

GUEST EDITORIAL

SUPPORTING REHABILITATION IN DEVELOPING COUNTRIES

One of the key objectives of the recent World Health Organisation (WHO) Global Disability Action Plan (2014–2021) is to strengthen and extend rehabilitation, habilitation, assistive technology, and community-based rehabilitation (1). Given more than a billion people are estimated to live with some form of disability, 90% of whom live in the low-middle income countries, including an estimated 190 million adults who have “severe disability”, this objective is a daunting task (2). In addition most populations are ageing with an increasing burden of chronic disease which is estimated to account for 66.5% of all years lived with disability in those low-income and middle-income countries (3, 4).

The response to this is patchy. For example, the World Report on Disability quoted research from 4 Southern African countries which found that 45–74% of people did not receive the rehabilitation they needed; 63–83% failed to obtain assistive devices they deemed necessary; and a large majority (77–95%) did not receive needed vocational training (5–8). In the face of this overwhelming need, and the lack of resources, rehabilitation services and trained rehabilitation staff in many low- to middle- income countries, how should the international rehabilitation community respond?

Clearly many different types and levels of response are needed. At the policy level WHO, the World Federation for Neuro-rehabilitation (WFNR) and others have responded: the WFNR with its statement on Neuro-rehabilitation in Developing Countries (9). These both make suggestions for developing policies, but it is not always clear who will be able to do this, and who can marshal sufficient support to ensure that policies are put into effect. At the clinical level, partnerships between clinical departments in high-income countries and their colleagues in lower-middle income countries are important and have the potential for sustainability (10). One such is the teaching partnership between Leeds Teaching Hospitals and the Ministry of Health in Madagascar with close collaboration with the University of Antananarivo. This is administered by the charity Optin, which organizes all the teaching and volunteer support (11). This collaboration has resulted in the formation of the Society of PRM of Madagascar, initially by graduates of the training (Diplôme Universitaire), and now the lead in determining further training needs. Much of the training was given by those from the UK to a curriculum devised to respond to local clinical need.

At the individual level clinical insight can result in innovations supported by research evidence. Many such initiatives will have the ability to contribute to the overall objective, that of improving the lives of those in lower-middle income countries where developmental disabilities, trauma, torture or chronic disease threaten their ability to live their life fully (12). In this issue, Martins and colleagues provide an excellent example of the way in which clinical insight, that moment of

recognition that some everyday object, be it medical equipment, or assistive device, may have other beneficial uses: in this case the humble sphygmomanometer (13). Martins et al. report on the reliability of a measuring tool derived from this widely used piece of equipment, available in many clinical situations. They believe that the measurement tool proposed is likely, after further testing, to be easy to use and make; and it is cheap. It is not dependent on an external source of power and is widely available. In other words it has all the hallmarks of a piece of equipment that can be used in medium- and low-income countries.

Hypertension is now recognised as the leading risk factor for the burden of disease and untreated, or poorly treated hypertension, markedly increases the risk of stroke (14). Wherever hypertension is present in low- middle- income countries, the sphygmomanometer should be around, although it has largely been replaced in many high-income countries. The potential of the sphygmomanometer was recently reported in the *Journal of Rehabilitation Medicine*, showing how a modified sphygmomanometer test could provide an assessment of the strength of the lower limb and trunk muscles in subjects with chronic stroke (15). In hemiplegia, recent studies have indicated that building up of power in the hemiplegic leg is important in leading to significant improvement of function (16, 17). Thus Martins et al. also show the potential for the measurement of needed improvement of muscle power useful in situations where muscle power decline can be retarded by exercise, or recovery of function is hoped for. A more common use of the sphygmomanometer, recognised for some time can be the conversion of the cuff of the sphygmomanometer to a grip meter (18). Of course now many commercial instruments/grip meters are available but the principle of gaining some help in the management of inflammatory arthritis by monitoring the grip strength remains valid. Thus the sphygmomanometer, with minimum cost modifications, appears to have many potential additional applications which may be of use in low- middle-income countries.

WFNR argues that it is imperative for governments, non-governmental organisations, international organisations and other interested partners to work together immediately to co-ordinate the training and education of health professionals throughout developing countries. An important part of such training is to teach the necessity of measurement (simple, quick and reproducible), and the use of more assistive technology (from locally available resources if possible), using the measurement to demonstrate the results of this type of intervention. Audit of the budding services is necessary to show that needed, advocated policies are having good effects on the ground. Resources for modern education and continuing education need to be shared across countries and initiatives such as the Malagasy training may be able to contribute to this; perhaps this small initiative in one country can be reproduced and adapted

elsewhere. No matter how innovative an idea is for better equipment, if the professionals lack appropriate training and education, and the local policy and resource infrastructure are inadequate, even the brightest idea may fail in implementation.

Editors of rehabilitation and associated journals have also a major part to play in this education, and in the introduction of evidence-based practice in lower income countries. However, much current evidence, most NICE guidelines, relate to research done in high-income countries. It is essential that clinicians and researchers in low-resource countries be encouraged to bring forward to publication their ideas and research (which will be highly relevant to their own setting).

As a cadre of competent rehabilitation practitioners become established in low-middle-income countries (supported by peers in high-income countries) new knowledge, and the ability to search for and use evidence for best practice, can be shared with community-based rehabilitation staff in a variety of ways which will not only be face-to-face, but via mobile phone apps and websites (the former being ubiquitous in even low-income countries). Thus if the rehabilitation objectives of the Global Disability Plan are to be met, it will require a sustained effort from all stakeholders, giving all the help they can provide from all relevant sources in low-, medium- and high-income countries to provide the policies and infrastructure necessary to give adequate coverage of services, to encourage and support training and education, to support innovation, and to promote dissemination in all countries. Not a small task to achieve by 2021 but if all share the tasks and their skills, not impossible.

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