

# Pain Morbidity in Primary Care - Preliminary Observations from Two Different Primary Care Settings

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## Summary

The prevalence of pain complaints as a reason for patient-doctor encounters in the local primary care setting is unknown. We performed a cross-sectional survey of such encounters in one public primary care clinic (KK) and 17 general practice clinics (GP), from the city of Seremban, Negeri Sembilan, Malaysia. Reasons for visits were recorded by doctors in KK and medical students in GP using a structured questionnaire. Morbidity data was coded using the *International Classification of Primary Care* (ICPC-2). A total of 2234 encounters were recorded (80.9% from KK, 19.1% from GP). The overall prevalence of pain complaints was 31.9% with a significant difference between the two cohorts (KK 28.7% and GP 45.2%,  $p < 0.001$ ). Musculoskeletal pain complaints were more common in KK than GP (40.9% versus 29.7%,  $p < 0.05$ ). Of the 3 main ethnic groups in Malaysia (Malay, Chinese and Indian) the Indian patients at KK had the highest prevalence of pain complaints and the Chinese at the GP had the lowest. Thus pain was a common complaint in the two different primary care settings studied. Some of the differences observed are probably due to the differences in the healthcare seeking behaviour of patients consulting at these two settings as well as differences in the payment systems.

**Key Words:** Pain, Prevalence, Primary care, General practice

## Introduction

Pain is a ubiquitous experience of life as demonstrated by population surveys<sup>1,5</sup>. These surveys have shown that a relatively low proportion of people with pain complaints actually decide to consult doctors. Since pain is such a common manifestation of medical problems, it is not surprising to find that in surveys of primary care patients, pain conditions contribute to at least a third of all consultations<sup>6-10</sup>. When pain becomes chronic, it is often associated with psychological distress<sup>11</sup> and has a significant impact on the socio-economic status, health status and quality of life<sup>12</sup>.

An understanding of the prevalence, the disability and patterns of pain and health-seeking behaviour among

the different ethnic groups in multiracial Malaysia can facilitate the provision of healthcare to these groups. Such knowledge could also help to identify possible predisposing factors. In addition, management strategies including psychological therapy can be better planned.

It is well known that pain behavior is influenced by the socio-cultural background of the sufferers<sup>13-15</sup>. These socio-cultural factors (e.g. their illness attributions, health concerns and expectations<sup>16</sup>), together with the perceived illness severity, access to healthcare and prevalence of underlying diseases (e.g. osteoarthritis) possibly act in concert to result in such encounters in the primary care. We conducted a pain morbidity survey in two main primary care settings which differ

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with respect to the payment system to determine the prevalence of pain symptoms and their causes. We were interested in finding out whether the anecdotal impression of more frequent pain reports by females and Indian patients could be verified in multiracial Malaysia.

## Materials and Methods

### Setting

The study was conducted in Seremban, Negeri Sembilan. One public primary care clinic (Klinik Kesihatan [KK] Seremban) and 17 General Practice clinics (GP) were selected for this study. All the clinics used are teaching sites for the undergraduate medical programme of the International Medical University Clinical School in Seremban. The KK Seremban is a large polyclinic providing subsidized outpatient services for both adults and children, including maternal and child healthcare with a nominal fee of RMI per visit. The participating general practice clinics are privately-owned and are all in the vicinity of the city of Seremban. The payment system in general practice is fee-for-service with a typical consultation fee (including medication) being RM20-30 per visit.

### Data collection

Over a two-week period in April 2003, seven medical officers in the outpatient department of KK Seremban recorded demographic and morbidity data of 20 encounters at each clinic session using a standardised format (medical officers in the maternal and child clinic of KK Seremban did not participate in this study). The morbidity data were Reasons for Encounter (RFEs) as reported by patients, and a maximum of four RFEs and two diagnoses were accepted per patient. From March to August 2003, medical students collected morbidity data using the same format during their general practice attachment (20 encounters during one mid-week day per student per clinic). Data collection in general practice was suspended temporarily between April and June 2003 due to the SARS scare. The morbidity survey was done as part of a larger study that also determined the antibiotic prescribing behaviour of primary care practitioners.

### Statistical analysis

Data were analysed using Statistical Package for Social Sciences, version 10.0. The morbidity data were coded using the International Classification of Primary Care (ICPC-2)<sup>17</sup> using the method previously described by Britt et al<sup>18</sup>. This was facilitated by using the ICPC-2 Plus

Demonstrator<sup>19</sup>. For the definition of "pain complaints", we used the pain symptom rubrics (categories) in the ICPC-2 Plus Demonstrator (total number of pain symptoms was 76). "Pain diagnoses" was defined as ICPC rubrics within the diagnosis data consistent with the pain complaints based on the consensus of two investigators (ZAH and TCL). Statistical comparison of categorical variables was done using  $\chi^2$  test. Statistical significance was set at  $p < 0.05$ .

## Results

One public primary care clinic (KK) and 17 private general practice clinics (GP) participated in this study. There were a total of 2,234 patient encounters of which 1807 (80.9%) were from KK and 427 (19.1%) were from GP.

### Socio-demographic profile of patients

Table I shows the demographic characteristics of the two patient cohorts. The ethnic breakdown of patients in the KK component was similar to the routine statistics collected by that clinic in April 2003 (Malay 37.3%, Chinese 22.7%, Indian 38.4%, Others 1.6%; Chi-square for Goodness of Fit = 6.51,  $p > 0.05$ ). The overrepresentation of Chinese patients in GP was also seen in a previous (but smaller) survey done in four GP clinics in Seremban<sup>20</sup>. The ethnic breakdown for KK differs significantly from GP ( $\chi^2 = 73.62$ ,  $p < 0.001$ ). The age of the patients ranged from five months to 94 years. The patients in KK was slightly older compared to those in GP (mean age 39.4 years versus 34.0 years,  $p < 0.001$ ). The proportion of children in KK (12.0%) and GP (14.7%) were not significantly different.

### Pain complaints and diagnoses

Seven hundred and fifty pain complaints were recorded in 712 encounters. The prevalence of pain complaints was 31.9% (95% CI 29.9%, 33.8%) of all encounters. Pain complaints were more common in GP than in KK (prevalence 45.2% and 28.7% respectively;  $\chi^2 = 45.19$ ,  $p < 0.001$ ). These pain complaints fell into 34 pain rubrics in the ICPC-2. Table II shows the top ten pain complaints recorded in this study. The top five ICPC Chapters (musculoskeletal, digestive, respiratory, neurology and general) contributed 90.2% of all pain complaints. Musculoskeletal pain complaints (L01-L29 ICPC rubrics) were more common in KK, with 40.9% of cases, than in GP with 29.7% of cases ( $\chi^2 = 8.03$ ,  $p < 0.05$ ).

Table II shows the top ten pain diagnoses recorded in this study. A total of 657 pain diagnoses (from 113

ICPC rubrics) were recorded in these 712 encounters with pain complaints. Diagnosis was not recorded for 72 encounters and in 17 encounters two pain diagnoses were recorded.

#### Socio-demographic correlates of pain complaints

Table III shows the socio-demographic correlates of patients with pain complaints. In this analysis, we have excluded the "Others" ethnic group. Overall, pain complaints were more commonly reported by adults rather than children, by Indians more than other ethnic groups. However, when compared by the setting, the preponderance of Indians with pain complaints was seen in both KK and GP, while there was a lower prevalence of pain complaints among the Chinese in GP. This ethnic difference was still observed after controlling for gender (analysis not shown).

#### Discussion

##### Limitations of this study

The patients enrolled in this study were convenient samples from both KK and GP. Medical officers were asked to collect only 20 encounters per clinic session considering their busy workload that would be increased by data collection. We were not able to collect data from the case notes, because more often than not the reasons for encounters and other data were not well documented. The clinics do not have a computerized patient record system. However the

patient profile in the KK sample was comparable to that of the clinic attendances. Although we could not verify the morbidity data collected by the medical students, as far as we know, the data were accurate records of the general practice consultations. The accuracy of the classification of pain diagnosis was affected by missing data in about 10.1% of those encounters with a pain symptom. In encounters without pain symptoms, no pain diagnosis was coded even though some of the recorded diagnoses appeared to be pain-related (e.g. injury, osteoarthritis).

##### Prevalence of pain complaints and diagnoses

The prevalence of pain complaints was 45.2% and 28.7% in GP and KK respectively, with an overall prevalence of 31.9%. This figure appears to be comparable to those obtained in other studies, despite differences in methodology. Mäntyselkä *et al.*<sup>7</sup> in a 4-week study in 25 health centres in Finland, found that pain was a reason for visit in 40% of the encounters. Hasselström *et al.*<sup>6</sup> in a one-year study in one group practice in Sweden, found that pain diagnoses occurred in up to 30% of patient consultations.

In this study, the prevalence of pain complaints was higher in GP than in KK. This was possibly due to the higher prevalence of chronic diseases in the KK, thus diluting the pain prevalence. In this study, the prevalence of chronic diseases such as hypertension,

**Table I: Socio-demographic data of the patients (n=2234)**

Characteristics	KK n (%)	GP n (%)	Total n (%)
<b>Age group</b>			
< 12	213 (12.0)	60 (14.7)	273 (12.5)
13 - 20	205 (11.6)	35 (8.6)	240 (11.0)
21 - 30	219 (12.4)	91 (22.4)	310 (14.2)
31 - 40	222 (12.5)	81 (19.9)	303 (13.9)
41 - 50	300 (16.9)	65 (16.0)	365 (16.8)
>51	613 (34.6)	75 (18.4)	688 (31.6)
<b>Gender</b>			
Male	870 (48.3)	218 (52.5)	1088 (49.1)
Female	932 (51.7)	197 (47.5)	1129 (50.9)
<b>Ethnic group</b>			
Malay	643 (35.1)	106 (24.9)	749 (33.6)
Chinese	452 (25.1)	191 (44.9)	643 (28.9)
Indian	675 (37.5)	114 (26.8)	789 (35.4)
Others	31 (1.7)	14 (3.3)	45 (2.0)

**Table II: Top 10 pain complaints and diagnoses in KK and GP**

Top 10 pain complaints in KK (ICPC rubric)	No. of encounters	Top 10 pain complaints in GP (ICPC rubric)	No. of encounters
1. Headache (N01)	67	Sore throat (R1)	46
2. Sore throat (R21)	56	Headache (N01)	35
3. Back pain (L02)	52	Abdominal pain, general (D01)	14
4. Knee pain (L15)	47	Chest pain (A11)	13
5. Abdominal pain, epigastric (D02)	46	Abdominal pain, epigastric (D02)	13
6. Abdominal pain, general (D01)	36	Back pain (L02)	9
7. Chest pain (A11)	22	Low back pain (L03)	9
8. Ear pain (H01)	22	Neck pain (L01)	8
9. Shoulder pain (L08)	22	Knee pain (L15)	7
10. Dysuria (U01)	20	Foot/toe pain (L17)	7
Top 10 pain diagnoses in KK (ICPC rubric)	No. of pain diagnosis	Top 10 pain diagnoses in GP (ICPC rubric)	No. of pain diagnosis
1. URTI (R74)	56	URTI (R74)	51
2. Myalgia (L18)	50	Acute gastroenteritis (D73)	11
3. Gastritis (D87)	46	Tension headache (N95)	9
4. Osteoarthritis (L91)	40	Myalgia (L18)	8
5. Soft tissue injury (S19)	36	Soft tissue injury (A80)	6
6. UTI (U71)	28	Gastritis (D87)	6
7. Musculoskeletal pain (L29)	12	UTI (U71)	6
8. Abdominal pain, general (D01)	12	Osteoarthritis (L91)	4
9. *	10	Sinusitis (R75)	4
10. *	10	**	3

\*9-10th position shared by three diagnoses: tension headache (N95), migraine (N89) and headache (N01)

\*\*10th position shared by eight diagnoses: toothache (D82), neuropathy (N94), conjunctivitis (F70), fever (A03), gout (T92), cervical spondylosis (L83), asthma (R96)

**Table III: Prevalence of pain complaints by socio-demographic groups (n=2182)\***

Characteristics	KK, %	GP, %
<b>Age group</b>		
Child**	18.4	36.2
Adult	30.3	46.9
	$\chi^2=12.84, p<0.001$	$\chi^2=2.27, p>0.05$
<b>Gender</b>		
Male	28.5	41.8
Female	28.3	49.0
	$\chi^2=0.004, p>0.05$	$\chi^2=2.05, p>0.05$
<b>Ethnic group</b>		
Malay	25.8	52.8
Chinese	23.0	35.1
Indian	34.5	55.3
	$\chi^2=21.13, p<0.001$	$\chi^2=15.05, p<0.001$

\* percentages were proportion of patients in each subgroup with pain complaints

\*\* child  $\leq 12$

diabetes and asthma were 30.4% and 7.7% in KK and GP respectively,  $p < 0.001$ . Another alternative explanation is that patients with acute illness (with pain as an accompanying symptom) may be more likely to consult GP than KK.

The higher prevalence of pain complaints among the Indians appears to support casual clinical observation. The lower prevalence of pain complaints among the Chinese (especially in GP) came as a surprise, as there is a general notion that Chinese would seek medical care immediately if they are in pain. Thus this impression should be verified by further study. It is possible ethnic differences in pain tolerance and reporting may contribute to the ethnic difference observed in this study. However, other possible explanations include differences in the prevalence of underlying causes of pain complaints (e.g. osteoarthritis, chronic low back pain), non-pain related complaints (the diluting effect mentioned above) and differences in socio-demographic variables.

In our study we did not find any gender difference in the pain complaints in both settings. While there may

be gender differences in pain tolerance and prevalence of specific pain complaints (e.g. headache<sup>21</sup>), the overall clinical pain reports in primary care appear to be similar. This study supports the finding that sex-related difference in pain prevalence is small and less consistent in clinical studies.<sup>22</sup>

In conclusion, this study has shown that pain is a common presenting complaint in Malaysian primary care practice. The social, public health and economic impacts of this problem are largely unknown. As the majority of patients in the general population are seen in primary care clinics, pain research in primary care should be prioritized.

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