

# Physiotherapy Training to Enhance Community-based Rehabilitation Services in Papua New Guinea: An Educational Perspective

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## ABSTRACT

*This paper describes the training of physiotherapists as community based rehabilitation (CBR) team members to assist persons with disabilities living in Papua New Guinea (PNG). At Divine Word University (DWU), PNG, a unique physiotherapy training programme integrates CBR into the curriculum and trains students to analyse and understand the basic needs of individuals with disability, and meet these needs within the scope of national and international policies. Community visits and clinical placements familiarise the students with the true situation of persons with disabilities.*

*The specific outcome of the CBR unit is that students learn how to think critically and address the main issues faced by persons with disabilities and communities in the education, health, social, empowerment and livelihood domains. CBR plays a major role in assisting and promoting basic services for persons with disabilities within the limited resources available in countries like PNG. The authors conclude that equipping physiotherapy students with CBR skills will eventually lead to improvement in service delivery.*

***Key words:** physiotherapists, CBR, communities, developing countries, persons with disabilities*

## INTRODUCTION

Community Based Rehabilitation (CBR) has been gradually adapted in more than 90 countries to build and strengthen the capacities of persons with disabilities (World Health Organisation [WHO], 2011). CBR is recognised as a logical and essential step in the complex health system commonly encountered by persons

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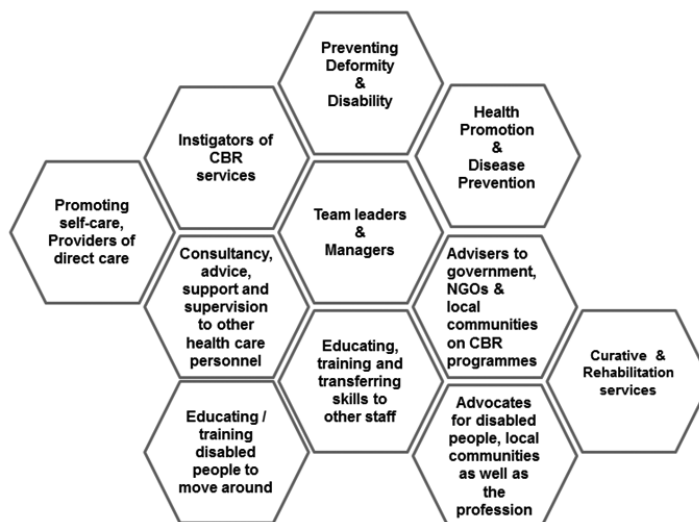
with chronic, developmental, or disabling conditions (Hoeman, 1992). According to Factsheet No 352, less than one billion of the world's population (15%) have some form of disabilities (WHO, 2011). Rehabilitation in community settings is being adapted in developing countries (Thomas and Thomas, 1999) where the primary focus is to provide rehabilitation services to persons with disabilities in rural and remote communities (Twible and Henley, 2000) as well as follow-up clinics, early intervention, geriatric day care and sports medicine (Hoeman, 1992).

CBR is a strategy for rehabilitation, poverty reduction, equalisation of opportunities and to promote the social inclusion of persons with disabilities in their communities (WHO, 2004). In the past CBR was believed to be a medical model where prescriptive, paternalistic and institutionalised approaches dominated service delivery, but recently the focus has changed to the political and social context (Kendall et al, 2000). These authors also noted that community inclusion for people with disabilities highlights the development and maintenance of natural support, assisting social links and encouraging the communities to be involved in activities which enable persons with disabilities to live with maximum support.

The World Health Organisation (WHO) developed CBR Guidelines to provide guidance and support to strengthen CBR programmes, promote CBR strategies, support the stakeholders in improving quality of life measures and empower persons with disabilities, using a matrix of 5 key components consisting of health, education, livelihood, social and empowerment, with each divided into 5 key elements (WHO, 2012a).

### **Physiotherapists' roles in CBR**

A survey on CBR by the World Confederation for Physical Therapy (WCPT) found that physiotherapists played a variety of roles in CBR services (Figure 1). Physiotherapists assist health teams, CBR workers, and community health workers in the delivery of rehabilitation services to people in rural communities. Physiotherapy professional education needs to equip physiotherapists with the appropriate knowledge and skills to work in a variety of settings, as well as promote the value of working (WCPT, 2003).



(WCPT, 2003, Nualnetre, 2009).

**Figure 1: Roles of Physiotherapists in CBR**

## PAPUA NEW GUINEA: A UNIQUE LANDSCAPE

Papua New Guinea is the second largest island in the world, with a total land area of 462,860 sq km consisting mostly of mountains with coastal lowlands and rolling foothills (Central Intelligence Agency, 2012). The country lies in the Pacific rim, situated in the south western Pacific Ocean, 160 km north of Australia and is made up of 600 islands (WHO, 2012c), which were known as Melanesia in the early 19th century. The country is rich in natural resources like cocoa, coffee, palm produce and minerals such as gold, copper and gas. The 2011 census indicated that the population was 7.06 million people, with 87.5% of them living in rural areas (WHO, 2012c). With a growth rate of 2.83%, it is estimated that the population of PNG will reach 10 million by 2030 (National Department of Health, 2010). According to the PNG Tourism Promotion Authority (2006), the population can be divided into 4 ethnic groups: New Guineans (from the north of the main island), Papuans (from the south), Highlanders, and Islanders.

### Prevalence of Disabilities in PNG

The Global Integrity Independent Information on Governance and Corruption (2012) stated that the PNG health sector faces several health problems, including high infant and maternal mortality rates, infectious diseases and shortage of

pharmaceutical supplies. Apart from the main problems, WHO (2011) has not reported on the prevalence of disability in PNG but found that in 2004, 9.4 persons out of every 100 experienced ill-health due to disability. Development Studies Network (2009) reported that disability in PNG is believed to be related to the religio-cosmic environment which is concerned with disobeying taboos, sorcery and spirits. Byford and Veenstra (2004) found that 70% of the people perceived disability to be caused by sorcery, supernatural causes and evil spirits, natural causes like complications during pregnancy and childbirth, genetic mutations, illness and infection, or old age, whereas 30% did not know the cause for their disability. Watters and Dyke (1996) identified trauma such as road traffic accidents, domestic violence, criminal assault, tribal fights and accidents at home and at work such as burns and falls, as causes leading to disabilities, with 25% of these injuries leading to permanent disability that could be avoided. Culverwell and Tapping (2009) found a higher incidence of Congenital Talipes Equino Varus (CTEV) among the children in Wewak, which was related to maternal anaemia and low birthweight, and there was a concern regarding neglected CTEV which results in pain and disability. These disabilities need to be addressed with adequate specialities and facilities; hence there is a great need to increase human resources and infrastructure in the country in order to assist persons with disabilities.

### **National Policies Related to Disability**

The National Health Plan 2011 – 2020 (KRA7: Promoting healthy lifestyle) reported that the government has plans to improve the provision of disability aids/ appliances, physiotherapy and CBR. The component of “Health Vision 2050” stated that the new infrastructure of community health posts would help reduce the gap between the community and formal health services. Its main focus is to ensure that the community knows how to access the appropriate level of care, and improve the necessary skills and knowledge to take responsibility for their own healthy living (National Department of Health, 2010). In 1979, the National Board of Disabled Persons was established by various organisations such as Cheshire homes (now known as Cheshire disAbility Services), Sheltered Workshop, Red Cross Special resource centre, Mount Sion Centre for Blind, and later Callan Services, PNG Rehabilitation Centre to oversee the services provided for persons with disabilities. National Disability Resource & Advocacy Centre, a non-profit organisation was established at DWU in 2006 to coordinate, advocate and create awareness on disability issues. In 2008, the PNG National Policy on Disability was launched, which defines persons with disabilities as “people with

special needs who require special attention, care and support in their families and communities, and encouragement to determine the full potential in life “and refers to “the needs created by the interaction between a person with an impairment and the environmental and attitudinal barriers he/she may face” (Department of Community Development, 2009).

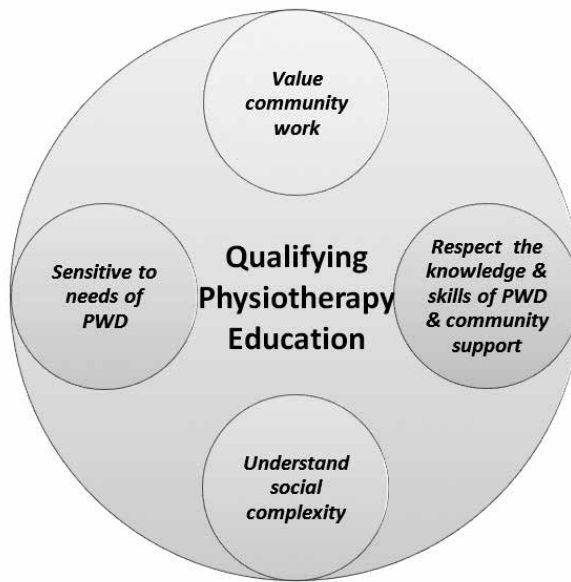
The National Advisory Committee on Disability was established in 2009 to oversee the implementation of the policy and to provide an advisory role to the government (Department of Community Development, 2009). Several recognised governmental organisations such as the Papua New Guinea Assembly of Disabled Persons were registered and recognised by the Government of PNG as the national umbrella for Disabled People’s Organisations in 2008. There are about 39 organisations involved in providing rehabilitation services in PNG, with 2 providing assistance for children and the remaining 37 meant for both adults and children (Shaw, 2004).

## **CBR IN PHYSIOTHERAPY EDUCATION**

CBR in PNG is at its infant level (Shaw, 2004), therefore physiotherapy education can play an important role in promoting active rehabilitation. Nualnetr (2009) pointed out that physiotherapists need a higher degree of flexibility, innovative thinking and a wider range of management, practice, teaching and learning skills to contribute effectively to CBR, by understanding the needs of the individual in a wider population beyond medical interpretation. According to Van den Bergh (2011), there is a requirement to stress the CBR needs in the newly established physiotherapy education in developing countries. They also reported that there is a need to improve the status and strengthen the roles of physiotherapists and CBR at policy, health sector and research levels, and in physiotherapy associations. Physiotherapists provide assessment, evaluation, diagnosis, plan of care and intervention to promote health, enhance movement and function, and to prevent disease (WCPT, 2003). Universities in South Africa, Canada, Israel and Australia have included community practice into their physiotherapy curricula (Twible and Henley, 1993).

Koch-Weser (1987) advocate that every healthcare practitioner should play a major role in the planning and implementation of training programmes. Preparing physiotherapists to work in local communities with persons with disabilities and their families may require changes to the curriculum or development of a more client-centred, community-oriented education programme (Nualnetr, 2009).

WCPT Keynotes (2007) on CBR have recommended that skilled, professionally-trained physical therapists are essential to complement and support the work of CBR personnel. This will help to improve and maintain the quality of services through qualifying physiotherapy education (Figure 2).



**Figure 2: Qualifying Physiotherapy Education, (WCPT, 2007)**

### **Establishment of Physiotherapy Education in PNG**

Originally there were only 2 national physiotherapists who were trained overseas (Brogan, 1982), with a few overseas volunteers and church-run organisations providing physiotherapy services in PNG (Powell, 2001, Ramalingam et al., 2011). To balance the demand, the physiotherapy diploma programme was established in 2003 at Divine Word University (DWU) in the Madang province, and upgraded to a degree course in 2008 (Ramalingam et al., 2011). The training programme was initiated by Callan Services in collaboration with Christoffel-Bilndenmission (now known as CBM), Cordaid, DWU and the National Department of Health. Physiotherapy education in PNG celebrated its 10th anniversary in 2013, whilst countries like Australia have celebrated 100 years of physiotherapy education in 2006 (Chipchase et al, 2006).

The physiotherapy curriculum was designed in accordance with the Policy Statement of Education by WCPT (2011b), which indicates that the curriculum has

to be developed in conjunction with the health and social needs of the country. As 87.5% of the population in PNG live in rural areas (WHO, 2012c), the major focus of the PNG physiotherapy programme was to integrate and enhance the rural health services through CBR to meet the unmet needs of persons with disabilities and to assist in preventing disabilities (Ramalingam et al., 2011). Pronk and Thornton (2009) conducted a study to find how the physiotherapy programme in PNG suited persons with disabilities, and made recommendations for the curriculum review. The diploma programme was reviewed and amendments were made to the curriculum for the implementation of Bachelor of Physiotherapy course in 2008.

### **Training in CBR Skills**

The physiotherapy degree at DWU is a 4-year programme. The first 2 years of study focus on basic medical sciences and physiotherapy units, along with clinical orientation and placements. In the third year, CBR is introduced as a core unit to address the needs of persons with disabilities in the communities. According to the Programme Specification Document of the Bachelor of Physiotherapy Degree, the learning outcomes are:

*“Understand the scope, principle and strategies in CBR; Conduct a holistic needs assessment/situational analysis in the community/village in all its aspects and make an appropriate rehabilitation plan; Conduct disability awareness in the community; Adapt various rehabilitation techniques to suit the village/community setting; Make aids and equipment out of locally available resources to support the rehabilitation process; Rehabilitate and evaluate patients’ progress effectively in the village/community setting”.*

Theory sessions are coupled with practical and field visits where the methods designed to facilitate CBR for the physiotherapy students are prepared for the clinical placement.

For the field visits, students are grouped under a CBR worker (from a disability support group organisation – Creative Self Help Centre (CSHC), Madang) and a physiotherapy lecturer. Their assignment is to use the theoretical knowledge to evaluate clients and provide recommendations regarding their real-life situations in education, health, social, empowerment and livelihood domains. As the PNG physiotherapy education programme is conducted only in Madang province, they work with the communities living in and around the area. During evaluation the

focus is also on the social and environmental context of persons with disabilities and their roles in the communities, since the landscape varies from coral reefs to mangrove swamps, tropical rain forests, mountain ranges, and extensive river systems where houses are raised to levels high above the ground. The placement goals include the use of therapeutic measures to assist in the physical and living conditions, the use of locally available resources like bush materials as described in Werner (1999), the use of appropriate paper chair technology and wheelchair prescription. After the evaluation, students are given time to reflect on the assessment methods and to plan an appropriate intervention based on the client situation using the WHO International Classification of Functioning, Disability and Health which includes the impairment, activity limitations and participation restrictions (WHO, 2012b). In addition, students create awareness among the communities about the condition of persons with disabilities and their problems. Follow-up is done by the CBR workers.

Students are then asked to present a written report which is evaluated by the unit coordinator or the lecturer coordinating the visit, as well as by the CBR worker from the CSHC. The lecturer critically appraises and facilitates the students' learning process at each and every stage of the assessment process. The students' ability to analyse, interpret and decide on the particular client's condition is evaluated. Feedback regarding the evaluation process is discussed at every level of training, which assisted the students' thought process. The university standard marking criteria is followed. Both the lecturer and the CBR worker provide feedback to the students. The students were taken again to the community and allowed to make a presentation to the village community about the challenges the client faced in the communities and environment. These presentations are also evaluated as per the standard marking criteria, such as appropriate evaluation of the client problems, language (both regional and medium of instruction for the course) of the presentations, appropriate goals and treatment measures, and advice given as well as the steps taken to develop awareness on both the profession and the empowerment of the client. These presentations help persons with disabilities to be active members in their communities. Campaigns like this, which spread health awareness to families as well as the neighbouring communities, promote understanding and management of the conditions, and are preventive as well. These events are scheduled during the semester.

Training in specialised techniques like Ponsetti method for the management of CTEV, celebrating National and International Disability Day, and World



Physiotherapy Day helps to spread awareness, which in turn enables people with disabilities to improve their status in their communities. Education and training of health professionals involves service to the community and, for training to be relevant to existing health needs, students should be exposed to real-life situations rather than within the walls of academic institutions (Koch-Weser, 1987; Futter, 2003).

### **Impact on students**

The implementation of the CBR unit in the physiotherapy education programme provided students the opportunity to learn about the health component as well as about inclusive development as a holistic approach for the individuals with disabilities. Domiciliary visits along with community visits enhanced understanding of the goals of CBR. The students also acquired behavioural management skills related to community engagement and were able to observe their own personal growth. Advances in their thought process enabled them to employ creative innovations in managing situations with limited resources. Community placements also enhance and allow better understanding of varied lifestyles and living conditions, and the social, cultural, economic, political and ecological factors that influence the health of individuals (Moore, 1999; Futter, 2003).

### **Impact on Communities**

CBR learning experiences enhance the students' abilities to initiate and manage programmes, provide advice to persons with disabilities, families, communities and other Disabled People's organisations. This mode of teaching and learning in physiotherapy education helps in the implementation of the key elements of the WHO-CBR Matrix (health promotion, prevention, medical care, rehabilitation and assistive devices), which enables persons with disabilities to maximise their physical, social and mental abilities and become active members in the communities (WCPT, 2011a). Changes in the lives of persons with disabilities can be achieved by providing health support and also by educating them to empower and support themselves.

### **Building Human Resources**

Since the inception of the physiotherapy training programme at DWU, 81 nationally-trained physiotherapy graduates have been qualified. Of these, 23

physiotherapists were employed by the hospitals, private organisations and in an academic role for tutoring in DWU. Provincial hospitals in PNG have an established physiotherapy department where physiotherapists and physiotherapy technicians are now available to render services. Recently, in 2012, the PNG Physiotherapy Association Incorporated was launched in order to support the physiotherapy profession, increase recognition of the role of physiotherapy and provide advocacy for professional primary contact status.

## **CONCLUSION**

Though CBR was in practice in PNG, for several years disability was found to be a significant issue with majority of the clients residing in rural areas where access to basic health services is lacking. Lack of awareness about physiotherapy services remains a major concern. Therefore, physiotherapy education can assist in the implementation of the World Health Organisation-CBR guidelines by improving the physical and mental abilities of persons with disabilities, and helping them to avail of resources and become active members of their communities. Their lives can be transformed with the assistance of health support, and also by educating them to empower and support themselves. Ideally, more inclusive education would enable people and children with disability to access services and would promote the rights-based mainstream amongst communities as well as support community-based organisations and strengthen CBR.

The implementation of CBR in physiotherapy education and an increase in the number of physiotherapists in rural communities would assist in promoting understanding and interpretation of individual needs. Although there is a lack of manpower to cater to the growing physiotherapy needs in PNG's rural population, the physiotherapy training programme is helping to provide services in hospitals as well as in rural settings. It is a two-way learning process for the students: first, to understand their own communities, and next to offer their services as physiotherapists. This form of education is expected to strengthen the rehabilitation services in rural communities.

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