

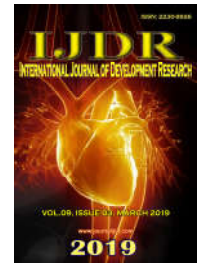


ISSN: 2230-9926

Available online at <http://www.journalijdr.com>

IJDR

International Journal of Development Research
Vol. 09, Issue, 03, pp.26635-26639, March, 2019



REVIEW ARTICLE

OPEN ACCESS

NURSING CARE TO PATIENTS IN THE CONTROL OF POSTOPERATIVE PAIN: A SYSTEMATIC REVIEW

¹Emanuela Batista Ferreira e Pereira, ²Amanda Costa Alves, ²Ana Beatriz Pereira da Silva, ²Emiliana Maria Estevam de Lima, ²Fabyolla da Silva Moura, ²Gleyce Maria dos Santos, ³Vânia Chagas da Costa and ⁴Marília Perrelli Valença

¹Nurse, PhD in Surgery from the Postgraduate Program in Surgery (PPGC) of the Federal University of Pernambuco (UFPE), Assistance Nurse at the Recovery Hospital (HR - *Hospital da Restauração*), Researcher of the Health Informatics Group - University of Pernambuco (GPIS-UPE), Assistant Professor of the Nursing College Nossa Senhora das Graças (FENSG)/UPE. Recife, Pernambuco (PE), Brazil

²Nursing Undergraduate Student, Nursing College Nossa Senhora das Graças (FENSG)/University of Pernambuco (UPE). Recife, Pernambuco (PE), Brazil

³Pediatric Nurse, MSc in Child and Adolescent Health from the Postgraduate Program in Child and Adolescent Health (PPGSCA) of the Federal University of Pernambuco (UFPE), Assistant Nurse at the Pediatric Hospital Helena Moura, linked to the City Hall of Recife (PCR), Academic Coordinator of Residency of the University of Pernambuco (UPE), Assistant Professor of the Nursing College Nossa Senhora das Graças (FENSG)/UPE. Recife, Pernambuco (PE), Brazil

⁴Nurse, PhD in Health Sciences from the Postgraduate Program in Health Sciences (PPGCS) of the Medical Sciences College (FCM)/University of Pernambuco (UPE), Nurse of the Committee of Nosocomial Infection Control at the Cardiac Emergency Care of Pernambuco (PROCAPE)/UPE, Assistant Professor of the Nursing College Nossa Senhora das Graças (FENSG)/UPE. Recife, Pernambuco (PE), Brazil

ARTICLE INFO

Article History:

Received 14th December, 2018
Received in revised form
17th January, 2019
Accepted 19th February, 2019
Published online 31st March, 2019

Key Words:

Post-Operative Pain, Nursing Care, Postoperative Period, Post-Anesthesia Nursing.

ABSTRACT

Objective: To identify the nursing care to patients in post-operative pain. Method: Systematic review performed in the databases LILACS, BDENF, Medline and Pubmed. The PICO strategy (Patient, Intervention, Comparison and Outcomes) was applied to formulate the research question. The selection of articles used the PRISMA method (Preferred Reporting Items for Systematic Reviews and Meta-Analyses). **Results:** 22 studies were selected, of which 10 addressed the control of pain in the postoperative period, through pharmacological and/or non-pharmacological methods. **Conclusion:** The analysis showed that the nurse is a professional who plays an active role in the control of postoperative pain, promoting the well-being of the individual with pain, through specific care for each patient.

Copyright © 2019, Iaggo Raphael David et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Iaggo Raphael David, Matheus Lemos Silva, Beatriz Rocha Souza, Danielle Soares Silva et al. 2019. "Research update article - center for extension, research and study on chronic diseases (NEPEdc)", *International Journal of Development Research*, 09, (03), 26635-26639.

INTRODUCTION

The International Association for the Study of Pain (IASP) define acute pain as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage". It is a subjective experience, different for each person and

*Corresponding author: Emanuela Batista Ferreira e Pereira

Nurse, PhD in Surgery from the Postgraduate Program in Surgery (PPGC) of the Federal University of Pernambuco (UFPE), Assistance Nurse at the Recovery Hospital (HR - *Hospital da Restauração*), Researcher of the Health Informatics Group - University of Pernambuco (GPIS-UPE), Assistant Professor of the Nursing College Nossa Senhora das Graças (FENSG)/UPE. Recife, Pernambuco (PE), Brazil.

suffers interference regarding its intensity and quality, depending on the cultural and socioeconomic conditions and the psychological and physiological characteristics (Pedro *et al.*, 2013). It is the most frequent complication or discomfort in the postoperative period (Pedro *et al.*, 2013). Postoperative pain is classified as acute pain, being a combination of tissue injury, pain and anxieties (Mussi *et al.*, 2001). Its intensity depends on the influence of physiological factors, such as trauma extension, surgical intervention, the surgeon's technical ability, previous diseases, the site and type of incision; psychological factors, such as anxiety, fear, and depression,

among others, as well as cultural factors of the patient (Peter *et al.*, 2013). A proper care for pain control and its assessment is associated to an anamnesis and physical examination that, when properly implemented, result in an effective treatment (Carvalho *et al.*, 2013). To classify the pain, the professional has the aid of rating scales which can be numeric or visual (Carvalho *et al.*, 2013), and which contribute to the formulation of appropriate interventions and in the description of pain intensity by the patient (Bottega *et al.*, 2010). In this perspective, the nurse, as a reference professional in the care team, must ensure the development of actions focused on pain management and the proper assistance to the individual. In this way, with the pain scale, the nurse shall have tools to perform actions aiming at controlling the pain (Fortunato *et al.*, 2013). Thus, the nurse has a fundamental role in the qualitative assessment of the painful experience, and in the promotion, maintenance and restoration of comfort regarding the painful experience and its consequences (Mussi *et al.*, 2001). Evidence-based nursing care may minimize this event in the postoperative period, giving the patient not only the prescribed medications, but also an integral attention to his/her physical and psychological needs (Pedro *et al.*, 2013). The possibility of using non-pharmacological interventions to assist in pain relief, such as emotional support, relaxation and positioning, can add to the correct use of pharmacological interventions, which requires knowledge for their practice (Costa *et al.*, 2013). Therefore, nursing professionals must base their guidelines to patients on the Systematization of Perioperative Nursing Care (SPNC), which corresponds to a care plan that patients should receive before, during and after the surgical procedure. Thus, the nurse needs to learn to recognize and evaluate the patient with pain, and perform correctly the nursing interventions aiming at promoting the individual's health or the alleviation of his/her problem. For this reason, the nurse must empower him/herself about technical-scientific knowledge to provide quality and humanized care to the patient.

Objective: To identify the Nursing care to patients in the occurrence of post-operative pain.

MATERIALS AND METHODS

Systematic literature review, performed in the databases LILACS, BDNF, Medline and Pubmed. The key words in Portuguese were established according to the HEALTH Sciences Descriptors (DeCS) and their translation into English through the Medical Subject Headings (MeSH). The search for articles occurred in the period from October 2018 to January 2019 using the descriptors: "Post-operative pain, nursing care, postoperative period and post-anesthetic nursing", with the Boolean operator "AND" between terms. The inclusion criteria of articles were: year of publication (2013 through 2018), language (English, Portuguese and Spanish), articles with cross-sectional, retrospective/prospective cohort and case-control design, fully available and performed in humans submitted to some intervention for postoperative pain control. The methodology applied based on evidence-based practice, which is an approach that enables the improvement of the health care quality. This approach involves defining a problem, seeking and critically assessing the evidence available (especially researches), putting the evidence into practice and evaluating the results obtained (Galvão, 2003). To confirm the scientific evidence of the information found, the PICO strategy was used, which means Patient, Intervention, Comparison and

Outcomes (Santos *et al.*, 2007), allowing formulating the research question: "What are the nursing care provided to patients in the postoperative pain control?". The articles were selected using the PRISMA method (Preferred Reporting Items for Systematic Reviews and Meta-Analyses), a strategy that seeks to ensure the full and transparent communication of systematic reviews and meta-analyses (Almeida, 2016), performed in three stages. In the first step, repeated articles were excluded, and articles were selected by titles. In the second step, the abstracts of the chosen articles were read, and the selected ones were forwarded for their full reading, relating to the third step, as shown in Figure 1.

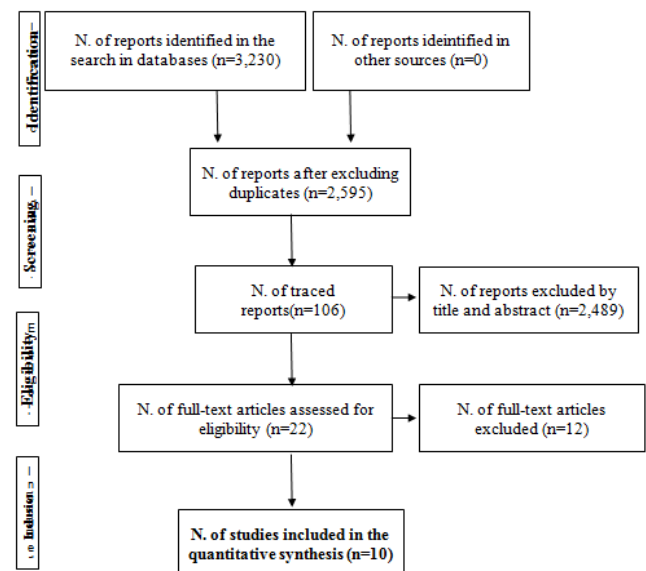


Figure 1. Flowchart representing the steps of selection of articles on nursing interventions in the pain in the postoperative period. Recife, 2018

RESULTS

The search using the descriptors returned 3,230 articles in the selected databases: 1,432 in Medline, 133 in Lilacs, 63 in BDNF and 1,602 in Pubmed. After excluding duplicated articles, 106 articles were analyzed, selecting 84 for the abstract reading, of which 22 articles were selected for full reading. During the full reading, 12 articles were excluded for not being relevant to the study. With this, 10 studies were included for analysis. Of the chosen articles, three were conducted in Brazil, two in Canada, and five in the USA, China, France, Iran and Singapore (one for each country). All articles included the pain control in the postoperative period through pharmacological and/or non-pharmacological methods, as shown in Table 1.

DISCUSSION

The study sought to identify the nursing care to patients in the postoperative pain control through systematic review. The result of the analysis of the selected articles shows that postoperative pain is an unpleasant experience with subjective sensation (Pedro *et al.*, 2013) which, if not properly managed, can cause stress and influence physiological changes, such as tachypnea, increased blood pressure and pallor in the postoperative period, as shown in the study conducted in the state of Minas Gerais (Barbosa *et al.*, 2014). Since pain is subjective, no physical instrument, such as thermometer, tape measure and balance, are able to measure it, since no

Table 1. Dataextracted from the articles selected for the systematic review. Recife, 2018

Author/Year	N. of participantes	Type of study	Follow-up	Intervention	Use of pain scale	Conclusion	Limitations
Silva, Pimenta; Cruz, 2013	362	Non-randomized prospective clinical trial.	7 months.	Training, Pain Systematic Assessment Form (FAS) and analgesic protocol	Yes	The training and using of the Pain Systematic Assessment Form allowed nurses and technicians to administer the supplemented morphine with greater frequency, obtaining decrease of the pain.	Data collection of the three groups was not simultaneous nor randomized.
Costalino, 2015	08	Prospective, qualitative study.	NI	Treinamento, Escala Numérica/Verbal(EVN); Analógica/ visual (EVA), qualitativa e facial de dor e exame físico.	Yes	The study concluded the importance of the nursing professional's ability to recognize and intervene in case of an individual in pain.	NI
Gélinas et al, 2013	32	Prospectivem qualitative, descriptive study.	NI	Non-pharmacological interventions (Music therapy, distractions, massage and presence of relatives).	No	Non-pharmacological interventions (music therapy, distractions, massage and the presence of relatives) are useful and relevant in the management of postoperative pain in ICU patients.	Small sample of patients.
Twycros;Finley;Latimer, 2013	27	Prospective, observational study.	3 months	Administration of analgesics, nursing record and verbal pain scale	Yes	The study shows that the main nursing care is synonymous with administration of analgesics in case of postoperative pain.	NI
Sng, WQ et al. 2013	15	Estudo qualitativo descritivo.	2 months	Administration of analgesics, use of cognitive-behavioral methods, emotional support and assistance in routine activities.	Yes	The study demonstrates that nurses use pharmacological methods and non-pharmacological strategies such as distraction of patients to deal with postoperative pain.	The number of procedures may have altered the experience of pain control, and the children's suspicious behavior in the interview, shortening the interview.
Barbosa et al. 2014	351	Estudo longitudinal, quantitativo, prospectivo.	8 months.	Administration of analgesics and nursing approach.	Yes	There was a predominance of mild pain, in addition to physiological changes such as tachypnea, pallor in the postoperative period of mid-sized surgeries, with decline over time.	Reduced number of patients, insufficient or illegible information of the medical record.
Ming et al. 2017	177	Estudo longitudinal	NI	Numerical pain scale, analgesia, health education and patient-controlled analgesia.	Yes	Postoperative pain reduced considerably in patients who received guidelines in the preoperative period.	A study performed only with patients in the postoperative period of knee arthroplasty.
Glowacki, 2015	400 hospitalais	NI	NI	Visual and analog pain scale, health education.	Yes	Health education reduces postoperative pain.	NI
O. Gall et al	58	NI	256 weeks	Evaluation of the nurse's ability to perform an objective assessment of pain in pediatric patients.	Yes	The results indicate that the patients' perception of providing the necessary care to alleviate pain and their satisfaction with pain relief is higher than that of nurses and in good standing.	Small number of patinets
Tahereh et al.	408	Estudo descritivo	Dois meses e meio	Demographic characteristics. Pain assessment and perception questionnaire, numerical and visual assessment tools for the patient, and nurse satisfaction with pain relief. Version: 16 of the SPSS software, using descriptive statistics, mean and standard deviation.	No	The results indicated that the patients' perception of providing the necessary care to relieve pain and their satisfaction with pain relief is higher than that of the nurse and in good standing	None

*NI= Not informed

instrument allows evaluating objectively an individual's pain with specific characteristics, resulting from his/her culture and life learning in society, varying according to the person (Costalino, 2015). In this way, as an aid in the identification of pain intensity, pain scales were created, which measure the pain according to the patient's report and his/her signs of pain. The role of nursing in anticipating situations in the postoperative period that may require additional analgesia allows educating the patient in the preoperative period on important aspects of his/her recovery, thus providing an adequate pain management, ensuring several benefits such as reduced hospital costs, as hospitalization length decreases, seeking a better way of dealing with stress, in addition to an increased feeling of well-being and control, because what the patient understands about his/her process is crucial to influence positively his/her therapy to pain (Martinez *et al.*, 2011). The analysis of the articles allowed identifying the Verbal Numeric Scale (VNS), which graduates pain from 0 (no pain) to 10 (worst pain ever experienced), intensity as light (1-4), moderate (5-7) and severe (8-10), and the patient reports or indicates the site (Barbosa, 2014), the Visual Analogue Scale (VAS), which is a line with extremities numbered 0-10. One of the extremities is marked with "no pain" and the other "worst pain ever" and the patient is asked to evaluate and select the corresponding line (Glowacki, 2015). There is also the Faces Scale, which classifies the pain intensity according to the mimicry represented on each drawn face (National Committee for Pain Control, 2011).

Furthermore, one of the articles used the Analgesia Nociception Index (ANI), which measures the levels of pain, the activity of the sympathetic system and the heart rate variability during general anesthesia (Guldem *et al.*, 2017) in children, young people and cognitively impaired people (Gall *et al.*, 2015). Others discussed the importance of training nurses and nursing technicians in order to guide and qualify them for the identification and evaluation of pain in the individual using numerical scale and the analgesic ladder proposed by the World Health Organization, as well as the understanding of the impact of postoperative pain and the administration of analgesics. In addition, the training qualified these health professionals for clinical decision making, such as the use of supplemented morphine (Silva *et al.*, 2013). Despite its importance, the communication between professional and patient is not effective, because the professional often disregards behavioral signs of pain or shows reluctance to administer medicines. The professionals themselves recognize the need for communication for postoperative pain relief, emphasizing that attention to socio-psychological aspects sometimes proves to be more effective than using developed techniques (Tahereh *et al.*, 2015).

Even after guidelines by the nursing staff, patients and their companions did not feel safe, demonstrating fear to inform the persistence of pain, because they believed they should receive the lowest possible dose (Twycross *et al.*, 2013). Therefore, the nursing team uses clinical knowledge that assists in the judgment of the presence of postoperative pain, and these symptoms are exacerbated by the sympathetic nervous system, such as pallor, arterial hypertension, oliguria, agitation and anxiety, as well as the presence of signs, such as pain face or the patient's report of pain, or not, its intensity, duration and the elements that may subsidize positively nursing care for postoperative pain control (Costalino, 2015).

The pharmacological resource was the main nursing care in controlling pain and the most used medicines were simple analgesics or opiates (Barbosa *et al.*, 2014). However, other articles brought non-pharmacological interventions, such as combination of distraction, relaxation, hypnosis and images (Sng *et al.*, 2013), in addition to music therapy, guidelines, massages and provision of comfort by nursing professionals, creating a suitable environment allowing the interaction with family, in which patients reported as a useful measure in the control of postoperative pain (Gelinas *et al.*, 2012). Some articles addressed not only the nursing point of view, but also the patients' perception regarding the role of the nursing team in the control of postoperative pain (Gelinas *et al.*, 2012). In this study, pediatric patients understand that the role of this professional is solely the administration of medicines, while companions claimed that nursing also played roles to ensure comfort and transmit information about the current condition of the patient. In a study conducted in China, the role of nursing was perceived not only in health education, but also as a form of inclusion of the patient in care, in order to guarantee autonomy as he/she receives information on procedures and situations he/she may face in the postoperative period, thereby allowing feeling safe and able to express, thus reducing anxiety and postoperative pain (Ming *et al.*, 2017)

Conclusion

Postoperative pain is a subjective sensation (Peter *et al.*, 2013) that requires evaluation in its different forms of manifestation through methods appropriate to the patient's situation and needs. It requires professionals' qualification not only to identify and control the pain, but also to understand personal factors that interfere in the management of postoperative pain. Studies showed that, in addition to using the pain scale, the use of pharmacological methods has been preferential treatment due to their high efficacy. Nevertheless, a greater investment in non-pharmacological interventions is necessary, such as music therapy, massages, emotional support, which could subsidize and contribute effectively to the significant reduction in the use of medications depressors of the central nervous system. Therefore, the nurse is a professional with an active role in the control of postoperative pain, through specific care for each patient, thus using pharmacological and non-pharmacological interventions to promote the well-being of the individual with pain.

REFERENCES

- Barbosa MH, Corrêa TB, Araújo NF, Silva JAJ, Moreira TM, Andrade EV, *et al.* (2014). Dor, alterações fisiológicas e analgesia nos pacientes submetidos a cirurgias de médio porte. *Rev eletrônica enferm.* [Internet]. Jan/Mar; 16(1):142-50. Doi: <http://dx.doi.org/10.5216/ree.v16i1.20991>.
- Bottega FH, Fontana RT. 2010. A dor como quinto sinal vital: utilização da escala de avaliação por enfermeiros de um hospital geral. *Texto & contexto enferm.* Apr/June; 19(2):283-90. Doi: <http://dx.doi.org/10.1590/S0104-07072010000200009>.
- Carvalho FC, Rezende ACC. 2013. A enfermagem nos cuidados ao paciente com dor: revisão de literatura. *Revista Saúde e Desenvolvimento.* July/Dec; 4(2):173-183. Available from: <https://www.uninter.com/revistasaude/index.php/sauedeDesenvolvimento/article/viewFile/233/197>

- Comissão Nacional de Controlo da Dor. 2011. Dor com o 5º Sinal Vital Registo sistemático da intensidade da Dor. Lisboa: Direção-Geral da Saúde.
- Costa ALS, Lasaponari EF, Oliveira RCB, Peniche ACG 2013. Revisão Integrativa: Dor aguda e intervenções de enfermagem no pós-operatório imediato. Rev SOBECC. July/Sep [cited 2018 dez 07];18(3):38-48. Available from: http://www.sobecc.org.br/arquivos/artigos/2014/pdfs/revisa-o-de-leitura/Ano18_n3_%20jul_set2013-5.pdf.
- Costalino LR. 2015. A enfermagem e a dor do paciente na sala de recuperação pós-anestésica: formas de identificação e condutas interventivas. Rev Salusvita (Impr.). 34(2):213-50. Available from: https://secure.usc.br/static/biblioteca/salusvita/salusvita_v34_n2_2015_art_04.pdf
- Fortunato JGS, Furtado MS, Hirabae LFA, Oliveira JS. 2013. Escalas de dor no paciente crítico: uma revisão integrativa. Med HUPE-UERJ. 12(3):110-17. Doi: 10.12957/rhupe.2013.7538.
- Galvão MC, Sawada NO 2003. Prática baseada em evidências: estratégias para sua implementação na enfermagem. Rev bras enferm. 56(1):57-60. Available from: <http://www.scielo.br/pdf/reben/v56n1/a12v56n1>.
- Gélinas C, Arbour C, Michaud C, Robar Lauren e Côté J 2012. Patients and ICU nurses' perspectives of non-pharmacological interventions for pain management. Nurs Crit Care. 18(6):307-18. Doi: 10.1111/j.1478-5153.2012.00531.x.
- Glowacki D 2015. Effective Pain Management and Improvements in Patients' Outcomes and Satisfaction. Crit care nurse. June; 35(3):33-41. Doi: 10.4037/ccn2015440.
- Turan G, Ar AY, Kuplay YY, Demirogluk O, Gazi M, Akgun N *et al.* Índice de analgesia/nocicepção para monitorização da analgesia perioperatória na cirurgia da coluna vertebral. Rev bras anesthesiol. 67(4):370-375. Doi: 10.1016/j.bjan.2017.03.004.
- Martinez, JE, Grassi, DC, Marques, LG 2011. Análise da aplicabilidade de três instrumentos de avaliação de dor em distintas unidades de atendimento: ambulatório, enfermaria e urgência. Rev bras reumatol. 51(4):304-308. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0482-50042011000400002&lng=en&nrm=iso.
- Ming JL, Hung SP, Huang HM, Tseng LH, Huang CH, Chen IC, *et al.* 2017. Effectiveness of Different Pain Control Methods in Patients with Knee Osteoarthritis after Knee Arthroplasty. *Biomed Res Int.* June; 2017(8738924). Doi: 10.1155/2017/8738924.
- Mussi FC, Vila VSC 2001. O alívio da dor de pacientes no pós-operatório na perspectiva de enfermeiros de um centro de Terapia Intensiva. Rev Esc Enferm USP. 35(3):300-7. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0080-62342001000300015&lng=en&nrm=iso
- Gall O, Champigneulle B, Schweitzer B, Deram T, Maupain O, Montmayeur Verchere J (2015). Postoperative pain assessment in children: a pilot study of the usefulness of the analgesia nociception index. *Br J Anaesth. Dec;* 115(6):890-5. Doi: 10.1093/bja/aev361.
- Silva DIS, Pedro ENR. 2013. Intervenções de enfermagem para o alívio da dor no pós-operatório imediato em pediatria: uma revisão integrativa. Rev. HCPA & Fac. Med. Univ. Fed. Rio Gd. do Sul. 33(1):50-4. Available from: <https://seer.ufrgs.br/hcpa/article/view/32894/25671>.
- Galvão TF, Pansani TSA. 2015. Principais itens para relatar Revisões sistemáticas e Meta-análises: A recomendação PRISMA. Epidemiol. Serv. Saúde. [internet]. Apr-June; 24(2):335-342. Available from: <https://docplayer.com.br/9347880-Principais-itens-para-relatar-revisoes-sistematicas-e-meta-analises-a-recomendacao-prisma-doi-10-5123-s1679-49742015000200017.html>
- Santos CMC, Pimenta CAM, Nobre MRC. 2007. A estratégia pico para a construção da pergunta de pesquisa e busca de evidências. Rev latinoam enferm. [Internet]. May/June; 15(3). Doi:10.1590/S0104-11692007000300023.
- Silva MAS, Pimenta CAM, Cruz DALM. 2013. Treinamento e avaliação sistematizada da dor: impacto no controle da dor do pós-operatório de cirurgia cardíaca. Rev Esc Enferm USP. Feb; 47(1):84-92. Doi: 10.1590/s0080-62342013000100011.
- Sng QW, Taylor B, Liam JLW, Yobas PK, Wang W, He HG 2013. Postoperative pain management experiences among school-aged children: a qualitative study. *J Clin Nurs.* Apr; 22(7-8):958-68. Doi: 10.1111/jocn.12052.
- Rad TK, Sayad S, Baghaei M, Hossini SM, Salahshorian A, Zare M. 2015. A Study of Patients and Nurses' Perception of the Quality of Pain Management in the Patients Undergoing Surgery in the Departments of Surgery of Rasht Hospitals in 2013. *Glob J Health Sci.* Dec; 7(7):55-61. Doi: 10.5539/gjhs.v7n7p55.
- Twycross A, Finley GA, Latimer M 2013. Pediatric nurses' postoperative pain management practices: An observational study. *J Spec Pediatr Nurs.* July; 18(3):189-201. Doi: 10.1111/jspn.12026.
