Issues of Disability Assessment in War Zones

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Introduction

Armed conflict and civil strife are widespread, affecting over 40 countries world wide in the past decade, according to the International Committee of the Red Cross. The majority of these conflicts are in poorer countries, and the principal victims are from poor families: those who cannot flee, and are therefore at greater risk of death and injury, and are less able to access rehabilitation services (Rehabilitation International/UNICEF 1991). In 1990, it was estimated that 22 million people had died in 150 armed conflicts since the end of World War II (UNICEF 1986). UNICEF also notes that for every child killed by war three more are seriously or permanently disabled, resulting in 4 million children physically disabled and 10 million psychologically traumatized by war during the 1980's alone (UNICEF 1991). Evidence from Afghanistan showed that incidence of disability nearly doubled among children living in zones of armed conflict (UNICEF 1990). Despite the great numbers and drastic situation, little data is available regarding the extent of rehabilitation needs. Reasons cited for this include the lack of time and energy for information collection during the chaos of war, barriers imposed upon personnel which forbid travel to remote locations where civilians are under attack, and the low priority placed upon concerns of disabled individuals, especially women and children (Rehabilitation International/UNICEF 1991). In ongoing war, epidemiologists face the special problems of continuous change where long term planning is virtually impossible, of military sensitivities impeding data collection, and of necessary compromise with respect to scientific rigour (Armenian 1989). At its worst, epidemiologists face manipulation of their data for military purposes.

The purpose of this paper is to discuss issues related to assessment of motor disablement in war torn countries and areas of armed conflict.

Initially, we discuss definitions of disablement based on differing socio-political perspectives, their influence on the development of measurement instruments, and the resulting implications for development of rehabilitation services. Secondly, we present the problems of disablement in war and the purpose of measurement at this time. Finally, we introduce some new concepts for development of disablement measures which have particular applicability in war zones, with the inherent need to maximize the efficient use of scarce resources.

Definitions and Perspectives in Disablement Measurement

Although there is considerable controversy over the appropriate meaning of disablement (Fougeyrollas 1992), the World Health Organization definitions provide a convenient starting point (WHO 1980). An impairment is a disturbance within an organ system and is defined as "loss or abnormality of psychological, physiological and anatomical structure or function". In contrast, a disability is "any restriction or lack of ability (resulting from an impairment) to perform an activity in a manner or within the range considered normal for a human being". Disabilities may be hidden or overt, temporary or permanent, and progressive or static. Finally, handicap is "a disadvantage for a given individual, resulting from an impairment or disability, that limits or prevents the fulfillment of a role that is normal (depending on sex, social and cultural factors for that individual)". Since social roles are perceived and influenced by society, treatment of handicap requires social action in a broad sense (Chapireau 1992). Handicap is also influenced by environmental factors and by individuals' life habits, or psychological responses to the impairment or disability, particularly in response to the expectations of others (Bickenbach 1993; Fougeyrollas 1992). These definitional distinctions are important in disablement measurement and in the formulation of effective programme plans since they relate to prevailing socio-political attitudes towards persons with disabilities. It is also our contention that how disablement measures are constructed, applied, and interpreted can have major consequences. Historically, measurement of disablement has corresponded to prevailing conceptual developments in the disability field. (Kidd/Yoshida 1995) (Table 1)

Table 1: Traditional Disablement Measurement

Disability Perspective	Biomedical	Economic	Socio-Environmental
Primary Problem Location	Impairment Level	Disability Level	Handicap Level
Intervention	Clinical	Behavioural	Community
Action Orientation	Usual Plan →	Of Action & →	Resources →

Traditionally, disablement was defined from a biomedical perspective which emphasized the diagnosis, and causes, of impairment and which led to interventions such as medical and surgical services which dealt with the resulting physical problems. Measurement from this perspective focused on correctly identifying the biomedical problem and its causes in order to determine appropriate actions by clinicians and to allow prognosis of a return to normalcy. When used by itself, however, the biomedical perspective led to a charity model ("Nothing else can be done ... ") when these interventions were not successful in alleviating all of the person's problems. Disablement has also been defined from an economic perspective which emphasized the cost of disability to society and to the disabled person's sense of self worth. Measurement from the economic perspective has focused on accurately identifying a person's abilities and problems in order to assess eligibility for public services and to assess personal progress. This approach emphasized personal adaptation and technology solutions, and led to victim blaming ("It's your fault, you are not trying hard enough") when these interventions were not successful in alleviating other problems. Currently, disablement has been defined from a socio-environmental perspective which emphasizes the influence of physical, economic, social, and attitudinal constraints to participation of persons with disabilities in society. This approach emphasizes the interaction between handicaps and environmental problems, which leads to interventions directed at community barriers to integration. Measurement from the socio-environmental perspective focuses on identifying community-level social and environmental barriers, with the assumption that they potentially affect all persons with disabilities. If used by itself, however, this perspective can lead to untenable social change programmes which either are not affordable, fail to recognize cultural differences, or do not benefit those persons with more severe problems.

In the rare situations in which these diverse perspectives have been combined to produce more holistic measures, they invariably have a bias

towards the biomedical and economic perspectives. Instruments usually begin with the collection of information related to the person's individual demographic, diagnostic, and impairment characteristics. The instruments then assess limitations in physical functions and disabilities. Finally, the instrument may assess the person's handicaps, or ability to function in the community, but usually without focusing on environmental barriers to social participation. This bias in the sequence of information collection is usually followed in the analysis as well, so that interventions based on the biomedical and economic perspectives, such as clinical treatment, adaptation, and technology, are prescribed first. Interventions based on the socio-environmental perspective are addressed only later, if at all. Limited resources are often channelled principally into medical and rehabilitation programmes with little remaining for community and environmental interventions. Measurement with this traditional approach often results in large amounts of unusable data about the person's impairments and disabilities which cannot be feasibly translated into effective programme recommendations, since there are also significant socio-environmental barriers to the achievement of the individual's goals. Additionally, especially for those with chronic problems, impairments and disabilities may be quite fixed, with few clinical or adaptive interventions being useful. This predicament results in little change for the individual from the assessment process. Persons with disabilities have argued that the consequences of these measurement practices have been detrimental to them. They are often required to go through extensive assessment, clinical programmes, and behavioural procedures designed to address impairment and disability problems which they feel do not address their major concerns in living in communities. Some slow progress has been made through political advocacy to redress these situations. However, the situation of disablement measurement in areas of armed conflict does not appear to have changed, probably due to the general disenfranchisement of civilians in war.

War and Disablement Problems

During armed conflicts, motor disabilities in communities are more extensive, and include a greater variety of problems in comparison to stable times. Impairments, disabilities, and handicaps also vary during different stages of a conflict – from instability to open battle to reconstruction.

1. Impairments incurred during conflict may include peripheral nerve injuries caused by bullet and/or shrapnel wounds; hand, foot, facial injuries, and blindness caused by explosions or torture; and head, chest, and orthopaedic injuries caused by explosions or collapse of buildings. After hostilities cease, civilians may continue to suffer impairments, such as amputations and blindness caused by landmines. These impairment problems result in needs for specific clinical programmes such as surgery and prosthetics.
2. Disabilities which can occur during conflict may initially include being weak, unable to see, and unable to protect oneself during armed attack. At later stages, being unable to rapidly respond to curfew, and being unable to look after basic hygiene and self care may become problems. These problems result in needs for specific rehabilitation programmes such as muscle strengthening, mobility training, vocational retraining, and provision of adaptive devices.
3. Handicaps which are experienced during times of active conflict often include being unable to safely earn a living. In post-conflict situations, one may also be stigmatized as a disabled veteran. These problems result in needs for specific community based programmes such as public education, income generation projects, accessibility modifications, and peer support programmes.

The Purpose of Disablement Measurement in War Zones

The objectives of health and disability measurement in less developed, war torn countries differ from those in developed and politically stable countries. For example, measurements of disability in the latter are generally needed for diverse purposes such as determining compensation, predicting prognosis, planning placement, estimating care requirements, choosing types of specific care, and indicating changes in functional status (Feinstein et al. 1986). Many of these purposes are related to the biomedical and economic perspectives previously discussed. Needless to say, in developing countries and war-torn countries in particular, data collection for the sake of pure research or esoteric planning is not an efficient use of limited resources. In most war-affected and developing countries there are no census data available, nor do credible health information systems exist. The primary purpose of measuring disablement in war and conflict zones should be to plan immediate institutional and Community Based Rehabilitation (CBR) programmes which can

alleviate human suffering and the disruption of routine activities caused by physical injuries.

CBR is:

> a strategy within community development for the rehabilitation, equalization of opportunities and social integration of all people with disabilities. (ILO/UNESCO/WHO 1994)

Community based programmes will not be effective in war zones unless conflict related issues are considered in the planning process. How can we be assured of measuring the right aspect of disablement? Instruments for measurement of motor problems in war zones should be carefully constructed, applied, and interpreted to give optimum information for realistic decision making. To do this, we need to re-visit the basic concepts of disablement from a new perspective.

Reconceptualizing the Measurement of Disablement

Reliability, validity, and conceptual clarity have been identified as major problems with most functional capacity measures. McDowell and Newell (1987) have reported that most functional scales are not built on any conceptual approach to disability, and that scant attention has been paid to formal methods for standardization. There are several conceptual clarifications which are needed in the development of disablement measures. Traditionally, impairment scales have been used to address physical capacities, such as strength, balance, sensory abilities, and range of motion. Similarly, disability scales have been used to address gross physical movement, self care, and technology needs, whereas handicap measures have addressed the fulfillment of social roles, working abilities, and household activities. Thus, measurement of disablement concepts generally follow the WHO definitions provided earlier. However, these measures are often applied indiscriminately, are used to collect large amounts of information which is wasted, and do not incorporate an adequate assessment of the environmental context, which is of major importance in both developing countries and areas of war.

The concept of Activities of Daily Living (ADL) has also been utilized in disablement measurement. ADL includes a person's capacity for managing basic hygiene and self care (eating, drinking, washing, toileting, dressing and undressing), and mobility. An associated concept, Instrumental Activities of Daily Living (IADL), includes activities typically

experienced in living in the community such as shopping, cooking, managing money, work, school, and recreational activities. Thus, IADL concepts extend the disability theme of ADL to include some elements of handicap, but again without considering environmental and attitudinal barriers which are inherent in handicap. A recent conceptualization of ADL has incorporated some culturally influenced aspects of disablement in community settings (Vreede 1994). Vreede (1993) has also suggested three components of ADL which correspond to impairment, disability, and handicap problems. Each of these components has different implications for planning CBR programmes in developing countries. *Operations for Daily Living (ODL)* are physical or mental exertions, such as using one's legs to walk. *Activities for Daily Living (ADL)* are intentional activities, such as walking to the market. *Ideas for Daily Living (IDL)*are concrete daily roles, such as selling goods in a local market. For example, a women market vendor with a leg amputation caused by a landmine could have a problem in not being able to earn a living (IDL) if, as a stigmatized disabled person, she is not allowed to secure a strategic spot in the market. The woman may not have any impairment or disability which needs to be addressed. One would not want to waste time or resources investigating them. The woman's problem could be alleviated if, through public education and advocacy, the other vendors agreed to reserve a spot for her (a community intervention). The woman could also have a problem in walking quickly to the market (ADL). Again, the woman may not have any impairment which needs to be addressed. However, this problem could be alleviated if she performed strengthening exercises (a behavioural intervention) or used a crutch (a technological intervention). Finally, the woman could have a problem with pain when using her below knee prosthesis (ODL). This problem could be alleviated by re-fitting her appliance (a clinical intervention). Thus, each of these problems in activities of daily living (IDL, ADL, ODL) has different causes, different solutions, and requires different programme plans from various community agencies. In this and many similar situations, unless an appropriate methodology is used to assess the person's needs, there is the potential for considerable waste of time and resources, with a real risk that the most important problem will not be addressed.

Conceptual Framework for a War Zone Motor Disability Measure

In the context of war zones, wherein people suffer acute violent injuries, disablement measures must obviously cover a broad range of impairment, disability, and handicap problems. However, these problems of disablement should be considered through an assessment which establishes the priority needs and solutions from the community's perspective. Given that there are no disablement instruments which have been developed for use in areas undergoing armed conflict, there is a need to develop such instruments and test them for validity and reliability in the field. Such an instrument must be able to distinguish between individuals with impairments, disabilities, and handicaps and also between those without them. The methodology must be culturally specific, be sensitive to stages of conflict, have a sharp focus on community and individual priorities, and be able to efficiently collect and analyze data to assist in planning programmes. Primary sources for an instrument which meets these criteria include the works of Vreede (1993), Beach, Boyce et al. (1995), Berry and Dalal (1996), Weera (1996). We suggest that, for community programme planning purposes, a needs based methodology be developed. This approach recognizes the priority of the target group in defining their own needs and programmes. (See Table 2).

Table 2: Community Based Disablement Measurement

Needs Based Measurement	Environment →	Limitations →	Capacities
Problem Location	Ideas of Daily Living	Activities of Daily Living	Operations of Daily Living
Intervention	Community	Behavioural	Clinical
Action Orientation	Action	and Resources*	

* Financial, personnel, and logistical resources are often spent on biomedical and clinical services rather than on socio-environmental solutions to disablement problems.

In considering the context of physical disability in war zones, it is desirable that socio-environmental information be assessed first. Without knowing the cultural context, even in a peaceful area, one cannot effectively plan community programmes. Similarly, one needs to know the conflict situation in war zones, both for planning appropriate interventions as well as for assessing programme logistics and feasibility. The community based disablement assessment begins with key informants being asked for a brief description of the geographic context, current and

previous conflict activities, and the presence and removal of landmines, including public education efforts. Information on community development activities, major competing health, economic, and social concerns, and locally available community resources are also gathered. Finally, cultural norms for disability, and the key informants' perceived needs regarding disablement, are collected. A household questionnaire includes socio-demographic information gathered from the family head, as well as a specific disability screening section. If a person with a disablement is present in the household, further questions are asked in a manner which respects the conceptual issues discussed previously.

1. Roles and Expectations:
Key Questions
What job or role do you have in the community?
What is your family role?
What are your self care activities?
What leisure activities do you enjoy?
These questions provide important information regarding personal abilities and ambitions, as well as information about the local cultural context of disability.

2. IDL Problems – Environment:
Handicaps, or socio-environmental (physical, psychological, and social) barriers, are then assessed and IDL problems are identified.
Key Question
What in your environment prevents your usual role?
Questions are addressed appropriately for children (play, schooling) and adults (employment, family status, recreational activities, social support). Recommendations for developing programmes at the community level of intervention are the priority for these problems.

3. ADL Problems – Limitations:
Next, disabilities, or physical limitations, are assessed and ADL problems are identified in the areas of hygiene, self care, posture, and mobility.
Key Question
What functional limitation does your body have?
Recommendations for developing training programmes for individual behavioural change as well as adaptive equipment programmes are the priority.

4. ODL Problems – Capacities:
Finally, impairments, diagnosis, and physical capacities are assessed and ODL problems are identified. Congenital and acquired sources of disablement are specified, including the source of conflict-related injuries (landmines, explosions, shrapnel, bullets, torture). Physical problems of pain, range of motion, strength, deformities, and medical conditions are assessed.
Key Question
What is the impairment or cause of this limitation?
Recommendations for developing programmes for clinical services are a priority in this situation. Other programmes for IDL (handicap) and ADL (disability) may also be needed in conjunction with clinical services. The strength of this approach is that priorities from the community members' perspectives are addressed first.

Summary

This paper reviews the conceptual, measurement, and practical issues faced by planners concerned with providing rehabilitation programmes in areas of conflict. A new measurement approach which builds on the emerging recognition of a socio-environmental perspective in disablement is presented as a useful methodology for community needs assessment of motor problems in war zones. An instrument based on these principles is currently being field tested in CBR programmes in Afghanistan and Central America.

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