

Implementation of the ICF Concept in the Making of Problem Framework based on Comprehensive Geriatric Assessment for Physical Medicine and Rehabilitation Resident of Medical Faculty University of Indonesia

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Abstract: The Comprehensive Geriatric Assessment (CGA) is a multidisciplinary evaluation which the multiple problems of elderly are uncovered, described, and explained, which the resources and strengths of the person are cataloged, assessed and coordinated to make care plan which developed to focus interventions on the person's problems. In PMR, the International Classification of Functioning, Disability, and Health (ICF) framework is fundamental for analysis and problem intervention. PMR residents expected to have a better guidelines in establishing the CGA program. A Cross-sectional study with a quantitative approach carried at the Medical Faculty University of Indonesia. The objective is to compare the process of making a problem framework using the ICF concept based on a comprehensive geriatric examination with the problem-making process without the use of the ICF concept and to evaluate the effectiveness of the ICF concept uses for making problem framework based on CGA examination. All of the respondents agree that the ICF concept makes an improvement in integrating, understanding, and analytical skills in the geriatric problem; defining rehabilitation target, priority; and simplify communication with other colleagues and patients. On the other hand, it takes more time (28,5%) and difficulty in writing of framework (35,7%). More respondents (85,7%) agree that it facilitates in making functional diagnosis and prognosis. The ICF concept can help to make a better comprehensive assessment of geriatric patients based on CGA.

1 INTRODUCTION

The percentage of the elderly population in Indonesia continues to increase. In 2015 the number of elderly people in Indonesia is 8.49% of the total population of 21.70 million, in 2025 estimated that it will be 11.83% and in 2035 will continue to increase to 15.77% of total population (BPS, 2013). Elderly patients have different characteristics with young adult patients. Elderly patients often suffer from various diseases, Mental function, impaired mobility and independence, experience malnutrition, and experience a decline in organ function. If in these conditions elderly patients are stricken with an illness, the patient may fall into a state of severe illness. When the patient succeeds through the acute phase, the recovery phase is still awaiting and will

take a long time. In the geriatric population, the central point of attention to care is the patient as a whole person, not just the illness he suffered. The attention is not limited to individual patients but is extended to include his family. For this reason, the best approach is through an integrated approach involving physical, mental, social, and spiritual aspects. Geriatric patients who report greater spirituality, are more likely to appraise their health as good. Spirituality may be an important explanatory factor of subjective health status in older adults as physical, mental and social aspects (DaelemanTP, 2004). Then a comprehensive assessment is needed to set patient management goals.

The CGA is “a multidisciplinary evaluation in which the multiple problems of older persons are uncovered, described, and explained, if possible, and

in which the resources and strengths of the person are cataloged, need for services assessed, and a coordinated care plan developed to focus interventions on the person's problems". Physical Medicine and Rehabilitation (PMR) Resident is expected to be able to carry out a comprehensive assessment of the elderly and can frame the problem properly so that it can facilitate the problem identification process for further intervention in the elderly. The approach using the ICF framework model when combined to identify problems found in the elderly who have received a comprehensive assessment through CGA is expected to facilitate the process of identifying problems that occur to provide optimal interventions for the elderly.

In PMR, the International Classification of Functioning, Disability, and Health (ICF) framework is fundamental for analysis and problem intervention. ICF is a framework for describing and regulating information about functions and disabilities that can provide standard and conceptual basic language for definitions and measurements of health and disability. ICF offers an international scientific tool for studying disability, in all its dimensions especially in the geriatric population which requires comprehensive assessment for further therapy (World Health Organization, 2001).

The ICF was developed by the World Health Organization to provide a framework to describe health and health-related states and to suggest standardized language to describe these states. (BPS, 2013). Based on the work of Nagi, the ICF model shifts the focus of disablement from cause to impact, from disability to health and function, and from a static process to a dynamic process. As stated previously, the ICF defines 3 domains of human function (Figure): body function and structure, activity, and participation. Body function and structure refers to the anatomical and physiological function of the body systems, and these body functions and body structures are categorized into the subdomains listed in Figure 2. Deficits in this domain are called "impairments" (eg, muscle weakness, restricted joint motion, poor cardiorespiratory fitness) and often are identified, measured, and treated. The activity domain describes the ability of an individual to perform specific tasks such as sweeping the floor, raking the yard, or putting away groceries (Nagi, 1965). Decrements in the activity domain are called "limitations" and describe the difficulty an individual has performing a particular task. Rehabilitation goals often are aimed at reversing or normalizing such activity limitations. The participation domain describes the ability of a person to be involved in life situations (Jette AM, 2006). Participation restrictions describe the reduced ability

of a person to maintain normal role functions and interact with society. Rehabilitation interventions are designed, directly or indirectly, to enhance participation levels for every client at home, school, or work; on the athletic field; or in any community setting. In the ICF model, health conditions, personal factors, and the environment interact dynamically across the 3 domains of a body function to help determine whether disordered function results in disability. For example, if a geriatric patient had a cancer treatment (eg, chemotherapy) that causes a patient to develop unresolved peripheral neuropathy and ankle weakness, this patient may have a limited ability to walk (limitation) and may require long-term use of an ankle brace. Limited ability to walk could result in an employment restriction for an active elderly. Participation restrictions occur when activity limitations cannot be sufficiently overcome to maintain role functions in a person's normal environment.

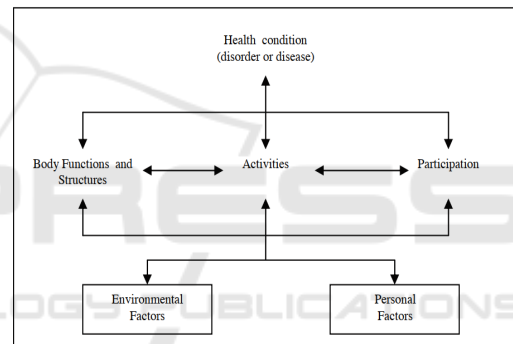


Figure 1: Interactions between the component of ICF (World Health Organization. 2001).

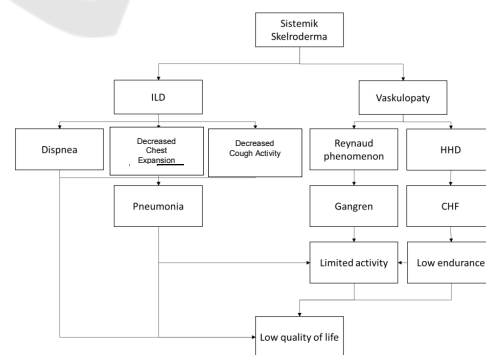


Figure 2: Problem framework without using ICF concept in Geriatric patient with Digital Ulcer in Scleroderma, Community-Acquired Pneumonia, Chronic Heart Failure Functional Class II, Hypertension, Chest expansion problem, Low Endurance Cardiorespiration, Visual and hearing Problems, Frailty, Risk of falls and decrease of Quality of life.

In the PMR learning process, the most important things are to recognize disability, premorbid factors and the reciprocal relationship between. PMR residents expected to make a rehabilitation program with considering environmental and personal factors that can be a facilitator or barrier to our programs. All this time, PMR resident asked to make a problem framework that including all those factors without a certain format. Start from 2019, an ICF concept was proposed to be used to make a problem framework by problems found from CGA.

As an example of Using an ICF concept in geriatric patient based on CGA in patient with *Digital Ulcer in Scleroderma*, Community-Acquired Pneumonia, Chronic Heart Failure Functional Class II, Hypertension, Chest expansion problem, Low Endurance Cardiorespiration, visual and hearing Problems , Frailty, Risk of falls and decrease of

Quality of life can be seen in figure 3 and 4. From the figure below, see that using an ICF concept makes a more clear vision of what kind of impairment, disability, and handicap happens in the geriatric patient. We can classify at what stage patients meet the disability, impairment and handicap criteria So that we can take immediate action to prevent deterioration of function in the patient.

The purpose and benefit of this research are to measure and compare the process of making a problem framework using the ICF concept based on comprehensive geriatric examination with the problem-making process without the use of the ICF concept and to evaluate the effectiveness of ICF concept uses for making problem framework based on CGA examination.

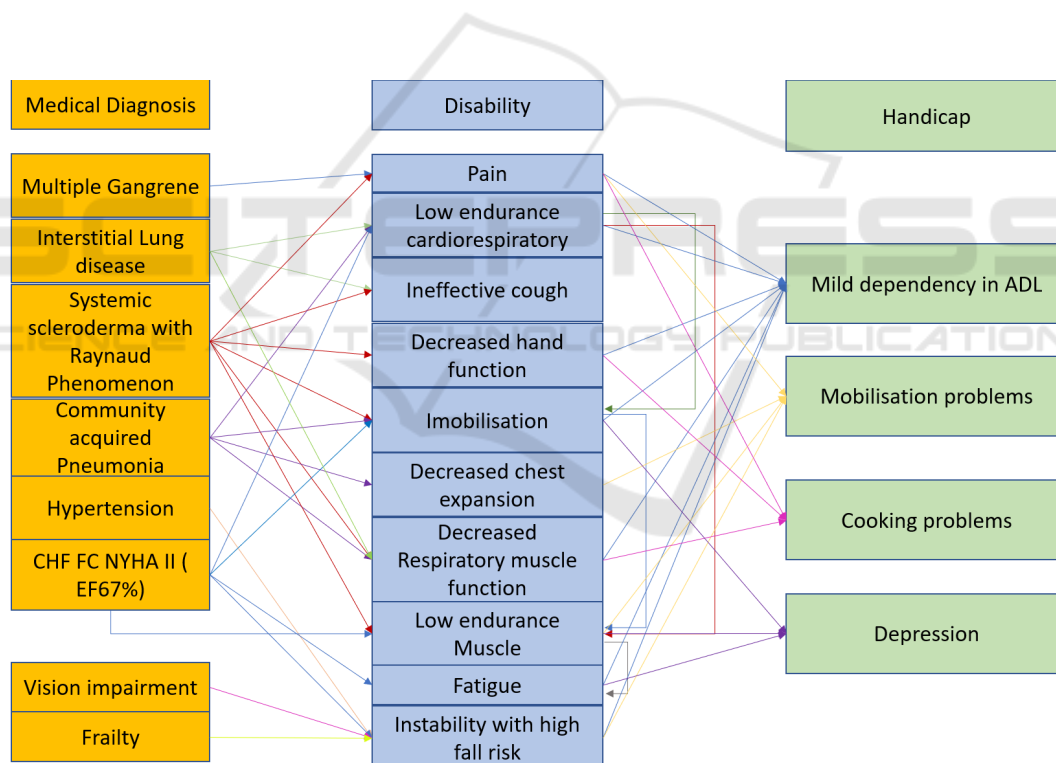


Figure 3: Problem framework using ICF concept in Geriatric patient with Digital Ulcer in Scleroderma, Community-Acquired Pneumonia, Chronic Heart Failure Functional Class II, Hypertension, Chest expansion problem, Low Endurance Cardiorespiration, Visual and hearing Problems, Frailty, Risk of falls and decrease of Quality of life.

2 METHODS

This is a cross-sectional study and a quantitative approach. The study was conducted in a PMR

department - Rumah Sakit Cipto Mangunkusumo, Medical Faculty University of Indonesia located in Jakarta, Indonesia, between the months of April and September 2019. PMR resident, Faculty of Medicine, University of Indonesia who had gone

through the Geriatric Division and had made a problem framework based on CGA using the ICF concept were included. The studied population comprised of 14 PMR residents.

Data collection was supported by a structured script to obtain personal and social information. The data collection instrument was validated by experts on the subject, concluding that the language and the presentation of the items were pertinent to the objective of the study.

Subjects will be asked to fill out a short closed questionnaire about the method of making a problem without and using the ICF concept (Lichstein G, 2011). The questionnaire including 3 fields; framework making process, problem management and other clinical skills contains questions about the comparison of time needed to make a framework, writing process, differences of integrating, understanding, and analytical skills in geriatric problems, defining rehabilitation target, priority; and simplify communication with other colleagues and patients, facilitates in making functional diagnosis and prognosis using ICF models in geriatric patients as seen in table 1.

Table 1: Questionnaire list.

No	Questionnaire	Yes	No
Framework Making			
1	Using of ICF concept in making problem framework based on CGA give a faster time than the usual approach	<input type="checkbox"/>	<input type="checkbox"/>
2	Using of ICF concept can simplify the writing process of problem framework based on CGA	<input type="checkbox"/>	<input type="checkbox"/>
Problem Management			
3	Using of ICF concept help me to integrate problems found from CGA	<input type="checkbox"/>	<input type="checkbox"/>
4	Using of ICF concept help me understanding problems found from CGA	<input type="checkbox"/>	<input type="checkbox"/>
5	Using of ICF concept increase my analytical skill to recognize social and environmental factors affect patient problems	<input type="checkbox"/>	<input type="checkbox"/>
6	Using of ICF concept increase my analytical skill to recognize disability problem in the patient	<input type="checkbox"/>	<input type="checkbox"/>
7	Using of ICF concept	<input type="checkbox"/>	<input type="checkbox"/>

	increase my analytical skill from problems found from CGA	<input type="checkbox"/>	<input type="checkbox"/>
8	Using of ICF concept can simplify the communication of problems found to another division	<input type="checkbox"/>	<input type="checkbox"/>
9	Using of ICF concept help me in presenting a list of problems found to the patient and their family	<input type="checkbox"/>	<input type="checkbox"/>
Other Clinical Skills			
10	Using of ICF concept facilitate to make a functional diagnosis	<input type="checkbox"/>	<input type="checkbox"/>
11	Using of ICF concept facilitate to make a patient functional prognosis	<input type="checkbox"/>	<input type="checkbox"/>
12	Using of ICF concept facilitate to decide programs needed by the geriatrician	<input type="checkbox"/>	<input type="checkbox"/>
13	Using of ICF concept facilitate to set up rehabilitation target in the geriatric patient	<input type="checkbox"/>	<input type="checkbox"/>
14	Using of ICF concept help me to determine problems priority	<input type="checkbox"/>	<input type="checkbox"/>

3 RESULTS

Among the 14 resident included in the sample with a mean age of 32,14 (\pm 3.8) years, a large majority agree that ICF concept make an improvement in integrating, understanding, and analytical skills in geriatric problem; defining rehabilitation target, priority; and simplify communication with other colleagues and patients (100 %). On the other hand, it takes more time (28,5%) and difficulty in writing of framework (35,7%). More respondents (85,7%) agree that it facilitates in making functional diagnosis and prognosis

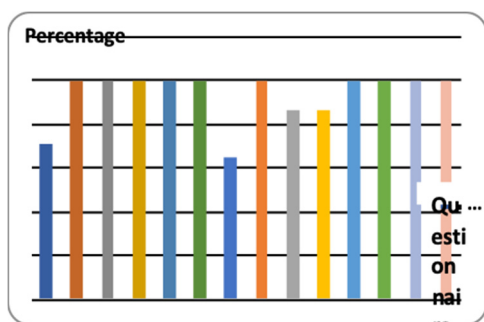


Figure 4: Percentage of questionnaire agreement.

4 DISCUSSIONS

A questionnaire including 14 questions revealed the first use of the ICF concept for making a problem framework in a geriatric patient by PMR resident. All of the respondents (100%) agree that the ICF concept improves integrating, understanding, and analytical skills in a geriatric problem. Respondent agrees that using a framework based on the ICF concept makes them more understanding of how to analyze the problem found from CGA, so its easier to defining rehabilitation targets and priority problems in geriatric patients. The using of ICF concept in a process to make a problem framework in geriatric patient simplify communication with other colleagues and patients, to communicate what is need to support rehabilitation process to solve a problem found in a geriatric patient. On the other hand, 4 respondents (28,5%) reveal the using of the ICF concept takes more time in the process to make the framework compare to their usual approach. However this is their first time implementing an ICF concept to make a geriatric problem framework, so it needs habituation in applying the ICF concept to make a problem framework. We also revealed that 5 respondent showed that using an ICF concept make a difficulty in writing of framework (35,7%). They find a difficulty to recognize what problems should be placed first of the many problems found from CGA, but due to time, they admit that using the ICF concept getting easier for them because of the habituation process.

There is 12 respondent from 14 respondent (85,7%) agree that it facilitates in making functional diagnosis and prognosis, only 2 of 14 respondents said an ICF concept did not support and make no differences in deciding for diagnosis and prognosis in geriatric patients compared to their usual methods. Considering to make a functional diagnosis and prognosis is important learning material for

PMR residents, this shows that along with the higher frequency of contact with patients, PMR residents will be more capable to make a functional diagnosis and patient prognosis. Unlike the rehabilitation programs, target and priority, which can find from more sources, skills to set up prognosis and functional diagnosis develop as the time they spend with patient and habituation using the ICF concept.

Studies show that diagnosis alone does not predict service needs, length of hospitalization, level of care or functional outcomes. Nor is the presence of a disease or disorder an accurate predictor of receipt of disability benefits, work performance, return to work potential or likelihood of social integration. This means that if we use a medical classification of diagnoses alone we will not have the information we need for health planning and management purposes. ICF makes it possible to collect those vital data in a consistent and internationally comparable manner. For basic public health purposes, including determining the overall health of populations, the prevalence, and incidence of non-fatal health outcomes, and to measure health care needs and the performance and effectiveness of health care systems, we need reliable and comparable data on the health of individuals and populations. ICF provides the framework and classification system for these purposes. With using an ICF concept there is an increased recognition among social planners and service agencies that reductions in the incidence and severity of disability in a population can be brought about both by enhancing the functional capacity of the person and by improving performance by modifying features of the social and physical environment. ICF allows analyzing the impact of these different interventions, classifying domains of areas of life as well as the environmental factors that improve performance especially in the geriatric population (WHO, 2002).

ICF is an essential basis for the standardization of data concerning all aspects of human functioning and disability around the world to evaluate health care settings that deal with chronic illness and disability, such as rehabilitation centers, nursing homes, psychiatric institutions, and community services. ICF is useful for persons with all forms of disabilities, not only for identifying their health care and rehabilitative needs but also in identifying and measuring the effect of the physical and social environment on the disadvantages that they experience in their lives. From the viewpoint of health economics, ICF will help monitor and explain health care and other disability costs. Measuring functioning and disabilities will make it possible to

quantify the productivity loss and its impact on the lives of the people in each society. The classification will also be of great use in the evaluation of intervention programs (WHO, 2002)

By using an ICF concept in geriatric patients based on the problem found from CGA, we can recognize impairment and disability problem, thus we can prevent more deterioration which can lead to a handicap. Health Education can be applied earlier to prevent deterioration of function as a secondary prevention, aims to reduce the impact of the disease by detecting and treating disease or injury as soon as possible to halt or slow its progress, encouraging personal strategies to prevent re-injury or recurrence, and implementing programs to return people to their original health and function to prevent long-term problems.

5 CONCLUSIONS

ICF concept can help to make a better comprehensive assessment of geriatric patients based on CGA and effective ways to improve problem management and other clinical skills of PMR residents.

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