A Systematic Review of the Prevalence and Measurement of Chronic Pain in Asian Adults

Lily R. Mohamed Zaki, MBBS, MPH,* and Noran N. Hairi, MBBS, MPH (Epid), PhD†

ABSTRACT:
There are limited epidemiologic studies on chronic pain in Asian populations. The aim of this review was to gather all epidemiologic studies of chronic pain in Asian countries and systematically describe the measurement and prevalence of chronic pain in Asian adults. A systematic review was performed using PubMed, MEDLINE, EMBASE, Psych INFO, Cochrane Database for Systematic Review, and CINAHL. Additional studies were identified manually by searching bibliographies. We identified 19 relevant articles for this review. Most articles used the definition of chronic pain set by the International Association for the Study of Pain. The majority of the articles used simple single-question methods to measure chronic pain. The prevalence of chronic pain among Asian adults ranges from 7.1% (Malaysia) to 61% (Cambodia and Northern Iraq), whereas among the Asian geriatric population, the prevalence is even higher and ranges from 42% to 90.8%. This review showed that there is great variation in the reported prevalence of chronic pain in Asian adults and the prevalence of chronic pain is high among the Asian geriatric population. To measure the distribution of chronic pain in adults, a uniform measurement strategy should be adopted.

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BACKGROUND
Chronic pain is a neurologic and physiologic experience affecting all levels of the population. It is defined as pain that has lasted for at least 3 months, or pain that persists beyond normal tissue healing (usually 3 months; International Association for the Study of Pain [IASP], 1986). It affects all groups in a population, regardless of age, sex, income, and race/ethnicity. However, chronic pain is not distributed equally around the world (Goldberg & McGee, 2011). A review of studies in Western countries reported that the prevalence of chronic pain varies, ranging from 11.5% to 55.2% (Ospina & Harstall, 2002). The aging population in Western countries is determined to be the main reason for this high prevalence. In Asian countries,
epidemiologic studies of chronic pain are very limited compared with Western countries; thus, data on its prevalence also is sparse. It is impossible to extrapolate Western data to Asian populations because studies have found that pain-reporting practices and manifestations are different among Asian and Western individuals (Green, Baker, Sato, Washington, & Smith, 2003).

It is worthwhile to note that there is a wide variation in the prevalence of chronic pain among Western populations. Ospina and Harstall (2002) reported that this wide variation was the result of differences in the pain definitions used and in the geographical settings of the study population, as well as inconsistencies in measurement tools. A previous review (Ospina & Harstall, 2002) concluded that differences in the demographic characteristics of participants and methodological approaches of the study should be taken into consideration when comparing findings. However, the only two published reviews on chronic pain (Ospina & Harstall, 2002; Verhaak, Kerssens, Dekker, Sorbi, & Bensing, 1998) did not include any studies in the Asian region, making it difficult to describe the prevalence rates of chronic pain in Asian adults. Thus, the aim of this review was to answer the following questions:

1. What are the definitions of chronic pain used in these studies?
2. Which instruments for measuring chronic pain can be found in Asian literature?
3. What is the prevalence of chronic pain in Asian adults?

METHODS

Literature Search Strategy

In April 2014, a literature search was conducted using six electronic databases: PubMed, Medline with full text, Embase, Cochrane Library, Psych INFO, and Cumulative Index to Nursing and Allied Health Literature (CINAHL). Manual searches of reference lists of relevant articles identified by the electronic searches were done to retrieve other relevant studies.

The databases were searched using the controlled term (e.g., Medical Subject Headings in Medline). The following search terms were used for PubMed: (‘chronic pain’[MeSH Terms] OR ‘chronic’[All Fields] AND ‘pain’[All Fields]) OR (‘chronic pain’[All Fields]) AND (‘Asian continental ancestry group’[MeSH Terms] OR ‘Asian’[All Fields] AND ‘continental’[All Fields] AND ‘ancestry’[All Fields] AND ‘group’[All Fields]) OR ‘Asian continental ancestry group’[All Fields] OR ‘Asian’[All Fields]) AND (‘epidemiology’ [Subheading] OR ‘epidemiology’[All Fields] OR ‘prevalence’[All Fields] OR ‘prevalence’[MeSH Terms]).

Asian countries were defined as the countries of the World Health Organization (WHO) Western Pacific region and WHO Southeast Asian region: Bangladesh, Bhutan, Brunei, Burma, Cambodia, China, East Timor, India, Indonesia, Japan, Laos, Malaysia, Maldives, Mongolia, Nepal, North Korea, Pakistan, the Philippines, South Korea, Singapore, Sri Lanka, Thailand, and Vietnam. We independently screened and assessed all articles.

Criteria for Study Selection

The criteria for selection included: (a) population-based studies of chronic pain with age group of 18 years and above; (b) information on estimation of prevalence of chronic pain, definition of chronic pain, and measurement instrument used to measure chronic pain; and (c) cross-sectional study. Studies specifically on children and hospitalized patients were excluded. No language restrictions or restrictions on year of publication were made. All articles selected were critically assessed in particular on relevancy, representativeness of the sample, response rate, whether a validated or piloted questionnaire was used, and whether the results could be applied to the local situation.

Methodology Quality Assessment

All articles selected were critically appraised for methodological quality using critical appraisal tools by Leboeuf-Yde and Lauritsen (1995). Briefly, this set of criteria assessed the final sample of the target population, quality of data obtained from the study, and the general description of the method and results, including definitions of pain prevalence. We independently evaluated and reviewed all articles. Table 1 illustrates these criteria for methodological quality assessment.

RESULTS

Search Results

The initial search resulted in 1,064 titles (Fig. 1): 86 in PubMed, 43 in Embase, 860 in CINAHL, 74 in Medline with full text, and 1 in Psych INFO. Of these, 19 articles met the inclusion criteria for this review. The 19 articles that were selected are summarized in Tables 2 and 3.

Location of Studies

Eleven studies were conducted in China (Chen, Cheng, Huang, Liu, & Luo, 2012; Chung & Wong, 2007; Fielding & Wong, 2012; Jackson, Chen, Iezzi, Yee, &
Definitions of Chronic Pain

Of the 19 studies, 14 (Bhattarai et al., 2007; Chung & Wong, 2007; Fielding & Wong, 2012; Hattori, 2004; Lu & Javier, 2011; Institute for Public Health, 2008; Jackson et al., 2014; Ng et al., 2002; Tse et al., 2013; Wang et al., 2009; Wong & Fielding, 2011; Yeo & Tay, 2009; Yu et al., 2006; Yu et al., 2011) used the IASP definition of chronic pain or a close approximation to it that considered chronic pain as a pain that has persisted for at least 3 months. Nakamura et al. (2011) used a cutoff score of 6 months' duration. Tsang et al. (2008) used a nonspecified set of criteria that included “any chronic pain conditions in the previous 12 months” and two studies (Chen et al., 2012; Lee et al., 2007) made no mention of which definition of chronic pain was used.

Measurement Instrument Used to Measure Chronic Pain

Of the 19 articles, 10 (Chen et al., 2012; Hattori, 2004; Lee et al., 2007; Lu & Javier, 2011; Nakamura et al., 2011; Tse et al., 2013; Institute for Public Health, 2008; Wang et al., 2009; Yeo & Tay, 2009; Yu et al., 2011) used a single question to determine chronic pain. The question used was, “Have you had pain in any part of your body lasting for 3 months or more?” Six studies (Bhattarai et al., 2007; Chung & Wong, 2007; Fielding & Wong, 2012; Jackson et al., 2014; Ng et al., 2002; Wong & Fielding, 2011) used two questions to detect chronic pain. The first question determined the presence of pain and the second focused on the duration of pain.
Apart from screening of chronic pain, some studies also included other dimensions of chronic pain, such as intensity, site, consequences, and source of pain. Only 6 (Bhattarai et al., 2007; Hattori, 2004; Husum et al., 2002; Lu & Javier, 2011; Ng et al., 2002; Yeo & Tay, 2009; Yu et al., 2006) of the 19 studies measured all of the just mentioned parameters. With the exception of four studies (Fielding & Wong, 2012; Institute of Public Health, 2008; Tsang et al., 2008; Yu et al., 2011), all others included pain site as one of the dimensions of chronic pain measurement. Pain intensity was included in all but six studies (Chung & Wong, 2007; Fielding & Wong, 2012; Jackson et al., 2014; Tsang et al., 2008; Yu et al., 2011). Nine studies (Fielding & Wong, 2012; Hattori, 2004; Lu & Javier, 2011; Ng et al., 2002; Tse et al., 2013; Wang et al., 2009; Wong & Fielding, 2011; Yu et al., 2006; Yu et al., 2011) used the Numerical Rating Scale, three (Husum et al., 2002; Nakamura et al., 2011; Wang et al., 2009) used the Visual Analog Scale, and one (Bhattarai et al., 2007) used the Verbal Descriptor Scale to measure pain intensity. All but three studies (Tsang et al., 2008; Wang et al., 2009; Yu et al., 2011) measured pain consequences, such as interference with daily activities (Chung & Wong, 2007; Husum et al., 2002; Jackson et al., 2014; Nakamura et al., 2011; Ng et al., 2002; Wong & Fielding, 2011; Yeo & Tay, 2009; Yu et al., 2006), agitation (Chung & Wong, 2007), sleeping difficulties (Chung & Wong, 2007; Yu et al., 2006), and absence from work (Bhattarai et al., 2007; Chung & Wong, 2007; Nakamura et al., 2011; Ng et al., 2002; Wong & Fielding, 2011; Yeo & Tay, 2009).

The validity and reliability of the measurement instruments were reported in 11 of the 19 studies (Bhattarai et al., 2007; Chen et al., 2012; Chung & Wong, 2007; Lee et al., 2007; Lu & Javier, 2011; Ng et al., 2002; Tse et al., 2013; Wang et al., 2009; Wong & Fielding, 2011; Yu et al., 2006; Yu et al., 2011). Three studies (Bhattarai et al., 2007; Wang et al., 2009; Yeo & Tay, 2009) developed a questionnaire specifically for the study and were pilot tested. However, the validity and reliability of the questionnaire was not reported in the study.

**Prevalence of Chronic Pain**

The prevalence of chronic pain reported in Asian countries among adults aged 18 years and above varies from as low as 7.1% (Institute of Public Health, 2008) to as high as 61% (Husum et al., 2002). All studies in this review reported a higher prevalence of chronic pain among women and older people. This statement is supported by studies specifically looking at the Asian geriatric population (Tseng et al., 2013; Yu et al., 2006; Yu et al., 2011) where the prevalence was even higher, ranging from 42% to 90.8%. Most studies also reported that chronic pain sufferers were those with low levels of education and low incomes, as well as the unemployed.

**DISCUSSION**

The aims of this systematic review were to describe the definition, measurements, and prevalence of chronic pain in Asian adults. Prior systematic reviews (Ospina & Harstall, 2002; Verhaak et al., 1998) in this area did not include articles on Asian countries because data was sparse at that time. To our knowledge, this is the first review of epidemiologic studies of chronic pain in Asian adults.

This review found that various definitions of chronic pain have been used in Asian literature; it is similar to the previous review used by Ospina and Harstall (2002). Consistent with her review, ours found that the IASP definition is a widely acceptable definition used in Asian studies.
### Table 2. Comparative Description of Study Characteristics in Asian Adults

<table>
<thead>
<tr>
<th>Authors/Country/Publication Year</th>
<th>Sample Size (N)</th>
<th>Definition of Chronic Pain (Duration)</th>
<th>Method of Data Collection</th>
<th>Instruments Used to Measure Chronic Pain</th>
<th>Prevalence Estimates (%) (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Wong et al. (Wong &amp; Fielding, 2011), Hong Kong 2011</td>
<td>5001 general population aged ≥18 y Male (45.2%) Female (54.8%)</td>
<td>Pain persisting for at least 3 mo</td>
<td>Phone interview</td>
<td>Two questions: 1. Are you currently troubled by physical pain or discomfort, either all the time, or on and off? 2. Have you had this pain or discomfort for &gt;3 mo? Respondents who answered both questions were classified as having chronic pain.</td>
<td>35 (33.3–35.9)</td>
</tr>
<tr>
<td>2) Chung et al. (Chung &amp; Wong, 2007), Hong Kong 2007</td>
<td>2126 households Male (45.3%) Female (54.7%) Mean age: 32.14 y</td>
<td>Pain &gt;3 mo IASP criteria</td>
<td>Phone interview</td>
<td>Two questions: 1. Do you have pain now? 2. How long have you had the pain?</td>
<td>45.87 (43.60–48.14)</td>
</tr>
<tr>
<td>3) Ng et al. (Ng, Tsui, &amp; Chan, 2002), Hong Kong 2002</td>
<td>1051 households Male (44%) Female (56%)</td>
<td>Pain &gt;3 mo IASP criteria</td>
<td>Phone interview</td>
<td>Two questions: 1. Have you had any of the following pain in the past 12 mo: headache, back pain, muscle pain, joint pain, toothache, stomach pain, menstrual pain? 2. The pain you just mentioned, for how many days was it present in the past 12 mo? (Answers coded as 1 to 5 d, 6 to 10 d, half month</td>
<td>10.8 (8.9–12.7)</td>
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<thead>
<tr>
<th>Authors/Country/Publication Year</th>
<th>Sample Size (N)</th>
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<th>Prevalence Estimates (%) (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4) Yeo et al. (Yeo &amp; Tay, 2009), Singapore 2009</td>
<td>4,141 households aged between 18 and 85 y Male (42.2%) Female (57.8%) Chinese (73.8%) Malay (12.8%) Indian (9.7%) Others (3.7%)</td>
<td>Pain lasting ≥3 mo in duration for the past 6 mo</td>
<td>Phone interview</td>
<td>Single question: 1. Did you have pain in the past 6 mo lasting ≥3 mo in duration?</td>
<td>8.7 (95% CI not mentioned)</td>
</tr>
<tr>
<td>5) Bhattarai et al. (Bhattarai et al., 2007), Nepal 2007</td>
<td>1730 households Male (828) Female (902) Mean age: 35.27 y Median age: 31 y</td>
<td>Any painful condition lasting or recurring for a duration of ≥3 mo</td>
<td>Face-to-face interview</td>
<td>Two questions: 1. Presence or absence of pain? 2. Duration of pain? Any painful condition lasting or recurring for duration of ≥3 mo was considered as chronic pain.</td>
<td>50.1% (95% CI not mentioned)</td>
</tr>
<tr>
<td>6) Tsang A et al. (Tsang et al., 2008), America (Colombia, Mexico, United States), Europe (Belgium, France, Germany, Italy, Netherlands, Spain, Ukraine), the Middle East (Israel, Lebanon), Africa (Nigeria, South Africa), Asia (Japan, China: Beijing, Shanghai) and New Zealand</td>
<td>42,249 of households aged ≥18 years from 17 countries China (Beijing) Mean age: 35.8 Female: 47.5% Male: 52.5% China (Shanghai) Mean age: 42.9 y Female: 48% Male: 52% Japan Mean age: 51.4 y Female: 53.7% Male: 46.3%</td>
<td>Any chronic pain conditions in the past 12 mo</td>
<td>Face-to-face interview</td>
<td>Three questions: 1. The respondents were asked if they ever had “arthritis or rheumatism” in their lifetime. 2. They were asked if this had been present in the past 12 mo. 3. They were also asked whether they had ever had “chronic back or neck problems,”</td>
<td>1. China (Beijing) 37 (31.5-42.8) 2. China (Shanghai) 34.5 (29.0-40.4) 3. Japan 28.1 (24.5-31.9)</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Household</th>
<th>Pain &gt;3 mo criteria</th>
<th>Face-to-face interview</th>
<th>Single question:</th>
</tr>
</thead>
<tbody>
<tr>
<td>33,733 Households aged ≥18 y</td>
<td>IASP criteria</td>
<td>Face-to-face interview</td>
<td>Thinking back over the past 6 mo, have you had persistent pain in any part of your body lasting for ≥3 mo? Persistent pain means that the pain is felt every day, or most days, during that period.</td>
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<tr>
<td>Male: 44.8% Female: 55.2% Mean age: 41.8 y (male) 41.5 y (female) Malay: 55% Chinese: 20.3% Indian: 8.2% Other</td>
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</table>

8. Husum et al. (Husum et al., 2002), Cambodia, Kurdistan (Northern Iraq) 2002

<table>
<thead>
<tr>
<th>Subject</th>
<th>Chronic pain was diagnosed when self-rated global pain was &gt;5 and presence of 1 of the 3 clinical signs (trigger points, myofascial pain, dystrophy)</th>
<th>Face-to-face interview and medical examination by medical doctors</th>
<th>Visual Analog Scale (VAS) was used to document self-rated global pain (scoring 0-10). Those with VAS of &gt;5 and with any of the clinical signs such as trigger points, myofascial pain, or dystrophy, were diagnosed as having chronic pain.</th>
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<tbody>
<tr>
<td>57 severely injured adult landmine accident survivors</td>
<td></td>
<td></td>
<td>Overall: 61 (48-74) Cambodia: 48 Northern Iraq: 72</td>
</tr>
<tr>
<td>Cambodia:</td>
<td>Mean age: 36 y Female (24%) Male (76%) Northern Iraq: Mean age: 32 y Female (13%) Male (88%)</td>
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</tr>
</tbody>
</table>

9. Lee et al. (Lee et al., 2007), China 2007

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<tr>
<th>Household ages &gt;18 y.</th>
<th>Not mentioned in the article</th>
<th>Face-to-face interview</th>
<th>Single question:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beijing: 2633 Shanghai: 2568</td>
<td></td>
<td></td>
<td>Have you at any time in the past 12 mo, experienced any of the conditions listed in the chronic pain checklist that include chronic spinal/neck pain, frequent/severe headache or any chronic pain (general)?</td>
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</tbody>
</table>

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<table>
<thead>
<tr>
<th>Authors/Country/Publication Year</th>
<th>Sample Size (N)</th>
<th>Definition of Chronic Pain (Duration)</th>
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<th>Prevalence Estimates (%) (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10) Chen et al. (Chen, Cheng, Huang, Liu, &amp; Luo, 2012), Beijing, China. 2012</td>
<td>2469 households aged ≥16 y Male: 967 (39.17%) Female: 1502 (60.83%)</td>
<td>Not mentioned</td>
<td>Face-to-face interview</td>
<td>Single question: Have you had [chronic back/neck problem, arthritis/rheumatism, frequent/severe headache or any of the pain problems] in the past 12 mo?</td>
<td>Arthritis: 15.5 Back/neck: 22.6 Headache: 5.10 Other chronic pain: 3.97 1 chronic pain: 26.33 ≥2 or more pain: 9.23</td>
</tr>
<tr>
<td>11) Fielding et al. (Fielding &amp; Wong, 2012), Hong Kong, China 2012</td>
<td>5001 adults aged ≥18 y Female (55%)</td>
<td>Pain persisted for ≥3 mo</td>
<td>Telephone interview</td>
<td>Two questions: 1. Are you currently troubled by physical pain or discomfort, either all the time or on and off? 2. Have you had this pain or discomfort for more than 3 mo?</td>
<td>34.2 (95% CI not mentioned)</td>
</tr>
<tr>
<td>12) Wang et al. (Wang, Wang, Zhou, Wang, &amp; Lofstedt, 2009), Rural China 2008</td>
<td>1741 post-partum women Age ranges from 24-53 y Mean age: 33.6 y</td>
<td>Pain or discomfort that persisted continuously or intermittently for ≥3 mo</td>
<td>Face-to-face interview</td>
<td>Single question: Have you had any pain or discomfort that lasted for 6 mo?</td>
<td>Overall: 55.8 (95% CI not mentioned) Site: Lower back pain: 23.4 Headache: 11.8 Leg pain: 9.9 Overall: 15.4 (95% CI not mentioned)</td>
</tr>
<tr>
<td>13) Nakamura et al. (Nakamura, Nishiwaki, Ushida, &amp; Toyama, 2011), Japan 2011</td>
<td>11,507 individuals aged ≥18 y Female (6365) Male (5142)</td>
<td>Pain symptom that was present within the past month and had continued for ≥6 mo</td>
<td>Mail-in survey</td>
<td>Single question: Have you ever had pain associated with bone, muscle, joints or nerves, such as neck pain, shoulder stiffness, lower back pain or extremity pain?</td>
<td>Overall: 13.4 (95% CI not mentioned)</td>
</tr>
<tr>
<td>14) Hattori et al. (Hattori, 2004), Japan, 2006.[in Japanese]</td>
<td>18,000 individuals</td>
<td>Respondents were considered to be suffering from chronic pain if they</td>
<td>Internet survey</td>
<td>Single question: For how long have you suffered from pain due to your illness or medical condition?</td>
<td>Overall: 13.4 (95% CI not mentioned)</td>
</tr>
</tbody>
</table>
met the 5 criteria which were:
1. They had suffered from pain in the last 6 mo
2. They had pain for >3 mo
3. They had experienced pain in the past month
4. They had pain frequency of several times a week or more (chronic pain sufferers)
5. Their pain measured ≥4 on the 10-point pain scale

Chronic pain was diagnosed if the duration of pain was >6 mo.

15) Lu et al. (Lu & Javier, 2011), Philippines 2011
11,000 adults aged 18-85 y
Respondents were considered to be suffering from chronic pain if they met the 5 criteria:
1. They had suffered from pain in the past 6 mo
2. They had pain for >3 mo
3. They had experienced pain in the past month
4. They had pain frequency of several times a week or more (chronic pain sufferers)
5. Their pain measured ≥4 on the 10-point pain scale

Face-to-face interview

Single question:
For how long have you suffered from pain due to your illness or medical condition?

Chronic pain was diagnosed if the duration of pain was >6 mo.

Overall:
13.6 (95% CI not mentioned)
Moderate + severe chronic pain: 10.4
Annual incidence rate: 4.8

(Continued)
Most studies in Asian regions used a single question to detect chronic pain. The prevalence of chronic pain is high, ranging from 7.1% to 90.8% among adults in Asian countries and is expected to increase in the near future as the population ages. This finding is merely consistent with prevalence estimates from Western countries (11.5% to 55.2%) reported by Ospina and Harstall (2002), although the lower limit is slightly lower among Asians. It is still possible that social and cultural differences in acceptance and reporting of pain may be an important variable to consider. Several studies found higher prevalence of chronic pain among Asians living in Western countries compared with local populations (Allison et al., 2002; Palmer et al., 2007; Webb et al., 2003). In fact, Palmer et al. (2007) reported that degree of acculturation may have influenced the pain reporting mechanism; the greater the degree of acculturation, the lower the prevalence of pain. Other factors such as pain threshold disparity among ethnic groups also should be considered, although some studies (Yosipovitch, Meredith, Chan, & Goh, 2004; Zatzick &Dimsdale, 1990) have reported no such difference. The large differences in prevalence show that other factors may contribute to the variation, such as method of data collection, demographic characteristics of the population studied, as well as geographical variation. This review found that all the factors mentioned here may contribute to the large differences in prevalence of chronic pain. Studies that used phone interviews had lower prevalence rates (35%, Wong & Fielding, 2011; 45.9%, Chung & Wong, 2007; and 34.2%, Fielding & Wong, 2012) than those that used face-to-face interviews (50.1%, Bhattarai et al., 2007; 61%, Husum et al., 2002; and 55.8%, Wang et al., 2009) as the method of data collection. One study in Malaysia (7.1%, Institute for Public Health, 2008) reported that the lower prevalence was a result of the young population studied. Apart from that, the type of population studied also determined the prevalence rate, as depicted in Tables 2 and 3, where prevalence among older individuals was higher than in young adults. Furthermore, geographical variation, as seen in this review, also may contribute to the differences, as shown in a study in China (Wang et al., 2009), where rural areas had a higher prevalence (55.8%) than urban areas (34.2% in Fielding & Wong, 2012 and 25.8% in Jackson et al., 2014). In fact, the aforementioned reasons found in this review are consistent with others (Ospina & Harstall, 2002; Verhaak et al., 1998) conducted in different parts of the world, such as North-West Europe, North America, and Australia.

All studies included in this review measured chronic pain by means of interviews and

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<th>Prevalence Estimates (%)(95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jackson et al. (Jackson, Chen, Iezzi, Yee, &amp; Chen, 2014), Chongqing, China 2014</td>
<td>1003 households aged ≥18 y Mean age: 36.9 y Women: 401 Men: 602</td>
<td>Pain that has persisted for ≥3 mo</td>
<td>Telephone interview</td>
<td>Single question: Did you or other household members experience the following types of pain for at least 1 full day during the past 6 mo: headache, neck/shoulders, back, joint, stomach/abdomen, menstrual/genital, dental/face, and “other pain?”</td>
<td>Overall: 25.8 (95% CI not mentioned)</td>
</tr>
</tbody>
</table>
### Table 3.
Comparative Description of Study Characteristics in Asian Geriatric Population

<table>
<thead>
<tr>
<th>Authors/Country/Publication Year</th>
<th>Sample Size (N)</th>
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</tr>
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<tbody>
<tr>
<td>1) Tse et al. (Tse, Wan, &amp; Wong, 2013), Hong Kong 2013</td>
<td>173 cognitively intact community-dwelling adults aged &gt;60 in 2 geriatric community centers in Hong Kong 25 men 148 women Mean age: 73.2 y</td>
<td>Pain in past 3 mo</td>
<td>Face-to-face interview</td>
<td>Single Question: Have you had pain in the last 3 mo?</td>
<td>Overall: 90.8 (95% CI not mentioned)</td>
</tr>
<tr>
<td>2) Yu et al. (Yu, Tang, Kuo, &amp; Yu, 2006), Taiwan 2006</td>
<td>219 adults aged ≥65 y from communities in Taipei City, Taiwan</td>
<td>Pain lasted ≥3 mo</td>
<td>Face-to-face interview</td>
<td>Not mentioned.</td>
<td>Overall: 42% (95% CI not mentioned)</td>
</tr>
<tr>
<td>3) Yu et al. (Yu, Tang, Yeh, Kuo, &amp; Yu, 2011), Taiwan 2011</td>
<td>219 adults aged ≥65 from communities in Taipei City, Taiwan</td>
<td>The frequency of suffering from pain is at least once a week in the past 3 mo; it made the patients feel unpleasant, and it might accompany existing or potential tissue injury</td>
<td>Face-to-face interview</td>
<td>A single item was used to determine whether the participants were suffering from chronic pain.</td>
<td>Overall: 42 (95% CI not mentioned)</td>
</tr>
</tbody>
</table>
questionnaires that relied on self-report. This is acceptable as pain is a subjective, internal, and personal experience that cannot be directly observed by others (Buenaver & Edwards, 2007). Most studies used a single question to identify chronic pain, such as “Are you currently troubled by physical pain or discomfort, either all the time, or on and off?” (Wong & Fielding, 2011) or “Thinking back over the past 6 months, have you had persistent pain in any part of your body lasting for 3 months or more?” (Institute of Public Health, 2008). There is no clear evidence as to the choice of wording for symptoms of pain as long as it fits the definition criteria for the respective study.

Pain is also a multidimensional condition that can be characterized by its intensity, number of pain sites, duration, frequency, source of pain, severity, and time frame of reference. We found 6 of the 19 studies measured all of the aforementioned dimensions. From this, we concluded that instruments measuring chronic pain do not necessarily measure all dimensions of chronic pain. However, to allow for comparisons of findings between studies, a more stringent and uniform measurement tool is clearly needed. This is consistent with a recommendation by Ospina and Harstall (2002) in their review for a uniform methodological approach to study chronic pain, including the use of formal criteria to define chronic pain, type of questions used, and method of data collection, as well as consideration of chronic pain measures as primary or secondary outcomes.

This review has some advantages over previously published systematic reviews (Ospina & Harstall, 2002; Verhaak et al., 1998) in this field. This systematic review was the first to pool articles on chronic pain in Asian countries. Furthermore, inclusion and exclusion criteria were defined before the search strategy was performed. Bias in article selection and appraisal of methodological quality of the studies were also avoided by use of two independent reviewers. Our review had several limitations. Studies included in this review had a wide variety of methodologies, addressing chronic pain in different modalities. This made comparison between studies and adequate ratings not suitable. Second, research may not be indexed in electronic databases; therefore the number of studies is limited.

**CONCLUSIONS**

What Does This Review Tell Us About Chronic Pain in Asian Adult?

This review demonstrated that the IASP definition of chronic pain is widely used in the Asian countries covered. Despite similar or approximate definitions of chronic pain, estimates of prevalence still varied. There were also differences between the studies in the measurement instruments used and the dimensions of pain measured. Clearly, a definite and uniform consensus on definition and measurement tools is needed for comparative purposes. The prevalence rates of chronic pain in Asian countries were also high and increasing over the period covered by this review. Thus, more research is needed in this area to give chronic pain a “voice.” It is hoped that more research on chronic pain, especially on its health-related effects such as health care utilization, will be conducted in Asian countries toward establishing chronic pain as a recognized public health specialization.

Implication for Nurses

It is hoped that the results of this literature review will be used for educational purposes for nurses, as well as to increase awareness among nurses on the high prevalence of chronic pain among Asian adults. It is crucial for nurses to update this information because they are on the frontlines for pain assessment during pain management.

**REFERENCES**


