Journal of
Cancer Science & Therapy

Kassa and Kassa, J Cancer Sci Ther 2014, 6:12
DOI: 10.4172/1948-5956.1000312

Research Article Open Access

Nurses' Attitude, Practice and Barriers toward Cancer Pain Management, Addis Ababa, Ethiopia

Rahel Nega Kassa[1] and Getachew Mullu Kassa[2]*

[1]Nursing Department, Medicine and Health Sciences College, Medawelabu University, Bale zone, Goba, Ethiopia
[2]Midwifery Department, Medicine and Health Sciences College, Debre Markos University, Debre Markos, Ethiopia

Abstract

Introduction: Even though establishing good pain control is an important priority for patients with cancer, there are barriers for under treatment including poor attitudes towards pain and opioid analgesia and barriers which exist within the professionals. So, this assessment is conducted to assess the attitude, practice of nurses' and barriers regarding cancer pain management at selected health institutions offering cancer treatment in Addis Ababa city, Ethiopia, 2013.

Methods: Cross-sectional study design was conducted. Anonymously structured self-administered questionnaire and focus group discussion was carried out among 82 nurses. Nurses' Knowledge and Attitudes Survey Regarding Pain (NKARSP) questionnaire was used for data collection. Epi info version 3.5.4 and SPSS version 20 statistical software's were used for data entry and analysis. to identify factors associated with attitude towards cancer pain management bivariate and multivariate logistics regression was computed. P-value and 95% confidence interval was used to determine the association.

Results: 45(54.9%) of the study participants were from the governmental hospital and the rest 37(45.1%) respondents were from private heath institutions. More than half, 53.7%, of the nurses' have a negative attitude, towards cancer pain management. Similarly 65.9% of nurses' had poor cancer pain management practice. Lack of courses related to pain in the under graduate classes, lack of continuing training, patient and work overload, role confusion, lack of motivation including salary were the identified barriers for adequate pain management. Monthly income of greater than 1500 Ethiopian Birr (ETB) were found to be associated with attitude towards cancer pain management (AOR=0.16, 95% CI=0.03-0.78).

Conclusion: Negative attitude of nurses regarding cancer pain management were observed. The practice of nurses' was also poor. The main barriers which hinder good cancer pain management were lack of motivation including salary, role confusion, and lack of continuing training. An effort to improve educational development of nurses' like in service trainings on cancer pain management and familiarization with WHO guidelines should be given to nurses who are working in cancer units.

Keywords: Nurse; Attitude; Practice; Barrier; Cancer pain management

Introduction

The International Association for the Study of Pain (IASP) defines pain as 'an unpleasant sensory and emotional experience, associated with actual, or potential, tissue damage, or described in terms of such damage' [1]. Pain is a common symptom experienced by patients who has cancer, and its management is the use of pharmacological and non-pharmacological interventions to control the patient's identified pain [2-4]. In addition pain management is related with the patient's quality of life, his/her ability to work productively, to enjoy recreation, and to function in a normal condition within society [4].

Currently, 12.5% of all deaths are caused by cancer, which is more than HIV/AIDS, tuberculosis, and malaria combined [5]. By 2020, the International Agency for Research on Cancer, predicts 16 million new cases of cancer per year with cancer overtaking heart disease to become the world's number 1 killer [6,7]. By 2050, three quarter of all cancer deaths will be from low income developing countries [8].

Nurses are important member of the health care team in the treatment of cancer pain, since they spend more time with their patient [9-11]. Even though establishing good pain control is an important priority for patients and clinicians, there are barriers for such huge numbers of under treatment which exist within the professionals and centre on lack of knowledge or poor attitudes towards pain and opioid analgesia [12].

Cancer pain management includes the use of opioids by the patients, correct management of the side effects and regularly assessing the pain [13]. Proper use of therapeutic approaches concurrent with appropriate assessment techniques results in pain control of from 70 to 95% of patients. But unfortunately, cancer pain still remains grossly undertreated throughout the world [2,13-15].

Ethiopia morphine consumption in 2003 was 0.0005 mg per capita, which is one of the lowest compared with the global mean consumption of 5.85 mg. The low consumption of morphine in

***Corresponding author:** Getachew Mullu Kassa, Midwifery Department, Medicine and Health Sciences College, Debre Markos University, Debre Markos, P.O.BOX: 269, Debre Markos, Ethiopia, Tel:+251-920-17-4-29; Fax: +251-58-771-17-64; E-mail: gechm2005@gmail.com

Received September 23, 2014; **Accepted** November 29, 2014; **Published** December 03, 2014

Citation: Kassa RN, Kassa GM (2014) Nurses' Attitude, Practice and Barriers toward Cancer Pain Management, Addis Ababa, Ethiopia. J Cancer Sci Ther 6: 483-487. doi:10.4172/1948-5956.1000312

Ethiopia than compared with the global is one indicative of poor pain control methods [16].

The cancer prevalence is increasing from time to time its burden is more common in low and middle income countries [17-19]. So, this study is aimed to assess nurses' attitude, practice and barriers regarding cancer pain management at selected health institutions offering cancer treatment in Addis Ababa city, Ethiopia, 2013.

Methods

Study area, population and sample size

The study was conducted in one governmental and four private health institutions that provide cancer treatment in Addis Ababa, the capital city of Ethiopia. The population of the city is estimated to be over 3 million (3,038,096) with annual growth rate of 2.1 [15]. The city has 14 governmental and 35 private hospitals. It also encompasses 56 health centers and 83 different clinics. The study populations were all nurses who were working in cancer treatment offering centers of Addis Ababa (one public teaching hospital and four private health institutions). A total of 82 nurses; government (n=45) and private (n=37) nurses were included in the study.

Study design, data collection tool and procedure

Cross sectional study design was conducted**.** Both quantitative and qualitative data collection tools were used. A self-administered structured questionnaire was used to collect quantitative part of the study and focus group discussion (FGD) was used to conduct the qualitative part of the study. The instrument was adapted from NKARSP [14,20], and for the FGD, guidelines were adapted from several literatures [10,17-19]. The attitude part of the questionnaire consists of 12 questions, each with a 5 score likert scale, and it consists of questions related with distraction from pain, opioid addiction, side effects of opioid treatment, pain endurance, real and non-real pain assessment. There were 6 questions for practice related to cancer pain management. Practice related questions include the use of pain assessment tool, frequency of pain assessment, use of non-pharmacologic interventions for pain management, health education and documentation habit.

Prior to the data collection period, the principal investigator met with all of head nurses and administrators of the selected health institutions and time was arranged for the data collection. Five nurse data collectors were chosen from each health institution. Three supervisors were selected from Black Lion hospital (governmental hospital). The principal investigator (PI) gave the training for data collectors and supervisors on the data collection methods before and after the pretest. A total of 22 nurses were included in three focus group discussions. Each FGD consisted of six to eight participants, a total of 22 nurses. The discussants were randomly selected from all of the selected health institutions. And the PI, the two supervisors and two data collectors were moderating the FGD.

Data quality control

The questionnaire was tested before the actual survey within a pilot survey to ensure its clarity, ordering, and consistency. It was done among nurses who were working in an oncology unit before the actual data collection period. During the data collection process each questionnaire was checked daily by the supervisor and PI for its completeness and accuracy.

Data processing and analysis

The collected data was coded, entered, cleaned and Epi Info version 3.5.4 was used for entering data and SPSS version-20 for analysis. Descriptive statistics such as frequencies and percentages was used to describe the sample characteristics and the response of nurses to the questionnaire items. To identify factors associated with attitude towards cancer pain management, bivariate and multivariate analysis was computed. P-value and 95% confidence interval (CI) was used to determine the association. The qualitative part was analyzed following the focus group discussion (FGD). It involved full transcripts and notes from a moderator. The analysis process was on a daily basis. The conversation was recorded during the FGD, and it was read, commented on it and looked for ideas which led to several thematic areas.

Operational definition

Positive attitude: Respondents who scored above 5 (the mean of correct answers) for attitude towards cancer pain management related questions.

Negative attitude: Respondents who scored below 5 (the mean of correct answers) for attitude towards cancer pain management related questions.

Good practice: Respondents who scored above 2 (the mean of correct answers) for practice towards cancer pain management related questions.

Poor practice: Respondents who scored below 2 (the mean of correct answers) for attitude towards cancer pain management related questions.

Ethical considerations

Ethical clearance and permission was obtained from the Ethical Review Committee of Addis Ababa University, college of Medicine and Health Sciences, School of nursing and midwifery. Informed consent was obtained from the study participants after explaining the objective and procedure of the study. Confidentiality of the study participants was maintained.

Results

Socio demographic characteristics

A total 82 study participants completed the questionnaire, with response rate of 100%. From the five health institutions included in the study, 45(54.9%) of the study participants were from the governmental hospital and the rest 37(45.1%) respondents were from private heath institutions. Majority of the respondents, 64(78%), were female nurses. More than half of the respondents, 42 (51.2%) were within age group of 25 to 29 years and the range was 22 to 60 years, with the mean, median and standard deviation (SD) of 29.12, 27.5 and 7. 04 years respectively.

Almost two third, 66(80.5%), of the respondents' monthly salary was above 1,500.00 ETB with the mean, median and SD of 2197.72, 2250, and 975.9 ETB respectively. More than half of the respondents, 44(53.7%), were within a group of 2 to 9 years of work experience and range was ½ to 41 years, with the mean, median and S.D of 5.7, 3 and 7 years respectively. Regarding level of education, 51.2% of the respondents were diploma holders whereas bachelor degree accounts for 40 (48.8%) (Table 1).

Attitude of nurses regarding cancer pain management

From the 12 pain attitude questions assessed, the mean number of correctly answered questions was 5 (SD =1.64), with a range from 2 to

Variables		Frequency	Percentage
Age	20-24	18	22
	25-30	42	51.2
	≥ 30	22	26.8
Sex	Male	18	22
	Female	64	78
Religion	Orthodox Christian	56	68.3
	Islam	6	7.3
	Protestants	17	20.7
	Wakefeta, Adventist	3	3.7
Marital status	Single	47	57.3
	Married	33	40.7
	Divorced	2	2.4
Ethnicity	Oromo	26	31.7
	Amhara	39	47.6
	SNNPR	13	15.9
	Tigray	4	4.9
Work experience	≤ 1	23	28
	2-9	44	53.7
	≥ 10	15	18.3
Level of education	Diploma	42	51.2
	Bachelor degree	40	48.8
Cancer and/or pain related training	Yes	6	7.3
	No	76	92.7
Monthly salary	<1500 ETB	16	19.5
	>1500 ETB	66	80.5

Table 1: Socio-demographic characteristics of nurses working on cancer pain management at selected public and private health institutions in Addis Ababa city, March to April, 2013.

9. Accordingly, more than half, 53.7%, of the nurses' have a negative attitude, while 46.3% had a positive attitude towards cancer pain management.

Over half (68.3%) of the respondents agree and strongly agree that opioids should not be given for patient with history of substance abuse, and 53 (64.4%) of nurses believed that placebo is a useful test to determine if the pain is real. In addition, 45(54.9%) of nurses agreed that patient should be encouraged to endure his/her pain before taking pain management measure to relief their pain. 41.5% of nurses disagree and strongly disagree that the first assessor of the intensity of the patients' pain is the patients themselves (Table 2).

Attitude of Nurses was further analyzed for association with socio demographic, educational characteristics and clinical experience. As described in Table 3, nurses who have monthly income of greater than 1500 ETB were found to be 83.8% times more likely to have positive attitude towards cancer pain management than those who have monthly income of less than 1500 ETB (AOR=0.16, 95% CI=0.03-0.78).

Practice of nurses regarding cancer pain management

From the 6 questions; the mean number of correctly answered questions was 2 (SD=1.2), with a range from 0 to 5. Almost two third (65.9%) of respondents had poor cancer pain management practice whereas only 34.1% had good cancer pain management practice.

Majority, 50 (61%), of nurses included in the study did not use standard pain assessment tool to assess severity of pain for cancer patients. Only 28 (34.1%) performed regular and ongoing pain assessment for their patients. Of these who performed, only 11(13%) used the correct time interval of pain assessment (every four hours or six times per day). Similarly, only 24 (29.3%) of the respondents used non-pharmacological interventions along with pharmacological interventions for pain management. Additionally, this study identified that 65(79.3%) of nurses said that they did not document their daily pain management activities. Majority, 60 (73.2%), of nurses said that they provide patient and family health education about cancer, pain, treatment and their side effects (Table 4).

Barriers to cancer pain management

Many points regarding barriers that hinder nurses to address adequate pain management were described by the study participants during FGDs. Lack of courses related to pain in the under graduate classes, lack of continuing training, patient and work overload, lack of human resource, inadequate knowledge or information gap, role confusion, fear of side effects of cancer treatments, absence of specialized nurse in oncology nursing, lack of equipment's, lack of motivation including salary were the identified barriers for adequate pain management.

"....we got the same salary as those nurses who are working in other units of the hospital while we are in burden of life threatening risks during chemotherapy." (Focus group 2)

"*I was eager to join the oncology unit in order to know how to administer chemotherapy and other pain management measures. But now, after hearing and reading about the side effects of cancer therapies on health professionals, I wish to disappear from this ward if the schedule to administer chemotherapy is mine."* (Focus group 1)

Discussion

The current study assessed the attitude and practice of nurses' towards cancer pain management. Accordingly, less than half, 46.3%, of the respondents had a positive attitude towards cancer pain management. The high level of negative attitude can be due to; the lack of motivation due to low salary, lack of knowledge, and can also be due to the role confusion of nurses from other health care providers in the current study area [21]. A study conducted in Srilanka also found that nurses have powerlessness and oppression towards cancer pain management [18]. Attitudinal factor, such as negative public attitudes toward cancer pain and opioid analgesia, may be contributing to patients' reluctance to report pain and comply with pain therapy. Similarly it also found that health care providers' beliefs and attitudes may lead to unrelieved cancer pain [22].

According to a study conducted in Srilanaka, pain management of nurses is not planned and assessment and evaluation of drug therapy doesn't seem to occur [18]. In addition the current study also found that 57.3% of respondents recognized that opioids used in cancer pain management do result in addiction. This is different from a study conducted in Saudi Arabia which showed that 58.6% considered the risk of addiction is high with legitimate opioids' prescription [23]. The reason for such difference could be due to the difference in the study population; the current study included nurses while the study in Saudi Arabia included medical students, limited familiarity with opioid medications in the current study area, since most nurses receive very little education about addiction in their undergraduate nursing programs [9,24]. A study in Turkey also showed that almost three quarters of the physicians believe that opioid use may cause high rates of psychological addiction or abuse [25].

The other finding in this study was that nurses who have monthly income of greater than 1500 ETB were found to be 83.8% more likely to have positive attitude towards cancer pain management than those who

Items	Strongly disagree n(%)	Disagree n(%)	No comment n(%)	Agree n(%)	Strongly agree n(%)
1. If the patient can be distracted from his pain this usually means that he does not have high pain intensity.	3(3.7)	25(30.5)	5(6.1)	42(51.2)	7(8.5)
2. Respiratory distress is rarely occurs in patients who have been receiving opoids over a period of months.	1(1.2)	26(31.7)	25(30.5)	27(32.9)	3(3.7)
3. Patients with a history of substance abuse should not be given opoids for pain because they are at high risk for repeated addiction.	2(2.4)	10(12.2)	14(17.1)	43(52.4)	13(15.9)
4. Elderly patients cannot tolerate opoids for pain relief.	6(7.3)	35(42.7)	16(19.5)	24(29.3)	1(1.2)
5. The patient with pain should be encouraged to indure as much pain as possible before resorting to a pain relief measure.	5(6.1)	26(31.7)	6(7.3)	41(50)	4(4.9)
6. Children less than 11 years cannot report pain with reliability, and therefore the nurse should rely on the parents' assessment of the child's pain intensity.	3(3.7)	23(28)	12(14.6)	44(53.7)	0
7. Giving patients sterile water by injection (placebo) is often a useful test to determine if the pain is real.	7(8.5)	16(19.5)	6(7.3)	26(31.7)	27(32.9)
8. The first assessor of pain should be the patient him/herself.	8(9.8)	26(31.7)	22(26.8)	11(13.4)	15(18.3)
9. Opoids used in cancer pain management do result in addiction.	3(3.7)	17(20.7)	15(18.3)	25(30.5)	22(26.8)

Table 2: Attitude of nurses regarding cancer pain management at selected public and private health institutions in Addis Ababa city, Ethiopia, 2013.

Variables		Attitude		COR 95% CI	AOR 95%CI	P value
		Positive Attitude	Negative Attitude			
In service Training	Yes	13(68.4%)	6(31.8%)	1		
	No	25(39.7%)	38(60.3%)	0.3(0.1-0.9)	0.6(0.12-1.11)	0.075
Type of Health Institution	Governmental	26(57.8%)	19(42.2%)	5.9(1.48-3.75)	2.6(0.96-7.11)	0.60
	Private	12(32.4%)	25(67.6%)	1	1	
Salary/month (ETB)	500-1500	3(13.3%)	13(86.7%)	0.2(0.05-0.78)	0.16(0.03-0.78)	0.024*
	>1500	35(53%)	31(47%)	1		

Table 3: Bivariate and multivariate analysis showing factors affecting attitude of nurses regarding pain management at selected public and private health institutions in Addis Ababa town, 2013.

S.No.	Items	Correct answer rate	
		Frequency	Percentage
1	Utilization of a standard pain assessment tool (Yes)	32	39
2	Do you perform regular and ongoing assessment for a patient with cancer pain? (Yes)	28	34.1
3	Frequency of pain assessment per day (6 times or every 4 hours)	11	13
4	Demonstration of non-pharmacological interventions for pain management (Yes)	24	29.3
5	Education for patient and family on cancer pain. (Yes)	60	73.2
6	Documentation habit (Yes)	17	20.7

Table 4: Items related to practice of nurses regarding cancer pain management at selected public and private health institutions in Addis Ababa town, Ethiopia, 2013.

have monthly income of less than 1500 ETB. The FGD of the present study also showed supports this idea. Similar finding was also found in a study conducted in Sirilanka showing that lack of motivation due to salary was one reason to had negative attitude towards cancer pain management [18].

The practice of the respondents on cancer pain management was also discovered below satisfactory (33.3%). Majority, 50 (61%), of nurses included in this study did not use standard pain assessment tool to assess severity of pain for cancer patients while standardized guidelines recommend to use those assessment tools to verify progress of pain. The discussants in the FGD said that they did not use any specified tool for pain assessment and majority of them said that they understood their patient's pain level using facial expressions.

WHO guide line, regarding time frequency of assessment recommends that nurses should assess pain in cancer patients every four hours per day [10]. But the current study found that, only 28 (34.1%) performed regular and ongoing pain assessment for their patients. Of these who performed, only 11(13%) of them used the correct time interval of pain assessment. This could be due to the lack of courses related with cancer pain management, and lack of familiarity with WHO guideline in the current study area.

Since opioids are central to effective cancer pain management and access to opioids in the community may be an additional barrier faced by patients [26], non-pharmacological interventions of pain management should be included in the management of patient with cancer. Accordingly, Twenty four (29.3%) of the respondents from the current study demonstrated non-pharmacological interventions.

Nurses should document pain assessment regularly and routinely on standardized forms that are accessible to all clinicians involved in care [10]. But, our study identified that 65(79.3%) of nurses did not document their daily pain management activities. Almost all of the three groups of FGD said that they did not document their daily activities as well as progress of their patient's pain level. The low documentation in the current study area could be due to the lack of familiarity with WHO guidelines.

Lack of courses related to pain in their under graduate classes, lack of continuing training, patient overload, lack of human resource, work over load, inadequate knowledge or information gap, role confusion, fear of side effects of cancer treatments, absence of specialized nurse in oncology nursing, lack of equipments, low salary were the identified barriers that hold back nurses to deal with adequate cancer pain

management. Similar findings were also observed in studies conducted Sirilanka, Turkery, Thailand, and South Korea [18,25,27-29].

Conclusion

Negative attitude of nurses regarding cancer pain management were observed. The practice of nurses' was also poor. The main barriers which hinder good cancer pain management were Lack of courses related to pain in the under graduate classes, lack of continuing training, role confusion, and lack of motivation including salary. An effort to improve educational development of nurses' like in service trainings on cancer pain management and familiarization with WHO guidelines should be given to nurses who are working in oncology units.

Recommendations

- The existing syllabus of nursing curriculum should be reviewed and comprehensive program and culturally sensitive component of cancer pain management should be included.
- Medical units and hospital administrators should be committed to effective pain management by developing standard guidelines for pain management for staff nurses who are working in oncology ward. In addition, they should promote the use of tools for pain assessment, and should improve the process of assessing and treating pain.
- More in service training should also be organized to enhance nurses' competence in cancer pain management.
- In addition, additional research should be done to assess the knowledge, attitude and practice of nurses on cancer pain management, and the barriers and to observe possible improvement in the same hospitals.

Implication for Practice

The existing nursing curriculum should be modified and should incorporate topics on opioid addiction and pharmacologic and non-pharmacologic methods of cancer pain management. Nurses in oncology ward should be familiar with updated informations on cancer pain management from the WHO, cancer societies and other organizations.

References

1. Koch K (2012) Assessing pain in primary care. S Afr Fam Pract 54: 21-24.
2. Bader P, Echtle D, Fonteyne V, Livadas K, De Meerleer G, et al. (2012) Prostate cancer pain management: EAU guidelines on pain management. World J Urol 30: 677-686.
3. Maryland Board of Nursing (2012) Pain Management Nursing Role/Core Competency A Guide for Nurses. MBN, Baltimore MD.
4. Raphael JS, Barrie J, Bennett M (2010) Cancer Pain Management: The British Pain Society.
5. World Health Organization and International Union against Cancer (2005) Facts and figures on causes of cancer, prevention, early detection, cure and care contacts.
6. Zhou G, Stoltzfus JC, Houldin AD, Parks SM, Swan BA (2010) Knowledge, attitudes, and practice behaviors of oncology advanced practice nurses regarding advanced care planning for patients with cancer. Oncol Nurs Forum 37: E400-410.
7. Lodge M (2005) The evidence base for cancer control in developing countries: what is to be done? The Newsletter of the International Network for Cancer Treatment and Research.
8. Can Treat International (2006) Access to Cancer Treatment in Low- and Middle-Income Countries: an essential part of globalcancer control.
9. Ferrell BR, Grant M, Ritchey KJ, Ropchan R, Rivera LM (1993) The pain resource nurse training program: a unique approach to pain management. J Pain Symptom Manage 8: 549-556.
10. Kumar N (2007) WHO Normative Guidelines on Pain Management: Report of a Delphi Study to determine the need for guidelines and to identify the number and topics of guidelines that should be developed, Geneva.
11. Henry MD, Ali N (2010) Knowledge and Attitudes of nurses about pain management in patients with cancer. Ball State University. Muncie: Indiana.
12. Bennett MI, Flemming K, Closs SJ (2011) Education in cancer pain management. Curr Opin Support Palliat Care 5: 20-24.
13. Gehdoo RP (2006) Cancer pain management: Indian Journal of Anesthesia 50: 375-390.
14. Weissman DE, Dahl JL, Beasley JW (1993) The Cancer Pain Role Model Program of the Wisconsin Cancer Pain Initiative. J Pain Symptom Manage 8: 29-35.
15. Central Statistical Agency (CSA) (2011) Ethiopian demographic and health survey, preliminary report. Addis Ababa: Ethiopia. ICF Macro, Calverton, Maryland, USA.
16. Mamo Y, Giorgis NW, Tsegaye E (2011) Palliative care and pain relief newsletter. Palliative care and pain relief. Issue 1: 1-8.
17. Sun VC, Borneman T, Ferrell B, Piper B, Koczywas M, et al. (2007) Overcoming barriers to cancer pain management: an institutional change model. J Pain Symptom Manage 34: 359-369.
18. Badurakada S (2008) An Ethnography study of nurses' cancer pain management in Srilanka. Victoria: Australia.
19. Ripamonti CI, Santini D, Maranzano E, Berti M, Roila F, et al. (2012) Management of cancer pain: ESMO Clinical Practice Guidelines. Ann Oncol 22: 39-54.
20. Dawn LB (2005) Nursing knowledge and attitudes regarding the pain management of cancer patients. Electronic Theses, Treatises and Dissertations: 3728.
21. Nega R, Mullu G, Tachbele E (2013) Cancer pain and its management: knowledge of nurses at selected health institutions offering cancer treatment. A Thesis Submitted in partial fulfilment of the Requirements of Addis Ababa University for the Degree of Masters of Science in Adult Health Nursing. Addis Ababa University: Ethiopia.
22. Yates PM, Edwards HE, Nash RE, Walsh AM, Fentiman BJ, et al. (2002) Barriers to effective cancer pain management: a survey of hospitalized cancer patients in Australia. J Pain Symptom Manage 23: 393-405.
23. Kaki AM (2011) Medical students' knowledge and attitude toward cancer pain management in Saudi Arabia. Saudi Med J 32: 628-632.
24. McCaffery M, Ferrell BR (1997) Nurses' knowledge of pain assessment and management: how much progress have we made? J Pain Symptom Manage 14: 175-188.
25. Peker L, Celebi N, Canbay O, Sahin A, Cakir B, et al. (2008) Doctors' opinions, knowledge and attitudes towards cancer pain management in a university hospital. Agri 20: 20-30.
26. The British Pain Society's (2010) Cancer Pain Management: A perspective from the British Pain Society: supported by the Association for Palliative Medicine and the Royal College of General Practitioners.
27. Kipkorir C (2011) Knowledge and Attitudes of Nurses towards Pain Management among the Elderly: A case study of registered nurses from the local healthcare centers, Kokkola. A Thesis Submitted in partial fulfilment of the Requirements of Central Ostrobothnia University of Applied Sciences for the Degree Programme in Nursing. Central Ostrobothnia University, Sweden.
28. Kim MH, Park H, Park EC, Park K (2011) Attitude and knowledge of physicians about cancer pain management: young doctors of South Korea in their early career. Jpn J Clin Oncol 41: 783-791.
29. Duignan M, Dunn V (2008) Barriers to pain management in emergency departments. Emerg Nurse 15: 30-34.