İKÇÜSBFD

#### **ARAŞTIRMA / RESEARCH**

# Preoperatif Dönemde Yapılan Tanıtıcı Eğitimin Kaygı Üzerine Etkisi: Randomize Kontrollü

*Effect Of Face To Face Education On Patient's Anxiety In Perioperative Period: A Randomized Controlled Trial* 

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Özet

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The research was presented verbally at the 3rd International & 11th National Turkish Surgery and Operating Room Nursing Congress (3-6 October 2019). Amaç: Bu çalışma, jinekolojik cerrahi girişim geçirecek hastalara ameliyat öncesi dönemde yapılan tanıtıcı eğitimin kaygı düzeyi üzerine etkisini incelemek için yapıldı Gerec ve Yöntem: Bu calısma, randomize kontrollü denevsel calısma olarak tasarlandı. İlk kez jinekolojik cerrahi girişim geçiren 60 hasta araştırma evrenini oluşturdu. Çalışmaya katılan tüm hastalar ameliyattan önceki gün/gece araştırmacı tarafından klinik ortamda ziyaret edildi; araştırma hakkında bilgi verildi, soru formu ve Durumluk-Sürekli Kaygı Ölçeği uygulandı. Deney grubundaki hastalara ziyaret sırasında ayrıca tanıtıcı eğitim yapıldı ve eğitim sonunda hazırlanan eğitim broşürü verildi. Her iki gruptaki hastalar ameliyathanede araştırmacı tarafından karşılandı ve ameliyathane salonuna alınmadan hemen önce Durumluk Kaygı Ölçeği tekrar uygulandı. Bulgular: Hem deney hem de kontrol grubundaki hastaların Durumluk Kaygı Ölçeği toplam puan ortalamasında (p:.001), klinik ortama göre ameliyathane ortamında görülen düşüş (p<.01) istatistiksel olarak anlamlı bulundu (p:.001; p<.01). Sonuç: Çalışmada, ameliyat olacak hastalara ameliyat öncesi dönemde verilen eğitimin kaygı üzerinde olumlu etkisi olduğu, daha önce hastanede yatma durumunun da ameliyat öncesi kaygı düzeyini etkilediği sonucuna varıldı.

Anahtar Kelimeler: Cerrahi, ameliyat öncesi dönem, kaygı, eğitim.

### Abstract

Objective: This study was conducted to examine the effect of preoperative introductory training, to be performed for patients who would undergo an operation for gynecological surgery, on anxiety level. Material and Method: This study designed as a randomized controlled trial. It constituted the research population 60 patients, who would undergo an operation for gynecological surgery for the first time. All patients were visited by the researcher in the clinic environment the day/night before the surgery, information was given about the study, the questionnaire and State-Trait Anxiety Scale were applied. An additional introductory training was offered to the patients in the experimental group during the visit. The patients in both groups were welcomed by the researcher in the operating room and State-Trait Anxiety Inventory was reapplied to them right before they were taken to the operating room. Findings: There was a statistically significant decrease the decrease in the State Anxiety Scale total score average (p:.001) of the patients in both the experimental and control groups compared to the clinical setting (p <.01) was found to be statistically significant (p:.001; p <.01) Conclusion: As a result of the study, it was concluded that preoperative training provided to patients who would undergo an operation had an effect on their anxiety and the state of having previously been hospitalized also positively affected preoperative anxiety levels.

Keywords: Surgical, preoperative period, anxiety, training.

# Introduction

Throughout lifetime, we may occasionally get unhealthy and encounter with diseases that require treatment and care. A disease causes the impairment of homeostatic balance and consequently the occurrence of a number of physiological, psychological, and social problems (Kaughn, Wichowski & Bosworth, 2007; Özer, 2016). Individuals give different reactions to diseases or problems. Disease may cause changes in the roles, body image, self-concept, family dynamics, as well as behavioral and emotional conditions of patients and their families (Marcus, 2014; Özbaş, 2006). Thus, situations like disease, hospitalization and operation are also evaluated as a temporary period in which individuals experience self-sufficiency and negative experiences that are perceived as a threat to health (Aykent, Kocamanoğlu, Üstün, Tür, & Şahinoğlu, 2007).

Being a universal life experience and seen in every individual's life; anxiety is an emotion, which is caused by unknown reason, is spontaneous, and stimulates individual to be on the alert, and it emerges whenever individual feels under threat (Yıldız, 2011; Yücel, 2011). Anxiety level is affected by personal traits of individuals such as age, gender, life experiences and coping skills, and it is a hard-to-define, subjective and complex condition that changes from person to person (Ala, 2007).

The patient who would undergo a surgical operation not only has a hope for getting rid of pain and ache, but also feels anxious about new pains and aches that would be caused by the procedure or losing their consciousness during anesthesia. Fear of death, fear of having body damaged and injured, fear of losing identity and control during anesthesia, fear of ability loss and dependence after operation, fear of the unknown concerning both surgery and anesthesia, fears concerning certain aspects of procedure (for instance: fear of operation, fear of injection, fear of anesthesia) constitute sources of fear in surgery (Cimilli, 2001). Development of preoperative stress and anxiety is caused by the accustomed role, perceived threat to physical integrity or sustainment of life, and feeling an anxiety about the future (Aksoy, Kanan & Akyolcu, 2017)

Preoperative training has been considered important for a long time and it is accepted as an important part of individuals' surgical preparation. It is observed that patients who are unable to receive sufficient information before operation experience, live various problems before and after operation, such as anxiety, depression, anger, pain, uncertainty about the future, and seen failure of fulfilling personal functions after operation (Cevik, 2012; Özbayır, Demir, Candan, Coşkun & Dramalı, 2003; Uzun, 2000). Thus, it is very important to train and inform patients before and after operation. It is suggested that an efficient informing will decrease the development of anxiety, fear and depression, reduce pain, lead up to an earlier mobilization for individuals, and shorten the duration of hospitalization (Bulut, 2013; Erdil, 2012; Grieve, 2002; Salkım, 2010; Yılmaz, 2016).

#### **Material and Method**

A randomized, controlled trial was conducted for the purpose of examining the effect of introductory training on surgery that was performed for patients, who would undergo operation at gynecology and obstetrics clinic, in the preoperative period on anxiety levels. The study was conducted in the gynecology and obstetrics clinic of a private university hospital in the province of Istanbul. The population of the study consisted of patients who would undergo an operation at gynecology and obstetrics clinic between November 2014 and May 2015. The sample size was estimated by using the Medicres E-picos program (https://www.e-picos.com/apps/power/sscm), and it was determined that a minimum of 58 patients were needed [d (effect size/ effect width) =1.60, =0.05 =0.10 and power = 0.80]. The study sample numbered 60 patients. The sample group, on the other hand, consisted of 60 patients (30 in the control and 30 in the experimental group), who would undergo an operation at gynecology and obstetrics clinic between the aforementioned dates, met the inclusion criteria, and agreed to participate in the study.

The inclusion criteria were:

- · Undergo an operation for the first time
- Undergo a gynecological operation
- Be in the age range of 18-65 years
- Have no psychiatric disorder (diagnosed disease)

• Have consciousness for the application of information form and inventory and no communicational barrier

- Not be medical personnel
- Have an elective surgery

Agreed to participate in the study (in the preoperative period)

# Randomization

The following way was followed to form the experimental and the control groups. Among patients who were hospitalized in the gynecology and obstetrics clinic to undergo an operation between November 2014 and May 2015, those who met the inclusion criteria were included in groups according to the order of admission at the hospital. Patients who had an odd protocol number were included in the experimental group, whereas patients who had an even protocol number were included in the control group.

#### Figure 1. Flow diagram



#### **Data Collection Tools**

In the study, Patient Information Form and State-Trait Anxiety Inventory were used as data collection tool.

#### **Patient Information Form**

The Patient Information Form was prepared by the researcher in accordance with the relevant literature (Doğu, 2013; Spalding, 2003; Yıldız, 2011), it included variables to determine socio-demographic data, and consisted of 16 questions.

#### **State-Trait Anxiety Inventory**

The State-Trait Anxiety Inventory was developed by Spielberg et al., in 1964. It was standardized and adapted into Turkish by Öner and Le Compte between 1974 and 1977 (Öner & Le Compte, 1998). It is a four-point Likert scale consisting of 20 items.

State Anxiety Inventory concerns describing how individual feels at a certain moment and under certain conditions

and requires marking one of four options as "1 (Never), 2 (A Little), 3 (Much), 4 (Entirely)" according to the level of their feelings at that moment while reading the items of the inventory. Trait Anxiety Inventory, on the other hand; requires individuals to describe how they generally feel. Inventory items are as; "1 (Almost Never), 2 (Sometimes), 3 (Usually), and 4 (Always)".

The inventories involve reverse statements. (items 1,2,5,8,10,11,15,16,19, and 20) in the State Anxiety Inventory and (items 21,26,27,30,33,36, and 39) in the Trait Anxiety Inventory are scored reversely. Direct statements signify negative feelings; whereas reversed statements signify positive feelings. While scored reversed items, items with a weight value of 1 turn into 4 and items with a weight value of 4 turn into 1. Total score obtained from the inventory varies between 20 and 80. The higher score signifies a higher anxiety level, whereas the lower score signifies a lower anxiety level (Öner & Le Compte, 1998). As Öner states, Spielberger's State Anxiety Inventory is evaluated as follows;

- 0-19 points no anxiety
- 20-39 points mild anxiety
- 40-59 points moderate anxiety
- 60-79 points severe anxiety
- 80- points and above panic.

In the Turkish adaptation of the scale, the reliability coefficients were determined via alpha correlations as .83 - .92 for the State Anxiety Inventory and .83 - .87 for the Trait Anxiety Inventory (Kartopu, 2012; Öner, 1985; Sargın, 1990). In the study, the Cronbach alpha coefficient was determined as .63 for the Trait Anxiety Inventory and .61 for the State Anxiety Inventory.

### **Initiative Applied in the Study**

### **Introductory Training Brochure**

It was prepared by the researcher for informing patients about what they would experience in the operating room environment. The introductory information includes about the process that starts once patients leave the clinic, such as surgical team, operating room environment and transferring from operating room, physical conditions of operating room, and perioperative and postoperative process. The information concerns what patients may experience as from the moment they leave the clinic until they are put to sleep in the operating room and in the postoperative period. As well as theoretical information, images visually reflecting the environment were also used.

# Data Collection

The patients who were hospitalized to undergo an operation in the clinical routine of the institution were informed before operations by primary nurses in their clinics about the preoperative hospital environment, clinic, how to reach the operating room and what to do in the care process. They were made wear convenient dress for the operating room and take off their metal ware, jewelleries, prostheses or lenses. They were provided care after the application of hospital routines. In the first phase of the research; all patients were visited by the researcher on the day/night before operations in the clinic environment for the study, informed about the study. Then, verbal and written consent was obtained from all patients to participate in the study.

In the second phase of the research; Patient Information Form and State-Trait Anxiety Scale were applied to the experimental and control groups. An additional introductory training was provided to patients in the experimental group who were selected according to randomization during their visits in the clinic. The patients were allowed to ask questions in the training process and their questions were answered. Training brochures were delivered to the patients at the end of the training.

At the last stage of the research; the experimental and control group patients were welcomed by the researcher at the entrance of the operating room. The State Anxiety Scale was administered again while in the waiting room, just before being taken to the operating room. The entire process (data collection, training, patient welcoming) was conducted by the researcher.

# **Data Analyses**

The data were assessed by a statistician in the computer environment and the analyses were carried out by using the IBM SPSS Statistics 22.0 software. Convenience of parameters for normal distribution was evaluated using the Kolmogorov-Smirnov test. As well as descriptive statistical methods (Mean, Standard Deviation, Frequency), Oneway ANOVA test, t test, Mann-Whitney U test, Chi-Square test, Continuity Correction (Yates) test, and Fisher-Exact test were used. Reliability analyses of the inventories were carried out via the Cronbach alpha analysis. Significance level was evaluated as p<.05.

# **Ethical Considerations**

Permission was obtained from the hospital where the study was conducted, and the approval of the ethics committee of the University was obtained before the study (Date: 16.02.2015 Decision No: 10). All the patients were informed about the content of the study and their written "Informed Consent Form" was obtained. The patients' identifying information was not used during or after the study.

# Results

It was determined that the patients were in the age range of 18 and 65 years and had an age average of 42.12±14.82 years; 40% of them were older than 45, 61.7% were previously hospitalized, 55% wanted to obtain information about operation from nurses and physicians and all patients felt anxious about operation (Table 1).

It was determined that 83.3% of the patients felt anxious about operation due to the operating room environment, 78.3% about postoperative pain and 73.3% about risk of not waking up after operation (Table 2).

When examining the inventory score distributions of the patients in (Table 3); it was determined that the patients in the control group obtained total scores of 26-41 from the Trait Anxiety Inventory and had a mean score of  $44.7\pm5.26$ , whereas the patients in the experimental group obtained total scores of 30-38 and had a mean score of  $43.7\pm5.03$ .

#### Table 1. Demographic Characteristics of the Patients

			Control Group (n=30)		Experimental Group (n=30)		Total (n=60)	
		Min-Max	Mean±SD	Min-Max	Mean±SD	Min-Max	Mean±SD	
Age (year)		27-65	45.5±12.91	28-69	38.73±16.02	18-65	42.12±14.82	
Number of hospitalizations		1-5	1.75±1.12	1-3	1.76±.75	1-5	1.76±.95	
		n	%	n	%	n	%	
State of having previously	Yes	20	66.7	17	56.7	37	61.7	
been hospitalized	No	10	33.3	13	43.3	23	38.3	
	Physician	13	43.3	10	33.3	23	38.3	
Person(s) to consult concerning the operation	Nurse	1	3.3	3	10	4	6.6	
the operation	Physician and nurse	16	53.3	17	56.7	33	55	
Feeling anxious about the operat	tion	30	100	30	100	60	100	

Table 2. The Reasons for the Patients to Feel Anxious about Operation

	Control Group (n=30)		Experimental Group (n=30)		Total (n=60)	
	n	%	n	%	n	%
*Having no information about operation	7	23.3	11	36.7	18	30
*Having no information about and contact with physician who would perform operation	2	6.7	2	6.7	9	15
*Believing in failure of operation	1	3.3	8	26.7	3	5
*Having a little trust in anesthetist	1	3.3	2	6.7	8	13.3
*Operating room environment	5	16.7	3	10	50	83.3
*Passing away during or after operation	27	90	23	76.7	31	51.7
*Failure of waking up after operation	-	-	1	3.3	44	73.3
*Feeling pain after operation	27	90	17	56.7	47	78.3
*Having nausea-vomiting after operation	11	36.7	12	40	23	38.3
*Having a negatively affected body image after operation	3	10	7	23.3	10	16.7
*Losing competence and valuableness after operation	12	40	10	33.3	22	36.7
*Other reasons	2	6.7	9	30	11	18.3
Operation scar	-	-	1	11.1	1	9.1
Failure of having children	1	50	4	44.4	5	45.5
Bleeding	1	50	2	22.2	3	27.3
Pathology result	-	-	2	22.2	2	18.2

\*Multiple responses were given.

It was determined that the patients in the control group obtained total scores of 29-57 from the State Anxiety Inventory and had a mean score of 36.63±4.93 in the clinic environment and they obtained total scores of 35-54 from the State Anxiety Inventory and had a mean score of 32.83±3.9 in the operating room environment. It was determined that the patients in the experimental group obtained total scores of 33-50 from the State Anxiety Inventory and had a mean score of 39.69 ±5.08 in the clinic environment and they obtained total scores of 36-55 and had a mean score of 33.52±2.21 in the operating room environment. Experimental group patients in the clinic were observed to obtain higher total mean scores of State Anxiety Inventory than control group patients in a statistically significant way. (p:.023; p<.05).

There was a statistically significant decrease in the total mean scores obtained by the patients in the experimental group and the control group from the State Anxiety Inventory in the operating room environment compared to the clinic environment (p:.001; p<.01).

On the other hand, there was no statistically significant difference between the scores obtained by the patients from the State Anxiety Inventory in the clinic and the operating room environment. (p>.05) (Table 4).

Another remarkable result of this study was that as well as preoperative training, meeting the physician that would perform the intervention and also a part of the operation team was effective on decreasing the anxiety.

#### Discussion

One of the most important reasons for preoperative anxiety is the fear of the unknown. Some studies suggest that patients who are informed about operations in detail during the preoperative period have either lower levels of or no anxiety in this period and they have a faster postoperative recovery (Taşdemir, Erakgun, Deniz & Çertuğ, 2013; Turhan, 2007). Thus, it is an important issue to examine the anxiety levels of patients in the preoperative period and the effective factors (Çetinkaya & Karabulut, 2010; Çevik, 2012). p<.05

Inv	ventories		l Group =30)	•	ntal Group =30)		
	-	Min-Max	Mean±SD	Min-Max	Mean±SD	t	р
Trait Anxiety Inve	entory	26-41	44.7±5.26	30-38	43.7±5.03	827	.412
State Anxiety	Clinic	29-57	36.63±4.93	33-50	39.69±5.08	-2.345	.023*
Inventory	Operating Room	35-54	32.83±3.9	36-55	33.52±2.21	.752	.455

Table 4. Comparison of the Patients' State Anxiety Inventory Scores and Score Alterations according to the Clinic and Operating Room Environment

	State Anxiety Inventory				
Inventories	Control Group	Experimental Group			
	Mean±SD	Mean±SD			
n the Clinic	36.63±4.93	39.69±5.08			
n the Operating Room	32.83±3.9	33.52±2.21			
and p	t=3.608 p=.001**	t=5.522 p=.001**			
ifference of Mean scores	-3.8±5.77	-5.62±5.19			
t and p	t=1.231	p=.224			
Student t Test Paired sample t Test					
*p<.01					

In the study, there was no statistically significant difference between patients in the experimental group and the control group in terms of demographic characteristics, people they lived with at home, state of previous hospitalization and person(s) to consult concerning the operation, as well as factors showing their condition at the hospital. This result showed that the experimental and the control group were homogeneous, which increases the power of the study.

# "Comprehensive education plays an important role in reducing anxiety, improving stress coping and in shortening the length of stay and consequently in patient satisfaction"

In the literature, it is stated that when patients know their surgeons and are informed by their surgeons about operation, this is effective in decreasing anxiety and fear, which will make positive contributions to care and treatment (Karaman, 2008). In the study, both groups stated that they wanted to obtain information from physicians and nurses about operation. This result supports both literature and the necessity for involving nurses in the process of informing. It may also indicate that patients consider medical team as a whole, which could be associated with the fact that patients spend more time with nurses and share their anxieties with nurses more easily (Akinsulore, Owojuyigbe, Faponle & Fatoye, 2015; Nigussie, Belachew & Wolancho, 2014; Ting, Ng, & Siew, 2013).

Surgical operations are negative life experiences for patients and patient relatives. In the literature, it is reported that undergoing an operation is one of the most important experiences in the life of individuals that affects them physically, psychologically, socially and economically (Douki, et al, 2011; Sidar, Dedeli & Ahmet, 2013). Individuals may feel anxious due to matters such as having no information about preoperative procedures, fear of the unknown concerning operation, impairment of physical integrity, disability, feeling pain, death, fear of being insufficient to themselves and their families, fear of ability loss and dependence after operation, and decrease in socio-economic status (Aksoy, Kanan & Akyolcu, 2017; Fındık & Topçu, 2012; Yavuz, 2017)

All patients participating in the study were observed to feel anxious about operation. It was determined that 83.3% of the patients felt anxious due to the operating room environment, 78.3% pain after operation and 73.3% risk of not waking up after operation. In the literature, the reasons of preoperative fear are respectively as; failure of waking up, fear of mask and needle, feeling pain during operation and having nausea-vomiting and pain after operation (Caumo, et al., 2001; Çelik, 2013; Robleda, Sillero - Sillero, Puig, Gich & Baños, 2014). In the study of Turhan, Avcı and Özcengiz (2012), failure of waking up after operation and pain are the primary reasons of anxiety. In their study titled "anxiety treatment in cases that would undergo heart surgery"; Demir, Akyurt, Ergün, Haytural, Yiğit and Taşoğlu (2010) also revealed that failure of waking up after operation and pain were top two reasons of anxiety in anesthesia. This result supported both literature and the finding of Turhan vd.,'s (2012) study.

A number of studies reveal the importance of basic informing for decreasing preoperative anxiety and its physiological and psychological symptoms and providing a recovery that would lead to early discharge (Doğu, 2013).

### "Effective and high-quality care that increases patient satisfaction and reduces cost, hospital stay, complication and morbidity rates should prefer, instead of traditional practices"

In the literature, it is emphasized that all anesthesia practices are perceived as a danger for patients and this perception may lead to both preoperative and postoperative anxiety (Ayan, 2012; Çetin, 2014; Kehlet & Wilmore, 2008).

In the study, patients in the experimental and the control group feel mild anxiety in the clinic environment and moderate anxiety in the operating room environment. This result supported literature. In the study, it was observed that the patients in the experimental group had significantly higher mean scores of state anxiety inventory in the clinic environment than patients in the control group. Despite this, the patients in both groups had a statistically significant decrease in total mean scores of State Anxiety Inventory in the operating room environment compared to the clinic environment, which is contrary to the expected. A significant decrease in the anxiety scores of the experimental group in the clinic and operating room environment is an expected finding in terms of the outcome of the training. All patients were welcomed by the researcher, who conducted the study and was involved in the surgical team, in the operating room. Thus, significant decrease in the control group could be associated with the fact that the patients were visited one day before operations, developed a sense of trust as they met their nurses and consequently had decreased levels of anxiety. In other words, it could be asserted that as well as informing, the visit by nurses could have affected anxiety in an uncontrolled way.

However, even though the decrease in the scores obtained by patients in the experimental group from the State Anxiety Inventory was not statistically significant; the change in the control group was numerically greater, which indicates that training had a higher effect on anxiety.

Literature includes similar studies on anxiety and preoperative training/introduction. It was determined that informative nursing training provided to patients 24 hours before the operation was effective in decreasing the anxiety levels of patients (Çevik, 2012; Durmuş, 2015).

"Nurses should be competent enough to develop their gynecological surgical care practices in the light of new studies, and develop their research and reading skills"

Preoperative nursing care includes a psychological preparation including essential explanations about operation and postoperative period, a physiological preparation concerning systems and patient information for preventing postoperative complications (Aksoy, Kanan & Akyolcu, 2017; Çetin, 2014; Yılmaz, 2016). In their study titled "anxiety and surgical recovery"; Munafo, & Stevenson, (2001) questioned how patients could cope with anxiety caused by operations and stated the importance of interviewing with patients in the preoperative period in order to express their fears and anxieties. They reported that preoperative evaluation of anxiety affected the relationship between the postoperative pain and morale. In the study of Toksal (2005), patients in the preoperative period stated that they expected concern, smiling face, tolerance and understanding from nurses.

In a similar study in the literature (Tatarlı, 2007), 5.25% of the patients emphasized the importance of obtaining information from nurses as one of factors affecting the quality of clinic. Thus, it is required to train patients in this period in order to increase the level of qualified preoperative nursing care. Similarly, Özberksoy (2006) investigated the effect of providing informative and educational nursing approach to patients with breast cancer in the preoperative period on postoperative pain and anxiety levels, and determined lower scores of anxiety inventory in the training group than the group with no training. Similarly, Çevik (2012), Homzova & Zelenikova (2015), Yılmaz, Sezer, Gürler & Bekar (2012), Yıldız (2011) also investigated the effect of preoperative informing in patients who would undergo a surgical operation, on anxiety levels, postoperative pain and pain management satisfaction. Thus, they measured lower levels of general anxiety in the whole training group than the group with no training. It is possible to assert that the acquired results are compatible with literature

#### **Conclusion and Recommendations**

• In this study, it is understood that surgical operations and anesthesia applications are an important stress factor for patients. In the preoperative period, it is observed that the anxiety levels of the patients are high and they experience important anxiety related to anesthesia, such as not waking up after surgery, and postoperative pain.

• In the study, it was determined that comprehensive preoperative introductory information applied to patients who would undergo gynecological operations was effective on their anxiety levels and previous hospitalization also affected their preoperative anxiety levels.

• Enable operating room nurses to meet patients before surgical intervention and inform them about the course of clinic and the process of operation;

• Organize/enhance training programs in a more comprehensive way to meet the information needs of patients concerning the preoperative period.

# Contributions

Nurses should be competent enough to develop pre-and post-gynecological care practices in the light of evidencebased up-to-date information. Their colleagues and physicians need to support these changes and improve their research and reading skills. In this way, it will be possible to contribute to the formation of evidence-based guidelines for nursing care standards.

### "In this way, it will be possible to contribute to the formation of evidence-based guidelines for nursing care standards"

#### **Declaration of Conflicting Interests**

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