**PHYSIOTHERAPY: THE BEST COLLABORATIVE OPTION FOR SOLVING THE 21ST CENTURY GLOBAL HEALTH PROBLEMS**

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**Introduction**

Health is everywhere. There is no doubt that preservation of health is without doubt the first good and the foundation of all the other goods of life. The territory of health has expanded into an increasing array of personal, social and political spaces in recent times. The environment for health is changing and we make health decisions at all points of our everyday life: when we decide what to eat or what to drink, whether to take stairs or elevator and whether we trek/walk or take a car. Therefore, discussing the state of health in this 21st century is not dissimilar to discussing the state of the environment. Also, health is the final common pathway, contingent on the good functioning of many other processes and sectors. This is because health is a state of complete physical, mental and social well-being (which is essential for leading a productive life), and it is not merely the absence of disease or infirmity (WHO, 2008). The right to the highest attainable level of health is enshrined in the charter of the World Health Organization (WHO, 2002) and many international treaties. Global health emphasizes transnational health issues, determinants and solutions which involves many disciplines within and beyond the health sciences and promotes interdisciplinary collaboration for better outcomes.

**What are the 21st century global health problems?**

The past century had witnessed remarkable gains in health, rapid economic growth, and unprecedented scientific advances. These advances have led to major improvements in health care in which millions of lives are protected than ever before (WHO, 2007). However, these transformations are unmatched in history. Yet, in spite of this optimistic outlook, the international community today faces challenging health problems which remain to be solved. Despite the progress made in the past, the issues and actors in global health today are myriad and complex. This is shaped by the potent forces of globalization, demographic changes and emergence of communicable and non-communicable diseases. Therefore, the global health problems today have never been more demanding or pressing (Global Health Workforce Alliance, 2008). Contrary to popular opinion, non communicable diseases (NCDs) are the leading global causes of death, causing more deaths than all other causes combined, and they strike hardest at the world’s low and middle income populations. These diseases have reached epidemic proportions, yet they could be signiﬁcantly reduced, with millions of lives saved and untold suffering avoided, through reduction of their risk factors, early detection and timely treatments. A large percentage of NCDs are preventable through the reduction of their four main behavioural risk factors: tobacco use, physical inactivity, harmful use of alcohol and unhealthy diet which can lead to elevated blood pressure, raised blood glucose and cholesterol levels, and excess body weight (Wild & Gong, 2010). The Global Strategy for the Prevention and Control of cardiovascular diseases, cancers, diabetes and chronic lung diseases, which are responsible for the majority of deaths caused by NCDs is to address the aforementioned behavioural risk factors. Although, health problems like gastrointestinal diseases, renal diseases, and neurological and mental health disorders account for a substantial portion of the 21st century global burden of disease. However, malnutrition, obstetrical complications/neonatal disease, trauma as well as infectious diseases are also serious pressing by potent forces of globalization (World Health Organization, 2010). Poor diet and physical inactivity cause significant number of deaths per year and are major contributors to disabilities that result from diabetes, osteoporosis, obesity, coronary heart disease and stroke. Obesity leads to numerous health problems, including hypertension, dyslipidemia, type 2 diabetes, coronary heart disease, stroke, gall bladder disease, osteoarthritis, sleep apnea, respiratory problems, and some cancers (e.g., endometrial, breast, prostate, and colon cancers). Because obesity is a risk factor for several chronic diseases, the economic and social consequences of this obesity epidemic could be overwhelming especially in underdeveloped and developing countries (World Health Organization, 2009).

**What collaborative options are available for solving the global health problems?**

Working as a team in a health care setting has several benefits to global health, not only for the patients but also for the individual health professionals and the health care provider. Collaborative teamwork is seen as an innovative strategy that will play an important role in mitigating the global health workforce crisis. Today collaborative teamwork is no longer an option but a basic pre-requisite for effective medical practice and quality care. The drive for collaborative practice is reinforced further in the World Health Organisation Annual Report (2008) that notes the importance of collaborative teamwork. This collaboration occurs when multiple health workers from different professional backgrounds work together in a team, problem solving, coordinating care, learning together, and networking with communities, as they deliver quality care to patients and families. It is important to realize that each team member contributes his or her expertise to the team and, in sum, the patient/client as a whole person – that is, not just the medical diagnosis or disability in isolation – is considered. Although in multidisciplinary teams’ assessment, findings and goals are specific to the individual discipline. Timely preventative care is critical to management of chronic diseases, like diabetes. By acting sooner to manage chronic conditions, we can reduce the number of unnecessary hospital visits and improve the quality of life for patients (Government of Ontario, 2012). Also, early detection and intervention, the leading health priorities in the 21st century, may avert the potentially life-threatening lifestyle conditions such as obesity and other metabolic diseases. However, the main approaches of solving the global health problems are through preventive, curative and rehabilitative phases. Nevertheless, members of medical team among others include Psychiatrists, Paediatricians, Geriatricians, Ophthalmologists, Neurosurgeons, Orthopaedic surgeons, Anaesthetist, Cardiologist, Ophthalmologist, Gynaecologist, Obstetrician, Orthotists, Physiotherapists, Prosthetists, Psychologists, Occupational therapist, Pathologist, Radiologist, Pharmacists, Dentists, Optometrists, Nursing/midwivery professionals, Dieticians and nutritionists, Audiologists and speech therapists (Barr & Ross, 2009).

**What is physiotherapy?**

Physiotherapy is a health care profession with an emphasis on the judicious use of physical means such as manual therapy, therapeutic exercise, electrotherapy, hydrotherapy and rehabilitative approaches to prevent, restore, maintain and improve cardiorespiratory, neuromuscular and musculoskeletal systems of the body. It is a unique practical and theoretical health profession. However, it is based on an integrated understanding, knowledge and experience of the normal development of human movement and how this is influenced by physical, emotional, social, environmental and community relationships, as well as by disease and injury. The inclusion of a health focus into physical therapy practice in this century is both timely and evidence informed. This focus legitimizes health and well-being as physical therapy priorities, irrespective of a practitioner’s specialty or practice setting (World Confederation for Physical Therapy, 2011). In turn, physiotherapy health-focused practice alerts other health care professionals and the public to the profession’s commitment to this fundamental value and formally establishes common ground with other professionals committed to the health and well-being of the people in the world (Taylor, 2002). The scope of current physiotherapy practice is enormous – ranging from frontline triage in the armed forces, physiotherapy diagnoses, first-contact practice, intra-articular injections, to name a few. However, there is no doubt that today’s physiotherapy graduates are better educated, more versatile and better equipped to maximize opportunities. They also have the capacity to demonstrate that physiotherapy not only can be effective but also cost-effective (American Physical Therapy Association, 2001). While the basic purpose of physiotherapy profession has not changed, simply put, to habilitate or rehabilitate individuals to their fullest potential, the education, scope and manner of practice have been vastly changed. These changes have made physiotherapy a far more exciting and demanding profession, with a diversity of career options. These changes however, also imply a greater responsibility. The service of physiotherapy is unique and essential, and with proven efficacy. Physical therapy involves the interaction between the physical therapist, patients/clients, other health professionals, families, care givers and communities in a process where movement potential is assessed and goals are agreed upon, using knowledge and skills unique to physical therapists.

**What are the roles of physiotherapy in global health delivery process?**

Sincerely speaking, some health care professions have adopted a more administrative role but physical therapy profession is, at its heart, a hands-on, caring profession and should never lose sight of that core. Numerous other disciplines and professions are reaching out for a piece of the rehabilitation pie and physical therapy is the first among many, not just one of the many (Walker, 2002). This is because physiotherapy practice is holistic and with a scientific basis. However, day-to-day physiotherapy practice in the 21st century is infinitely more challenging and contains more inherent dangers and responsibilities. Therefore, the role of the physiotherapist is broad and ranges from the care of the critically ill patient e.g. intensive respiratory care/acute post operative care to the care of those conditions with long-term on-going progressive problems such as chronic obstructive pulmonary disease, multiple sclerosis, cerebral palsy, cerebrovascular accident, parkinson’s disease; musculoskeletal disorders such as arthritis; cardiac and respiratory rehabilitation; children’s disabilities; cancer; women’s health; continence; mental health; falls prevention among others. The physiotherapist facilitates optimum functional independence, health and well-being and thus embraces the concepts of health and social gains. As Jette (2012) noted in his recent McMillan lecture, physiotherapy unlike any other profession focuses on establishing what “works”, rather than proving that is effective. Physiotherapists as clinicians need to continue “not just talk the talk but to walk the walk” (Walker, 2002).

Recently, anthropometric measures for example constitute the new vital signs of the 21st century that warrant being assessment priorities if the tide of obesity is to be turned (Campbell, 2003). Body mass index (BMI) below 18.5 and over 24.9 is associated with health risk—the latter with ischemic heart disease and other systemic conditions. Waist girth is comparable to BMI as an indicator of risk, and waist-to-hip ratio is superior to either of these (Yusuf, Hawken, Ounpuu, Bautista, Grazias, Commerford&Anand, 2005). Body weight, height, and waist and hip measures are fundamental to the physical therapy assessment in the 21st century and warrant being recorded based on standardized valid procedures. For most people, at least those seen by the physical therapist for the first time, a comprehensive risk factor assessment of lifestyle conditions is warranted. The aim of risk factor reduction interventions is to shift the individual to the lowest risk severity category as possible. Lifestyle modification interventions based on education, including advice and recommendations for smoking cessation, basic optimal nutrition, weight control, regular physical activity and exercise, stress management, and sleep hygiene may be common to a number of conditions for which the patient is at risk. The effect size of the change required for general health benefit or risk factor reduction, however, varies for different conditions. The lower the risk category achieved, the better (Helewa& Walker, 2000).

Based on sound clinical reasoning, the physical therapist can prioritize the individual’s concerns to help reduce the most serious of the risks in a sequential or concurrent manner, depending on the person’s individual presentation and needs, or reverse or mitigate manifestations of lifestyle conditions. In addition, the patient may have come to the physical therapist with a problem not directly related to one of the primary lifestyle conditions (e.g., low back pain). Thus, risk factor modification and reduction needs to be instituted concurrently with management of the presenting problem, in this case an orthopedic complaint. Risk of lifestyle conditions related to obesity, for example, necessitates a nutritional plan coupled with increased regular physical activity and structured exercise program. Although the physical therapist may prescribe treatment directed at symptomatic relief of the low back pain, this problem may be influenced or eliminated by weight reduction (Bener, Alwash, Gaber, and Lovasz, 2003; Liuke, Solovieva, Lamminen, Luoma, Leino-Arjas, Luukkonen&Riihima-ki, 2005). Many medical problems may be remediated long term if the causes or contributing factors (e.g., obesity and sedentary lifestyle) are addressed before irreversible injury, refractory to management, ensues or surgery is indicated. For example, two thirds of patients requiring knee and joint replacements are overweight. Reducing obesity may avert the need for joint replacement, reduce complications, improve postsurgical outcome, and reduce need of repeat surgery (European Region World Confederation for Physical Therapy, 2010).

Furthermore, manipulation and exercise are directed at correcting impairments and enhancing the patient’s capacity for activity and participation. Outcomes related to improving abilities and participation include self-care, home management, return to work, and resumption of avocational activities. Return to work is often related to oxygen transport capacity in terms of cardiovascular/respiratory endurance and peripheral muscle strength. Exercise is advocated preventively to avoid the deleterious effects of restricted mobility and to provide optimal systemic health (Centers for Disease Control and Prevention, 2001). Within a health model, physical activity and exercise are prescribed by physiotherapists to optimize health and to reduce health risks (Copeland, 2012). Knowledge is emerging that provides a basis for the prescription parameters for physical activity and exercise to optimize vascular and endocrine health as well as other health benefits, and the requisite change that is needed to predict a given health risk change (Dean, 2006).

**Why is physiotherapy the best collaborative option?**

Physiotherapists believe that movement is a hallmark of sound health and wellbeing and is dependent upon the integrated and coordinated functions of the human body at a number of levels. Therefore, physical therapy is usually directed towards the movement needs and potential of individuals and populations. ‘’If we could give every individual the right amount of nourishment and exercise, not too little and not too much, we would have found the safest way to health’’. – Hippocrates. This is beginning to change as evidence indicates that Hippocrates was right 2,000 years ago: increased focus on prevention can result in a healthier population, and cost savings as well. The shift from dealing with “patients” to interacting with people (before they actually become patients) is a trend that is just beginning to emerge (Beaglehole et al, 2004). As we can gather from the aging population trend, most of us are aging more gradually than we once did. Spending on diagnostic testing has increased across the board and has given rise to earlier intervention and less expensive treatments. This shift from seeing people as patients to seeing people as consumers are significant and not without consequences. Evidence-based physical therapy practiced within the context of epidemiological indicators (i.e., evidence-informed practice) maximally empowers clinicians to promote lifelong health in every person and in turn, the health of communities (Dean, 2009).

While physiotherapy is recognized as playing a vital role in the prevention of emergence of health problem and promotion of well-being, her roles in the curative and rehabilitative approaches toward solving global health problems can never ever be over emphasized. Also,there is evidence that some employers are recognizing this, and are offering on-site physiotherapists (Ergoworks, n.d) in their workplace. This is potentially an important area for growth in the field. Physiotherapists can earn a greater place of prominence and increased respect in the eyes of the public and the Primary Health Care Team by giving healthy people tools to use for self-monitoring, and by encouraging the patient/ consumer to take responsibility for their own health in a proactive manner: to educate, inform and promote healthy habits, such as staying mobile, in their everyday lives. Physical therapists exercise their unique professional judgement to reach a diagnosis that will direct their physical therapy interventions/treatment, habilitation and rehabilitation of patients/clients/populations (Fisher et al., 2012). The role of the physiotherapist in solving global health problems can be further understood through the wide range of medical conditions and patient/client groups treated. Physiotherapists play an undisputable role in the following medical conditions:

There are varying degrees of physical, motor and sensory dysfunction resulting from neurological impairment such as cerebro-vascular accident, Parkinsonism, multiple sclerosis (motor neuron disease), head injury, spinal cord lesion, peripheral neuropathy, post-polio syndrome and so on.

Orthopaedic conditions can present with muscle imbalance, wasting, power deficit, gait problems, poor balance and poor performance in activities of daily living. Included in this group are fracture, joint replacement, soft tissue injury, repetitive strain injury, amputation and other orthopaedic problems notably arthritisin which pain and stiffness of the joints are the main symptoms of the disease. It can affect any age group. It is particularly common in the elderly. The main symptoms include decreased mobility and loss of function. The effects of the various arthritic diseases vary in nature from mild to severe disability. Included in this group is osteoarthritis, rheumatoid arthritis, gouty arthritis, osteoporosis among others.

Mechanical disorders of the spine may result in pain, loss of normal range of motion, neurological impairment and postural abnormalities. Conditions may be acute or chronic. For example, degenerative disease or mechanical problems due to: spondylosis, facet joint dysfunction, disc prolapsed, increased spinal curvature (scoliosis/kyphosis) or soft tissue injury.

Respiratory disorders may present as acute or chronic lung dysfunction which may result in dyspnoea (shortness of breath), increased sputum production, loss of vital capacity and decreased exercise tolerance. Included in this group are pneumonia and other respiratory tract infections, chronic obstructive pulmonary disease, cystic fibrosis, pre and post-operative patients and other chest conditions.

Genito-urinary problems may result in varying degrees of urinary and/or faecal incontinence. This includes stress incontinence, urge incontinence, mixed incontinence and faecal incontinence.

Other Areas of physiotherapy involvement include cardiology, metabolic diseases, peripheral vascular disease, burns, obstetrics and gynecology, paediatrics, non-specific mobility problems and stress management. However, patient/client groups seen by physiotherapists are geriatrics, adults with motor/sensory needs, paediatric, the terminally ill, carers, psychiatric and others. Other areas of involvement include health promotion, women's health, mobility, appliances and so on. In relation to some of the above, the physiotherapist may help in preventing hospital admission or facilitate early discharge from hospital.

Therefore, physiotherapists see patients/clients ranging from paediatrics to geriatrics in almost every other medical unit in most hospitals and work mutually with most other medical professionals. This is because movement is hallmark of life and is affected by internal and external factors. Therefore, all these roles and many others make physiotherapy a unique profession and the best collaborative option in solving the global health problems.

**What are the dos and don’ts of an intern-physiotherapist?**

Professional Relationships Registrants must

a. obey all lawful directives of his employers.

b. disobey all directives considered unlawful whether from a professional point of view or otherwise.

c. give genuine advice on all professional issues from time to time.

d. refuse to train or give instructions to anybody or group who is not a member of Medical Rehabilitation Therapist Board except for students of Board’s accredited institutions.

e. maintain an exemplary life style i.e. must not be involved in an infamous conduct and must be well dressed in and out of office.

f. must comply with the dress codes issued by the Board [MRTB] while on duty or classrooms, seminar rooms, examination rooms or generally in a hospital’s environment.

The dress codes are as follows: The white over-all shall be the standard dress code for both sexes and shall be worn upon:

a. shirts and ties on pair of trousers for males.

b. smart tops e.g blouses on below-the-knee but above-the-ankle long skirts for female. c. smart gowns for females

d. smart tops e.g blouses or shirts on female-styled trousers.

g. not demand gifts, favours or hospitality from a patient, or relatives of a patient who is to be or who has been in his care as a condition for service.

h. not take alcohol, pollutants or tobacco or be under the influence of narcotic drugs when on duty or likely to be called on duty.

i. not abuse any privileged relationship with the patient or a privilege access to his properties.

j. have due regard for the customs values and religious belief of the patient.

k. comply with the laws of the country, state and local council where he works.

L. notify the board of any changes in his registration particulars within a reasonable time to enable the Board effect any necessary changes therein.

m. registrant may enlist to work at clinic owned by a Medical Rehabilitation Therapist and Non- medical Rehabilitation Therapist provided that such a Registrant: [i] shall be adequately involved in policy-making and management and [ii] the clinic is constructed and equipped to ensure high quality patient care.

**Conclusion and the way forward**

After the induction, what next?

Internship for graduates of physiotherapy in Nigeria involves compulsory 12 months of supervised clinical work and starts only after induction by the Board. The induction marks the beginning of your new self which signifies the new you in the profession. The new you requires you to re-package yourself to face the challenges of your profession- physiotherapy. What you learnt in your training in the university and your new discoveries thereafter are to be put into practice during your internship as a prelude to your full integration into the labour market of your profession. Your internship period is a testing practice exercise when you are expected to exhibit your intelligence, morality, confidence, authority, practicality and other professional attributes that will expose you as a guru in the profession.

The way forward is to be yourself by being objective in searching more and researching into your professional subject matter and allied disciplines in order to develop and equip yourself to operate effectively and efficiently in all aspects of physiotherapy. Interns are advised in their own interest to limit their time outs and use the internship year to put into practice all they learnt in school and improve on their hands on clinical skills. They should endeavour to master the use of most diagnostic equipment they will encounter during the course of their internship. Interns should note that money pursuit during internship should not take over their main interest. They should establish a very good rapport with their colleagues and other allied professionals in their medical team of operation.

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