

The Effect of Distraction and Relaxation Techniques toward Pain Intensity Changes in Postoperative Patients

Dewi Tiansa Barus¹, Rostiodertina Girsang¹, Mutiara Dwi Yanti¹, Rentawati Purba¹, Herri Novita Tarigan¹, Friska Ernita Sitorus¹, Iskandar Markus Sembiring²

¹Institut Kesehatan Deli Husada Delitua Jalan Besar Delitua No.77 Deli Serdang

²Institut Kesehatan Medistra Lubuk Pakam Deli Serdang

Keywords: Pain Intensity, Distraction Technique, Relaxation Technique.

Abstract: Postoperative pain belongs to acute pain category with characterized by having fast, sudden and lasting onset for short time. This research was conducted with Quasi Experiment method with "pre test-post test design", the sample selection used purposive sampling. Samples were 52 respondents. Data collection is carried out by using observation sheets, the data were processed by using the Wilcoxon Test with significance level $\alpha = 0.05$ (95%), from 52 respondents divided into 2 namely distraction technique of 26 respondents before doing mild pain intensity as many as 9 respondents (34.6%), mild pain as many as 17 respondents (65.4) after doing there was no pain as many as 9 respondents (34.6%), mild pain as many as 10 respondents (38.5%), and moderate pain as many as 7 respondents (26.9%). Furthermore, the relaxation technique of 26 respondents before doing mild pain intensity as many as 10 respondents (38.5%), mild pain as many as 16 respondents (61.5) after being done there was no pain as many as 11 respondents (34.6%), mild pain as many as 8 respondents (38, 5%), and moderate pain as many as 7 respondents (26.9%). The study results showed that there was significant influence between distraction technique of listening to music with pain intensity change in postoperative patients (p value = 0.003 $< \alpha$ 0.05), and the existence of significant influence between deep breathing relaxation techniques with pain intensity changes in postoperative patients (p value = 0.002 value $< \alpha$ 0.05).

1 INTRODUCTION

Real pain is one signal for individuals about body damage (Hadjam, 2011). The pain intensity often shows the damage or injury level which is experienced by individuals. Complaints about pain or pain are often reasons for individuals to get medical treatment. According to American Pain Society (APS), 50 million Americans are partially or totally paralyzed due to pain, 2 and 45% of Americans need pain treatment that is persistent for the rest of their lives. Approximately 50-80% of patients in the hospital experience pain in addition to other complaints that cause patients to be hospitalized (Ivan, 2013).

Based on data obtained from WHO (World Health Organization, 2014), in some developing countries have a high prevalence such as Singapore amounting to 15% in children 16.5% in adults, while Thailand 7% in children and adults 10% While

Indonesia in the Central Bureau of Statistics data (BPS2014) states the incidence rate of appendicitis cases is from 140 people with appendicitis cases per 100,000 people. In the post-operation the patient feels severe pain and 75% of sufferers have unpleasant experiences due to inadequate pain management (Sutanto, 2004 in Pinandita et al, 2012).

Provision of regional anesthesia is given to the operation; anesthesia will affect the functioning of body's system in terms of pain responding. Pain will occur if anesthesia effects have disappeared. The classification of pain felt varies which can be affected by several factors. The Royal College of Surgeons (RCS) reports that postoperative pain is found in 30-70% of patients with moderate to severe degrees. Other studies have shown that although the incidence of postoperative pain has decreased by 2% each year over the past 30 years, 30% of patients still experience moderate pain and 11% of other

patients complain of severe pain (Anita Holdcroft, 2005).

Postoperative pain can also cause an increase in metabolic rate and cardiac output, no appetite and tense expression. Pharmacological approach is a collaborative approach between doctors and nurses that emphasizes drugs administration that can eliminate pain sensations, damage the insulin response, increase cortisol production. Frustration and anxiety that causes the client to experience sleep disturbance, complaining of pain either moderate or severe pain in post surgery. While non-pharmacological approach is an approach to the client to eliminate the sensation of pain due to post surgery (Brunner & Suddart, 2006). Giving analgesics and narcotics to relieve pain do not recommend because it can obscure the diagnosis (Sjamsuhidajat, 2005). Nurses play a role in identifying patient needs and helping patients meet those needs including pain management (Lawrence, 2002). Broadly speaking there are two managements to deal with pain, namely pharmacological and non pharmacological management. Pain management by doing relaxation techniques is an external action that affects an individual's internal response to pain. Pain management with relaxation measures includes diaphragmatic breathing exercises, progressive relaxation techniques, guided imagery, and meditation; several studies have shown that relaxation techniques are very effective in reducing postoperative pain (Brunner & Suddart, 2001).

The provision of music therapy can affect physiological functions in the respiratory system, heart rate, and blood pressure. Music can also affect the release of endorphins, the body's hormones that provide feelings of pleasure that play a role in reducing pain so that music can be used to divert pain so that patients feel less pain. But the reality is that in hospitals there is still a small percentage using non-pharmacological methods in pain management, one of which is music therapy. Hospitals emphasize pain management by pharmacological methods, one of which is analgesic administration, especially in post-operative patients. Where the provision of analgesics on an ongoing basis, not in accordance with the rules and the right monitor will cause dependence (Sulistyo, 2014).

Pain interventions can be done with pain management strategies, including both pharmacological and non-pharmacological approaches. This approach is selected based on the client's needs and goals. Interventions will succeed if the pain has not become severe, and the greatest

success is often achieved if several interventions are applied stimulantly (Smeltzer & Bare, 2014).

Previously, several studies related to this pain have been carried out by Endang Fourianalistyawati, based on the pretest and posttest results, it is known to decrease the amount of pain. Release techniques are effective in reducing pain in addicts or residents at BNN Rehabilitation Unit. Nurhafizah Erniyati, Coping strategies affect the pain intensity. People who have good coping strategies experience moderate pain intensity but people with poor coping strategies experience high intensity even severe pain. Cakrangadinata, Robert based on his research results that therapy with Cognitive-Behavioral approach can deal with psychological factors from the experience of pain in chronic pain patients. The difference between this study and previous research is that the variables explained are more focused on expressing pain that appears after surgery.

Based on preliminary data taken by researchers at one hospital in Deli Tua, in one day, there are approximately 10 patients who underwent surgery with variety of different complaints, there are patients who have performed surgery and in recovery stage, female patients who have undergone surgery Caesarean sectio and post operative appendectomy, colostomy found that on average the patients experienced pain several hours after surgery and the next few days patient asked the nurse to give pain relievers because the patient could not resist the pain that arises due to surgery.

The difference between this study and previous research is that the variables revealed are more focused on expressing pain that appears after surgery. Where this research was conducted to control pain in surgery patients with distraction and relaxation techniques, it can be practiced and does not cause side effects. Record studies show that 60% to 70% of patients with pain tension can reduce pain at least 50% by relaxing deep breathing.

2 METHOD

The study design was Quasi Experiment method with Pre Test-Post Test design in which this researcher aimed to find out the presence or absence of the distraction and relaxation techniques influence on decreasing intensity by observing before and after the intervention. The research conducted at Deli Tua SEMBIRING GENERAL HOSPITAL Deli Serdang Regency. The study population were all post-operative patients who were hospitalized in Edelweis Room Deli Tua SEMBIRING GENERAL

HOSPITAL. The study sample used non-probability sampling technique with purposive sampling type with total of 52 samples with inclusion criteria: male and female patients who have aged over 18 years who experienced post-surgery, entered 2 days after surgery, composed of conscious, stable condition, patients who have received treatment after surgery > 1 x 24 hours, scaled mild and moderate pain, willing to become respondents in writing. Exclusion Criteria: male and female patients who have aged less than 18 years who experienced post-surgery, decreased consciousness, stable condition, had communication disorder, patients who had received treatment after surgery < 1 x 24 hours, had severe pain scale, and were not in post caesarean section patients. Primary data is taken directly from respondents by using observation sheets that have been compiled refer to objective criteria. Secondary data consists of general description of the study location and data of patients who have undergone surgery. The study instrument used informed consent, questionnaires including client demographic data and observation sheets to observe changes in pain intensity with distraction and relaxation techniques usage, distraction and relaxation techniques SOP and measuring instruments carried out to measure pain by using Numeric Rating Scale. Data processing techniques, coding, editing, data tabulation and data entry used univariate and bivariate analysis. The data obtained were analyzed with Wilcoxon SPSS computer program test. The consent form is respondent (Informed consent), anonymous, (Anonymity), confidentiality.

The research process was carried out by nurse observation firstly for Postoperative patients on the second day. The nurse measured the pain scale in patients who said pain by using Pain Scale Measurement Instrument, Numeric Rating Scale. Furthermore, nurse provided interventions to determine changes in pain scale with relaxation and distraction techniques. After the intervention is done the nurse measures again the pain scale. It can be seen on figure 1.

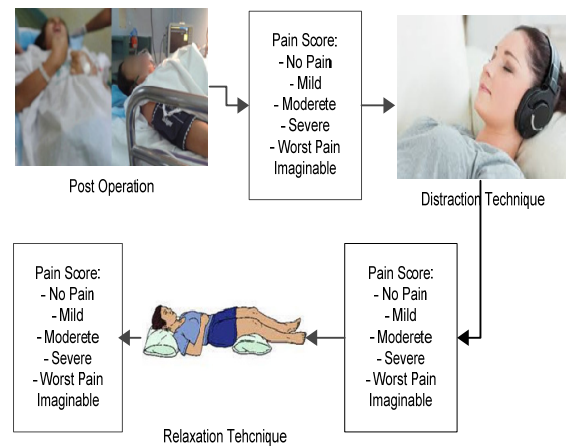


Figure 1: Research flow

3 RESEARCH RESULT AND DISCUSSION

3.1 Distraction Techniques

The respondents' numbers involved in this distraction technique of listening music were 26 respondents; all of them were post-operative patients both male and female. These respondents were inpatients. Based on the age characteristics, the majority of respondents who have aged > 61 years were 9 respondents or 34.6%, and the minority of respondents who have aged 31-40 years was 1 respondent or 3.8%. Based on sex characteristics, it was found that the majority of male sex was 14 respondents or 53.8%, and the minority of female sex were 12 respondents or 46.2%. Based on the Distribution of Respondents' Characteristics from Operational Experiences, it was found that the majority were first-time operations of 14 people (54%) and the minority of operations more than once were 12 people (46%). It can be seen in Table 1 below.

Table 1: Characteristics Distribution of Postoperative Patients Given Distraction Techniques Based on Age, Gender and Operating Experience.

Characteristics	n	%
Aged		
19-30	5	19,2
31-40	1	3,8
41-50	6	23,1
51-60	5	19,2
> 61	9	34,6
Total	26	100

Sex		
Male	14	53,8
Female	12	46,2
Total	26	100
Operation Experience		
First time	14	54
More than once	12	46
Total	26	100

Based on the distribution of the surgery type, it was found that the majority were sectio caesarean based on the age as many as 18 people (69%), while the minority type of colostomy surgery were 23 people (8%). It can be seen in Table 2 below.

Table 2: Respondents Distribution Based on Operation Type

Operation Type	n	%
Appendectomy	6	23
Caesarea Sectio	18	69
Colostomy	2	8
Total	26	100

According to surgery type of the patient undergo, most patients undergo Caesarean Sectio surgery. In this study, besides being given relaxation and distraction techniques, patients are also given pharmacological therapy by using analgesics. The analgesic type which is used is ketorolac. To avoid data confusion from relaxation and distraction resulting with pharmacological effects of analgesic administration, the action is performed 4-6 hours after drug administration and or 60 minutes before drug administration.

3.2 Relaxation Techniques

Based on the age characteristics, the results show that the majority of respondents are in the age group 31-40 years old as many as 9 respondents or 30.8%, and the minority of respondents who have aged 41-50 years old as many as 2 respondents or 7.7%. Based on sex characteristics, it was found that male and female had the same number, namely as many as 13 respondents or 50.0%. Based on the Distribution of Respondents' Characteristics from Operating Experience, the results show that the majority were first-time operations as many as 17 people (65%) and the minority of operations more

than once were 9 people (35%). It can be seen in table 3 below.

Table 3: Distribution of Characteristics of Postoperative Patients Given Relaxation Techniques Based on Age, Gender, Operating Experience

Characteristic	n	%
Age		
19-30	7	26,9
31-40	8	30,8
41-50	2	7,7
51-60	6	23,1
> 61	3	11,5
Total	26	100
Sex		
Male	13	50,0
Female	13	50,0
Total	26	100
Operation Experience		
First Time	17	65
More than once	9	35
Total	26	100

Based on the distribution of surgery types, it was found that the majority were sectio caesarean at the age of 22 people (85%), while the minority type of colostomy surgery was 1 person (4%). It can be seen in Table 4 below.

Table 4: Respondents Distribution Based on Operation Type

Operation Type	N	%
Appendectomy	3	11
Caesarea Sectio	22	85
Colostomy	1	4
Total	26	100

Based on bivariate analysis based on pain intensity before doing distraction technique of listening music in postoperative patients, it was found that the majority of moderate pain intensity were 17 respondents or 65.4%, and the minority of pain intensity was no pain as many as 0 respondents or 00.0%. Based on bivariate analysis based on pain intensity after performing distraction technique of listening music in postoperative patients, it was found that the majority of mild pain intensity were 10 respondents or 38.5%, and the minority had no

pain intensity as many as 7 respondents or 26.9%. It can be seen in the table below.

Table 5: Respondents Distribution Based on Pain Intensity Before and After the Distraction Technique of Listening Music in postoperative patients.

Pain Intensity	Pre test		Post test	
	N	%	N	%
No Pain	0	0	9	34,6
Mild Pain	9	34,6	10	38,5
Moderate Pain	17	65,4	7	26,7
Total	26	100	26	100

Based on bivariate analysis of pain intensity before doing postoperative patient relaxation techniques, it was found that the majority of moderate pain intensity were 16 respondents or 61.5%, and minority of pain intensity was no pain as many as 0 respondents or 00.0%. Based on bivariate analysis of intensity pain after doing relaxation techniques for postoperative patients showed that the majority had no pain intensity as many as 11 respondents or 42.3%, and minority with moderate pain intensity were 7 respondents or 26.9%. It can be seen in table 6 below

Table 6. Respondents Distribution Based on Pain Intensity Before and After Relaxation Technique Done.

Pain Intensity	Pre test		Post test	
	N	%	n	%
No Pain	0	0	11	34,6
Mild Pain	10	38,5	8	38,5
Moderate Pain	16	61,5	7	26,9
Total	26	100	26	100

Based on bivariate data, willcoxon statistics results on pre-test distraction technique were performed on 26 respondents and obtained mean of 1.65 and std, deviation of 0.485 which took minimum of 1 and maximum of 2, then in the post-test distraction technique was carried out on 26 respondents and obtained mean of 0.92 and std deviation 0,796 which is minimum 0 and maximum 2 then get p-value $0,003 < \alpha 0,05$ then H_0 is rejected and H_a is accepted, which means there is significant influence between distraction technique of listening music with pain intensity changes in postoperative patients. It can be seen in table 2.

The comparative analysis of pain intensity results before and after relaxation technique done. Based on

bivariate data, willcoxon statistics results on relaxation technique pre test were conducted on 26 respondents and obtained mean of 1.62 and std deviation of 0.496 which took minimum of 1 and maximum of 2, then on distraction technique post-test was carried out on 26 respondents and obtained mean of 0.85 and std deviation 0.834 which is minimum 0 and maximum 2, then p-value of $0.002 < \alpha 0.05$ so H_0 is rejected and H_a is accepted, which means there is significant influence between deep breathing relaxation techniques with pain intensity changes in postoperative patients.

3.3 Distraction and Relaxation Technique

The research results conducted on 52 respondents before distraction and relaxation techniques performing, it obtained respondents results with mild pain intensity totaling 19 respondents or 36.5% and moderate pain intensity totaling 33 respondents or 63.5%. And after the distraction technique performing, it obtained the respondents results with painless intensity were 20 respondents or 38.5%, mild pain 18 respondents or 34.6%, and moderate pain as many as 14 respondents or 26.9%. Results obtained after being distraction and relaxation techniques given, respondents stated that there were pain intensity changes.

Astuti and Merdekawati Research (2016) with the title influence of classical music therapy on pain scale reduction in postoperative patients at H. Abdoel Madjid Batoe Hospital Muara Bulian, showed pain intensity before distraction technique with 36 respondents, it is being known before classic music therapy given, the average pain scale is 4.64 and after classical music therapy given, the average pain scale is 2.92. There is an influence of distraction technique on pain scale decrease in postoperative patients at H. Abdoel Madjid Batoe Regional Hospital Muara Bulian with p-value = 0.002. There are similarities in research results conducted by Stania et al. The similarity is significant effect of distraction technique action on pain intensity changes.

The pain intensity change before and after distraction technique of listening music was tested by using Wilcoxon test at significance level of 95% ($\alpha = 0.05$), with p-value of 0.003 or in other words p-value of $0.003 < \alpha 0, 05$. Therefore, H_0 is rejected and H_a is accepted. So, the study results show that

distraction technique of listening music can reduce the pain intensity in postoperative patients.

According to Smletzer and Bare (2010), distraction which includes focusing the patient's attention to others beside pain, it can be very successful strategy and mechanism responsible for other effective cognitive techniques. The effectiveness of distraction depends on the patient's ability to receive and generate sensory input in addition to pain. According to Potter & Perry (2010) this distraction technique can activate a reticular system that will inhibit pain stimulus. This is causes differences in pain intensity changes before and after distraction technique.

According to Potter & Perry (2010) this distraction technique can activate reticular system that will inhibit pain stimulus. This is causes differences in pain intensity changes before and after distraction technique.

Research conducted by Aini, et al (2018) with the title influence of relaxation techniques on the pain intensity reduction in postoperative patients, shows the pain intensity before relaxation techniques performed by 30 respondents with mild pain scale of 8 respondents or 13.3%, while pain scale 22 respondents or 86.7%. The pain intensity after relaxation techniques are done to get results with no pain scale as many as 8 respondents or 13.3%, mild pain scale 16 respondents or 66.7% and moderate pain scale as many as 7 respondents or 20% .There is the influence of relaxation techniques on pain intensity decreasing in postoperative patients with p-value = 0.001. There are similarities in the research results conducted by Stania et al. The similarity is a significant effect of distraction technique action on pain intensity changes.

There was pain intensity change before and after breathing relaxation techniques which were tested by using Wilcoxon test at significance level of 95% ($\alpha = 0.05$), with p-value of 0.002 or in other words p-value of $0.002 < \alpha, 0, 05$. Therefore, H_0 is rejected and H_a is accepted. So, the study results indicate that deep breathing relaxation techniques can reduce pain intensity in postoperative patients.

There are similarities in research results where there is change in pain intensity after deep breathing relaxation techniques. This similarity is due to repeated deep breathing relaxation techniques that can cause comfort for the patient. This comfort sense cause tolerance to pain that is felt. Pulling a deep breath and filling the air in lungs can relax skeletal muscles that experience spasms caused by tissue

incisions (trauma) at the time of surgery. Muscles relaxing will increase blood flow to injured area and accelerate healing and reduce (eliminate) pain sensations.

The difference in the respondent's pain intensity is caused by the administration of breathing relaxation techniques itself, if breathing relaxation techniques are done correctly it will cause pain decrease that is felt to be reduced / optimal and the patient feels are more comfortable than before, otherwise if the breathing relaxation technique is done incorrectly, the pain is felt little less but still feels pain and the patient feels uncomfortable with the situation. It can affect pain intensity, because if deep breathing relaxation techniques are carried out repeatedly, it will be able make a comfort sense that will ultimately increase the tolerance of perception in reducing the pain experienced. If someone is able to increase their tolerance for pain, a person will be able to adapt to pain, and also have good self defense (Lukman, 2013).

4 CONCLUSIONS

Based on the research results conducted on 52 respondents who were given distraction and relaxation techniques that decreased pain intensity in post patients. And obtained p-value $> \alpha 0.05$. Then H_a is accepted, which means the influence of distraction and relaxation techniques on the intensity changes of postoperative pain.

Based on the above results, it cannot be ascertained which actions are more effective in dealing with the patient's pain, but it can be ascertained that the administration of relaxation and distraction techniques are equally effective at reducing pain felt by postoperative patients.

ACKNOWLEDGEMENTS

This research was supported by Institut Kesehatan Deli Husada Deli Tua, Institut Kesehatan Medistra Lubuk Pakam, Sembiring Hospital Foundations and Grand Med Hospital Foundation, Indonesia.

REFERENCES

Arifianto, dkk, 2019. The Effect of Benson Relaxation Technique on a Scale Of Postoperative Pain in

- Patients with Benign Prostat Hyperplasia at RSUD dr. H Soewondo Kendal. Health Science Institute of Widya Husada Semarang. DOI:10.26714/mki.2.1.2019.1-9.
- Ayhan Fatma, MSc., 2017. Experience of Pain in Patients Undergoing Abdominal Surgery and Nursing Approaches to Pain Control. Department of Nursing, Karamanoglu Mehmet Bey University, Karaman, Turkey. *International Journal of Caring Sciences*.
- Charalambous A (2011). The effect of progressive muscle relaxation and guided imagery in improving psychological well-being and quality-of-life for breast and prostate cancer patients:Initial report. *Eur J Integrative Med*, 3, 125-1.
- Hassan Jafari, Imke Courtois, Omer Van den Bergh, Johan W.S. Vlaeyen, Ilse Van Diest, 2017. Pain and respiration: a systematic review. *International Association for the Study of Pain*.
- Heng KF, Ang N, Chan N (2013). The effects of relaxation training program on anxiety and depression for older patients with breast and colorectal cancer. 13th International Society of Geriatric Oncology Annual Conference. Copenhagen, 24, 91.
- Lela Aini, dkk, 2018. *Pengaruh Teknik Relaksasi Nafas Dalam terhadap Penurunan Nyeri pada Pasien Fraktur*. Program Studi Ners, STIK Siti Khadijah Palembang, Indonesia. <http://journal.poltekkes-tjk.ac.id/index.php/jk>
- Michail Zografakis Sfakianakis, 2017. Effect of Music Therapy Intervention in Acute Postoperative Pain among Obese Patients. Lecturer, Faculty of Nursing, Technological Educational Institute of Crete, Heraklion Greece. *International Journal of Caring Sciences*.<http://www.internationaljournalofcaringsciences.org>
- Mojtaba Miladinia, Shahram Baraz, Kourosh Zarea, 2016. Controlling Acute Post-operative Pain in Iranian Children with using of Music Therapy. *Int J Pediatr*, Vol.4, N.5, Serial No.29, May 2016.
- Rahman, farah syaza, dkk, 2018. comparative effects listening to recitation prayers and intra-surgical music techniques in postoperative patients. Department of Anesthesiology & Intensive Care, Universiti Kebangsaan Malaysia Medical Center (UKMMC).
- Özlem İbrahimoğlu, Nevin Kanan, 2017. The Effect of Progressive Muscle Relaxation Exercises After Endotracheal Extubation on Vital Signs and Anxiety Level in Open Heart Surgery Patients. *Turk J Intense Care* 2017;15:98-106. DOI: 10.4274/tybd.04696.
- Potter & Perry,. 2015. *Buku Ajar Fundamental Keperawatan: Konsep, Proses, Dan Praktik*. Jakarta: EGC.
- Rizky, dkk, 2018. The Effectiveness Of Deep Breathing Relaxation Technique And Guided Imagery To Decrease Pain Intensity On Postoperative Fracture Patients In Bougenvile Ward Of Dr Soegiri Hospital Lamongan. Department of Nursing, Universitas Airlangga, Surabaya, Indonesia. The 9th International Nursing Conference 2018.
- Schneider MA, 2018. The Effect of Listening to Music on Postoperative Pain in Adult Orthopedic Patients. *Journal of Holistic Nursing*. doi: 10.1177/0898010116677383.
- Sepasi, N., Qasemi, A. A.-, & Narimani, M. (2014). A comparison of efficacy of two training techniques of self-management and relaxation on the aspects of quality of life in women with cancer, 6(August), 18–28. Retrieved from <http://bccr.tums.ac.ir/index.php/bccrj/article/view/88>.
- Suryani, Efri Widiati, Taty Hernawati, A. S. (2016). (Psycho education Decrease the Level of Depression , Anxiety and Stress Among Patient with Pulmonary Tuberculosis). *Jurnal Ners*, Volumen 11. Retrieved from [http://download.portalgaruda.org/article.php?article=437927&val=7436&title=The effectiveness of psycho education towards depression, anxiety and stress level of patients with pulmonary tuberculosis](http://download.portalgaruda.org/article.php?article=437927&val=7436&title=The%20effectiveness%20of%20psycho%20education%20towards%20depression,%20anxiety%20and%20stress%20level%20of%20patients%20with%20pulmonary%20tuberculosis)
- Ummu Yildiz Findik,. 2017. Effects of Relaxation Exercises on Postoperative Pain Management. *pain management nursing: the official journal of the American Society of Pain Management Nurses*.
- Valenza, M. C., Valenza-Peña, G., Torres-Sánchez, I., González-Jiménez, E., Conde-Valero, A., & Valenza-Demet, G. (2014). Effectiveness of controlled breathing techniques on anxiety and depression in hospitalized patients with COPD: a randomized clinical Trial. *Respiratory Care*, 59(2), 209–15. <https://doi.org/10.4187/respcare.02565>
- Yi-Li Ko1, Su-Yu Chang, Yu-Tai Lee ,Pi-Chu Lin., 2016. The Effects of Music Listening and Education on Reducing Pain from Total Joint Arthroplasty. Department of Nursing, College of Medicine, Catholic Fu-Jen University, New Taipei City, Taiwan. <http://journal.julyprees.com/index.php..ijsn>
- Yilmaz, S. G., & Arslan, S. (2015). Effects of Progressive Relaxation Exercises on Anxiety and Comfort of Turkish Breast Cancer Patients Receiving Chemotherapy. *Asian Pacific Journal of Cancer Prevention*, 16, 217–220. Retrieved from https://www.researchgate.net/publication/271709071_Effects_of_Progressive_Relaxation_Exercises_on_Anxiety_and_Comfort_of_Turkish_Breast_Cancer_Patients_Receiving_Chemotherapy.