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Effects of Zikr Meditation and Jaw Relaxation on Postoperative Pain, Anxiety and Physiologic Response of Patients Undergoing Abdominal Surgery

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Abstract

The surgical experience and hospital environment is an anxiety-provoking event. Pain and anxiety are the most common distressing adverse effects in the early postoperative period. Routine pharmacologic Methods may impair the recovery of patients for their sedative and emetic effects. Therefore, patients' relaxation is the cornerstone for a successful post operative pain & anxiety managements and it is among the interventions addressed to improve physiologic response. The aim of this study was to examine the effects of zikr meditation and Jaw relaxation on reducing postoperative pain, anxiety and physiologic response. the study hypothesized that Patients who practiced zikr meditation & Jaw relaxation exercise in experimental group have less pain, anxiety and physiologic parameter than in control group & pre intervention .the study was conducted at The findings of the present study showed that patients undergoing surgery who practice zikr meditation & jaw relaxation have significantly lower subjective indices of anxiety and pain, after following the guideline of Zikr meditation & jaw relaxation practice. However, the study showed that there was no statistically significant difference between the two groups in the physiological responses. These responses included the systolic and diastolic blood pressure, heart rate, and respiratory rate. These findings imply a possible benefit of such guideline in improvement of the delivery of efficacious nursing management that decreases pain severity and anxiety for patient undergoing surgery. Therefore, zikr meditation & jaw relaxation therapy could be incorporated into clinical practice as a routine nursing intervention before and after abdominal surgery.

Key words: zikr meditation, Jaw relaxation, Pain, Anxiety, physiologic response, abdominal surgery

Introduction

Pain and anxiety are the most common distressing adverse effects in the early postoperative period. Routine pharmacologic methods—opioids and benzodiazepines—may impair the recovery of patients for their sedative and emetic effects. Most previous studies have been focused on the treatment of preoperative anxiety , or late postoperative pain, Good, Stanton-Hicks, Grass(1999) and Good, Stanton-Hicks, Grass(2001). Preoperative patients may worry about pain and discomfort and, as a result, they may experience anxiety and fear (Mitchell 2000). If not well managed, anxiety reactions could negatively influence health and delay recovery (Brull et al. 2002, Giannoudis et al. 2006). In Turkey, 93.7% of the patients undergoing surgery report that they suffer from severe pain (Aslan, 2005 as cited sacide &Ummu,2010).additionally, Lee (2004) reported that 77–98% of patients experience postoperative pain and of these, 40–80% report moderate-to-severe pain and half (40–50%) further report unsatisfactory pain management. postoperative pain can cause stress and anxiety. Particularly, severe pain after upper abdominal surgeries can multiply the complications by adversely affecting the respiratory functions and mobilization of the patient owing to the proximity of the incision site to the diaphragm (Richards & Hubbert,2007). Pain management is crucial for surgical patients. Postoperative pain management strives to prevent the side effects of pain, facilitate recovery, and reduce treatment costs by minimizing or eliminating the patient's distress (Arslan & C¸elebio_glu, 2004 as cited sacide yidizi & Ummu yidlizi,2010).).Pain management is both pharmacological and non-pharmacological (Pellino et al. 2005). Although analgesics are widely used to relieve severe acute and chronic pain, studies showed that non-pharmacological pain management can reduce the emotional effect of pain, enhance adjustment and make

patients believe that they can control their pain, thus reducing pain and promoting sleep (Schaffer & Yucha 2004).The literature demonstrates that relaxation causes a drop in blood pressure, heart rate, and breathing rate, as well as in pain responses and anxiety (Kesler, Patterson, & Dane, 2003). Relaxation exercises first became the subject of nursing research in 1971, when Aiken and Henrichs used systematic relaxation training as a nursing approach for patients scheduled to undergo open-heart surgery. From then on, nurse researchers have used relaxation exercises to reduce anxiety, muscle tension, and pain in preoperative and postoperative patients Dickinson et al. (2008) reviewed 29 randomized controlled trials to evaluate the effects of relaxation therapy and found that there were significant reduction in SBP and DBP in people with elevated blood pressure. Relaxation therapy could complement analgesics to help postoperative patients better manage pain and anxiety. Demiralp & Oflaz, 2007; Friesner, Curry, & Moddeman, 2006). Studies from several countries have found that relaxation decreased the sensory and affective components of postoperative pain. In many of these studies, investigators tested the jaw relaxation technique (Flaherty & Fitzpatrick 1978, Ceccio 1984, Horowitz et al. 1984, Mogan et al. 1985, Good 1995a, Good et al. 1999, 2001a, 2001b), and this was effective in nearly all of the studies. Holistic nursing is nursing practice resulting in healing the whole person as human being that has interconnectedness of body mind social cultural spiritual aspect (Dossey, Keegan, , & Guzzeta,. ,2005). Holistic nursing always correlates with religion or belief system. Islam as a holistic view provides spiritual tenets, which can be applied in nursing practice. Spirituality intervention comprises of the Islamic tenets based on the holy Qur'an (Syed, 2003), prophet Muhammad's life ways (Loukas, Saad, Tubbs, & Shoja, 2010), and modified conventional methods. Spirituality intervention is applied in many fields of nursing such as medical, surgical, maternity, pediatric, psychiatric, critical, and community nursing. Its benefit has shown in several aspects including helping patients to accomplish spiritual duty and to elicit a relaxation response of calmness and mindfulness and activate neurological pathways for self-healing process by promoting self-preservation on psychological adaptation, physiological status, transpersonal caring relationship, and spirituality for connectedness with God (Hudak, Gallo, & Morton, 1998). Development of spirituality intervention starts from routine to research and to nursing practice. Zikr meditation is usually followed as an Islamic prayer that can be practiced at any time. In a regular basis, Zikr therapy is performed twice a day wherever it is convenient to perform either in the morning or the evening (Syed, 2003). Zikr results in peaceful body mind spirit to promote one's optimal harmonization, which enhances psychological, social, spiritual, and physical health status (Abdel-Khalek & Lester, 2007; Syed, 2003). Original Islamic relaxation technique utilizes Zikr therapy. Zikr therapy is the remembrance of Allah, and requires one to sit or lie comfortably, with eyes closed, and practice remembrance of Allah through recitation of: "Subhanallah, alhamdulillah, allahu akbar" "Glorious is Allah, praise to Allah, Allah is the greatest" for 20 to 30 minutes (Damarhuda, 2005; Mardiyono et al., 2007; Purwanto & Zulaekah, 2007; Sitepu, 2009). Zikr therapy could reduce psychological problems. Zikr therapy for 25 minutes reduced preoperative anxiety (Mardiyono et al., 2007). Zikr therapy for 30 minutes could relieve postoperative pain 6-8 hours ($t=5.29$, $p<.01$) and 24-30 hours ($t=7.79$, $p<.01$) in Muslim patients undergoing abdominal surgery (Sitepu, 2009)**.** The types of Eastern meditation are Zen, Buddhist, Taoist, and Islamic meditation such as Zikr meditation. Zikr meditation has strength and brings physical and spiritual benefits. The physical benefits include aspects such as purifying the heart from all negative attitudes and emotions; gaining freedom from worldly stress, anxiety, despair, and depression; and becoming highly focused and ambitious. In addition this increases spiritual strength and vitality, breathes the spirit of life into the heart, and the individual becomes one of those who are genuinely alive. (Tim Zahra, 2006). During Zikr meditation, consciousness of the object of meditation is directed to Allah (SWT). Thus, this transcendental meditation is mostly used as a way to bring ourselves closer to Allah (SWT) or transcendentally united with Allah (Subandi, 2002 as cited Purwanto, 2007). Among Muslims, belief of God (Allah) can help them if something happen wrong in their life such as having problem or sick. They believe that they would touch the Allah which, in turn, could help them to strengthen their soul, body, and mind. Once Zikr meditation practice is performed, the autonomic nervous system is stimulated less, and this in turn decreases physiological responses. Previous studies have found the positive outcomes of practicing Zikr meditation among surgical patients and psychological disturbance. Mardiyono et al. (2007) found that Zikr therapy subhannallah for 25 minutes can decrease anxiety in major surgery the study found that there were significant differences between the control and experimental group n=70 in blood pressure, temperature, respiration and pulse . We conducted this controlled clinical trial to evaluate the effects of zikr meditation and Jaw relaxation on reducing postoperative pain, anxiety and physiologic response.

Materials and Methods

Aim of the Study**:**

The aim of this study was to examine the effects of zikr meditation and Jaw relaxation on reducing postoperative pain, anxiety and physiologic response.

The Study Design**:**

Randomized controlled design was carried out, with an experimental and control group, pretest-posttest.

Research Questions:

The following research questions were asked in this study:

1. Is there a difference between pain severity pre and post zikr meditation practices & Jaw relaxation exercise?
2. Is there a difference between anxiety level pre and post zikr meditation practices & Jaw relaxation exercise?
3. Is there a difference between physiologic responses (blood pressure, respiration& heart rat) pre and post zikr meditation practices & Jaw relaxation exercise?
4. Is there a difference between pain, anxiety & physiologic responses in patients undertake zikr meditation practices & Jaw relaxation exercise (experimental group) and those who receive routine care (control group)?

Research Hypotheses:

H.1 patients who practiced zikr meditation & Jaw relaxation exercise have significantly less pain severity postoperatively than would those did not.(pre relaxation& control group)

H.2 patients who practiced zikr meditation & Jaw relaxation exercise have significantly less anxiety level postoperatively than would those did not. .(pre relaxation& control group)

H.3 patients who practiced zikr meditation & Jaw relaxation exercise have significantly lower blood pressure, respiration & heart rat postoperatively than would those did not. .(pre relaxation& control group)

H.4 patients who practiced zikr meditation & Jaw relaxation exercise in experimental group have less pain, anexity and physiologic parameter than in control group

Research variables:

Independent variables

The Independent variables in the study *is zikr meditation and* Jaw relaxation exercise.

*Dependent variables**:***

Dependent variables are *pain, anxiety, blood pressure, respiration and heart rate*

Setting:

This study was conducted at surgical wards in Mansoura University Hospitals. Is teaching hospital for medical and nursing students. In addition hospital provide wound dressing twice a day after surgery. Also, allow patients to discharge home early after surgery, in case the patient has no complications. Patients are admitted to the hospital one or two day before surgery.

Population and Sample

Sample were assigned to two groups, experimental group N= 20 and control group N=20

Inclusion criteria:

Adult patients (18 years to 60 years) scheduled for major abdominal surgery, which were expected to receive pain controlling analgesia PCA, to ambulate after surgery, they were fully conscious, well oriented, and able to communicate verbally.

Exclusion criteria:

Patients with epidural analgesia and patients with smaller surgeries such as; laparoscopy.

Instrumentations:

The following tools were utilized to collect data pertinent to study:

1. *Background data and Medical Information Form*: this included sex, age, educational status, occupation, religion, marital status, medical illnesses and history of previous surgery. The medical information form included the information of diagnosis, type of operation, type of anesthesia, site of surgical pain, and pain control analgesia used.

2. Pain rating scale (PRS)

This study used a pain rating scale to measure pain; the scale has been widely used to evaluate subjective Phenomena, such as sensations, perceptions and Reactions. Subjects indicated their degree of pain, using a scale of 0–10, with 0 indicating the least amount and 10 indicated the greatest amount. This scale has been found to be reliable as well as easy and convenient to use. (Wewers & Lowe, 1990). PRS was chosen as a measurement, tool because it had been regarded as a valid tool in measuring perceptions of pain intensity, it was suitable for assessing postoperative pain (Coll, Ameen, &Mead, 2004), and it was easy and quick to use in practice by the nursing staff. Reliability the PRS have been reported to be reliable for measuring pain Ware, Epps, Herr, & Packard (2006) used PRC in pain in the older minority adults and the test-retest reliability coefficient was .87 and it was easy to score and record. In the present study, the researcher did not test the reliability of the PRC instrument, but the researcher asked post-operative patients to rate their pain by using PRC. It was found that they could understand and rate their pain& anxiety correctly.

3.Hamilton anxiety scale

The HAM-A was one of the first rating scales developed to measure the severity of anxiety symptoms, and is still widely used today in both clinical and research settings. The scale consists of 14 items, each defined by a series of symptoms, the reported levels of interrater reliability for the scale appear to be acceptable. Each item is scored on a scale of 0 (not present) to 4(severe), with a total score range of 0–56, where <17 indicates mild severity, 18–24 mild to moderate severity and 25–30 moderate to severe.

4. *Physiological Data Collection Form***:**

The physiological data collection forms included the details about blood pressure, heart rate, and respiratory rate The blood pressure and heart rates were measured by using the digital blood pressure. The respiratory rate was measured by the researcher with a stop watch.

Validity:

The content validity was established by a panel of ten expertise (five professors nurses and three physicians and two experts in Zikr meditation), who reviewed the tools for clarity, relevance, comprehensiveness, understanding, applicability and simplicity for implementation and according to their opinion some modifications were applied.

Pilot study:

A pilot study was conducted with 3 subjects in order to test the suitability of the explanations in the guidelines. The results from the pilot study showed that the 3 subjects could read and understand the process of Zikr meditation practices and jaw relaxation exercise. The time they spent in practicing Zikr meditation lasted 20 minutes for each period, &10 mim in jaw relaxation. The subjects could also understand and use the VAS &STAI Rating Scale. The subjects rated the intensity of pain from 7 to 6 after surgery on day 1 and 6 to 5 on day 2.

Procedure

A researcher screened patients preparing for abdominal Surgery from a patient list in the nursing station every afternoon in an effort to identify potential candidates. Inform the head nurses and staff nurses about the purposes of the research study, the protocol for data collection, and the framework of the study. On the day of admission (1 day before surgery), potential subjects who met the inclusion criteria were approached for participating in the study. The researcher then explained to the subject the objectives, the procedures for conducting the study, When the subjects agreed to participate in this study, the researcher gave them a consent form for signing, randomly

assigned them to two groups (experimental & control group). Interviewed them for demographic data form, all subjects were taught to use PRS & Hamilton anxiety scale

Experimental group

Intervention practice

The researcher taught zikr meditation and jaw relaxation therapy (intervention practice) to the patients in the experimental group and practiced with them, At the end of meeting session, the researcher gave a handbook of guidelines for Zikr meditation& jaw relaxation technique to the subjects so that, they can read and practice it at any time . Patients were encouraged to use the guidelines for practice whenever they wanted.When subjects were ready, the researcher made the environment around the beds to be quiet, a sign was placed on the outside of the door to the patient's room, the ceiling light was turned of and the curtain pulled for twin-bed patients to keep the patient quiet and without interruption. Patients were encouraged to assume a comfortable position while performing the practice and researcher were available to ensure that the patient was not interrupted.The practice of intervention group was started by undertaking deep breath for 5 minutes, followed by jaw relaxation practice for 10 minutes for relaxation then remembrance of Allah Sub Hanna Wataa'la (SWT) for 15 minutes in according with the practice of Zikr meditation. By saying "sub Hanna Allah" (God is the holiest) 33times."Alhamdull llah" (all prize to God) 33times."Allahu-akbar" (God is the greatest of all) 33times &:lailaha-illa Allah"(there is no God but allah)33timeswhile counting on the tasbih (kind of rosary), one round of intervention lasted for 30 minutes.The researcher then asked subjects to return to the demonstration for one more round in order to make sure that the subjects could practice it correctly.

From postoperative days one–two (two consecutive Days), the researchers assisted patients in reading and practicing zikr meditation guidelines and jaw relaxation technique every day. They assessed pain and anxiety levels and recorded blood pressure, heart rate and RR before and after the intervention from the day of surgery to postoperative day two.On Day 1 (6-8 hours after surgery) the subjects were measured for the pain and anxiety scores and , BP, HR, and RR. These data were used as a baseline to compare later changes in physiological, pain and anxiety scores. The BP cuff was constantly tied on the patient's hands until the end of Day1 intervention. The subjects were then asked to practice Zikr Meditation and jaw relaxation for one cycle (lasting 30 minutes). After finishing the practice , subjects were asked to rate their pain, anxiety score by using pain &anexity scale, The BP, HR, and RR were measured immediately after finishing the practice . On Day 2 (24-30 hours after surgery) the subjects were asked to rate their pain, anxiety score and then their BP, HR, and RR were again measured. These data was used as a baseline to compare changes, then, subjects were asked to practice Zikr Meditation and jaw relaxation for one more cycle (lasting 30 minutes).

The Control Group

There were no interventions for patients in the control group and, instead, they were encouraged to rest in bed and received routine care, Routine nursing cares included pain medication around the clock and wound dressing. The data collection procedure was the same for both groups. This study did not interfere with patients' medication Regimens. Analgesics were given to patients in accordance with physician orders, ward routines.

Protection of human rights (Ethical considerations)

Official written permissions to conduct the study was obtained from the Director of Mansoura University Hospital. Verbal explanation of the nature and the aim of the study were performed to medical and nursing staff in surgical wards. In addition for participants who met the inclusion Criteria, I would explain, in person, the purpose of the study, experimental intervention procedures and data collection. Participants were enrolled after written consent was obtained. The researcher emphasized that the participation is absolutely voluntary and confidential as well as anonymity, privacy, rights and safety of the subjects was absolutely assured throughout the whole study

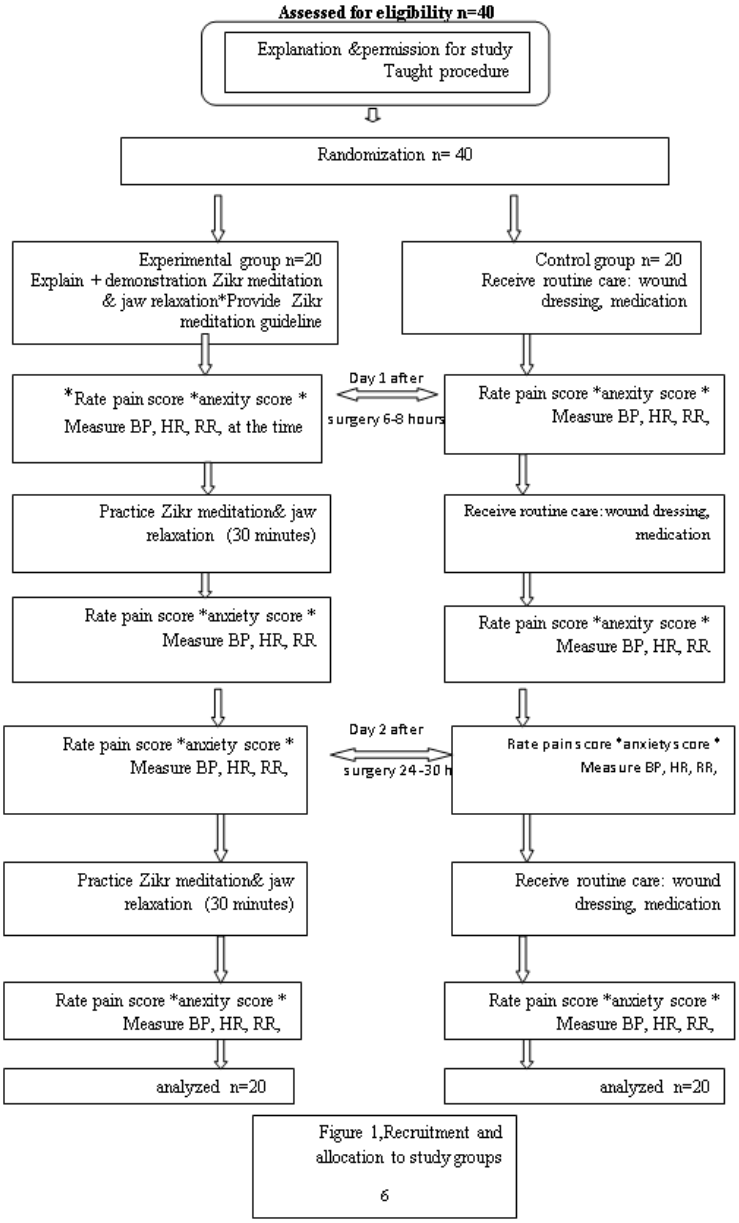

Figure 1,Recruitment and allocation to study groups

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After the data were collected, the next process were data entry that involved the conversion of raw source material to a useable data file in a form of data analysis. The variables were defined and coded to facilitate using the statistical package named SPSS 10.0. The statistical analyses of this study were as follow:

Descriptive statistics: To use frequencies, mean and standard deviation of score experimental and study groups.

Chi-square:To use the comparative between experimental and study groups regarding some variables.

T- Test: To use for compares the actual difference between two means in relation to the variation in the data.

Table (1a):Frequency and percentage of demographic and relevant clinical characteristics (N=40).

Items	**Experimental G (n =20)**		**Control G. (n=20**		**X2**	**P value**
Age:	No	%	No	%		
• <25	7	35.0	**5**	25.0	2.167[a]	.538
• 25-34	4	20.0	**3**	15.0		
• 35-45	3	15.0	**7**	35.0		
• > 45	6	30.0	**5**	25.0		
X ± SD	2.40± 1.273		2.60± 1.142			
Sex:						
• Male	12	60.0	**12**	60.0	.404	.525
• female	8	40.0	**8**	40.0		
Education:						
• illiterate	6	30.0	**7**	35.0	.154	.926
• read	7	35.0	**7**	35.0		
• secondary	7	35.0	**6**	30.0		
Occupation :						
• Housewife	11	55.0	10	50.0	1.059	.589
• Government	3	15.0	2	10.0		
• Non-government	6	25.0	8	40.0		
Residence :						
• Urban	13	65.0	12	60.0	.107	.744
• Rural	7	35.0	8	40.0		

Marital status :						
• Single	5	25.0	4	20.0	5.037	.081
• married	11	55.0	16	80.0		
• widowed	4	20.0	0	0.0		
Income :					.417	**.519**
• enough	13	65.0	11	55.0		
• not enough	7	35.0	9	45.0		

Table(1a) shows that :

Respondent's age ranged from more than 25 to above 45 years. The mean age of the subjects in the experimental group was 2.40± 1.273years and in the control group, it was 2.60± 1.142 years. Most of the subjects in experimental and control groups have education level from read & write to secondary school (70 % & 65% respectively). Three fifth of subjects were male (60 %). Almost three fifth of experimental group and the majority of control group were married (55%& 80% respectively). More than half of subjects in both groups were housewife. There were no statistically significant differences in the demographic characteristics between the experimental and control group.

Table (1b): Frequency and percentage of demographic and relevant clinical characteristics (N=40).

Items	**Experimental G. (n =20)**		**Control G. (n=50)**		**X2**	**P value**
Previous surgery :	No	%	No	%		
• Yes	15	75.0	14	70.0	.125	.723
• No	5	25.0	6	30.0		
Days in hospital before surgery:						
• One	11	55.0	17	85.0	4.111	.128
• Two	9	45.0	0	0.0		
• Three	0	0.0	3	15.0		
Diagnosis:						
• Intestinal Problems	5	25.0	5	25.0	2.833	.726
• Oncology problems	7	35.0	5	25.0		
• Others	8	40.0	10	50.0		

(Hysterectomy/caesarian, hernia,appendicitis.						
Site pain :						
• Abdomen	17	80.0	18	90.0	1.318	.517
• other sites	3	20.0	2	10.0		
Type of operation :					.360	.548
• major	13	65.0	10	50.0		
• minor	7	35.0	10	50.0		
Type of anesthesia :					2.000	.368
• General	19	95.0	19	95.0		
• Spinal	1	5.0	1	5.0		

Table (1b) Indicate that:

The subjects in experimental and control groups were scheduled for the major surgery(65% &50% respectively). Most of the subjects in both the groups had others problems (Hysterectomy, caesarian, hernia,appendicitis) and this was followed by cancer problems. Most of the subjects in both groups were undergoing general anesthesia and were admitted to the hospital 1 day before surgery. There was no statistical significant difference in the relevant clinical characteristic between experimental and control groups (Table 1b).

Table (2) Mean and standard deviation of pain severity before and after Zikr meditation & jaw relaxation in the experimental and control groups .No =40

Items	Experimental G. (n =20)		Control G. (n=20)		t-test	P value
Pain 6-8 hours after surgery (Day 1)	**Mean**	**SD**	**Mean**	**SD**		
• **Before**	**3.85**	**.366**	**3.60**	**.598**	**1.594**	**.119**
• **After**	**2.55**	**.605**	**2.05**	**.224**	**3.468**	**0.001***
Pain 24 -30 hours after surgery (Day 2)						
• **Before**	**2.85**	**.587**	**3.25**	**.639**	**2.062**	**0.046***
• **After**	**1.50**	**.513**	**2.05**	**.605**	**.3.101**	**0.004***

Table (2) Clarifies that:

The mean pain severity on day 1 (6-8 hours after surgery) before Zikr meditation &jaw relaxation in the experimental group was 3.85±.366 and 3.60±.598 in the control group. The mean pain severity after Zikr meditation &jaw relaxation in the experimental group was 2.55±.605 and 2.30±.224in the control group. There was a significant difference in the pain severity after Zikr meditation &jaw relaxation in the experimental and control group (t=3.468,

p<.01) .Also pain severity on day 2 (24-30 hours after surgery): The mean pain severity before Zikr meditation &jaw relaxation in the experimental group was 2.85±.587and 3.25±.639in the control group. There was a significant difference in the relative change of pain severity between the groups,(t =2.062, p<.01). Also the mean and standard deviation, pain severity after Zikr meditation &jaw relaxation in the experimental group was 1.50±.513 and 2.05±.605 in the control group (t=3.101,p<0.01) (Table 2).

Table (3) Comparison of Mean and standard deviation of the physiological response before and after Zikr meditation &jaw relaxation on day 1 (6-8 hours after surgery) of the experimental and control group.

Items	Experimental G. (n =20)		Study G. (n=20)		t-test	P value
Blood Pressure	Mean	SD	Mean	SD		
• Before	1.85	.813	1.60	.754	1.009	.320
• After	1.30	.470	1.25	.444	.346	.371
Heart rate :						
• Before	1.65	.489	1.40	.503	1.594	.119
• After	1.30	.470	1.25	.444	.346	.731
Respiration:						
• Before	1.95	.224	1.85	.366	1.042	.304
• After	1.40	.503	1.35	.489	.319	.752

Table (3) Reveals that :

There was no statistically significant difference in the physiological responses (blood pressure, heart rate & respiration) pre and post practicing Zikr meditation &jaw relaxation on day 1 after 6- 8 hours of surgery. Additionally There was no statistically significant difference in the physiological responses (blood pressure, heart rate & respiration) between the experimental and control group.

Table (4) Comparison of Mean and standard deviation of the physiological response before and after Zikr meditation &jaw relaxation on day 2 (24-30 hours after surgery)of the experimental and control group.

Items	Experimental G. (n =20)		Study G. (n=20)		t-test	P value
Blood Pressure	Mean	SD	Mean	SD		
• Before	1.45	.686	1.40	.503	.263	.794
• After	1.20	.410	1.15	.366	.406	.687
Heart rate :						
• Before	1.75	.444	1.45	.510	1.983	.055
• After	1.35	.489	1.20	.410	1.050	.300
Respiration:						
• Before	1.80	.410	1.80	.410	.000	1.00
• After	1.30	.470	1.40	.503	-.650	.520

Table (4) shows that :

There was no statistically significant difference in the physiological responses (blood pressure, heart rate & respiration) between the experimental and control group as well as pre & post practicing Zikr meditation &jaw relaxation on day 2 (p>0.05)..

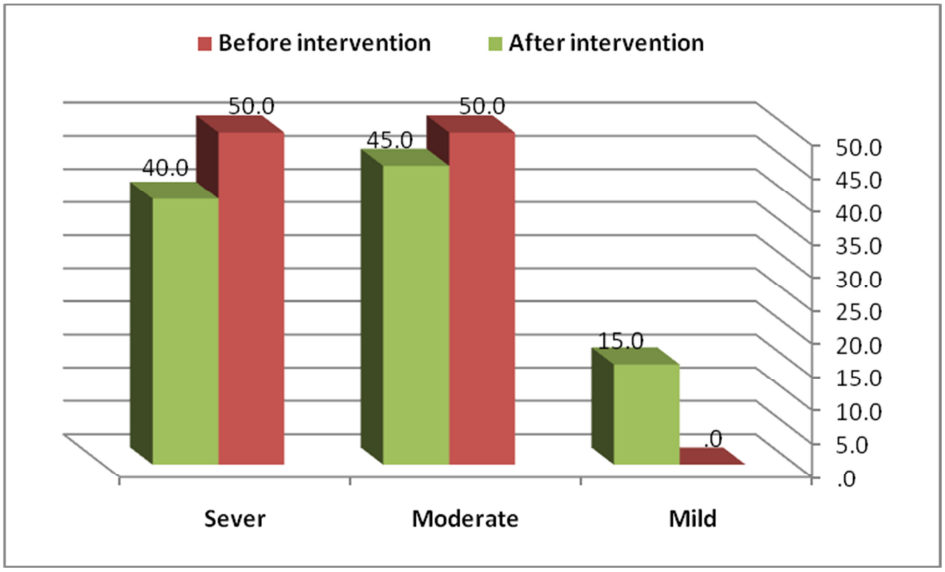

Figure (2): Percentage distribution of the study patients according level of anxiety pre /post ziker meditation &jaw relaxation at day 1

It is obvious from this figure that: fifths of the patients (50.0%) had severe anxiety pre intervention, compared to(40.0 %) post intervention Moreover, (50.0%) had moderate anxiety pre - intervention, compared to (45.0 %) post intervention at day1.

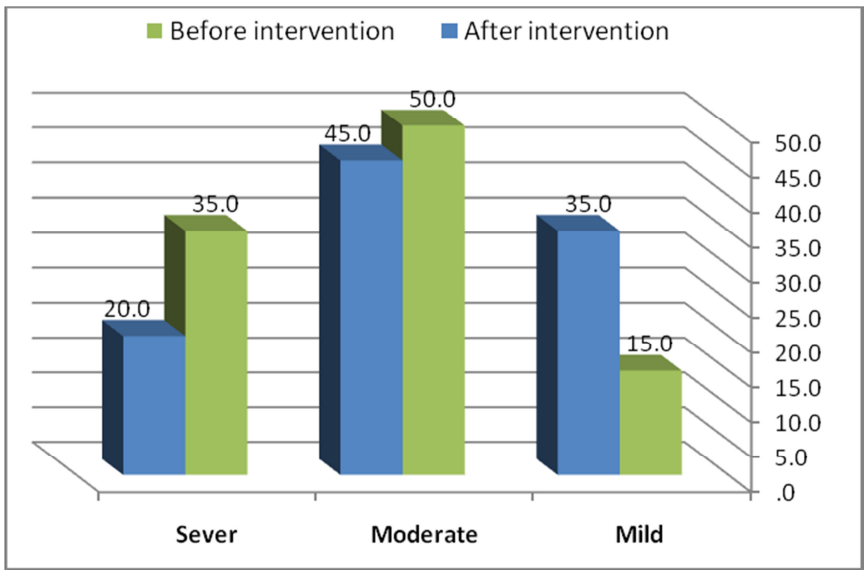

Figure (3): Percentage distribution of the study patients according level of anxiety pre /post zikr meditation &jaw relaxation at day 2.

It is clear from this figure that, more than one third of the patients (35.0%) had severe anxiety pre intervention, compared to (20.0 %) post intervention .moreover, (35.0%) had mild anxiety pre intervention compared to.(15.0 %) post intervention .In addition (50.0%) had moderate anxiety pre - intervention, compared to (45.0 %) post intervention at day2.

Discussion

The surgical experience and hospital environment is an anxiety-provoking event. Despite the use of analgesics, patients may feel anxiety and pain before and after surgery, delaying their recovery. Pi-Chu Lin,(2011). Pain and anxiety are the most common distressing adverse effects in the early postoperative period. Pain management is crucial for surgical patients to decrease patient discomfort and anxiety. Some studies have suggested that practicing Zikr therapy can alleviate perioperative pain and anxiety (Mardiyono, Angraeni, &Sulistyowati, 2007) and postoperative pain (Sitepu, 2009). Similarly,Ikedo et al., (2007) mentioned that meditation is one of the non-pharmacological strategies that can improve physical health, reduce pain, enhance immune responses, improve emotional well- being, and foster spiritual growth. This is the first study combining zikr meditation & jaw relaxation, technique for patient undergoing surgery

The most notable findings of this study are the marked and constant statistical significant difference in pain severity before and after Zikr meditation & jaw relaxation on day 1 (6-8 hours after surgery) and on day 2 (24- 30 hours after surgery) (Table 2). However, pain severity in the control group also decreased from day 1 to day 2 after surgery. This may be due to the fact that the pain pattern was worst on post- operative day 1, and then the pain decreased continuously on the following days because the abdominal muscles started recovering (Fongkaeo, 2002; Tyler et al., 1993). Also all the patients in this study were Muslims and they practiced Zikr meditation on the routine basis in their daily lives. Therefore, Zikr meditation &jaw relaxation proved to strengthen the soul, body, and mind which in turn helped the subjects in control group to reduce the sensation of pain in the first and second day after surgery. However, pain severity in experimental group was significantly lower than control group because the experimental group practiced the program of Zikr meditation & jaw relaxation for 30 minutes longer than the control group. These findings confirm hypothesis(1) that suppose patients who practiced zikr meditation & Jaw relaxation exercise have significantly less pain severity postoperatively than would those did not.(pre relaxation & control group.

This results is congruent with a study done by Chen et al. (1998) who showed the worst pain severity on post-op day one (scores up to 6), with a mean of 4.and Sitepu. (2009) who found that Zikr therapy has been

approved to reduce postoperative pain. Similarly Yucha, (2004)& Pellino et al. (2005) attributed to Zikr therapy, thoughts from pain to the remembrance of the God almighty lead to patients feel comfortable and calm (Kakigi et al., 2005). prayer the most common self-reported means of controlling pain.13 **Kristine L. Kwekkeboom and Elfa Gretarsdottir** (2006) emphasized that, Pain distress was significantly lower after jaw relaxation compared to control. Relaxation is very effective as a treatment strategy for painful and stress-making conditions(Burke, Lemone& Mohn-Brown ,2003). Several studies have shown that relaxation reduces the sensory and emotional dimensions of postoperative pain. In many of these studies the researchers tested the jaw relaxation method and this method has been effective in almost all of these studies (Roykulcharoen, 2004, Stanton-Hicks, Grass, Cranston Anderson, Choi, Schoolmeesters, et al,.1999, Good*, Stanton-Hicks, Grass, Cranston Anderson, Lai, Roykulcharoen, et al*. 2001, Good, Cranston Anderson, Stanton-Hicks, Grass,Makii,2002 ,Good, Cranston Anderson, Ahn, Cong, Stanton-Hicks,2005 & Seers, Crichto, Tutton, Smith, Saunders,2008).

Results of this study revealed that, there was no significant difference between the two groups in the physiological responses on day 1 and day 2. These responses included the systolic and diastolic blood pressure, heart rate, and respiratory rate. They were measured either before Zikr meditation &jaw relaxation, at the time of, and after the practice of Zikr meditation & jaw relaxation. This findings not support the 3rd hypothesis which suppose that , patients who practiced zikr meditation & Jaw relaxation exercise have significantly lower blood pressure, respiration & heart rat postoperatively than would those did not. .(pre relaxation& control group).

This is congruent with Mardiyono et al. (2007),who found that, there were insignificant differences between the control and experimental group (n = 70) in blood pressure, temperature, respiration, and pulse.

Opposite findings can be drown from study carried out by **Benson** who asserted that prayer provides physiological responses, such as decreased heart rate, decreased blood pressure, and decreased episodes of angina in cardiology patients. . Benson 1998. Prayer may bring stress-reducing results, Meisenhelder.2000 such as decrease in blood pressure or increase in the immune function. Some studies have suggested that exposure to relaxation may improve the hemodynamic status of patients. Astin, Shapiro, Eisenberg, Forys,(2003) and Pargament,(1997). Similarly, studies reported that practicing meditation decreased the heart rate (Danucalov et al, 2008), the respiratory rate (Arambula., 2001, and blood pressure (Yucel, 2007).

In the present study ,the results showed statistically significant differences in the anxiety level pre & post practicing intervention(zikr meditation & jaw relaxation) in experimental group and between the experimental and control groups ($p<0.05$). The findings is in accordance with 2nd hypothesis H.2 patients who practiced zikr meditation & Jaw relaxation exercise have significantly less anxiety level postoperatively than would those did not. (pre relaxation& control group).

These findings are consistent with Mardiyono et al. (2007) who found that Zikr therapy for 25 minutes can decrease anxiety in major surgery. Interestingly,Formal prayer has been shown to be an effective way to enhance happiness and physical health (Abdel-Khalek, 2007), alleviate anxiety, and depression among Muslim students, in Iraqi, in Kuwait and USA (Abdel-Khalek & Lester, 2007), Relaxation reduces the anxiety and pain by creating the feelings of self-confidence and self-control and reducing negative feelings and restoring hope and gives patients the possibility of participating in their improvement and since it is an active coping strategy, it can be used at any time (Wilkie, Kampbell, Cutshall 2000). Some studies have suggested that exposure to relaxation can alleviate perioperative pain and anxiety, (Jane, Wilkie, Gallucci, Beaton ,Huang,2008)

Another study by Heye, Foster,Bartlett, and Adkins (2002) reported that, relaxation techniques reduced anxiety by preventing pain transmission from reaching the spinal cord and by relaxing muscles. Nonpharmacologic nursing applications in the postoperative period (relaxation techniques, prayer ,back massage,cold/hot compresses, etc.) help the individual both to attain his/her expectations and to reduce his/ her fear, anxiety, and pain (Gregory, 2005).

Conclusion:

Management of pain and anxiety in surgical patients is an important concern for clinical professionals. The results of this study indicate that patients undergoing surgery who practice zikr meditation & jaw relaxation exercise have significantly lower subjective indices of anxiety and pain, after following the guideline of Zikr meditation & jaw

relaxation practice . The subjects following the practice of Zikr meditation & jaw relaxation ,showed statistical significant difference in pain severity at day 1 (6-8 hours after surgery) and at day 2 (24-30 hours after surgery). However, the result of this study showed that there was no statistically significant difference between the two groups in the physiological responses on day 1 and day 2. These responses included the systolic and diastolic blood pressure, heart rate, and respiratory rate. Additionally, the level of anxiety can improved significantly after implementation of the zikr meditation & jaw rlaxation. Therefore, zikr meditation & jaw relaxation therapy could be incorporated into clinical practice as a routine nursing intervention before and after abdominal surgery.

Relevance to clinical practice

Clinical practice should include zikr meditation & jaw relaxation Therapy to alleviate pain and anxiety in patients undergoing surgery.

Conflict of interest

The authors declare that they have no conflict of interests.

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