UNIVERSITY OF GÄVLE
FACULTY OF HEALTH AND OCCUPATIONAL STUDIES
Department of Health and Caring Sciences

NURSING DEPARTMENT,
MEDICINE AND HEALTH COLLEGE
Lishui University, China

Nurses' experience of caring for adults with chronic pain

A descriptive literature review

Jin Mengyang (Carrie)
Yu Jiawei(Roshan)

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Supervisor: Xu Linyan (Alisa)
Examiner: Britt-Marie Sjölund

Abstract：

Background: Chronic pain is a global public health concern because of its high prevalence, high economic costs, and negative impact on the quality of life of individuals and their families. It is a common problems for healthcare personnel, which need them to think.

Aims: To describe the nurses' experiences of caring for adults with chronic pain.

Methods: The electronic databases (PubMed， CINAHl and PsycINFO) were explored and studies published between May 28th 2008 – July 5th 2018 were included. The articles chose were processed in order to identify similarities and differences regarding the results.

Results: The authors extracted five themes from 10 studies that about nurses' experiences with adult patients with chronic pain. Themes were: Perceived barriers to chronic pain management (patient-related barriers, nurse-related barriers and organization barriers); Nurses knowledge of chronic pain; attitude to pain medicine (side effect of pain medicine and recommendation for using medicine); nurses' roles of pain management (caregiver, collaborator, educator and communicat) and emotion to care for adults with chronic pain.

Conclusions: Nurses played many roles in the chronic pain management. Nurses were dominant power in the chronic pain management. Nurses' knowledge would influence them in the chronic pain management. According nurses' experience of caring adult patients with chronic pain, professionals realized that there were great obstacles to overcome barriers that appear in caring patients with chronic pain. Professionals would realize nurses experiences and found the influence factors of caring adult patients with chronic pain and provide useful advice.

Key words: Adult, Chronic pain, Experience, Nurses, Nursing

摘要：

背景：慢性疼痛是一种全球性的公共卫生问题，因其发病率高、经济成本高、对个人及其家庭的生活质量产生负面影响。这是医护人员需要思考的问题。

目的：描述护理人员护理成年人伴有慢性疼痛的经历。

方法：使用 PubMed，CINAHl 和 PsycINFO 多个数据库，搜索选择 2008.5.28-2018.07.05 时间内发表的文献。对选定的文章进行加工以便找出结果的相似性和不同点。

结果：作者从 10 篇关于护士护理成人慢性疼痛患者的经验的研究中提取出了 5 个主题。主题是:慢性疼痛管理的感知障碍(与患者相关的障碍、与护士相关的障碍和组织障碍);慢性疼痛护理知识;对止痛药的态度(止痛药的副作用及使用建议);护士的角色包括疼痛管理(照顾者、合作者、教育者和沟通者)以及护理成年人慢性疼痛的情感。

结论：护士在慢性疼痛管理中发挥着重要作用。护士是慢性疼痛管理的主导力量。护理人员的知识水平对慢性疼痛管理有一定的影响。护理人员根据护理成人慢性疼痛患者的经验，认识到护理慢性疼痛患者存在很大的障碍需要克服障碍。专业人员应该了解护士的经验，发现护理成人慢性疼痛患者的影响因素，并提供有用的建议。

关键词：成人、慢性疼痛、经历、护士、护理

Contents

1. Introduction

1.1 Background

Chronic pain is a global public health concern because of its high prevalence, high economic costs, and negative impact on the quality of life of individuals and their families (Elzahaf *et al*., 2016). It is a significant and widespread health problem among many people, especially

in adult. According to statistics from the research, chronic pain is thought to affect between 14-30% of adults in the world (Elzahaf *et al*., 2012, Leadley *et al*., 2012). Incidence rates of chronic pain in Europe are estimated at 12–30% (Breivik *et al*., 2006), while in Australia approximately 17% of males and 20% of females have chronic pain complaints (West *et al*., 2012). The Institute of Medicine (IOM) estimates that 30% of the US. Population suffers from chronic pain (Institute of Medicine, 2011). In adults, it is estimated that 19%, or 39.4 million of Americans suffer from chronic pain, with two-thirds of those reporting their pain as "constantly present", and 50% as "unbearable and excruciating" (Kennedy *et al*.,2010). Chronic pain, a significant and widespread health problem, is worth thinking about and trying to be managed for care personnel.

1.2 Definition of pain

Pain, as the fifth vital signs in the clinical Medicare, is a sensation by individuals and cannot be shared by others (Kozier *et al*., 2012). The International Association for the Study of Pain (IASP, 2012) defines pain as an unpleasant subjective sensory and emotional experience associated with actual or potential tissue damage, which is a combination of physical, psychological, emotional, cognitive, behavioral, and social factors that interact other (Harvey, 1995).

1.3 Definition of chronic pain

Chronic pain is generally defined as pain persists longer than 3 months for clinical and research. And the persistent pain is not with ongoing issue injury (Vervest & Schimmel, 1988). Besides, the International Association for the study of pain (IASP) (2012) defines chronic pain as pain without apparent biological value that had persisted beyond normal tissue healing time, usually three months.

1.4 The type of chronic pain conditions

The type of chronic pain conditions were complex nurses had encountered in clinical . Here, the common condition were listed as follows: headache, low back pain, chronic fatigue, abdominal pain, neck pain, Complex Regional Pain Syndrome (CRPS), hypermobility with pain (Landry *et al*., 2015), and cancer (Basbaum AI *et al*., 2009).

1.5 The impact of chronic pain on adults

The impact of chronic pain on adults can be summarized that vary from physical and psychological aspect, and finally to social aspect. Therefore, the experience of loss in connection with three different aspects of life: loss of abilities to engage in meaningful activities, loss of relations with others, and loss of self (Haraldseid *et al*., 2014).

First, because of the physical limitation, they may have to give up some activities, and the persistent pain leads to adults cannot get enough sleep time, thus it makes chronic fatigue in the day. Secondly, in psychological aspect, chronic pain brings the emotional distress which can precede the pain and create painful sensation (Merlin *et al*.,2014). And the emotional tension frequently brings on a migraine headache, and intense fear also can cause angina (Kozier *et al*., 2012). Adults experienced that their appetite reduced, poor sleep quality in daily life, then they felt bad tempered, became easily irritated or angry, and experienced frequent altered moods (Haraldseid *et al*., 2014).

Finally, the impact not only bodily discomfort but also as fears about the future, work impairment, threats to family bonds and activities, and affect the priorities of one's daily life. Most of them had experience of losing of work, social activities, physical activities, and hobbies (Haraldseid *et al*., 2014). That’s a high personal and social burden to economic. For instance, people with rheumatoid arthritis may depressed and anxious for themselves and family because of the economic burden. Adults experienced that the connection and relationships with surrounding weakened (Haraldseid *et al*., 2014). The changes caused by the chronic pain led to changes in their feelings about themselves and their identity. Besides of these, most of them lost their work and needed the family to support.

Therefore, chronic pain did impact people with sleep, work, physical and emotional functioning, the more was increased the humanistic, societal and economic burden associated with this condition (Hadi *et al*., 2017).

1.6 The assessment of chronic pain and tools

Assessment of the patient with chronic pain is important to pain management. The assessment should begin with a thorough history and physical examination followed by an appropriate diagnostic workup . The aim of the evaluation should be to establish the cause, circumstances, anatomy, location, and physiology of the pain, and achieve a preliminary understanding of the psychosocial issues, impairments, and disability so an initial therapeutic plan may be implemented (Scholten & Harden, 2015). Therefoe, a detailed history is essential and should elicit information about the onset, duration, location, quality, intensity, and pattern of pain, including any alleviating or exacerbating factors. Eliciting information about the quality and character of pain is particularly important because it conveys information about the underlying pathophysiology(Scholten & Harden, 2015). Furthermore, the assessment of chronic pain is important to obtain information about any previous diagnostic workup, as well as current and past therapeutic successes and failures, to better direct future therapies (Scholten & Harden, 2015). Therefor, some available assessment tools were uesful in pain research and also usedin a clinical setting. Here, some observational and behavioural pain assessment scales were listed as followed, Doloplus-2 scale (Lefebvre-Chapiro 2001), Abbey pain scale (Abbey *et al*., 2004), PAINAD (Pain Assessment in Advanced Dementia) scale (Warden *et al*., 2003), and PACSLAC (Pain Assessment Checklist for Seniors with Limited Ability to Communicate) scale (Fuchs-Lacelle & Hadjistavropoulos, 2004).

1.7 The nurse role

According to the International Council of Nurses, the nurses' primary professional responsibility was giving people requiring nursing care and supporting action to meet the health and social needs of the public, in particular those of vulnerable populations (ICN, 2012). For patients with chronic pain, nurses' role was to support patient and provider with chronic pain management especially. To provide education, assess pain, allow patient to express or reiterate experiences, offer feedback and be advocate for patient. Besides, help relieve the emotional component that is anxiety or fear, associated with pain. In providing care, the nurses should help person with chronic pain promote an environment to alleviate the pain and pain management. The finally yet importantly, the nurse demonstrated professional values such as respectfulness, responsiveness, compassion, trustworthiness and integrity (ICN, 2012).

1.8 Self-Care Deficit Theory of Nursing

Dorothea Elizabeth Orem's self-Care deficit theory of nursing described why and explained why people can be helped through nursing. According to Orem (2001), a person initiates and performs self-care for the maintenance of life, health, and well-being. Individuals must obtain self-care agency for self-care, and self-care agency is influenced by basic conditioning factors (BCFs). BCFs include age, gender, developmental state, environmental factors, family system factors, sociocultural factors, health state, pattern of living, healthcare system factors, and availability of resources (Orem, 2001). These BCFs may influence patients' ability to attend in self-care activities or modify the kind or amount of self-care required. In the theory of nursing systems, Orem described and explained relationships that must be brought about and maintained for nursing to be produced. There were three basic nursing systems as followed: wholly compensatory system, partly compensatory system and supportive-educative system, which correspond to different nurse action and patient action(Orem, 2001). Nurses played an indispensable role in the basic nursing systems, like acting, teaching, guiding and directing, etc. As Orem noted 'Nursing is practical endeavor, but it is practical endeavor engaged in by persons who have specialized theoretic nursing knowledge with developed capabilities to put this knowledge to work in concrete situations of nursing practice' in the book (Orem, 2001).

1.9 Earlier reviews

Many of authors have written review about the chronic pain in the previous years. Nurses provided an overview of chronic pain in adults contained pain assessment and management (Barrie & Loughlin, 2014). However, a detailed and individual assessment and a patient-centered approach to care were too briefly. Hecke, Torrance & Smith (2013) review current understanding of risk markers associated with chronic pain, considering how this might be applied to the prevention and management of chronic pain. Thereby, the current research had not integrated epidemiological research towards the prevention and management of chronic pain. A diagnosis and management of selected chronic pain conditions in pediatric patients (Landry *et al.*, 2015) , it discussed etiology and pathophysiology of chronic pain in the result, guiding the clinician in improving the pain and function of the pediatric patient with chronic pain. Nevertheless, the road to wellness through appropriate management of chronic pain still remains complex.

1.10 Problem statement

Chronic pain, a global public health concern because of its high prevalence, high economic costs, did negative impact on the quality of life of individuals and their families. It also did impact on adults in physical, psychological, and social dimension. Nurses, as the majority of healthcare, always met the dilemma in hospital and community nursing because of patient's desire to cure and knowledge deficits. Nurses were confused that how to use their professions and knowledge help patients alleviate the chronic pain. For previous review, the research focused on more about the epidemiology of chronic pain, pain management and prevention (Hecke, Torrance & Smith, 2013), but did little review about the nurses experience of caring for chronic pain and pain management. Therefore, this literature review described the nurses experiences of caring for adults with chronic pain and found more new highlights from the scientific articles to give feedback to clinical practice and research.

1.11 Aim and specific question

The aim of the study was to describe the nurses experiences of caring for adults with chronic pain.

What experience do nurses have for caring for adults with chronic pain?

2. Method

2.1 Design

A descriptive literature review was used (Polit & Beck,2017) .

2.2 Search strategy

Articles were be found by searching in the databases PubMed, CINAHl and PsycINFO, with certain limits, as table 1 shows. These databases were chosen because they were considered to contain the most relevant articles. Time was limited from 2008.5.28 to 2018.5.28. Authors used search terms: (1)"Nurses"[Mesh] OR "nursing"[Mesh]; (2) experience (Free text) OR attitude (Free text) OR perception (Free text) OR view (Free text); (3)"Chronic Pain"[Mesh] OR "pain"[Mesh]; (4)"Adult"[Mesh].One by one,

different keywords were combined. Boolean operators were used “AND”, “OR” to delimit a search (Polit & Beck 2017) with certain limits, see Table 1.

Table 1: Results of preliminary database searches

Database + Date of search	Limits	Search terms	Number of hits	Potential articles
Medline through Pubmed 2018-05-28	University of Gävle, Humans English, 2008-2018	"Chronic Pain"[Mesh] OR "pain"[Mesh] AND "Nurses"[Mesh] OR "nursing"[Mesh]	1076	
Medline through Pubmed 2018-05-28	University of Gävle, Humans English, 2008-2018	("Chronic Pain"[Mesh] OR "pain"[Mesh]) AND ("Nurses"[Mesh] OR "nursing"[Mesh]) AND (experience OR attitude OR perception OR view)	472	
Medline through Pubmed 2018-05-28	University of Gävle, Humans English, 2008-2018	("Chronic Pain"[Mesh]) OR "pain"[Mesh]) AND ("Nurses"[Mesh] OR "nursing"[Mesh]) AND (experience OR attitude OR perception OR view) AND "Adult"[Mesh]	328	31
Medline through PsycINFO 2018-07-05	Humans English, 2008-2018	("Chronic Pain" OR "pain") AND ("Nurses" OR "nursing") AND (experience OR attitude OR perception OR view) AND "Adult"	833	5

Medline through CINAHL 2018-07-05	English, 2008-2018	("Chronic Pain" OR "pain") AND ("Nurses" OR "nursing") AND (experience OR attitude OR perception OR view) AND "Adult"	915	5
				Total: 41

2.3 Selection criteria

Inclusion criteria: Articles were about nurses' perspective; Articles were relevant with the aim of the review study (nurses' experiences about caring patients with chronic pain); The research was limited to adult population that the age of adults were over 18 years old. Exclusion criteria: Aricles were not about nurses' experience of caring patients; The content of articles was not relevant to the aim of the study; Participants were not including nurses. Articles were literature review.

2.4 Selection process

The search used three databases: PubMed，PsycINFO，CINAHL. The initial articles which authors searched were 328 in PubMed. In CINAHL database, there were 915 articles in initially search. In the PsycINFO, there were 833 articles in initially search. At first, there are 39 articles recorded in total without duplicate articles. In the end, combination three database, there were 10 articles were selected as potential articles which were read carefully by two reviewers. The reason why 29 articles were removed is that 3 articles were literature review, 4 articles were not about chronic pain and 4 articles didn't describe the adult patient. 7 articles didn't describe care patient, 11 articles were not about nurses' experience. (see Figure1)

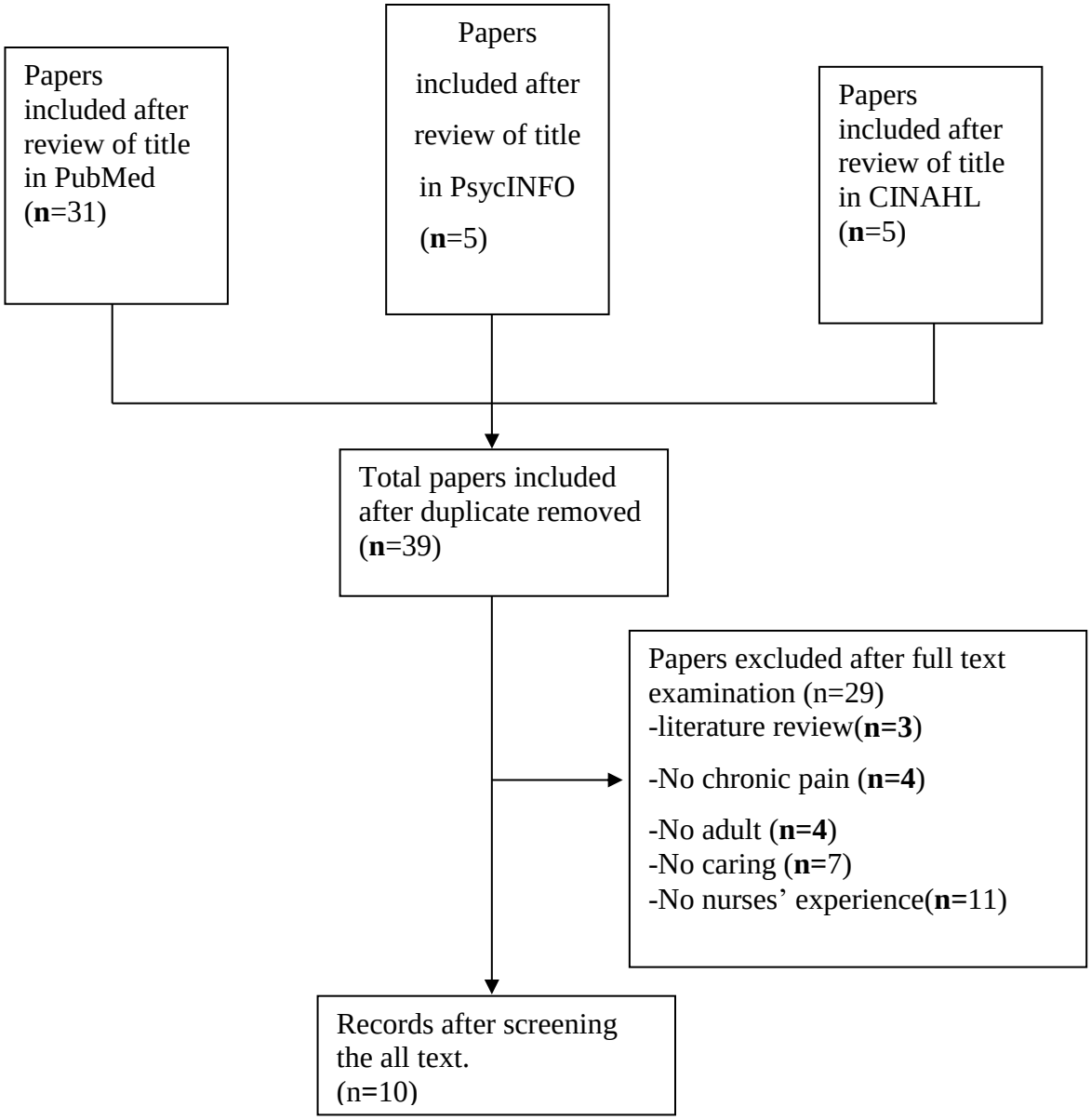

Fig1. The selection process of articles

2.5 Data analysis

The authors read the articles one by one, and then the author abstracted the main descriptive details of the included studies, including the author, aim, title, design, participants, data collection methods, data analysis methods and result. Each selected article is given an alphabetic code for analysis of the results (A-J) (Lommi *et al*., 2015). Data analysis was the authors' multiple reading of selected articles, focusing on the results. The author tried to find some results and answer research questions. Authors read the results of these 10 articles, then listed the results of each article in appendix 1, appendix 2, then number the results. The similar results were combined to one kind of Categories, and compared with other kind Categories (Joanna Briggs Institute, 2014).

2.6 Ethical considerations

The articles were read and commented objectively, and were not influenced by the author's own views and attitudes. The results didn't be changed according to the author's wishes. The program was free from plagiarism. Degree programs didn't involve plagiarism.

3. Results

The articles were based on 5 articles with qualitative approaches and 5 articles with quantitative approaches. These 10 articles were all about nurses' experiences of caring for adults with chronic pain. Five themes were summarized as nurses' experience of caring for adults with chronic pain: 1) Nurses' roles of pain management; 2) Perceived barriers to chronic pain management; 3) Nurses knowledge of chronic pain; 4) Attitude to pain medicine; 5) Emotion to care for adults with chronic pain. The themes and categories of the findings were presented in Table 2.

3.1 Nurses' roles of pain management

Nurses were the main force in the medical profession, also played many indispensable roles in pain management. As a caregiver, they did assessment of patients' levels and documented pain assessment (Jho *et al.*, 2014), applying risk strategies to keep patients safe, caring for the whole person (Marie, 2016), having a more active role in delivering interventions(McGowan *et al*., 2010), giving supportive behavior relieves the patients' pain (Seyedfatemi *et al*., 2014) to relieve their physical pain. As a collaborator, nurses

performed the investigative tasks by general practitioners to patients, taking swabs from women in the diagnostic process, referring patients back to the general practitioners (McGowan *et al*., 2010), working in unison with the healthcare team(Marie, 2016, managing patients' pain within the oncology unit (Garcia, Whitehead & Winter, 2015).

As an educator, they did educate patients and colleagues in healthcare, trying to talk patients out of taking opioids (Marie, 2016; Seyedfatemi *et al*., 2014). Most of people did information collection by communication. Therefore, nurses thought that they played an important role in communicator, such as talking to patients that provokes them to express their inner feelings and helps to relive their physical pain, being a good listener with patient, informing the patients about their future access to opioids (Seyedfatemi *et al*., 2014).

3.2 Perceived barriers to chronic pain management

Three main categories of perceived barriers identified from the perspective of chronic pain management were patient-related barriers, nurse-related barriers and organizational barriers.

3.2.1 Patient-related barriers

At the top of the lists of patient-related barriers was noncooperation. Two qualitative studies and one quantitative study had highlighted this barrier (Jho *et al.,* 2014; Garcia, Whitehead & Winter, 2015; Park, Park & Park, 2015). Noncooperation including unreported pain, poor compliance and without consultation. Nurses reported patients unwilling to report their pain to them straightly, because of patients' fear of addiction and treatment effect. Understand patients' non-verbal communication could help nurses discover patients' pain (Jho *et al.,* 2014; Garcia, Whitehead & Winter, 2015). Nurses reported patients had poor compliance and limited understanding with chronic pain management, some age-related physical or cognitive changes (poor concentration, reduced stamina, inaccurate knowledge and declining memory) led to limited desire for active pain management participation. Nurses reported older patients often applied pain relief self-management based on inaccurate knowledge, and such behavior aggravate their pain. When older patients felt that their pain was aggravated, they continuously added the medicine without consultation, then it caused overdosing on painkillers (Park, Park & Park, 2015). This was followed by the patients wanted to use the medicines (Park, Park & Park, 2015; Marie, 2016). Nurses reported patients desired to take a pain medication

rather than learn about nonmedical interventions that took time to acquire, because patients thought they live in a pill-oriented society (Marie, 2016). Nurses stated some patients adhered to personal experiences, they strongly believe their own folk remedies, it obstructed the pain management education and intervention (Park, Park & Park, 2015).

3.2.2 Nurse-related barriers

As for nurse-related barriers factors, lack of nursing training was main perceived barrier (McGowan *et al.*,2010; Garcia, Whitehead & Winter, 2015; Park, Park & Park, 2015). Nurses reported that they did few study in the chronic pain management (McGowan *et al.*,2010; Garcia, Whitehead & Winter, 2015), they provided their patients with standard interventions by their misconceptions and stereotyped strategies. It led to reluctance to administer medications and couldn't offer individualized recommendations to patients. It caused poor pain management (Park, Park & Park, 2015).

3.2.3 Organizational barriers

At the top of the list of organization barriers were lack of resource (Park, Park & Park, 2015; Marie, 2016; Garcia, Whitehead & Winter, 2015). Nurses reported patients lack of national financial and political support for low-income groups, so patients couldn't handle the financial burden of visiting welfare facilities for chronic pain management. It was a significant barrier to chronic pain management (Park, Park & Park, 2015). Nurses perceived few detailed assessment and intervention guidelines as a barrier to chronic pain management. If there were clear and systematic guidelines, they would manage chronic pain with confidence (Park, Park & Park, 2015). Nurses reported limited resource accessibility obstructed chronic pain management. There were difficulties accessing nonmedical modalities and welfare facilities to help patients manage pain. Because nonmedical modalities talents were scarce, old patients couldn't move a long distance without caregivers (Park, Park & Park, 2015; Marie, 2015). Beside, time consrtain was another barrier (Jho *et al.*, 2014; Park, Park & Park, 2015). Nurses thought time constrain as a barrier to cancer pain management, and limited available time cause nurses can't individualized assessment and interventions (Park, Park & Park, 2015; Jho *et al.*, 2014).

3.3 Nurses knowledge of chronic pain

Nurses' knowledge was of critical importance in the care of adults with chronic pain. As for the basic fact of chronic pain, the nurses in the study reported that they had inadequate

knowledge among chronic pain (Shahriary *et al*., 2015; Yildirim, Cicek & Uyar, 2008; Jho *et al.*, 2014). In the selected three quantatitive articles, the results of average correct rate was not high by nurses answered. The average correct response rate was 66.6%, ranging from 12.1% to 94.8%. And the mean percentage score overall was 65.7%, only 8.6% of them obtained a passing score of 75% or greater (Shahdad *et al*., 2015). Besides, that the average correct response rate for them was 35.41%, ranging from 5.13 % to 56.41% (Yildirim, Cicek & Uyar, 2008).

Nurses reported that their knowledge of pain management was not satisfactory. The mean number of correct responses on knowledge for cancer pain management provided was 9.0 by themselves (Yildirim, Cicek & Uyar, 2008). Nurses stated that the rate of correct response was lower for questions on NSAIDs (Question 3), specific properties of opioids and opioid dose calculation (Questions 7, 10, and 12) and the utilization of radiotherapy or interventional pain management as measures of pain control (Questions9 and 11) (Yildirim, Cicek & Uyar, 2008). In addition, nurses noted that they had insufficient knowledge of pain control(Jho *et al.*,2014). And nurses pointed that the knowledge deficit was prominent in tolerance for opioid-induced sedation and the duration of re-assessment after intravenous morphine administration. Besides, the mean score on the knowledge survey regarding pain management was 28.5%, showed at least half of the nurses answered incorrectly, and noted that nurses had widespread knowledge deficits, particularly regarding in pharmacological pain management(Shahdad *et al*., 2015). Whilst nurses reported the highest percentages of correct answers were for cultural considerations, protocol for chronic cancer pain analgesia (around the clock on a fixed schedule), and most accurate judge of the patients' pain (72.1%, and 69.1%) (Yildirim, Cicek & Uyar, 2008). And nurses had the highest percentages of incorrect answers in these items: (a) effectiveness of placebo injection to assess pain; (b) recommended opioid administration route for prolonged pain; (c) over-reporting pain; (d)likelihood of opioid addiction; and (e) lack of analytic and integration abilities in making clinical pain judgments (Yildirim, Cicek & Uyar, 2008). In addition, nurses stated that they were lacke of confidence due to inadequate knowledge likely underestimated their patients' pain. At the last, nurses reported that uncertain about chronic pain resolution led them to passive management by refferal to hospitals for help or letting patients selection therapeutic options (Park, Park & Park, 2015).

3.4 Attitude to pain medicine

At the top of the list of attitude to pain medicine were side effect (Al Khalaileh & Al Qadire, 2012; Sadeghy *et al*., 2016). Nurses reported that they pay more attention to harmful effects of pain medicaition, they thought patients could get addicted to pain medications easily, it was a danger (Al Khalaileh & Al Qadire, 2012; Sadeghy *et al*., 2016). Nurses also thought taking pain medicine might block the idetification of new pain, if pain medications were used with less pain they might not respond in the time of much pain (Al Khalaileh & Al Qadire, 2012; Sadeghy *et al*., 2016). This was followed by recommendation for using medicine, nurses reported that using caution should be careful, but using opioids were a routine arrangement, through injection of opioids, patients could feel comfortable (Marie, 2016; Seyedfatemi *et al*., 2014).

3.5 Emotion to care for adults with chronic pain

Nurses realized that their emotion could be influenced while caring for adults with chronic pain. Frustration was mentioned in two studies (McGowan *et al*., 2010; Garcia, Whitehead & Winter, 2015). A sense of failure and frustration permeated in nurses, they felt that there was nothing could be able to offer adults with chronic when the doctor had failed to solve(McGowan *et al*., 2010). And Garcia, Whitehead & Winter, 2015) expressed frustration and helplessness, they reported that one of the most common factors was not having enough time in their busy schedule. It's hard to give things on time for nurses when the ward was really, really busy. In addition, nurses took negative attitude regarding control of cancer pain (Sadeghy *et al*., 2016). It noted that the pain medication do not manage cancer pain at acceptable levels and patients may become addicted by using pain medication. Besides, cancer pain medication have many uncontrollable effects, may distract the physician from treating disease (Sadeghy *et al*., 2016). In another quantative study, Shahdad *et al*. (2015) showed nurses' attitudes survey regarding pain management was 28.5%, the main causes was knowledge deficits in pain management. The last one was awareness of psychosocial issues from the patients, nurses pointed that the patient might find the pain condition is difficult to cope with. And nurses did not appear to directly address the issues in practice (McGowan *et al*., 2010).

3.6 Results regarding the chosen articles' data collection methods

After scrutinized the 10 articles included in the present literature review, it was found that the data collection method was described in all of them.

In the 5 of scrutinizing quatitive articles, two of them used semi-structured interview (Marie, 2016; Garcia, Whitehead & Winter, 2015). One used face-to-face, semi-structured individual interviews(Seyedfatemi *et al*., 2014). One article, the authors performed in-depth, semi-structured face-to-face interviews with the study participants (McGowan *et al*., 2010). The last one used a semi-structured discussion with the participants (Park, Park & Park, 2015).

In the 5 of scrutinizing quatitive articles, McGowan *et al*. (2010) took the interviews with GPs and practice nurses were all carried out at their respective practices for data collection. Marie (2016) took individual phone interviews at a convenient time for data collection. Seyedfatemi *et al*. (2014) carried out all data collection in convenient quiet locations on the cancer wards on which the nurses worked. Garcia *et al*. (2015) carried all data collection by using one-to-one semi-structured interviews. Park, Park & Park, (2015) held focus group discussions in comfortable and convenient PHC conference rooms for data collection.

In the 5 of scrutinizing quantitative articles, two of them applied the Nurses' Knowledge and Attitude Survey Regarding Pain (KAS) (Shahdad *et al*., 2015; Yildirim, Cicek & Uyar, 2008). One used demographic data sheet and barriers questionnaire as instruments(Al Khalaileh & Al Qadire, 2012). One article, the researcher performed quastionnaries which generated on the basis of the contents of the Cancer Pain Management Guideline published by the Ministry of Health and Welfare and the National Cancer Center (Jho *et al.*, 2014); One article, the authors used a checklist that investigated some demographic and profession-related characteristic of participants. And the Barriers Questionnaire II (BQ-II) in the research(Sadeghy *et al*., 2016).

4.Discussion

4.1Main results

The aim showed nurses' individual experience of caring adult patients with chronic pain. During caring adult patients with chronic pain, nurses played multiple roles, including caregiver, collaborator, communicator. Nurses reported that noncooperation, lack of training, lack of resources, time constrain were main barriers to caring adult patients with chronic pain. And nurses thought patients could get could get addicted to pain medicine

easily. What's more, nurses lack of knowledge of chronic pain and pain medication.And nurses felt frustrated, failure and hopeless in caring caring for adults with chronic pain.

4.2 Results discussion

4.2.1 Nurse role of pain management

The literature review showed that nurses palyed roles including caregiver, collaborator, educator, communicator in caring for adults with chronic pain (Jho *et al.*, 2014; Marie, 2016; McGowan *et al*., 2010; Seyedfatemi *et al*., 2014; Garcia, Whitehead & Winter, 2015). It was in line with the result in J. Lukewich *et al*. (2015) study in which provider roles and organizational role were provided by nurses to chronic pain self-management. Besides, J. Lukewich *et al*. (2015) noted both barries and facilitators of chronic diasease management role optimization identified by primary care nurses. Compared with Dillane & Doody (2019), it not only reviewed the role of nurse education, but also pointed that nurses did the role in recognising pain in people with intellectual disability and dementia in the resultsresults. Nurses did the guiding and directing, providing physical and psychological support to adults with chronic pain(Orem, 2001). In the wholly compensatory system, nurses did all actions to patients; in the partly compensatory system, nurses and patients did some actions for self-care; in the supportive-educative system, nurses did the educative actions for patients, and the patient accomplished self-care individualy (Orem, 2001). According to classification of adults with chronic pain , nurses could use their knowledge of nursing science to assign meaning to the features of the situation, to make judgments about what can and should be done, and to design and implement systems of nursing care.

4.2.2 Overcome barriers to chronic pain management

There were some perceived patient-related barriers mentioned by nurses across the studies, but one that concerned both was noncooperation, such as unreported pain (Garcia, Whitehead & Winter, 2015). This finding was similar with Tracy & Sean (2013), patients masked their disease, they beliefs that pain is a normal part of aging, or lack of understanding of their diagnoses. It influenced nurse to achive effective pain assessment and management. Nurses should assess patients' self-care ability and determine if patients needed help(Orem, 2001). Clinically relevant pain assessment techniques would be particularly useful in identifying molecular targets and neural circuits that could guide

the development of more effective treatments (Tappe-Theodor, King & M.Morgan, 2019). Thus, nurse could teach patients clinically relevant pain assessment techniques, and encourage them reported their pain. The most important nurse-related barrier was lacking of training. It was also mentioned in Rodrigues *et al.* (2017), insufficient training interfere with nurses' ability to provide optimal pain management. Thus giving additional trainings, nurses would consider about the practicality and practicability of the intervention measures, then put the intervention into the daily nursing work (Stöckigt *et al.,* 2019).

It was a known fact that resource scarcity is tremendous in clinical settings. In this review, nurses stated that there were lack of welfare facilities to help patients manage pain (Park, Park &Park, 2015). Lukewich *et al.* (2015) also mentioned it as nurses reported lack of equipment were one of the most commonly cited organizational barriers. This affected their ability to optimize their role in managing chronic pain. Time constrain was another organization barrier (Park, Park &Park, 2015). Nurses couldn't get enough time to assess patients. This finding was similar with the study of Stöckigt *et al.* (2019). Lack of time interfere with nurses' ability to provide optimal pain management. Thus, the best coping strategy was involving other supporting team members or referring to other recourses (Rajah *et al.,* 2017).

4.2.3 Improvement in nurses' knowledge of chronic pain

Nurses who were working in clinical might not have enough knowledge in the care of adults with chronic pain. The literature showed that nurses had knowledge deficit among pain managment. prominently in pharmacological pain managemen(Shahriary *et al*., 2015; Yildirim, Cicek & Uyar, 2008; Jho *et al.,* 2014)t. The results was similar with Xue *et al.* (2007), it mentioned that nurses' education and training in cancer pain,was poor, only 13% of nurses knew the incidengce of addiction when opioids are used chronically for the treatment of severe pain. However, oncology nurses performed very well on questions regarding assessment of pain in Xue *et al.* (2007). The results was line to Alqahtani *et al*. (2015), it indicated that the nurses exhibited a relatively poor overall knowledge of pain management.Orem noted that nurse should have specialized theoretic nursing knowledge with developed capabilities to put this knowledge to work in concrete situations of nursing practice(Orem, 2001). Only nurses get enough knowledg, could they caring for adults with chronic pain better. However, most of nurses had knowledge deficit. Therefore, the nurses should get more educations about caring for adults with chronic pain to improve

the pain management. As other study reported that nurses need consistent nursing education to improve their pain management skills (Alqahtani *et al*., 2015).

4.2.4 Nurses' attitude to pain medicine

Nurses' attitude to pain medicine including side effect of pain medicine and recommendation for using medicinehad. Nurses thought patients could get addicted to pain medicine easily (Sadeghy *et al.,* 2016; Park, Park & Park, 2015). It was in line with the result in Tracy & Sean (2013), as it mentioned many health care practitioners had concerns about addiction to pain medications. It was found that everal herbs and formulations in TCM used to treat different types of pain didn't produce dependence (Du *et al*.,2016). So nurses could consider about used herbs and formulations in TCM to replace pain medicine, it might could eliminate patients' addiction of pain medicine.

Patients took pain medicine may block identification of new pain, using caution when prescribing opioids and if pain medications were used with less pain, medicine might be useless on much pain (Al Khalaileh & Al Qadire, 2012; Sadeghy *et al.,* 2016). But in the Barrie & Loughlin (2014), it had some positive attitude to use pain medicine, which simple analgesics should be considered for patients with mild to moderate pain.

Nurses thought using opioids should be careful (Marie, 2016), it was line in the Tracy & Sean (2013), as it mentioned that it should be especially careful when using oral nonsteroidal anti-inflammatory drugs, note the potential toxicity and half-life.

4.2.5 Balance emotion while nursing

The literature review results showed that nurses might get negative emtion caring for adults with chronic pain. Hopelessness, a sense of failure and frustration appeared while the nurses cannot help patients alleviate the pain(McGowan *et al*., 2010; Garcia, Whitehead & Winter, 2015). It showed that nurses experienced emotional distress during caring for adults with chronic pain(McGowan *et al*., 2010; Sadeghy *et al*., 2016) , which is similar with Saltmarsh & De Vries (2008). As for nurses took negative and poor attitudes regarding pain management and exact effect of cancer pain medications, while different results showed in Xue *et al*., (2007). The nurses believed that the majority patients' pain could be relieved with appropriate treatment with antineoplastic drugs, radiation therapy, and/or analgesic drugs, and had no concern or mild concern about morphine addiction Xue *et al*., (2007). The difference results from the nurses had knowledge deficits with regard to pharmacologic pain control and alternative therapies

used to palliate pain (Xue *et al*., 2007). However, Orem noted that nurse should use their knowledge to work in concrete situations of nursing practice(Orem, 2001). Therefore, it highlighted that nurses should improve their education and competence.

4.3Method discussion

According to study's aim, authors read the articles and extracted what the author wanted. Authors set the exclusion criteria and inclusion criteria, and through database PubMed, Cinahl and PsycINFO to search articles that were conform to the study's aim. All articles were drawn from theses databases. This was the descriptive review of the nurses' experience of caring adult patients with chronic pain. The results were based on qualitative and quantitative articles that consistent with the present study's aim.

According to Polit's study, the authors used clear and specific inclusion and exclusion criteria, it enhanced the plasticity of the study (Polit & Beck, 2017). Authors searched three different databases: PubMed, Cinahl and PsycINFO, to improve the credibility of the results.

However, there were some limitations. First, the authors browsed through the title, and selected the articles related to the study's aim. But many potential articles had been omitted. Although they were not found in the title or abstract, their content was also relevant to the study's aim. Second, the authors considered English as an inclusive criterion, which might lead to the exclusion of the results of other countries. Therefore, the results of this review might not convince everyone.

4.4 Clinical implication

After working through the material for the present literature review, five main themes induced. In order to improve the nurses' opportunities to perform good, care for adults with chronic pain, the study conduct main barries to chronic pain management, what kind of knowledge is nurses laked, the main roles nurses played and how to relieve the nagative emtion. From their experience, it also be interesting to conduct studies which the nurse inner emotion while caring. Because the stress was not only in physical but also in mental. Therefore, managers should relieve the pressure on nurses, such as organizing outdoor group activities It also noted that nurses have knowledge deficit, which need a further education provided by organizations, so the head nurse could organize nurses learn more knowledge anout chronic pain on a regular basis. And there were some side effect of pain medication while using, nurse should be carefeul when

patients ask for using pain medicaiton, nurses should access patients' pain level and whether patients need pain medication. This study contributes to find out the more evidence of nurses experience of caring for adult with chronic pain's descriptions of the importance of sharing with others in clinical.

4.5 Suggestions for future research

The author find, in the selected article, there are more cancer pain take up of the chronic pain and less about skeletal muscle pain. Maybe it is more intresting in research the nurses' experienc of caring for adults with skeletal muscle pain. Besides, the results about nurses emotion was less to descrption, maybe in future research could pay more attention to nurses' emotion.

5. Conclusions

Nurses played many roles in the chronic pain management. Nurses were dominant power in the chronic pain management. Nurses' knowledge would influence them in the chronic pain management. According nurses' experience of caring adult patients with chronic pain, nurses realized that there were great obstacles to overcome barriers that appear in caring patients with chronic pain. Professionals would realize nurses experiences and found the influence factors of caring adult patients with chronic pain and provide useful advice.

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Tables 2: The themes and categories of the findings

Themes	Categories	Findings
Nurse roles of pain management	Caregiver	B1 Assessed patients' pain levels on every round with three more time than physician ($p<0.001$). B2 Documented pain assessment with a higher proportion in comparison with physician ($p<0.001$). F7 Have a more active role in delivering interventions H11 Caring for the whole person H6 Applying risk strategies to keep patients safe. I3 Taking supportive behavior to relieve the patients' pain
	Collaborator	F4 delegate tasks of taking swabs from women. F5 performed the investigative tasks delegated to them by general practitioners. H10 Working in unison with the healthcare team. F8 refer a patient back to the general practitioners. J2 Managed patient's pain within the oncology unit.
	educator	H5 Education patients. H7 Educating colleagues in healthcare. I5 Trying to talk patients out of taking opioids.
	Communicat	I4 Being a good listener. I1 Talking with patients

		I2 Inform patients about their future access to opioids.
Perceived Barriers to chronic pain management.	Patient-related barriers	B6 Nurses perceived ‘‘patients’ reluctance to report pain’’. J3 Unreported pain: patient's fear of addiction and treatment side effects. G2 Lack of success in achieving compliance. G1 Limited understanding. G3 Continued use of traditional medicines. H4 Patient desire to take a medicine for pain rather than learn about nonmedical interventions. G4 Financial hardship.
	Nurse-related barriers	G5 Limitations of managing chronic pain . G7 Uniform interventions . F3 Lack of training . J5.Limitation of training and education . G8 Lack of confidence .
	Organizational barriers	G10 Few national support policies. G11 Unclear guidance . G12 Limited access to available resources. J4 Demanding work environments. H2 Barriers to accessing nonmedical modalities for managing pain. B7 Time constraints. G9 Adequate staffing and time constraints.

Knowledge current		C1 The average correct response rate for oncology nurses was 66.6%, ranging from 12.1% to 94.8%. E1 The average correct response rate was 35.41%, ranging from 5.13% to 56.41%.. B3 The mean number of correct responses on knowledge for cancer pain management provided by nurses was 9.0. B4 Knowledge deficit was prominent in questions on tolerance for opioid-induced sedation (Question 8: the rate of correct responses was 35.0% for nurses) and the duration of re-assessment after intravenous morphine administration (Question 13: 48.4% for nurses). B5 The rate of correct response was lower among nurses for questions on NSAIDs (Question 3), specific properties of opioids and opioid dose calculation (Questions 7, 10, and 12) and the utilization of radiotherapy or interventional pain management as measures of pain control (Questions 9 and 11). B9 Insufficient knowledge of pain control. G6 Inadequate knowledge C2 The nurses mean score on the knowledge survey regarding pain management was 28.5%. C4 Widespread knowledge deficits was noted, particularly regard pharmacological management of pain C5 Results revealed that the mean percentage score overall was 65.7%. Only 8.6% of nurse participants obtained a passing score of 75% or greater. E2 The highest percentages of correct answers were for cultural considerations, protocol for chronic cancer pain analgesia (around the clock on a fixed schedule), and most accurate judge of the patient's pain (72.1%, and 69.1%). E3 The highest percentages of incorrect answers were noted in these items: (a) effectiveness of placebo injection to assess pain; (b) recommended opioid administration route for prolonged pain; (c) over-reporting pain; (d)likelihood of opioid addiction; and (e) lack of analytic and integration abilities in making clinical pain judgments G8 Lack of confidence

Attitude to pain medicine	Side effect of pain medicine	A1 pain medications causing addiction is a danger . A2 taking pain medicine may block the identification of new pain. A3 harmful effects of pain medications . A4 physiological effects of pain medications. D2 get addicted to pain medicine easily. D3 moderate attitude toward side effects of cancer pain . D4 if pain medications are used with less pain they may not respond in the time of much pain.
	Recommendation for using medicine	H8 Using caution when prescribing opioids. H9 Treating pain when Substance Use Disorder was active or in remission. I6 Opioids are routinely scheduled.
Emotion		F6 A sense of failure and frustration. J1 Frustration. J6 Helplessness. F2 Awareness of psychosocial issue from patients. F9 Uncomfortable talking about symptoms which could not be explained in bio-medical terms. C3 Mean score on the attitudes survey regarding pain management was 28.5%. D1 Low negative attitude regarding exact effect of cancer pain medications.

Appendix 1

Overview of selected articles

Author(s) +year/country of publication	**Title**	**Design (possibly approach)**	**Participants**	**Data collection method(s)**	**Data analysis method(s)**	**Code**
Al Khalaileh & Al Qadire, 2012+Jordan	Barriers to cancer pain management: Jordanian nurses' perspectives	a descriptive cross-sectional survey design quantitative approach	**Number**:96 nurses working in the oncology units of three hospitals in Jordan	96 questionnaires were collected from the head nurses' offices **Instruments**: Demographic data sheet; Barriers questionnaire collected from the head nurse's offices	Descriptive statistics; Using the Statistical Package for the Social Sciences (SPSS) software (version 17):percentages and frequencies	A

					The unpaired t-test	
Jho *et al*., 2014+Korea	Knowledge, Practices, and Perceived Barriers Regarding Cancer Pain Management among Physicians and Nurses in Korea: A Nationwide Multicenter Survey	Descriptive design Quantitative approach	**Number**: 149 physicians and 284 nurses **Condition of participants:** 11 hospitals (6 public and 5 private hospitals) across Korea. Doctors and nurses involved in the care of cancer patients were eligible for participation.	Questionnaire obtained 14 items (11"true" or "false" questions and 3 multiple choice questions)， generated on the basis of the contents of the Cancer Pain Management Guideline published by the Ministry of Health and Welfare and the National Cancer Center. Took from September 2010 until June 2011 at	Descriptive analysis: used multiple linear regression analysis. The STATA SE version 12.0 software package (StataCorp, College Station, TX, USA) used for Statistical analyses.	B

				11 hospitals (6 public and 5 private hospitals) across Korea		
Shahdad *et al*., 2015+Iran	Oncology Nurses Knowledge and Attitudes Regarding Cancer Pain Management	cross-sectional survey research design Quantitative approach	**Number**:58 cancer nurses **Condition of participants:** registered and enrolled nurses working part-time and full-time in the cancer units	**Instrument:** A self-administered questionnaire including demographics and Nurses' Knowledge and Attitude Survey Regarding Pain (KAS)	descriptive statistics, Microsoft Excel, the Statistical Package for Social Sciences (SPSS	C

Sadeghy *et al*., 2016+Iran	Nurse Attitude-Related Barriers to Effective Control of Cancer Pain among Iranian Nurses	Descriptive design Quantitative approach	**Number**: 49 nurses **Years of work time:** at least one year experience of caring of cancer pain. **Condition of participants:** having BS degree in nursing	**Instrument:** A checklist that investigated some demographic and profession-related characteristic of participants. And the Barriers Questionnaire II (BQ-II). **Barriers Questionnaire II**: consists of 27 questions about patients' barriers to pain management. The eligible nurses were asked to fill out the questionnaires in the same shift during their rest .time.	Using SPSS statistical software (version 13) for statistical analysis.	D

Yildirim, Cicek & Uyar, 2008+Turkish	Knowledge and Attitudes of Turkish Oncology Nurses About Cancer Pain Management	descriptive design Quantitative approach	**Number**: 68 nurses **Condition of participants:** employed in oncology and hematology units in two different university hospitals in Izmir, Turkey	**Instruments**: Nurses' Knowledge and Attitudes Survey Regarding Pain (NKASRP): a total of 39 questions: 22 true/false questions, 13 multiple-choice questions, and 2 case studies with 2 questions. Demographic Questionnaire: five questions like age, marital status, level of nursing education, years of nursing experience, and years of oncology nursing experience. Lasted approximately 25-30 min	Using the Statistical Program for Social Sciences (SPSS) version 10.0 for data analysis The t test, Kruskal-Wallis analysis of variance, and Pearson correlation analysis were used to compare the differences of nurses' knowledge according to various demographic characteristics.	E

McGowan *et al*.,2010+ UK	Is chronic pelvic pain a comfortable diagnosis for primary care practitioners: a qualitative study	descriptive design Qualitative approach	**Number**:21general practitioners and 20 practice nur**ses** **Female:**37 **male:**4	in-depth, semi-structured face-to-face interviews at participant's respective practice The interviews were transcribed verbatim; All interviews were tape recorded with written consent of the participants. The data was managed using the qualitative software package NVivo 7.	The principles of Framework analysis. （Ritchie J& Spencer L, 1994 & Ritchie J, Lewis J, 2003）	F
Park, Park &Park, 2015+South Korea	Barriers to chronic pain management in community-dwelling low-income older adults: Home-visiting nurses' perspectives	descriptive design Qualitative approach	**Number:**23 nurses **Age:** median age of 46 years(range 32—53) **Years of work time:** direct experience of chronic pain management in home-visiting care for at least three	a semi-structured discussion, last an hour and a half two assistant moderators acted as note-takers recorded with digital voice-recorders	inductive thematic analysis（Braun &Clarke,2006）	G

			years. **Condition of participants**: English speaking and to have experience caring for older residents with pain			
Marie, 2016+America	The Experiences of Advanced Practice Nurses Caring for Patients with Substance Use Disorder and Chronic Pain	descriptive design Qualitative approach	**Number**:20 advanced practice registered nurses **Female：** 20 **Condition of participants**: 1)APRNs experienced in treating individuals with coexisting SUD and chronic pain, either as inpatients or outpatients; 2) APRNs licensed with prescriptive authority of scheduled II and III controlled substances and who prescribed opioids for	A semi-structured interview. Data collected in inpatient and outpatient settings. Data collection between June and August 2014 through individual phone interviews. Lasted 90 minutes Participants were audiotaped	The interview data were analyzed by noting themes, similarities, and differences, and how these related to participants' experiences of treating patients with coexisting SUD and chronic pain.	H

			patients with chronic pain; 3)APRNs who spoke English and were willing to be interviewed for 90 minutes			
Seyedfatemi *et al*., 2014+Iran	Iranian nurses' perceptions of palliative care for patients with cancer pain	descriptive design Qualitative approach	**Number: 15** Nurses with a Bachelor's degree **Female：11** **Male: 4** **Age：26~49years** **Years of work time:** The nurses' work experience varied from 4 years to 18 years. **Condition of participants:** Ten of the nurses were married; the rest were single.	Face-to-face, semi-structured individual interviews Lasted 30~45 minutes Conducted in the Persian language，translated into English, then the English version was translated back into Persian for verification.	Content analysis（Graneheim and Lundman, 2004）	I

Garcia, Whitehead & Winter, 2015 + Zealand	Oncology nurses' perception of cancer pain : a quantitative study	descriptive design Qualitative approach	**Number:** 5 **Age：32-55 years old** **Condition of participants**: second-level chemotherapy-certified oncology nurses	one-to-one semi-structured interviews interviews were audio-taped to ensure data accuracy.	Inductive thematic analysis(Richie & Spencer, 1994)	J

Appendix 2

Author(s)	**Aim**	**Result**
Al Khalaileh & Al Qadire, 2012+Jordan	To explore barriers to cancer pain management from the perspective of Jordanian nurses.	A1. pain medications causing addiction is a danger A2. taking pain medicine may block the identification of new pain A3.harmful effects of pain medications A4.physiological effects of pain medications.
Jho *et al.,* 2014+Korea	Evaluate knowledge, practices and perceived barriers regarding cancer pain management among physicians and nurses in Korea.	B1. Assessed patients' pain levels on every round with three more time than physician ($p<0.001$). B2. Documented pain assessment with a higher proportion in comparison with physician ($p<0.001$). B3. The mean number of correct responses on knowledge for cancer pain management provided by nurses was 9.0. B4. Knowledge deficit was prominent in questions on tolerance for opioid-induced sedation (Question 8: the rate of correct responses was 35.0% for nurses) and the duration of re-

		assessment after intravenous morphine administration (Question 13: 48.4% for nurses). B5. The rate of correct response was lower among nurses for questions on NSAIDs (Question 3), specific properties of opioids and opioid dose calculation (Questions 7, 10, and 12) and the utilization of radiotherapy or interventional pain management as measures of pain control (Questions 9 and 11). B6. Nurses perceived ‘‘patients’ reluctance to report pain’’ B7. Time constraints B9.Insufficient knowledge of pain control.
Shahdad *et al.*, 2015+Iran	determine the baseline level of knowledge and attitudes of oncology nurses regarding cancer pain management	C1.The average correct response rate for oncology nurses was 66.6%, ranging from 12.1% to 94.8%. C2.The nurses mean score on the knowledge survey regarding pain management was 28.5%. C3. Mean score on the attitudes survey regarding pain management was 28.5%. C4.Widespread knowledge deficits was noted, particularly regard pharmacological management of pain

		C5.Results revealed that the mean percentage score overall was 65.7%. Only 8.6% of nurse participants obtained a passing score of 75% or greater.
Sadeghy *et al.*, 2016+Iran	Investigate nurse-related barriers to control of cancer pain among Iranian nurses.	D1 Low negative attitude regarding exact effect of cancer pain medications. D2 get addicted to pain medicine easily. D3 moderate attitude toward side effects of cancer pain. D4 if pain medications are used with less pain they may not respond in the time of much pain.
Yildirim, Cicek & Uyar, 2008+Turkish	Evaluate the level of knowledge and attitudes regarding cancer pain management among oncology nurses in Turkey.	E1. The average correct response rate was 35.41%, ranging from 5.13% to 56.41%.. E2. The highest percentages of correct answers were for cultural considerations, protocol for chronic cancer pain analgesia (around the clock on a fixed schedule), and most accurate judge of the patient's pain (72.1%, and 69.1%). E3.The highest percentages of incorrect answers were noted in these items: (a) effectiveness of placebo injection to assess pain; (b) recommended opioid administration route for prolonged pain; (c) over-reporting pain; (d)likelihood of opioid addiction;

		and (e) lack of analytic and integration abilities in making clinical pain judgments
McGowan *et al.*,2010 +UK	Explore general practitioners(GPs) and practice nurses' understanding and perspectives on the management of chronic pelvic pain.	F1 Refer a patient back to the general practitioners. F2 Acknowledged that women may be left feeling they have to manage the pain themselves. F3 Lack of training F4 Delegate tasks of taking swabs from women F5 Performed the investigative tasks delegated to them by general practitioners. F6 A sense of failure and frustration F7 Have a more active role in delivering interventions
Park, Park & Park, 2015+South Korea	Describe nurses' experiences and views of barriers influencing chronic pain management during home-visit interventions for low-income older adults living at home.	G1 Limited understanding G2 Lack of success in achieving compliance G3 Continued use of traditional medicines G4 Financial hardship G5 Limitations of managing chronic pain G6 Inadequate knowledge G7 Uniform interventions G8 Lack of confidence G9 Adequate staffing and time constraints

		G10 Few national support policies G11 Unclear guidance G12 Limited access to available resources
Marie, 2016+America	Examine APRNs' experiences and perceptions while caring for patients with coexisting SUD and chronic pain.	H1. Shifting patients to the advanced practice nurses H2 Barriers to accessing nonmedical modalities for Managing Pain H3. Caring for the whole person H4.patient desire to take a medicine for pain rather than learn about nonmedical interventions. H5. Education patients H6. Applying risk strategies to keep patients safe. H7. Educating colleagues in healthcare H8. Using caution when prescribing opioids. H9. Treating pain when Substance Use Disorder was active or in remission. H10. Working in unison with the healthcare team
Seyedfatemi *et al.*, 2014 + Iran	Identify Iranian nurses' perceptions of palliative care for patients with cancer pain.	I1. Talk to patients provokes them to express their inner feelings I2. Help to relieve their physical pain. I3.Undertake supportive behavior relieves the patients' pain. I4.Being a good listener.

		I5.trying to talk patients out of taking opioids. I6.opioids are routinely scheduled.
Garcia, Whitehead & Winter, 2015+ Zealand	conducted to explore how oncology nurses perceive cancer pain in patients for whom they provide care.	J1. Frustration and helplessness. J2.Managed patient's pain within the oncology unit. J3.Unreported pain: patient's fear of addiction and treatment side effects J4.Demanding work environments, usually outside their control, hindered Psychological interventions. J5.Limitation of Training and education