

Web-based medical facilitators in medical tourism: the third party in decision-making

SUCHITRA WAGLE

Research Scholar, IIT-Bombay, Powai, Mumbai 400 076 INDIA e-mail: suchitra680@gmail.com

Abstract

The emergence of web-based medical tourism facilitators (MTFs) has added a new dimension to the phenomenon of cross-border travel. These facilitators are crucial connectors between foreign patients and host countries. They help patients navigate countries, doctors and specialties. However, little attention has been paid to the authenticity of information displayed on the facilitators' web portals, and whether they follow ethical guidelines and standards.

This paper analyses the available information on MTF portals from an ethics perspective. It compares 208 facilitators across 47 countries for the services offered. Data were collected from the databases of the Medical Tourism Association and World Medical Resources. India was the most common destination country linked to 81 facilitators. The five countries with the maximum number of facilitators were the USA, the UK, India, Canada and Poland. This paper identifies concerns regarding the information displayed about patients' safety, and the maintenance of confidentiality. There is a need to develop ethical standards for this field.

Introduction

With globalisation, the world has shrunk even as the global healthcare industry has grown. The consequent integration of world economies has had a considerable impact on the health trade (1, 2). Newer modes of trade for accessing healthcare have transformed the nature of health service delivery. Medical tourism is one such segment of the health trade (3, 4). While it is not new, it has grown substantially in recent years, with the entry of more than 50 countries into this business in a short time span (5, 6).

Medical tourism involves patients travelling from their home country to a foreign country, where they must make arrangements for their treatment and stay. When seeking care in a foreign country, patients use various agents including insurance companies and healthcare providers (7). One of these agencies is the Medical Tourism Facilitator (MTF). MTFs provide a combination of arrangements required for medical tourism, and act as intermediaries between patients and medical services (4). They have a presence in the host country, the destination country or a third country (8). They enable foreign patients to locate a suitable destination within their budget (9, 10). MTF companies (11) advertise and reach a larger audience through the medium of the internet. They have emerged as the most common source of information that influences a patient's choice of destination country (12). Today, MTFs are an indispensable component of the medical tourism industry,

as they connect hospitals and physicians to patients across the world (13). They are networking tools that provide particular hospitals or physicians with a much wider platform and can promote them across the globe (4, 11).

As web portals are here to stay, the quality and range of information that they provide need to be examined critically. Understanding the role and functioning of MTF portals as mediators between patients and clinicians is crucial, as patients know the physician or the hospital almost entirely as presented on the portals (11). There are few studies examining the quality of information displayed on web portals. This paper analyses the content of information exhibited on web portals through an ethics lens.

Context

Equations in the health trade changed drastically after the application of the General Agreement on Trade in Services framework, and health services options started expanding for the global consumer (2, 12, 14, 15). In addition, neoliberal forces helped to accelerate trade, specifically in the Asian region, making it a global marketplace (9).

The business of MTFs is dependent on international travel. They perform the important function of bridging the gap between industry players and consumers (16). Facilitators select and differentiate their services in several ways, depending on the countries and hospitals which they network. These websites show a pattern with respect to region and speciality (11). This strategy helps them to take advantage of the niche services provided in a country and handle the competition. Countries which are popular medical tourism destinations network with a large number of MTFs around the world (7).

Most MTFs use the internet to advertise their services to the world. The transfer of health resources and healthcare through electronic means (17) has become widespread. The number of people buying health-related products and accessing health information on the internet is increasing (18, 19). Web-based health resources, in general, are utilised not only as educational material but also as a means of trading health-related products including accessing health services from a foreign country (12, 20-22). Web-based MTFs act as a magnet for potential medical tourists by providing access to different types of information at a click.

There is no control over the type of information displayed on websites. A study based on 'framing theory' shows that positively framed information – such as when web portals

carry photographs of accredited hospitals equipped with the latest technology, or success stories of foreign patients – can influence consumers' decisions (11). However, while doing this, the websites may ignore important issues such as information about the risks associated with surgeries, or about post-operative care (11). There are also questions about the accuracy of the information transmitted to patients (23). Additionally, when patients provide personal medical information, ethical questions arise regarding privacy and confidentiality (24, 25). These portals may not always provide information about the healthcare laws and regulations in the host country. Studies have shown that limited information is displayed on the web portals, specifically about legal aspects and patients' rights (11). There do not seem to be any regulatory boundaries within which facilitators should function.

One reason for the existence of medical tourism is the lack of uniformity in healthcare laws and standards across the world (26), and there is ambiguity about the ethical and legal aspects of medical tourism (27-29). As MTFs are a vital part of the medical tourism industry, it becomes imperative to understand and evaluate the information displayed on their web portals, from the point of view of privacy of patients' information, patients' safety, trust and credibility.

Methodology

This exploratory study was designed to carry out a content analysis of the information displayed by medical tourism facilitator web portals. Two databases, the Medical Tourism Association (MTA) and World Medical Resources (WMR), which had facilitator directories, were referred to for the study.

MTA is an international business association linked with different stakeholders in the healthcare industry in order to bring them together for business purposes in the medical tourism industry. It has its own research and publications in the field of medical tourism. On the home page, the portal (<http://www.medicaltourismassociation.com/en/mta-facilitators.html>) has a link to the listings of MTFs under the category of members of MTA. The other source, World Medical Resources, is a web portal (www.worldmedicalresources.com) that provides comprehensive listings of healthcare providers, hospitals and tourism facilitators all over the globe.

Selection of web portals

The MTA website had an alphabetically ordered list of MTFs across 46 destination countries. Six of these 46 countries had dysfunctional links and had to be dropped. MTF portals were then selected from the remaining countries and 86 MTF portals were obtained for data analysis. The WMR directory had a list of 254 MTF web portals, of which 132 portals were repetitions and had to be dropped, leaving 122 web portals. A total of 208 MTF web portals were identified for the analysis from both sources. All the web portals provided an English translation.

Information from each web portal was collected under various categories such as services provided, networking countries

and quality of informed consent, privacy and confidentiality, keeping in mind their relevance to the ethics framework. Whether or not information on specific points was provided was also noted.

Findings

The 208 facilitators identified were spread across 47 countries in Asia, Europe, the US and Canada, indicating the global character of this industry. The five countries with the maximum number of facilitators were the USA (41), the UK (36), India (18), Canada (12) and Poland (10). Regarding international associations with India, 80% of the facilitators from the USA had a network with India, followed by Canada and the UK (Table 1).

Table 1: Top 20 countries by facilitators

Rank	Country	Number of facilitators	Networked with India
1	USA	41	33
2	UK	36	12
3	India	18	18
4	Canada	12	7
5	Poland	10	2
6	Turkey	9	2
7	Czech Republic	7	--
8	Malaysia	6	--
9	Thailand	6	1
10	Costa Rica	4	--
11	Lithuania	4	--
12	Hungary	4	--
13	Argentina	3	--
14	Tunisia	3	--
15	Romania	3	--
16	Germany	3	1
17	Spain	3	--
18	Greece	2	--
19	Netherlands	2	1
20	Cyprus	2	--

Common destination countries

The homepage of each web portal was studied for information on the destination countries with which it networked. Table 2 displays the 20 most frequently networked destination countries. India was the most common destination for medical tourism, linked to 81 facilitators (Table 2) from 18 countries (Table 1). The other common destinations recorded were Thailand, Costa Rica, Mexico, Singapore and Malaysia.

Table 2: Top 20 destination countries

Rank	Country	Facilitators linked
1	India	81
2	Turkey	48
3	Thailand	35
4	Costa Rica	28
5	Mexico	22
6	Singapore	18
7	Malaysia	15
8	Brazil	13
9	Hungary	13
10	Germany	11
11	China	9
12	South Africa	9
13	Czech Republic	8
14	Cyprus	8
15	Poland	8
16	France	7
17	Austria	7
18	UAE	6
19	Argentina	6
20	Taiwan	5

Categorisation of web portals

The facilitators were segregated into two categories – domestic and international – based on their network with a destination country. Domestic facilitators were defined as those which promoted medical tourism services for their own country. Government facilitators as well as private domestic MTFs belonged to this category and displayed information about their country or even a particular state. International facilitators were defined as those which networked with one or more destination countries providing medical tourism services. Out of the 208 MTFs, 117 were domestic facilitators and the rest international (Table 3).

Table 3: Type of network with destination countries amongst international facilitators

Category	Subcategory
International facilitators (91)	Single country (8)
	Multiple country (83)
Domestic facilitators (115)	Single country (107)
	Branches in multiple countries (8)

Most of the international facilitators networking with multiple countries displayed a range of medical services, offering a wide choice for the medical tourist. For example, a US-based MTF networked with multiple countries including India, Malaysia and Thailand.

Display of information

All the portals visited were examined for the type of information they provided. All provided general information – price comparisons across countries, patient testimonials, language options, frequently asked questions, and free membership opportunities.

Cost is considered to be the major pull factor for medical tourists and web portals are cashing in on this aspect. Out of 120 MTFs displaying information about prices, 36 provided a price comparison between the prices in the host country with various destination countries. For example, prices for various medical procedures such as bypass surgery or knee replacement were compared across the USA, the UK, India, Singapore and Thailand. Such comparisons are a good strategy for attracting healthcare consumers. The remaining facilitators provided quotes for the various procedures offered. About half of the international web portals provided information in multiple languages for easier access to their customers.

Patients’ testimonials usually appeared on the side columns and described good experiences of medical tourists with the hospital or the doctor. Web portals providing cosmetic service information carried ‘before and after’ photographs of patients. A few portals also displayed a free membership offer (Table 4).

Table 4: Information displayed on the web portal

General information	Number
Price	120
Multiple language options	42
Patient testimonials	90

All 208 MTFs offered information about different procedures. Information about the types of procedures was collected from the home pages of the web portals. Details of each procedure were obtained by further clicking the name of the procedure. The most common services were medical and cosmetic procedures, followed by ophthalmic and dental services

(Table 5). Specialised surgical procedures covered heart surgeries including bypass and angiography, hip replacement procedures, etc. Cosmetic procedures included weight loss techniques, breast augmentation surgeries and body sculpting procedures. Some portals were dedicated to dental and eye procedures. Ophthalmic procedures were chiefly LASIK operations. Most of the portals providing cosmetic services were also linked to dental services providing “smile designing techniques”.

About 90% (16) of the Indian medical facilitators in this study provided information on specialised surgical services. 70 % (7) of the Polish websites were dedicated specifically to cosmetic treatments. The preference for offering a particular procedure could be an indication of formation of a niche area of that country.

Table 5: Types of procedures displayed

Displayed procedures	Number (multiple responses)
Medical /surgical	141
Cosmetic	117
Ophthalmological	50
Dental	45

Even though cost is the main driving factor for health travel, destination and quality of care become major determinants in selecting a healthcare facility (20). The name of the hospital, its accreditation, the doctors attached to it, and their qualifications are all part of the quality of care. Patients do not seem to compromise on these issues over cost (12, 30).

It is important to know what kind of information web portals provide about health or health providers from the perspective of safety. Data were collected by clicking on the links available on the home pages of the portals. For example, the “attached hospital” link was viewed for more details on whether the hospital had any kind of quality assurance in the form of international or national regulation. 94 web portals provided information about their hospital accreditation. 42 out of 94 web portals showed a mark of Joint Commissioner International accreditation. Some others were accredited by local regulatory bodies. 72 provided information about clinicians, which included their qualifications, years of experience and, in some instances their biodatas.

Other equally important aspects are privacy and confidentiality. The websites studied displayed patient information in the form of testimonials and photographs, along with the type of treatment taken, and other details. Such information could be very sensitive and patients may not want to disclose it. It is not clear whether patients gave consent for these details to be made public. Only 27 web portals mentioned confidentiality on their websites.

Any surgery requires some post-operative care and follow-up. This is particularly important when patients undergo treatment in one country and then return to their home country. Aftercare

can add to the cost of treatment. Aftercare was given the least importance by the portals, usually described in a one line reply as part of the frequently asked questions.

Quality of care is not restricted to providing treatment in an accredited hospital; the patient should also be made aware of the risks associated with the medical procedure. There was no mention of informed consent on the web portals. In addition, only one of the web sites displayed information about patients’ rights.

Table 6: Information displayed about patients’ safety, confidentiality and rights

Patient safety information	Number
Attached doctors	72
Attached hospitals	94
Aftercare information	28
Privacy and confidentiality	27
Patients’ rights	1

Emerging ethical issues

The quality of all online information varies widely (21, 24) and this applies to medical tourism web portals as well. The internet allows unqualified personnel easy entry into the health services trade. In the absence of a conventional doctor-patient relationship in which doctors are governed by a code of conduct (24), services provided by intermediaries such as MTFs which might involve non-medical personnel need ethical guidelines and regulation.

The fact that these facilitators continue to grow in number indicates their demand in the market (19). By their nature, web portals give ease of access to information that individual medical tourists cannot gather on their own. These facilitators do not provide direct access to services, but they have different strategies to attract consumers in the form of packaged tours with attractive prices, and variety in services, which can influence the decision-making process.

Patients may be attracted by price comparisons and perceived quality of care. However, important issues such as confidentiality of information, aftercare and patient’s rights are not prominently discussed on these sites (4). Privacy and data protection are important subjects when technology allows information to be easily stored, retrieved, accessed and exchanged (24). When medical information is posted without any data protection, the confidentiality of patients’ personal information is compromised. Further, medical tourists return to their home country after the treatment, so providing information about aftercare is very important (25).

The fact that none of the websites mentions patients’ rights should be taken into consideration at the time of formulating guidelines. Special attention is needed as MTFs not only provide information but also influence the decision making of

the patient. The proliferation of MTFs raises ethical concerns that highlight the need for regulatory measures.

Recommendations

Health information on the internet is used by different consumers for various purposes. It is difficult to bring this information under one regulatory umbrella. International agencies like WHO and UNESCO are involved in formulating ethical guidelines for the quality of health information on the internet (24). Certification from MedPICS Certification and Rating of Trustworthy Health Information on the Net (MedCERTAIN) also evaluates such information (20). The American Medical Association has recently developed guidelines for medical tourism companies (31) but their operation was not reflected on the web portals studied. The need has also been expressed for a standard set of operations for MTFs, including certification (25), to maintain greater responsibility for patient safety (32). There is also a need for country-specific ethical guidelines and regulations with respect to certain technologies including the assisted reproductive technology (ART), surrogacy or organ transplant (25).

The four basic principles for evaluating e-health information are; self regulation, evaluation of information, regulation and awareness of users (20). These can be the pillars of a regulatory framework, whose outline is given below:

- The quality of information provided on the portals can be maintained through self regulation by the MTFs. They are not only responsible for sharing health information but also play an important role in the patients' choice of provider.
- MTF portals can also be evaluated and rated by health professionals to enable patients to better determine the quality of information. They should also receive accreditation by international bodies.
- Information about the health provider is a decisive factor while choosing a hospital. MTFs should ensure that they provide correct information about the education, qualification and years of experience along with the registration details of the provider.
- MTFs must ensure information shared by patients on these sites is kept confidential.
- Patients should receive information on the potential risks of a procedure, as well as any risk associated with their travel and stay, before they make a decision to use medical tourism.
- The medical tourist must be informed of relevant health regulations and ethical guidelines in the country where s/he is going for treatment.

Conclusion

E-health is a multidisciplinary field involving many diverse players. Facilitators must be educated about the ethical aspects of patient care, prevented from exploiting patients or clients, and made to respect their privacy and confidentiality. They must be subject to regulation at the international level by an

organisation that has the power to enforce its decisions.

It is equally important to assess consumers' perceptions and educate them on the information displayed on web portals and its implications. Ethical guidelines must also be established and followed if these MTF companies are to build the trust and reliance of patients.

References

1. Rondinelli DA, Heffron JM, editors. *Globalisation and change in Asia*. Boulder CO: Lynne Rienner Publishers; 2007.
2. Chanda R. *Trade in health services*. Working paper No 70. New Delhi: Indian Council for Research in International Economic Relations; 2001 Nov.
3. Horowitz MD, Rosensweig JA. Medical tourism - health care in the global economy. *The Physician Executive*. 2007 Nov-Dec; 33(6):24-6, 28-30.
4. Lunt N, Hardey M, Mannion R. Nip, tuck and click: Medical tourism and the emergence of web-based health information. [Internet]. *Open Med Inform J* [Internet]; 2010[cited 2012 Dec 25] ;4:1-11. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2874214/>
5. Gahlinger P. *The medical tourism travel guide: your complete reference to top-quality, low-cost dental, cosmetic, medical care and surgery overseas*. North Branch, MN: Sunrise River Press; 2008.
6. Shult J. *Beauty from afar: A medical tourist's guide to affordable and quality cosmetic care outside the US*. New York: Stewart, Taboria and Chang; 2006.
7. Gan LL, Frederick JR. Patterns of service differentiation among medical tourism facilitators [abstract]/ Working paper series. Social science research network. [Internet], 2010 Apr [cited 2012 Dec 25]. Available from: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1679511
8. Cormany D, Baloglu S. Medical travel facilitator websites: An exploratory study of web page contents and services offered to the prospective medical tourist. *Tourism management*. 2011 Aug; 32(4):709-16.
9. Horowitz MD, Rosensweig JA, Jones CA. Medical tourism: Globalisation of the healthcare marketplace. *MedGenMed*. 2007;9(4):33.
10. Synder J, Crooks VA, Adams K, Kingsbury P, Johnston R. The 'patient's-physician one step removed: the evolving roles of medical tourism facilitators. *J Med Ethics*. 2011 Sep;37(9):530-4.
11. Mason A, Wright K. Framing medical tourism: An examination of appeal, risk, convalescence, accreditation and interactivity in medical tourism web sites. *J Health Commun*. 2011 Feb;16(2):163-77.
12. Reisman D. *Health tourism social welfare through international trade*. Cheltenham, UK: Edward Elgar; 2010.
13. Crooks V A, Kingsbury P, Snyder J, Johnston R. What is known about the patient's experience of medical tourism? A scoping review. *BMC Health Services Research* [Internet]. 2010[cited 2012 Dec 25]; 10: 266. Available from: <http://www.biomedcentral.com/content/pdf/1472-6963-10-266.pdf>
14. Waeger P. Trade in health services: an analytical framework [Internet]. Kiel (Germany). Advanced Studies in International Economics Policy Research. Kiel Institute for the World Economy; 2008 October [cited 2013 Jan 9]. 34p. (Working Paper no 441). Available from: http://www.ifw-kiel.de/ausbildung/asp/asp-wp/2007/aspwp441_1.pdf
15. Smith RD, Chanda R, Tangcharoensathien V. Trade in health-related services. *Lancet*. 2010 Feb 14;373(9663):593-601.
16. Connell J. Medical tourism: sea, sun, sand and surgery. *Tour Manag*. 2006; 27:1093-100.
17. World Health Organisation. Trade, foreign policy, diplomacy and health [Internet]. Geneva: WHO; [date unknown cited 2012 Dec 25]. Available from: <http://www.who.int/trade/glossary/story021/en/index.html>.
18. Cyber dialogue. Online health information seekers growing twice as fast as online populations [Internet]. Press release, 2000 May 23[cited 2012 Dec 25]. Available from: <http://www.cyberdialogue.com/news/releases/2000/05-23-cch-future.html>.
19. Medical tourism research: The Treatment Abroad Medical Tourism Survey. [Internet]. 2007. [cited November 20, 2010]. Available from: www.treatmentabroad.com/about/medical-tourism-survey/2007
20. Eysenbach G, Yihune G, Lampe K, Cross P, Brickley D. Quality management, certification and rating of health information on the net with MedCERTAIN: using a medPICS/RDF/XML metadata structure for

- implementing ehealth ethics and creating trust globally. *J Med Internet Res*. 2000 Oct-Dec;2(suppl 2):e1.
21. Eysenbach G. Consumer health informatics. *BMJ*. 2000 Jun 24; 320(7251): 1713-6.
 22. Wilson C. Commodification of healthcare in Kerala, South India: Science, consumerism and markets. [PhD. Thesis][Internet]. Sussex: University of Sussex. 2010 Apr[cited 2013 Jan 9];316 p. Available from: <http://sro.sussex.ac.uk/2371>
 23. Terry N. Structural and legal implications of E-health. *J Health Law*. 2000 Autumn; 33(4):605-14.
 24. Dyer KA. Ethical challenges of medicine and health on internet: A review. *J Med Internet Res*. 2001 Apr-Jun;3(2):e23.
 25. Turner L. Quality in health care and globalization of health services: accreditation and regulatory oversight of medical tourism companies. *Int J Qual Healthcare* 2011;23(1):1-7.
 26. Widdows H. Localized past globalized future: towards an effective bioethical framework using examples from population genetics and medical tourism. *Bioethics*. 2011 Feb;25(2):83-91.
 27. McBride S. The ethical and legal complexity of medical tourism: questions of international justice, economic redistribution and health care reform. [MJ Thesis in health law][Internet]. Chicago: Loyola University. 2010 Apr 18[cited 2013 Jan 9]. 34 p. Available from: <http://onlinemj.luc.edu/documents/LongeAdetoro.pdf>
 28. Álvarez M, Chanda R, Smith R. The potential for bi-lateral agreements in medical tourism: A qualitative study of stakeholder perspectives from the UK and India. *Global Health*. 2011 May 3;7:11.
 29. Hazarika I. Medical tourism: its potential impact on the health workforce and health systems in India. *Health Policy Plan*. 2011 May; 25(3):248-51.
 30. Tattara G. Medical tourism and domestic population health [Internet]. Venice: Department of Economics, University of Venice; 2010 Jan [cited 2013 Jan 9]. 18 p. (Working paper no 2). Available from: http://www.unive.it/media/allegato/DIP/Economia/Working_papers/Working_papers_2010/WP_DSE_tattara_02_10.pdf
 31. American Medical Association [Internet]. Chicago: American Medical Association; c1995-2013. New guidelines on medical tourism. [date unknown. cited 2013 Jan 9]; [about 2 screens]. Available from: <http://www.ama-assn.org/ama1/pub/upload/mm/31/medicaltourism.pdf>.
 32. Snyder J, Dharamsi S, Crooks VA. Fly-by medical care: conceptualizing the global and local social responsibilities of medical tourists and physician voluntourists. *Global Health* [Internet]. 2011 Apr 6 [cited 2012 Dec 26]; 7(1):6. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3083338/>

Use of the WOMAC questionnaire in Mumbai and the challenges of translation and cross cultural adaptation

GOGTAY NJ¹, THATTE UM², DASGUPTA B³, DESHPANDE S⁴

¹Additional Professor, Department of Clinical Pharmacology, ²Professor and Head, Department of Clinical Pharmacology, ³Professor, Department of Orthopaedics ⁴Assistant Professor, Department of Clinical Pharmacology, Seth GS Medical College and KEM Hospital, Mumbai 400 012 INDIA Author for correspondence NJ Gogtay e-mail: njgogtay@hotmail.com

Abstract

Patient-reported outcome measures (PROMs) are disease specific questionnaires that are being increasingly used in clinical practice and research. The Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), is a widely used PROM in patients with hip or knee osteoarthritis. A validated WOMAC was used by us, and significant challenges were faced in administering it as several questions did not have a cultural connect. Functionally equivalent items in the Indian context had then to be used to complete the score. With greater emphasis today on the use of patient-reported outcome measures, and with data from multi-centric studies being pooled, cross-cultural adaptation becomes very important if the pooled data are to be really relevant. In India, with several languages being spoken, and a significant proportion of the population being illiterate, the physician and/ or the impartial witness must provide considerable explanation without attempting to influence the response. The key to the effective and correct use of PROMs thus lies not just in translation, but also in a stepwise validation of the questionnaire, and modification in the context of the country where it is used. Scores like WOMAC are often primary efficacy endpoints in clinical trials; are gaining greater importance to support label claims; have ethical implications, and directly impact regulatory decision making and thus, eventually, evidence-based practice.

Introduction

Patient-reported outcome measures (PROMs) are being increasingly used in clinical practice and research. These

are questionnaires that are to be completed by study participants and their use as important tools in clinical research is demonstrated by initiatives such as the Patient-Reported Outcomes Measurement Information System (1) as also the guidance paper by the United States Food and Drug Administration (US FDA) on the use of these measures (2). The Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), a disease-specific questionnaire, is a widely used PROM in patients with hip or knee osteoarthritis (OA) (3, 4). The WOMAC is self administered and multidimensional; it has 24 items grouped into three dimensions: pain (five items), stiffness (two items), and physical function (17 items). The pain subscale includes five questions on the degree of pain experienced with certain positions and activities; the function subscale includes 17 questions on the degree of difficulty experienced while completing activities while the stiffness subscale includes two questions on severity of stiffness. WOMAC produces one aggregate total score and scores for each of the subscales, with a higher score for each subscale indicating a worse condition.

The authors are currently part of a multi-centric study in India that is using the WOMAC as an index of efficacy in a study on osteoarthritis. The English language (United Kingdom) version of the WOMAC is being used, as also the linguistically translated and validated versions in Hindi and Marathi (the two most commonly spoken local languages in Mumbai) (5). In this communication, we present our experiences in using the translated versions of WOMAC in Mumbai.