Incidence of musculoskeletal pain in adult Kuwaitis using the validated Arabic version of the WHO-ILAR COPCORD Core Questionnaire

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BACKGROUND: The WHO-ILAR Community Oriented Program for Control of Rheumatic Diseases (COPCORD) primarily aims to estimate the burden of musculoskeletal symptoms/disorders. We estimated the incidence of musculoskeletal pain in the first community-based COPCORD study in Kuwait.

SUBJECTS AND METHODS: The validated Arabic version of the WHO-ILAR COPCORD Core Questionnaire was used in a survey of 2500 randomly selected Kuwaiti households to assess the frequency of musculoskeletal pain, disability, and health-seeking behavior in adult Kuwaitis. Those subjects reporting no musculoskeletal pain were identified and followed-up for a period of one year by contacting them every 2 weeks. Once a respondent reported pain, an appointment to report to hospital was offered and the subject was examined by a rheumatologist using American College of Rheumatology (ACR) criteria.

RESULTS: Of 5159 adults who were non-complainers in an earlier prevalence phase of the study, 3341 responded to phone calls (response rate of 65%). The incidence of musculoskeletal pain was 6.6% (95% CI, 3.4%-9.7%). Age- and sex-adjusted incidence rates were 7.2% (95% CI, 3.4%-10.5%) for females and 6.1% (95% CI, 3.1%-9.2%) for males. The incidence rate increased with increasing age, body mass index, and with being married. The common sites of pain were knee, low back and shoulder.

CONCLUSION: The incidence of musculoskeletal pain among Kuwaiti adults is reported for the first time. Further studies adopting the same instrument in other communities are warranted to compare with our findings.

The World Health Organization (WHO) and International League Against Rheumatism (ILAR) Community Oriented Program for the Control of Rheumatic Disease (COPCORD) consists of three stages. In stage I, epidemiological data on rheumatic diseases are collected. In stage II, primary health care professionals are trained in the management of the most common rheumatic diseases. In stage III, improved health care is attained. Stage I optimizes the use of the local skilled staff and the available resources in a three-phase collection of data on rheumatic diseases. A number of countries have participated and used the WHO-ILAR COPCORD Core Questionnaire (CCQ) to determine the prevalence rates of rheumatic diseases in their communities. Recently, we estimated the prevalence of musculoskeletal (MSK) pain in adult Kuwaitis using the
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validated Arabic version of the COPCORD-CCQ instrument. To the best of our knowledge, no studies have been conducted to determine the incidence of MSK pain using this instrument. This stimulated us to conduct this follow-up study to determine the incidence of MSK pain in the adult Kuwaiti nationals using the validated Arabic version of the WHO-ILAR COPCORD Core Questionnaire over a period of one year.

Subjects and Methods
During an earlier prevalence phase of the study, 5159 respondents had not complained of MSK pain during administration of the questionnaire. All participants were Kuwaiti nationals with a similar cultural background, nobody was prohibited from responding to the questionnaire. All households in the sample gave home contact telephone numbers and all were regularly contacted by telephone every 2 weeks for a period of one year from March 2002 to March 2003. Once a respondent reported pain (complier), an appointment was offered to see a rheumatologist within 7 days, at either Al-Amiri or Mubarak Al-Kabeer teaching hospitals where they were clinically examined. The rheumatologist was blinded to the CCQ results. Reimbursement was provided for those who did not own a private means of transportation. Each complainer was given the option to choose a male or a female rheumatologist.

Diagnoses of rheumatic diseases were based on the American College of Rheumatology (ACR) criteria. Further confirmatory laboratory and radiological investigations, which were paid for by the health care system, were carried out when the clinical findings were not adequate to make a definitive diagnosis.

Privacy and confidentiality of data were maintained, and ethical approval of the Medical Research Ethics Committee of Kuwait University was obtained. Written informed consent was signed by each subject before participation. In addition to the consent of the subjects who were under the age of 18 years, the guardians’ co-signatures were obtained.

Data were coded and analyzed using the Statistical Package for Social Sciences (SPSS). The cut-off level of significance was set at $\alpha=0.05$, as a type I error threshold. The incidence rate and 95% confidence interval (CI) were calculated. Incidence rates were adjusted to the 1999 Kuwait population by age and sex using the direct standardization method. The independent t-test was used to evaluate the significance of difference between means of two quantitative variables, and the chi-square test was used to assess the significance of the difference between two proportions.

Results
Of 5159 non-complainers, 3341 responded to the phone calls for a response rate of 65%. Thirty-five percent could not be reached for various reasons (no answer, wrong number, travelling, or death). Out of the 3341 respondents, 220 complained of new onset musculoskeletal pain, giving an incidence of MSK pain of 6.6% (95% CI, 3.4%-9.7%). The incidence rate increased with increasing age ($P<0.001$) and body mass index ($P<0.01$), and being married ($P<0.05$) (Table 1). The age- and sex-adjusted incidence rate was 7.2% (95% CI, 3.4%-10.5%) for females and 6.1% for males (95% CI, 3.1%-9.2%). Table 2 shows that in the complainer group, there were 114 males and 106 females for a male:female ratio of 1.1:1. The mean age (±SD) of the complainers (36.9±16.1 years) was significantly higher than that of the non-complainers (30.0±12.7 years) ($P<0.001$). Sixty-four percent of the complainers were married and 35.2% were unemployed. Body mass index (BMI)
was significantly higher (P<0.001) in the complain-
ers (26.6±5.0 kg/m\(^2\)) compared to non-complain-
ers (25.7± 4.9 kg/m\(^2\)) (P<0.01). The common sites for
MSK pain as reported over the phone were knee, low
back, shoulder and leg pain (Table 3).

Only 29 of the 220 individuals responded to ap-
pointments and reported for clinical examinations.
All 29 individuals had rheumatic conditions. There
were 18 females and 11 males for a female:males
ratio of 1.6:1. The mean age for women was 47 years
compared to 43.5 years for men. Soft tissue rheu-
matism (n=17) was the most common rheumatic
disease identified and the most common types were
low back pain (30%, n=5), regional myofacial pain
syndrome (24%, n=4), peri-shoulder arthritis (18%,
n=3), and fibromyalgia (12%, n=2). Nine cases (31%)
of osteoarthritis (OA) were identified, all of whom
had knee OA. Two cases had patello-femoral syn-
drome and one case had osteoid osteoma.

Discussion
This study is unique because it is the first to use the
Arabic version of the WHO-ILAR COPCORD-
CCQ in estimating the incidence of MSK pain in
an Arabic-speaking community. Our study identi-
fied the factors that were associated with an increase
in the incidence of MSK pain. These factors were
female sex, marriage, advancing age, and obesity.
This finding is in concert with our previous study on
the prevalence of MSK pain.\(^{11}\) Knee, low back, and
shoulder pain were the most frequent sites for MSK
pain in the present survey, which is consistent with
the prevalence study. Our clinical findings correled
well with the sites of pain reported by the complai-
ers. Knee OA, LBP and peri-shoulder arthritis were
the commonest rheumatic diagnoses in our series.

In this study, the accuracy of the estimated pro-
portions of medical diagnosis was affected by the
response rate of the population. Only 13% (29/220)
of the complainers reported for the examination
phase. Nobody (males or females) declined partici-
pation based on the gender of the rheumatologists.
Although the health services in Kuwait are free of
charge for Kuwaiti nationals, some people might
find it inconvenient to report for clinical examina-
tion during working hours since they would need to
obtain permission for an absence from their work
places. It would have been better for complainers to
be seen in the evenings at polyclinics near their resi-
dences, but this was not possible because of the few
rheumatologists in Kuwait. Some might have toler-
able pain without functional disability, and therefore,
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Table 3: Sites of musculoskeletal pain in the 220 patients.

| Sites    | n (%) |
|----------|-------|
| Knee     | 61 (27.7) |
| Low back | 50 (22.7) |
| Shoulder | 38 (17.3) |
| Leg      | 31 (14.1) |
| Hand     | 16 (7.3) |
| Muscles  | 16 (7.3) |
| Foot     | 3 (1.4) |
| Neck     | 2 (1.0) |
| Bones    | 2 (1.0) |
| Thigh    | 1 (0.5) |

found it unnecessary to respond to invitations to report to the hospital for clinical examination.

Despite these limitations, this study showed that MSK pain is common among Kuwaiti nationals. Further studies in other communities using the same instrument are needed to confirm our findings.

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