

COPCORD — An Unrecognized Fountainhead of Community Rheumatology in Developing Countries



Nobody has paid more heed to the woe of aches and pains in the community than the WHO-ILAR COPCORD (Community Oriented Program for Control of Rheumatic Diseases)¹. With wings spread over the Asia-Pacific region, South America, and more recently Africa, COPCORD is a unique fountainhead of community data on rheumatic musculoskeletal (MSK) disorders and pain². A Web search^{3,4} for COPCORD on related sites proved futile or revealed an outdated, meager description. COPCORD has yet to be explored for its global merit and use. Although active for over 2 decades, COPCORD remains largely unrecognized by the rheumatology community.

In COPCORD, the focus is on disease burden and information deficit, especially in the rural communities of developing countries. A baseline systematic population survey (Stage I) is followed by identification of risk factors and community health education (Stage II) and preventive and control measures (Stage III).

Prevalence data from several COPCORD studies, especially from the Asia-Pacific region, have been published and compared^{5,6}. But not all studies have conformed to the basic COPCORD design. Logistics, ignorance, and unexpected hurdles (political upheaval in a few cases) have sometimes compelled the investigators to digress^{5,7}. Different personnel have collected data, and some surveys took a long time to complete.

The operative words in COPCORD are “community” and “control.” Control is a difficult proposition. To begin with, we ought to measure the disease burden. The COPCORD Bhigwan (India) rural survey^{6,8} demonstrated that among all the ailments recorded in Stage I, phase 1, rheumatic MSK disorders were the commonest in 18.2% of adults (95% confidence intervals, CI, 17.1, 19.2). The majority had soft tissue pain and rheumatism (Figure 1). In nearly one-third of survey cases (Figure 1), the ailment could be best grouped as “symptom-related” disorders for

want of a better classification entity. Knee (13.2%), lumbar (11.4%), and shoulder (7.4%) pains were common, and similar trends have emerged from other Asia-Pacific COPCORD^{5,8}. The strikingly low prevalence of inflammatory rheumatic disorders compared to the dominance of soft tissue pain and rheumatism and degenerative disorders in COPCORD communities needs to be realized by the rheumatologist. Unfortunately, even the recently launched Bone and Joint Decade⁹ has failed to recognize this truth.

It is against this background that the COPCORD study by Zeng and colleagues in this issue of *The Journal* should be viewed¹⁰. In their article about 2 universally acclaimed community ailments — knee pain and lumbar pain — the authors speculate on the role of geographical, environmental, and dietary influences in their etiology. They draw attention to the weaknesses of the current diagnosis/classification system in rheumatology, with special reference to the epidemiology of osteoarthritis (OA)¹¹, and reaffirm that soft tissue pain and rheumatism is the major community rheumatic MSK problem.

Of the COPCORD Shantou study population, 7.9% and 11.5% were found to suffer from knee pain and lumbar pain, respectively, substantially lower than that reported from population studies in North China¹². Only 2040 subjects, predominantly government employees, were surveyed and presumably the majority enjoyed sedentary jobs. The investigators, several of whom had participated in the earlier studies¹³, concluded that the prevalence of knee pain and lumbar pain appear to lessen with reducing latitude¹⁰. There are several slips between the cup and the lip.

A major confounding factor seems to be the variation in the technique of recording rheumatic MSK pain in these Chinese studies. Doctors recorded pain in the North China studies, which were not strictly designed along COPCORD lines. The entire *modus operandi* of determining, recording, and reporting rheumatic MSK pain in the epidemiological

See Low prevalence of knee and back pain in Southeast China; Shantou COPCORD Study page 2439

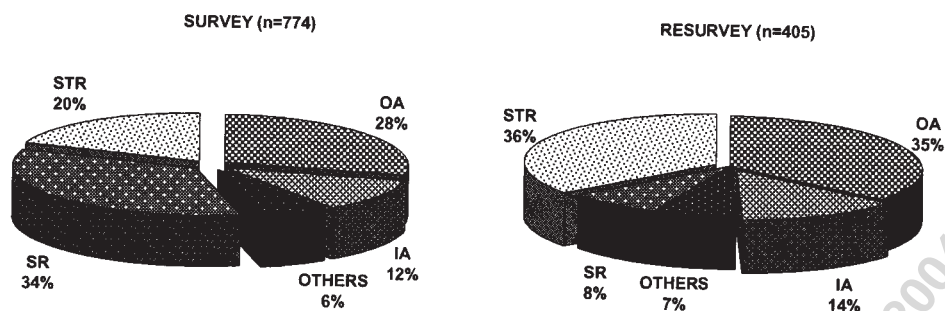


Figure 1. Classification of rheumatic musculoskeletal cases in the COPCORD Bhigwan rural population survey 1996 and a resurvey in 2000. STR: soft tissue rheumatism; SR: symptom related; OA: osteoarthritis; IA: inflammatory arthritis; n: number of cases.

context is very complex. The observed prevalence rates in North and South China could be due to random variation as a result of differences in design, sampling techniques, and observer variation.

Notwithstanding the methodological issues, I do concede that Zeng and colleagues have sufficient clues to pursue this brave assertion of a relationship between latitude, or perhaps geography and climate, and knee pain/OA in a better powered COPCORD Stage II and III.

Despite ethnic and cultural diversities in the Asian scenario, there is a common thread that binds millions of its inhabitants in near similar lifestyles arising out of daily practices of living, religion, transport, recreation, and manual labor. Knees and back bear a large burden of modest living. People squat, kneel, and sit cross-legged on the ground for several daily activities ranging from prayers to ablution. Do vocations involving repeated impulsive loading of weight-bearing joints (e.g., in squatting or kneeling) lead to joint pain and OA?¹⁴ Based on historical and clinical judgment, occupational overuse was considered to contribute to illness in 26% of all rheumatic MSK cases and 60% of all soft tissue pain and rheumatism in the COPCORD Bhigwan resurvey (unpublished).

Although the COPCORD method advocates followup of the population survey, very few COPCORD studies have done so. The Indonesian COPCORD¹⁵ did a great service to the country by recognizing and controlling the dragon of gout. The Bhigwan COPCORD survey⁸ has been followed up for over 8 years with a rigorous community-driven program¹⁶.

In COPCORD Bhigwan, there are several concurrent activities connected with community service (free rheumatology services), health and medical education, followup of survey patients (the inflammatory cohort in particular), and identification of incidence cases and possible risk factors¹⁶⁻¹⁸. For the first time, a COPCORD study has documented disease modifying antirheumatic drug use for over 8 years in this rural community¹⁹. Indeed, the COPCORD Bhigwan model²⁰ has evolved into a socioeconomically appealing

community tool that integrates fast-track assessment of disease burden and risk factors along with provision of free rheumatology services to the community. Today, we provide COPCORD mediated services to a Bhigwan population of 9000 and about 45,000 villagers residing in over 187 nearby villages. Based on the COPCORD Bhigwan model, the Bone and Joint Decade-India has initiated several urban population rheumatic MSK surveys²⁰.

COPCORD is all about community rheumatology and the exploits of its daring explorers (? field rheumatologists)⁷. There is palpable enthusiasm for COPCORD studies. Although global in mission, COPCORD does not yet have a uniform standardized common protocol to ensure strict comparability between studies. A global COPCORD data repository is urgently needed. The COPCORD data from India and Indonesia were used in the recent WHO treatise on the burden of rheumatic MSK disorders²¹. COPCORD can play an important role to fulfill the global ambitions of the Bone and Joint Decade.

What about the unsung heroes of the COPCORD movement? Their contribution is phenomenal in terms of community and rheumatology service — no less than the discovery of biologics. To begin, let us acknowledge the 3 COPCORD gurus: H.V. Valkenburg (The Netherlands), K.D. Muirden (Australia), and R.D. Wigley (New Zealand). I sincerely hope that someone in the ILAR-WHO executive will respond.

Above all, COPCORD should continue to listen to the community and be driven by its expectations. In time, it should consider providing a healing touch.

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REFERENCES

1. Grabauskas V. A World Health Organization perspective. *J Rheumatol* 1983;10 Suppl:5-6.
2. Darmawan J, Muirden KD. WHO-ILAR COPCORD — Perspectives past, present, and future. *J Rheumatol* 2003;30:2312-4.
3. <http://www.ilar.org>
4. <http://www.rheumatology.org>
5. Wigley R. Rheumatic problems in the Asia Pacific region. Wigley RD, editor. *The primary prevention of rheumatic diseases*. New York: Parthenon Publishing Group; 1994:21-5.
6. Chopra A, Patil J, Billampelly V, Relwani J, Tandale HS. Prevalence of rheumatic diseases in a rural population in Western India: A WHO-ILAR COPCORD Study. *J Assoc Physicians India* 2001;49:240-6.
7. Darmawan J. Diary of the Indonesian Rural COPCORD. *APLAR Bulletin* 1991;9:11-3.
8. Chopra A, Saluja M, Patil J, Tandale H. Pain and disability, perceptions and beliefs of a rural Indian population: A WHO-ILAR COPCORD Study. *J Rheumatol* 2002;29:614-21.
9. Hazes MJ, Woolf A. The Bone and Joint Decade 2000-2010 [editorial]. *J Rheumatol* 2000;27:1-3.
10. Zeng QY, Chen R, Xiao ZY, et al. Low prevalence of knee and back pain in Southeast China; the Shantou COPCORD Study. *J Rheumatol* 2004;31:2439-43.
11. Lawrence JS, Bremmer JM, Bier F. Osteoarthritis: prevalence in the population and relationship between symptoms and x-ray changes. *Ann Rheum Dis* 1966;25:1-24.
12. Wigley RD, Zhang NZ, Zeng QY, et al. Rheumatic diseases in China: ILAR-China study comparing the prevalence of rheumatic symptoms in northern and southern rural populations. *J Rheumatol* 1994;21:1484-90.
13. Wigley RD. Rheumatic disease in Han Chinese. What have we learned from 19 years of epidemiological study? *J Rheumatol* 2003;30:2090-1.
14. Coggon D, Croft P, Kellingray S, Barret D, MacLaren M, Cooper C. Occupational physical activities and osteoarthritis of the knee. *Arthritis Rheum* 2000;43:1443-9.
15. Darmawan J, Valkenburg HA, Muirden KD, Wigley RD. Epidemiology of rheumatic diseases in rural and urban populations in Indonesia; a World Health Organization International League Against Rheumatism COPCORD study, stage I, phase 2. *Ann Rheum Dis* 1992;51:525-8.
16. Chopra A, Saluja M, Patil J, Venugopalan A, Tandale H. Rheumatic disease in village Bhigwan (India): A population based COPCORD study follow-up 1996-2003 — summary findings [abstract]. *Ann Rheum Dis* 2004;63:502. Internet. [cited October 2, 2004]. Available from <http://www.eular.org/index.cfm?framePage=eular2004.cfm>
17. Saluja M, Chopra A. Bare foot applications of HAQ, and identification of some risk factors in WHO-ILAR COPCORD Bhigwan (India) Stages II and III: an ongoing longitudinal population based study 1996-2004. In: Nilganuwong Surasak, editor. *Proceedings of the 10th Asia Pacific League of Associations for Rheumatology Congress*. Bangkok: Supjaroon Printing Co. Ltd.; 2002:335-40.
18. Chopra A, Poulton K, Silman A, Thomson W. HLA DRB1 associations in a community based study of inflammatory arthritis in India [abstract]. *Arthritis Rheum* 2000;43 Suppl:S71.
19. Chopra A. Rheumatology: Made in India (Camps, COPCORD, HLA, Ayurveda, HAQ, WOMAC and Drug Trials). *J Indian Rheum Assoc* 2004;12:43-53.
20. Chopra A, Patil J, Billampelly V, Relwani J, Tandale HS. The Bhigwan (India) COPCORD: methodology and first information report. *APLAR J Rheumatol* 1997;1:145-54.
21. World Health Organization. *The burden of musculoskeletal conditions at the start of the new millennium*. Report of a WHO Scientific Group. Geneva: WHO Technical series, 919; 2003.