72. In this study, the item-total score correlation value is above 0.30, except in item 14. However, since all items showed a statistically significant correlation ( $p < .01$ ), item 14 was not removed.

"Equivalent Forms Method" was used to determine the reliability coefficient between MSAS 10-18 and SSPedi 8-18.

Expert opinions were obtained about the paired items of the scales used as the equivalent form. The consistency of the items of the paired scale sent to 7 experts was between 0.89 and 1, and the total consistency score was determined to be 0.95. Dupuis et al. applied the original scale to 502 participants 1. day and 282 participants 4 days after the first measurement and reported a test-retest correlation coefficient of 0.88 (13). In our study, the correlation coefficient of equivalent forms was 0.57. The correlation coefficient ( $r$ ) shows the relationship between two variables, and values are interpreted as follows:  $1.00 > r > 0.90$  = very high correlation,  $0.89 > r > 0.70$  = strong correlation, and  $0.69 > r > 0.50$  = moderate correlation (39). Correlation coefficient effect size ( $r$ ) ranges from  $-1$  to  $+1$  (40). There is a moderate and positive linear correlation between SSPedi (8-18) and MSAS (10-18) ( $r = 0.57$ ) ( $p < .01$ ). Therefore, bisection method used to calculate the reliability coefficient of the whole test, this coefficient is modified based on the split form by Spearman-Brown formula. After analysis with this method, the Spearman-Brown coefficient value was found to be 0.85. These results showed that SSPedi 8-18 could be used in cancer-diagnosed children for clinical and research purposes. The SSPedi 8-18 can positively contribute to the field due to children's self-reporting, ease of understanding, wide age range, and electronic use.

##### 4.1. Strengths and Limitations

In Turkey, MSAS (10-18) was only used to assess multiple symptoms. No scale can be used both on paper and electronically in Turkey. All children could easily complete the electronic version of SSPedi 8-18 in this study. The SSPedi 8-18 is the first symptom assessment tool that can be used electronically in Turkey. Tomlinson et al. managed the original scale for children receiving cancer treatment and undergoing hematopoietic stem cell transplant, but we applied it only to children receiving cancer treatment (11). The results of this study cannot be generalized due to its sample size of one hospital setting. Since the retest of the SSPedi could not be performed due to the rapid change of symptoms, the equivalent forms method was used and expert opinion was obtained for the compatibility of similar items.

#### 5. CONCLUSION

The results show that the SSPedi 8-18 is culturally and linguistically adaptable. It is considered to be a valid and reliable tool. The tool could be used to assess the symptoms of children with cancer aged 8-18 in Turkish. The new translation and adaptation version has been named the Electronic SSPedi 8-18-TR. The scale is thought to contribute to the determination and control of symptoms due to its easy use and multiple symptom content.

Electronical SSPedi 8-18-TR can be used everywhere and every time. Nurses' use of the scale while providing nursing care to children diagnosed with cancer and their families will guide them in objectively determining symptoms,

understanding the relationship between symptoms, and managing symptoms. Early diagnosis of symptoms could guide pediatric oncology nurses to plan, practice, and evaluate nursing care. This would enable effective screening and management of symptoms. It would also improve the quality of life of children and their families.

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Design of the study: EC, EK, NA

Acquisition of data for the study: RC, DB

Analysis of data for the study: RC, EK

Interpretation of data for the study: RC, EK, NA

Drafting the manuscript: RC, EK, NA, DB

Revising it critically for important intellectual content: EK, NA,

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