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PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1493856>Available online at: <http://www.iajps.com>**Research Article****ASSESSMENT OF PHYSICIANS' KNOWLEDGE, ATTITUDE
AND PRACTICE TOWARDS PAIN MANAGEMENT IN
CANCER PATIENTS****Dalia A. Abdulla¹, Sania A.I.Shaddad², Eltayeb A. Gadir³, Mahmoud M. E. Mudawi⁴**¹Department of Clinical Pharmacy, Faculty of Pharmacy, Northern Border University, KSA.²Department of Pharmacology, Faculty of Medicine, University of Khartoum, Sudan.³Head Department of pain management center fedail hospital, Sudan⁴ Department of Pharmacology and Toxicology, Faculty of Pharmacy, Northern Border University, Kingdom of Saudi Arabia.**Abstract:**

Aim: Pain is the most common symptom for which patients seeks help and can reflect either physical or emotional discomfort. Therefore; the aim of this study is to assess physician attitude and knowledge about pain management in cancer patients and the most common barrier for optimal cancer pain management.

Methods: This is a cross sectional descriptive hospital based study; it included Physicians working in Radio and Isotopes Centre Khartoum (RICK), Sudan. The data was collected using questionnaire in the period between March and May, 2012.

Results: This study revealed that most physicians showed negative attitude toward optimal analgesic use in cancer patients; more than half of physicians (66.7%) thought that patients will depend on drugs if it is prescribed as their wishes. (60%) of the physicians fearing from drug addiction. Also (76%) did not know that opioid have no ceiling effect and can be increased without restriction.(65 %) of the physicians did not know that one sixth of total daily dosage of opioids can be used for breakthrough pain additionally. This study also revealed that about (62 %) of the physicians did not heard or even heard but not used WHO analgesic ladder for the management of cancer patients.

Conclusion: An educational policy to provide support for the training of health-care professionals, volunteers and the public, and the development of the undergraduate medical curriculum in palliative care at the school of medicine is necessary.

The pharmacists must become more integral members of palliative care teams because they provide more information about drugs using in pain management.

Key words: Cancer, pain management, Analgesics, opioids and palliative care.

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INTRODUCTION:

Pain is an unpleasant, subjective, sensory, and emotional experience associated with actual or potential tissue damage or described in terms of such damage [1].

Pain can be categorized according to several variables, including its duration (acute, convalescent and chronic), its pathophysiological mechanisms (physiologic, nociceptive, neuropathic), and its clinical context (e.g. postsurgical, malignancy related, neuropathic, degenerative) [2].

Nociceptive pain is defined as noxious perception resulting from cellular damage following surgical, traumatic, or disease-related injuries. Nociceptive pain has also been termed *inflammatory* because peripheral inflammation and inflammatory mediators play major roles in its initiation and development. In general, the intensity of nociceptive pain is proportional to the magnitude of tissue damage and release of inflammatory mediators [2].

Neuropathic pain is defined by the International Association for the Study of Pain as “pain initiated or caused by a pathologic lesion or dysfunction” in peripheral nerves and CNS [2]. Pain due to dysfunction of the pain perception system within the peripheral or central nervous system as a result of injury, disease or surgical damage (e.g. Continuing pain experienced from a limb which has been amputated – phantom limb pain) is also termed neuropathic [3].

Acute pain (e.g., surgery, trauma, labor, medical procedures) usually is nociceptive, but it can be neuropathic. Chronic pain can be nociceptive, neuropathic/functional, or both (e.g., pain that persists after the healing of the acute injury, pain related to a chronic disease, pain without an identifiable cause, and pain associated with cancer). [1]

In a study conducted by Myung-hyun Kim *et al.* (2011) in South Korea aimed to evaluate the attitude and knowledge about the optimal use of opioids and finding out the barriers to cancer pain management especially for young doctors in South Korea. A survey through questionnaire form was conducted on 1204 physicians they grouped according to their specialties and personal characteristic. They found that many doctors thought that they were fairly well educated for pain management strategy, a large population of physicians showed a negative attitude and inadequate

knowledge status about cancer pain management. The most important perceived barriers to optimal cancer pain management were the fear for risk of tolerance, drug addiction, side effects of opioid analgesics and knowledge deficit about opioid analgesics [4].

Among physicians experienced in chronic pain treatment, Morley-Forster *PK et al.* (2003) found that there is a reluctance to use opioids for severe nonmalignant pain. One-half of the survey participants believed that there was a need for improved physician education in pain management, including the use of opioids [5].

In New York 2009, Motov and Khan found that the state of pain management in the emergency department (ED) is disturbing. ED physicians often do not provide adequate analgesia to their patients, do not meet patients' expectations in treating their pain, and struggle to change their practice regarding analgesia. They identified the following causes of poor management of painful conditions in the ED: failure to acknowledge pain, failure to assess initial pain, failure to have pain management guidelines in ED, failure to document pain and to assess treatment adequacy, and failure to meet patient's expectations. The barriers that preclude emergency physicians from proper pain management include ethnic and racial bias, gender bias, age bias, inadequate knowledge and formal training in acute pain management, opiophobia, the ED, and the ED culture. They conclude that ED physicians must realize that pain is a true emergency and treat it as such [6].

Pflughaupt *Met al.* (2010) conducted a study about Physicians' knowledge and attitudes concerning the use of opioids in the treatment of chronic cancer and non-cancer pain in Germany; they reported that many of them had poor knowledge of the WHO recommendations for the treatment of cancer pain including the WHO analgesic ladder. Deficiencies in the knowledge of pharmacological aspects and controlled substances regulations were revealed [7].

In Sarawak, Malaysia a survey was conducted by Devi *BC et al.* (2006) among the total population of government hospital doctors to study the barriers to cancer pain management. Two hundred and fifty-three respondents (83%) completed the survey. The study results highlight that knowledge about cancer pain management was low and barriers to morphine prescription were high. A majority of doctors were deterred from using morphine because of fear of addiction (36.5%) and respiratory depression

(53.1%). Only 16.2% of the doctors chose the oral mode of administration to treat pain, furthermore 25% prescribed morphine as needed. Doctors with undergraduate study in oncology consistently answered better suggesting that the situation can be improved by education. This study showed that barriers to morphine prescription and knowledge deficit amongst government doctors in Sarawak are strong but similar to those reported in western countries few years ago [8].

Wells *Met al.*(2001) found that in UK Deficiencies in knowledge and inappropriate attitudes towards the use of opioids may partially explain why the management of cancer pain is still such a widespread problem. Their study assessed the knowledge and attitudes of 135 nursing and medical staff working in a surgical unit, before and after working with a newly established Hospital Palliative Care Team. Results of the follow-up survey indicated that the knowledge and attitudes of doctors and nurses had improved after working with the team, but that this probably occurred as a result of good working relationships and case discussions rather than through formal teaching. They conclude that the challenge now is to work with staff to ensure that positive changes in knowledge and attitudes are translated into the everyday practice of hospital nurses and doctors caring for patients with cancer [9].

In Taiwan (2000)Ger LP, Ho ST, Wang JJ , conducted a study to examine the attitudes of physicians regarding the optimal use of analgesics for cancer pain management (CPM), to evaluate their knowledge and attitudes toward opioid prescribing, and to comprehend their perceptions of the barriers to optimal CPM. A survey was conducted on 356 physicians with cancer patient care responsibilities practicing in two medical centers in Taiwan. A total of 204 (57%) physicians responded, including internists (28%), surgeons (27%), oncologists (11%), anesthesiologists (10%), and other specialties (24%). The majority of physicians displayed significantly inadequate knowledge and negative attitudes toward the optimal use of analgesics and opioid prescribing. The results of this study suggest that active analgesic education programs are urgently needed in Taiwan [10].

Xue *Yet al.*(2007) conducted a study aimed to evaluate the attitudes and knowledge of inpatient oncology healthcare providers toward pain management by surveying nurses, pharmacists, and physicians working on the inpatient oncology units at an academic medical center USA. Healthcare providers generally reported positive attitudes toward pain management but were deficient in their knowledge of pain management. The authors suggest that pharmacists become more integral members of palliative care teams and actively participate in rounds. A need exists for educational programs in pain management for healthcare providers, especially for those who do not routinely care for patients with cancer [11].

Like in other countries, cancer has been the leading cause of death in Sudan. The National Centre for Radio Therapy said that the rate of cancer in the country has increased. The centre has released in a report that shows cancer to be one of the most dangerous diseases causing death in Sudanese hospitals [12] .

Pain is one of the most common and unwanted symptoms in patients with cancer and is the most common symptom for which patients seeks help and can reflect either physical or emotional discomfort. Therefore; the aim of this study was to assess physician attitude and knowledge about pain management in cancer patients and the most common barrier for optimal cancer pain management in Sudan.

METHODOLOGY:

This is a cross sectional descriptive hospital based study included Physicians working in Radio and Isotopes Centre Khartoum (RICK), Sudan. The data was collected using questionnaire in the period between March and May, 2012. The sample size included 30 registrars, 21 medical officers and 9 consultants. The data was analyzed using the Statistical Package for Social Science program (SPSS).

Ethical approval was obtained from the ministry of health, Sudan.

RESULTS:

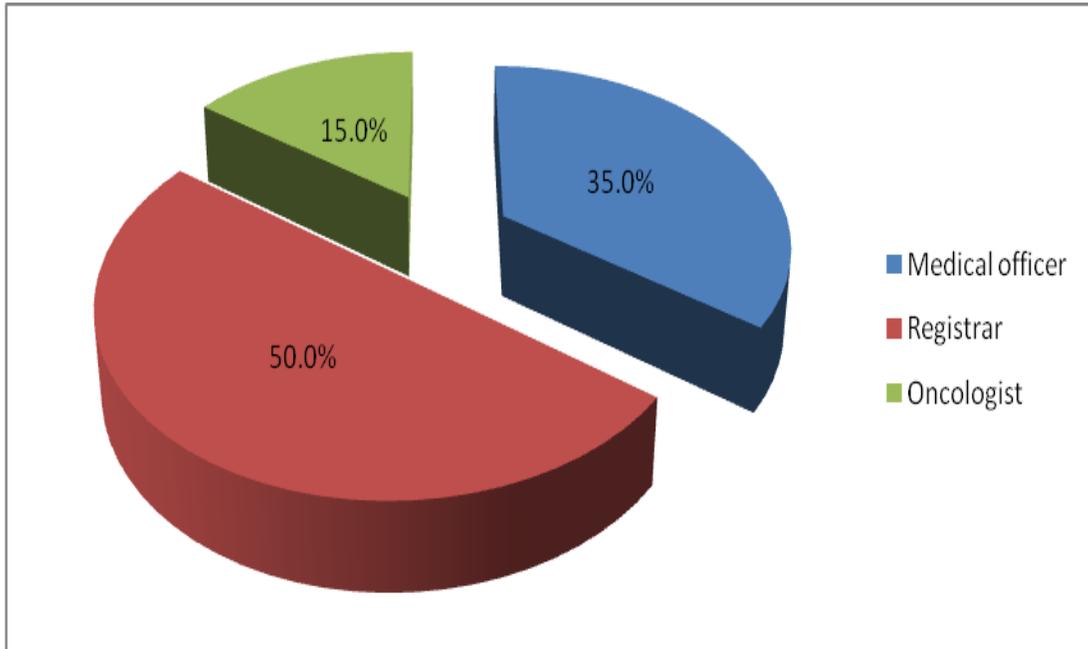


Figure 1: medical specialty

Physicians were divided according to their medical specialty into oncologists (15%), registrars (50%), and medical officers (35%). Response rate was (73.2%) (N=60), as showed in Figure (1).

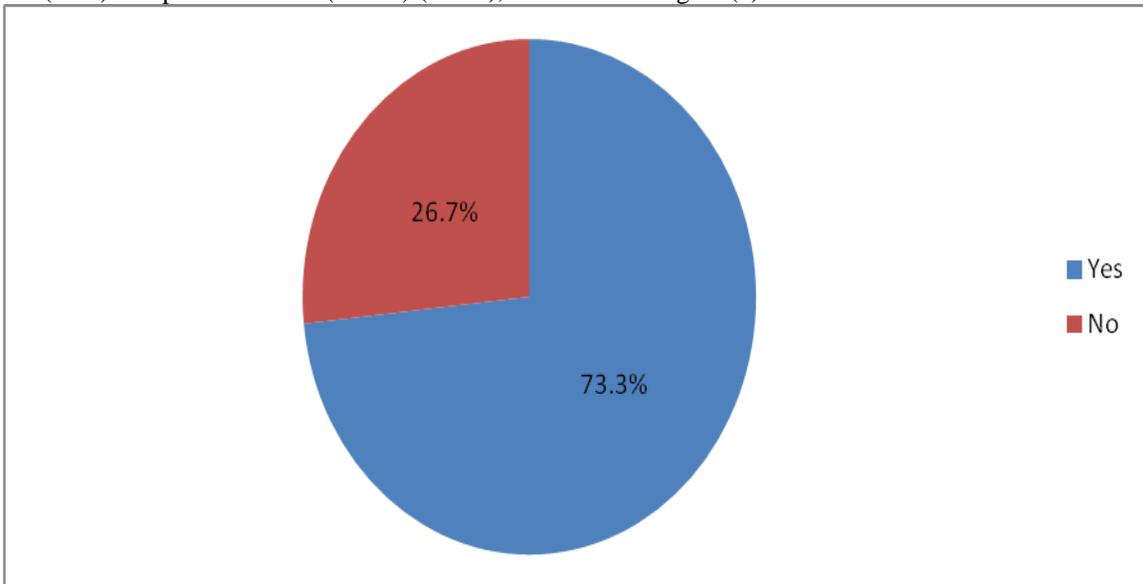


Figure 2: Experience of opioids prescription for cancer pain management (CPM)

As shown in figure (2); 73.3 % indicated that they have an experience of opioid prescription.

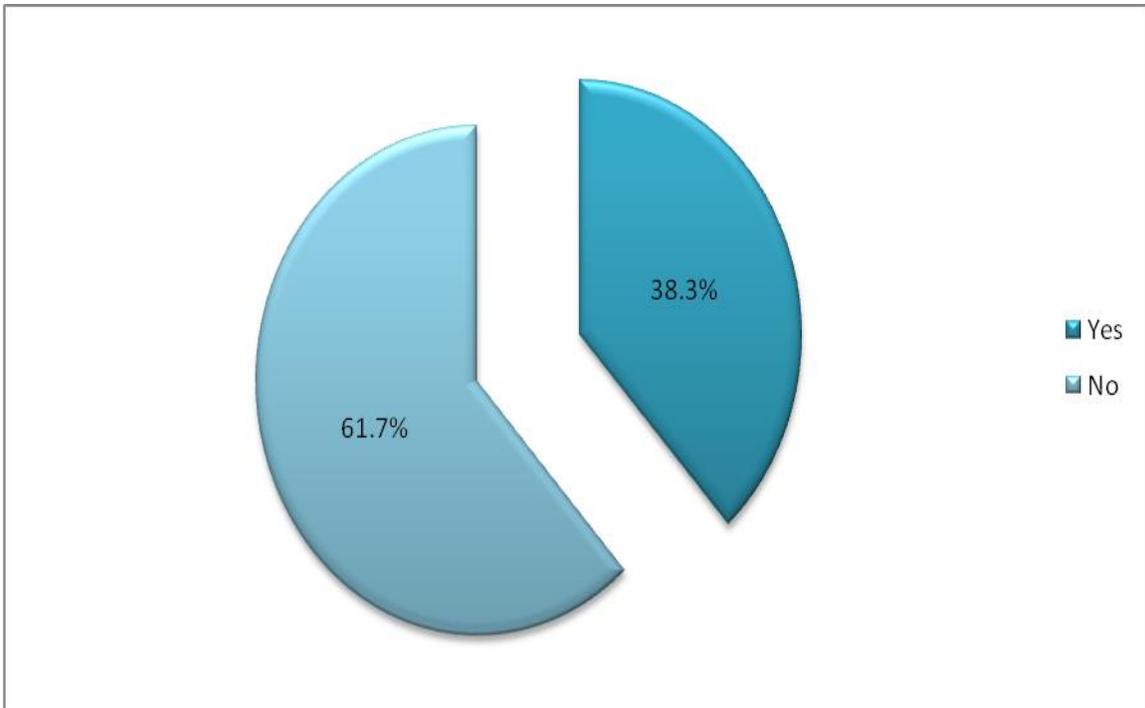


Figure 3: Trained for CPM

In Figure (3), only (38%) were trained for cancer pain management(CPM).

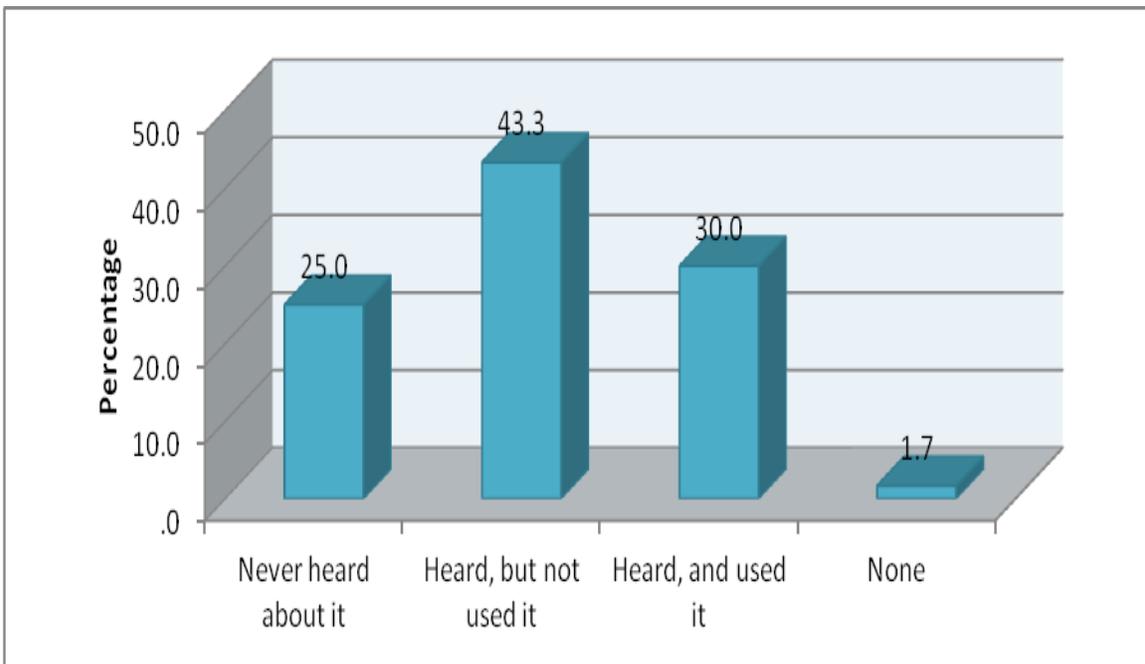


Figure 4: Awareness of pain measurement and assessment questionnaire

About (43%) heard about pain measurement and assessment questionnaire but not used it while (25%) never heard about it and (30%) heard and used it as illustrated in Figure (4)

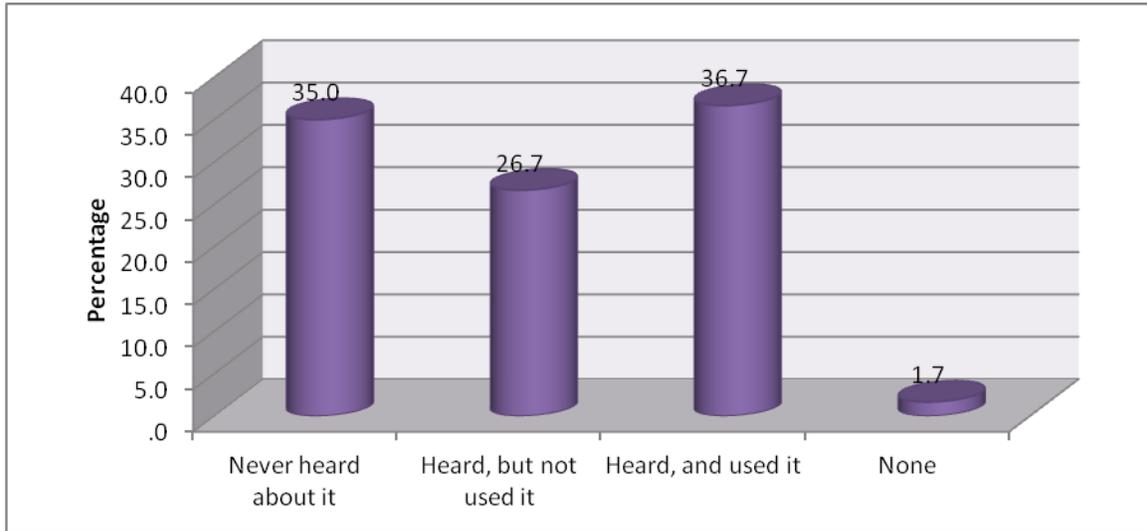


Figure 5: Awareness of WHO analgesic ladder

Figure (5) showing that (35%) of physicians never heard about WHO analgesic ladder and (26.7%) heard but not used it, only (36.7%) heard and using it.

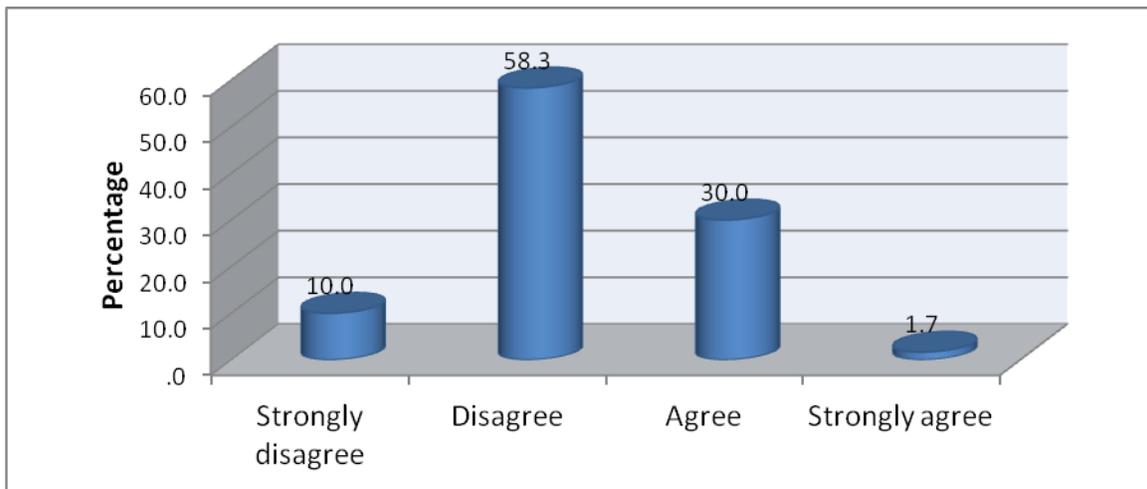


Figure 6: Patients complain pain usually exaggerate it

More than half of physicians (68.3%) disagree with the statement that when patients complain pain, they usually exaggerate it, while (30%) agree, as shown in Figure (6)

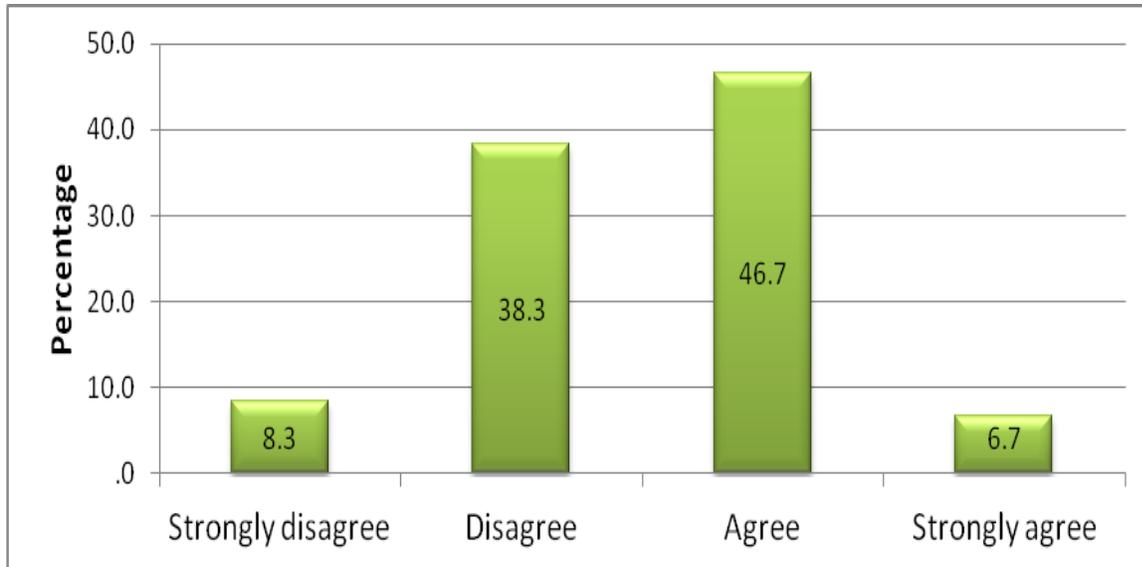


Figure 7: Patients exaggerate pain for attention of medical personnel

Figure 7 indicating that about (46%) thought that patients exaggerate pain for getting the attention of medical personnel, (38.3%) disagree, (8.3%) strongly disagree and (6.7%) strongly agree.

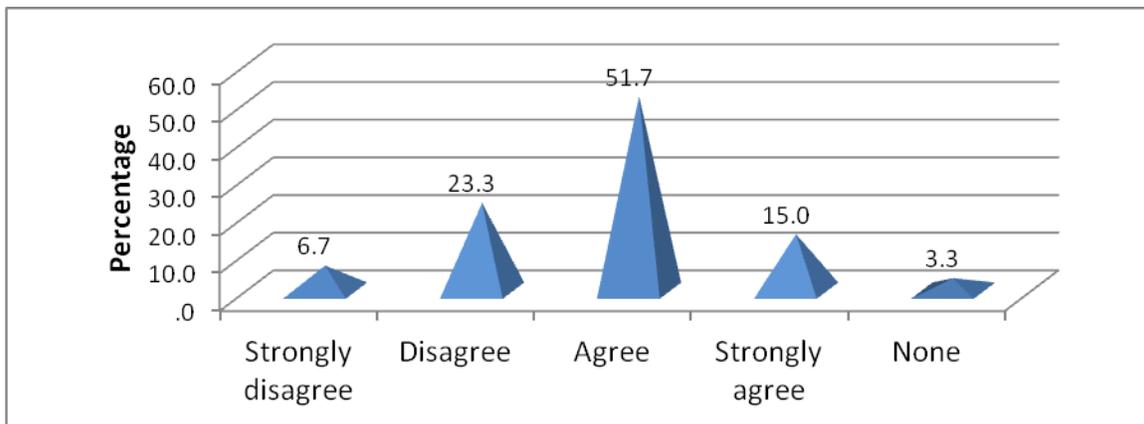


Figure 8: dependent to drug if it is prescribed as Patients wishes

More than half of physicians (66.7%) thought that patients will be dependent to drug if it is prescribed as their wishes, (23.3%) disagree and (6.7%) strongly disagree as illustrated in Figure (8).

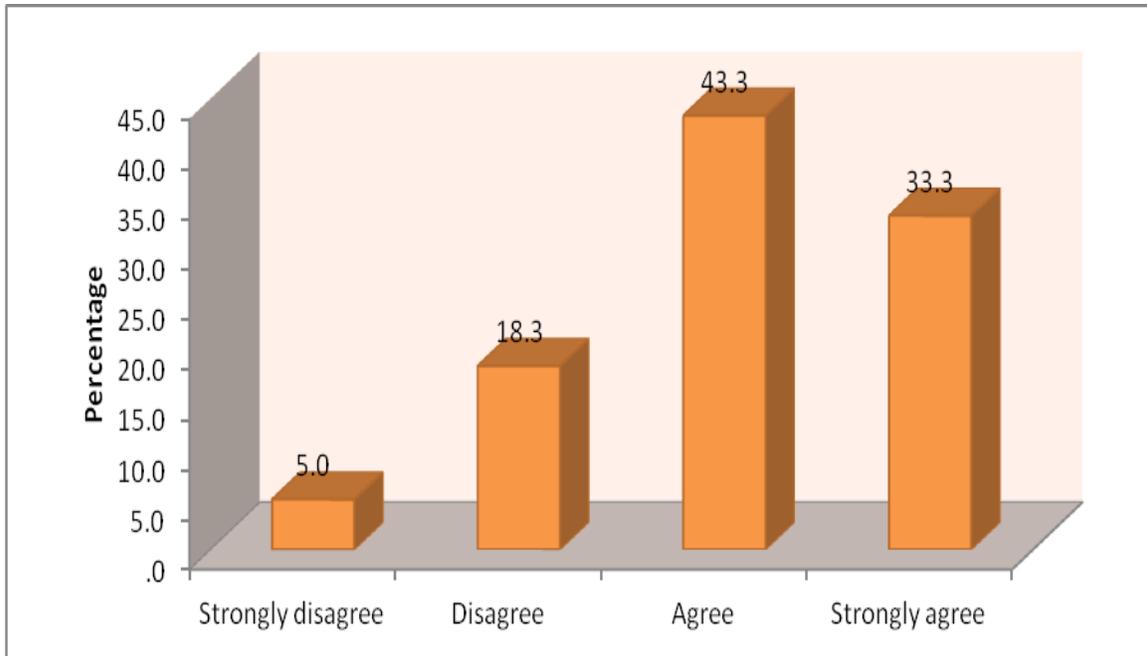


Figure 9: frequent patients pain complaints need psychological consultations.

Figure (9) indicating that (43.3%) of total physicians feel the necessity of psychological consultation for drug addiction when patients complained about their pain frequently, (33.3%) strongly agree, (18.3%) disagree and (5%) strongly disagree.

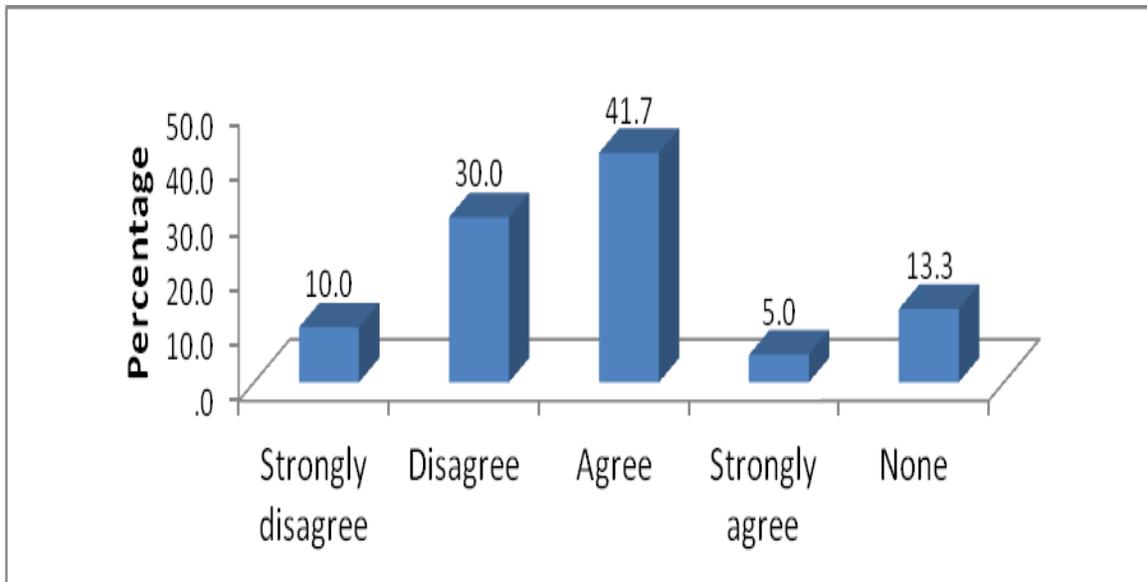


Figure 10: opinions of physicians regarding whether endurance of pain is preferred to having side effect from narcotic analgesics.

41.7% of the physicians thought that endurance of pain is preferred to side effects of narcotic analgesics from dosage increment and (5%) strongly agree, (30%) disagree and (10%) strongly disagree, as shown in Figure (10)

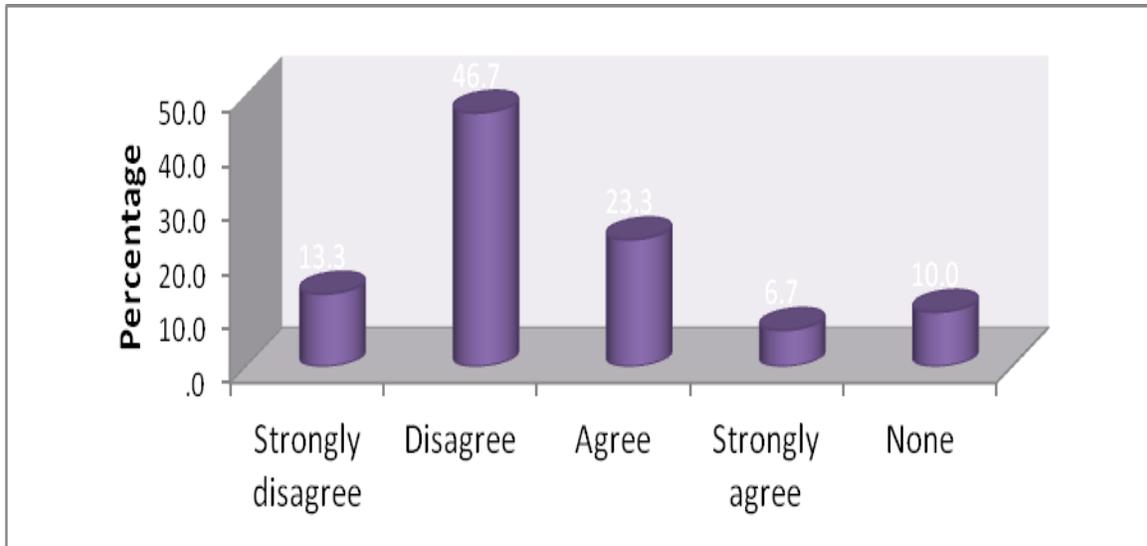


Figure 11: opinions of physicians about not using an analgesic until pain is aggravated.

About half of physicians (46.7%) thought that analgesic should not be used until pain is aggravated, (13.3%) strongly thought the same, while (23.3%) and (6.7%) used analgesic before pain is aggravated(Figure 11)

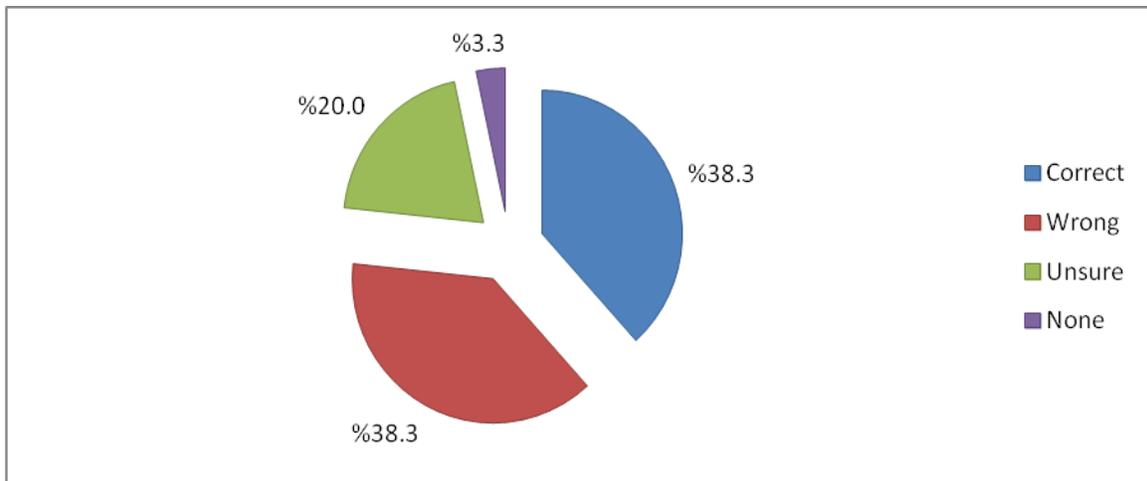


Figure 12:answers of respondents to whether Opioids have to be administered for breakthrough pain in patients with well-controlled pain.

From the total (38.3%) of physicians said that opioid analgesics have not to be administered to breakthrough pain for patients with well-control pain while (20%) were unsure, only (38.3%) said yes(Figure 12)

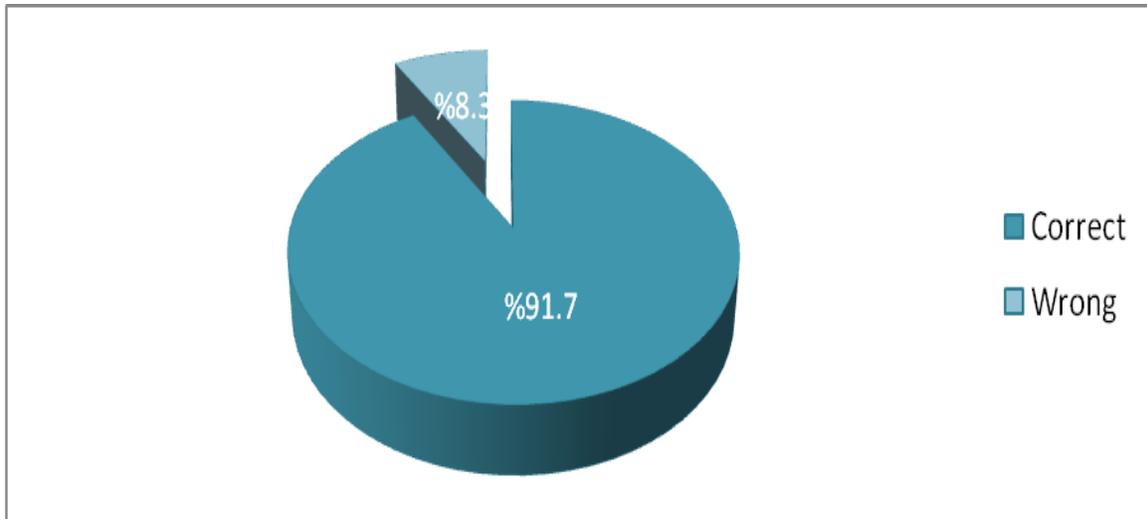


Figure 13: answers of respondents if oral analgesics are first option to reduce pain.

The majority of physicians (91.7%) knew that oral analgesics are the first options to reduce pain if patients are tolerable, (8.3%) were not (Figure 13).

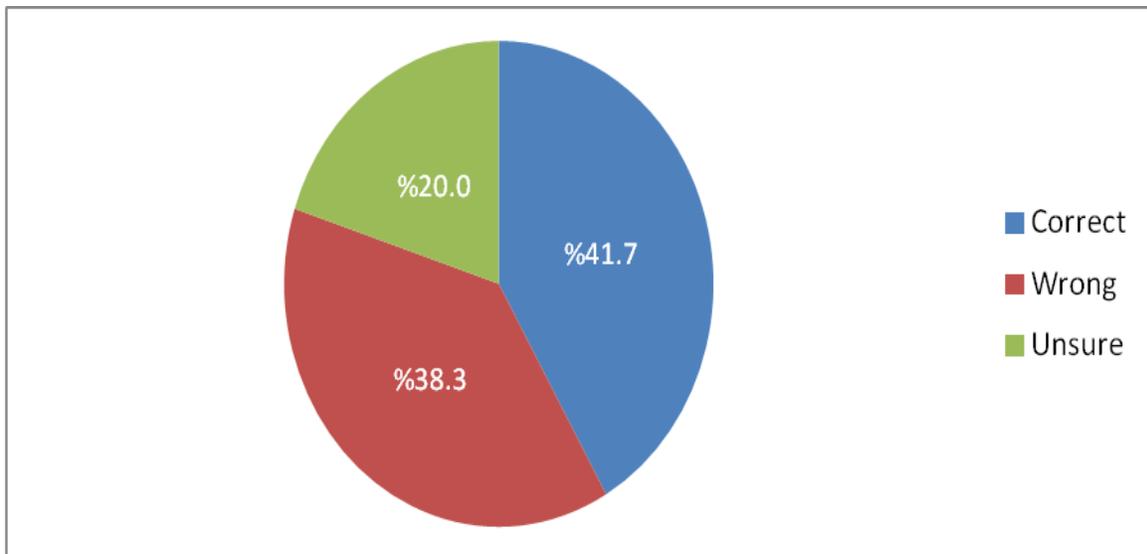


Figure 14: knowledge of physicians about use of adjuvant pain reliever

(38.3%) of total physicians did not agree with the use of adjuvant pain reliever to increase analgesic effect according to pain character irrespective of pain severity, and (20%) were unsure, (41.7%) agree with this (Figure 14).

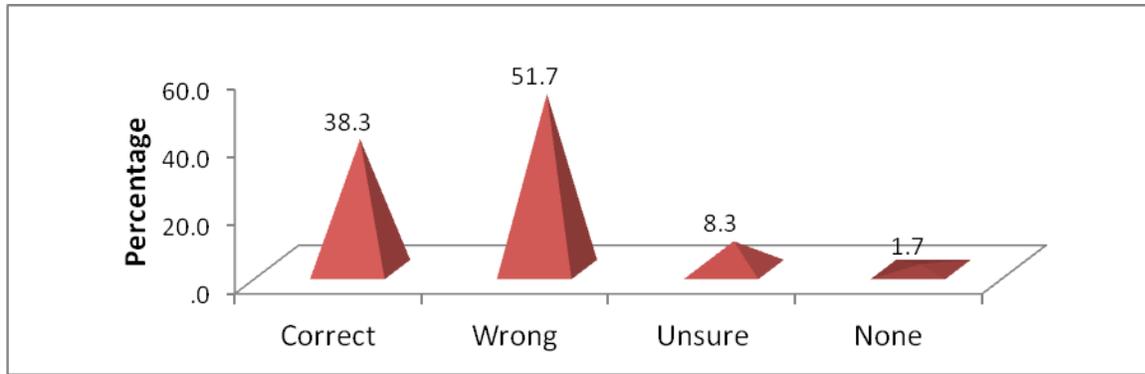


Figure 15: opinion of physicians about use of potent opioids initially for severe pain. However more than half of physicians (51.7%) did not agree that potent opioids are to be administered to severe pain from the beginning, (38.3%) agree with, where (8.3%) were unsure. Figure (15)

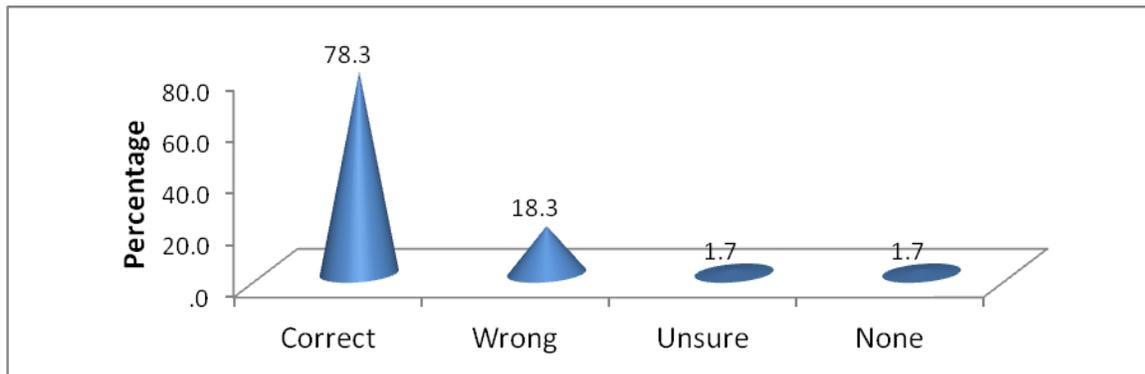


Figure 16: opinions of physicians regarding opioids whether can develop tolerance or physical dependence. So (78.3%) of physicians thought that long term use of opioids to cancer patients can develop tolerance or physical dependence, (18.3%) were not agree and other (1.7%) were unsure. Figure (16).

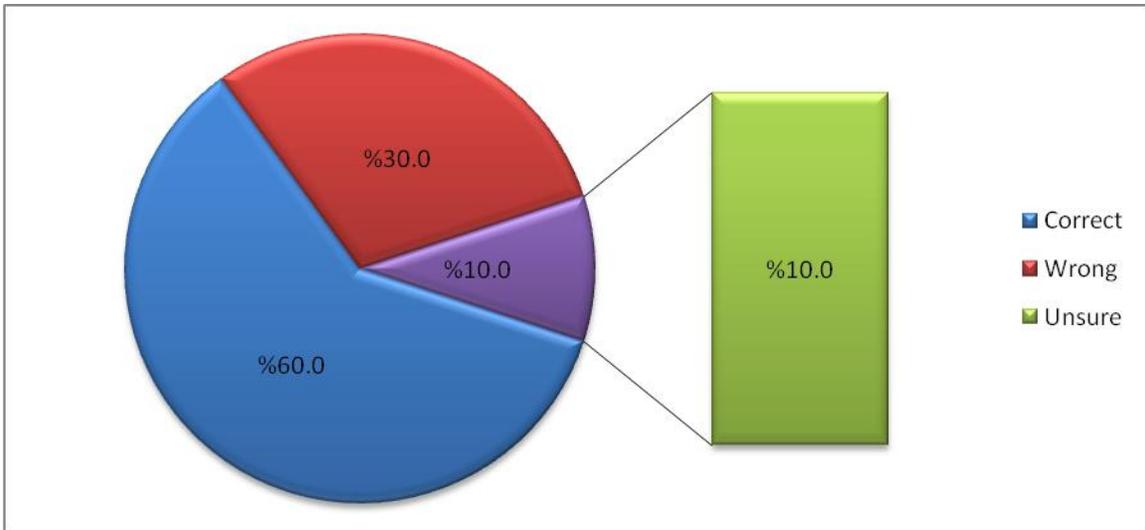


Figure 17: answers of respondents about the risk of opioids addiction.
(60%) OF physicians fearing from drug addiction, (30%) did not fear and the other (10%) were unsure. Figure (17)

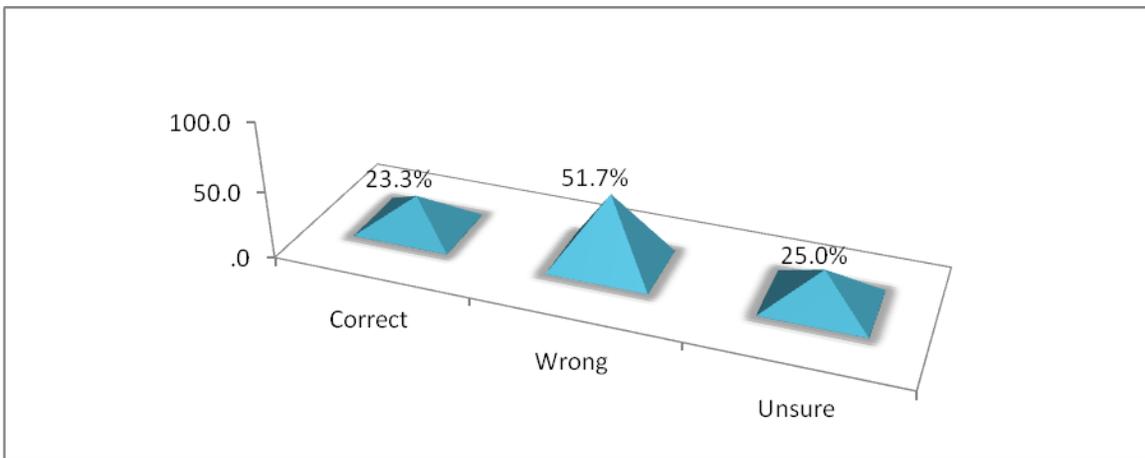


Figure 18:opinions of physicians about opioids may be increased without restriction because they have no ceiling effect.
Still majority of physicians (76.7%) did not know that opioids have no ceiling effect, which can be increased without restriction, (23.3%) knew. Figure (18)

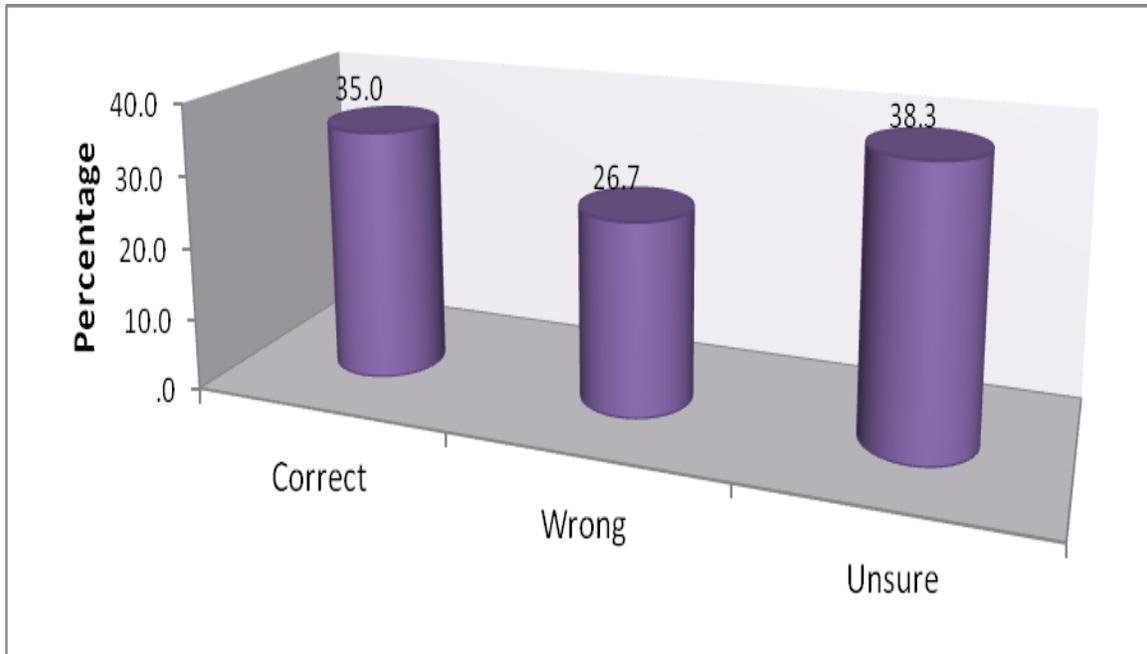


Figure19:answers of respondents about one sixth of total daily dosage of opioid can be used for breakthrough pain additionally.

A majority of physicians (65%) did not know that one sixth of total daily dosage of opioids can be used for breakthrough pain additionally, (35%) knew. Figure (19)

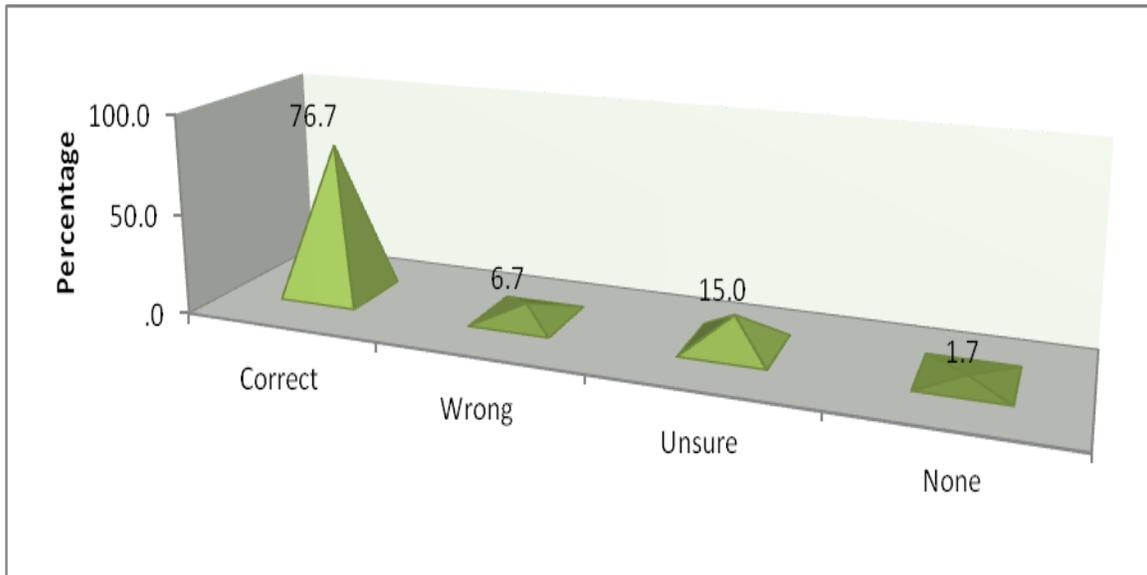


Figure 20:answers of respondents about use of stool softener is necessary when opioids are administered.

More than half of physicians (76.7%) recognized the necessity of stool softeners use when opioids are administered, (6.7%) did not and (15%) were unsure. Figure (20)

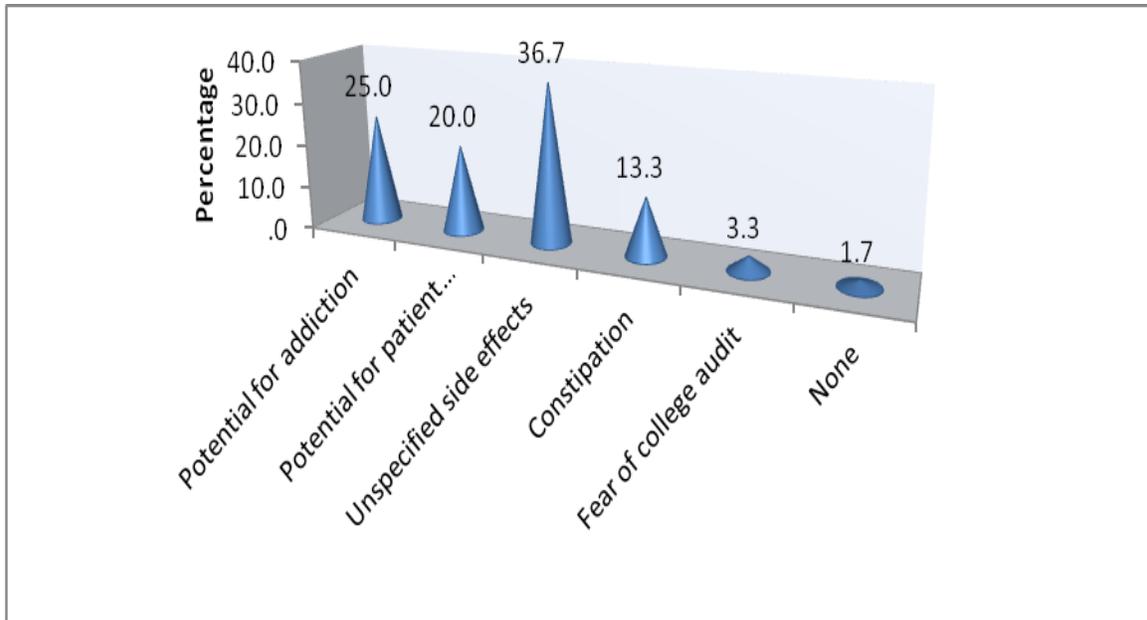


Figure 21: Barriers to strong opioid use.

When physicians asked about barriers to strong opioid use a higher percentage (36.7%) said that unspecified side effect is the most important barrier, (25%) defined the barrier as potential for addiction, (20%) as potential for patients abuse/misuse. Figure (21)

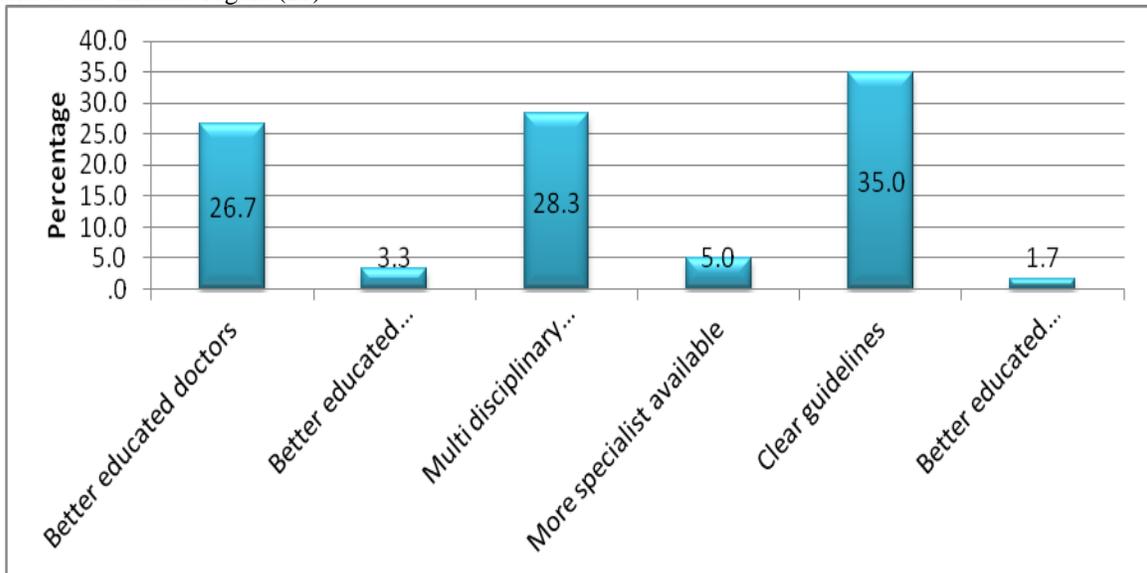


Figure 22: Physicians' opinion about the methods for improvement of CPM

However, when they asked about how can the management of chronic cancer pain can be improved a majority (35%) said they need clear guidelines, other (28.3%) thought that multi-disciplinary treatment was the method for improvement, other (26.7%) said education of doctors was the better method. Figure (22)

DISCUSSION:

Pain is one of the most common and unwanted symptoms in patients with cancer. Barriers to optimal treatment of cancer pain include provider-related barriers, system-related barriers and patient-related barriers. Insufficient knowledge and education of physicians in cancer pain management (CPM) has

been regarded as one of the main factors causing inadequate pain relief in cancer patients all over the world [4].

The current study revealed that most physicians showed negative attitude toward optimal analgesic use in cancer patients, so more than half of physicians (66.7%) thought that patients will depend

on drugs if it is prescribed as their wishes. In a study conducted by Myung-hyun Kim *et al.* (2011) in South Korea; they found that the attitude is affected by medical specialty and experience [4].

This study also revealed that (61.7%) of the physicians did not heard or even heard but not used WHO analgesic ladder for the management of cancer patients; this result in agreement with the study conducted by Pflughaupt M *et al.*(2010) about Physicians' knowledge and attitudes concerning the use of opioids in the treatment of chronic cancer and non-cancer pain in Germany; they reported that many of them had poor knowledge of the WHO recommendations for the treatment of cancer pain including the WHO analgesic ladder [7].

This study also showed that (61.7%)of the physicians did not attending on training program of CPM despite they are working in the Radio and Isotopes Centre Khartoum (RICK) where they responsible for management of cancer patients. On the other hand; the knowledge of physicians about opioid prescription is quietly poor (38.3%) of them believed that when patients complain pain between doses this means their pain not controlled adequately, while (20%) were unsure; In a study conducted in Taiwan, it is found that the majority of physicians displayed significantly inadequate knowledge and negative attitudes toward the optimal use of analgesics and opioid prescribing which could be due to:(1) poor medical school training in CPM, (2) poor residency or fellowship training in CPM, (3) limited clinical experience in cancer patient care, (4) and underestimation of analgesic effect [10].

In this study 60% of physicians showed fearing from drug addiction. Similarly, in a study conducted in South Korea it is found that 48% of physicians worried about addiction. Also like in South Korea study 76% did not know that opioid have no ceiling effect and can be increased without restriction [4].

In this research 76% of physicians recognized the necessity of using stool softeners when opioids are administered. While in the study conducted in South Korea 56.5% of physicians did not know the necessity of using these softeners. (Motov and Khan 2008). The majority of patients taking opioids for moderate to severe pain will develop constipation. Little or no tolerance develops; although the best prophylactic treatment for preventing opioid-induced constipation is a combination of stimulant and softening laxatives [13].

About (37%) of physicians defined the barrier for using opioid as fearing from side effect and (35%) believed that when there are clear guidelines the management of cancer pain will be improved, and they deny the importance of physicians' education only (1.7%) recognized it .

A majority of physicians (65%) did not know that one sixth of total daily dosage of opioids can be used for breakthrough pain additionally. Empirically, the widely accepted ratio of the breakthrough dose to the ATC medication has been 1:6, i.e. equivalent to the four hourly opioid doses [13].

In conclusion; It is necessary to improve the medical students' education and the physicians' postgraduate training regarding principles of pain management such as the WHO guidelines for the treatment of cancer pain. A better knowledge of important pharmacological aspects of opioids should help to reduce physicians' concerns about the use of strong opioids. Nevertheless, improvement of physicians' skills in pain therapy is only one aim in a multidisciplinary concept in order to improve patients' pain therapy.

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