The Trendall Fatigue Tool: An Application in a Patient with COPD in Northeast Thailand

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While majority of stress afflicted people turn to smoking for relief, prevalence of COPD inches its way among the top causes of mortality worlwide. Managing symptoms of COPD is already winning half the battle. With the success of a recent study on an assessment tool for COPD, more COPD patients will finally take a breather.

The sixth leading cause of death worldwide is Chronic Obstructive Pulmonary Disease or COPD, according to a finding from the 1990 Global Burden of Disease Study which gauges health loss from identifies diseases, injuries and risk factors. The progression of COPD incidence is remarkable that by the year 2020, and by then placing COPD in the third rank (Calverley and Walker, 2003).

In Thailand, around ten million people smoke cigarettes – a fact which accounts for the 15 to 30 % of its population inflicted with COPD. Worse, at least 1.5 to 3 Million of its population are projected to have COPD ,as well (Boonsawat, 2005).

The Silent Symptom

Along with symptoms such as dyspnea and chronic cough (with or without secretion), difficulty to speak is another predicament for COPD patients. Their situation hinders effective treatment as doctors would have no way to find out the extent of their malaise.

COPD is a chronic disease that is irreversible (Boonsawat , 2005). The goal of treatment in COPD patients is to abate symptoms and not for curative outcome. All symptoms progress from mild to severe (Udompanich, 2003).

When Fatigue Strikes

While dyspnea is the most threatening symptom, fatigue (or tiredness) follows suit. In one study on COPD, it is revealed that about 68 to 80% show the symptoms of fatigue (Solona and Gomes, 2006). Both dyspnea and fatigue are apparent in patients. The patients who suffer from dyspnea likewise suffer from fatigue (Woo, 2000). A previous study of Theander and Unosson (2004), showed that almost a half of all patients are also down with fatigue. Moreover, these patients suffered from this symptom for 6 hours daily. .

Fatigue has significant impact on the daily routine of COPD (Theander and Unosson, 2004). The effect of fatigue involved both the physical and emotional well-being of the patient.

Consequently, patients who are faced with severe fatigue experience a state of hopelessness, low self-esteem due to resulting disability and dependency on others, and concern about uncertainty and dying (Teeranoot, 1999). The quality of life of COPD patients are greatly at stake.

Analysing Fatigue: The Trendall Fatigue Tool

Because of variation in the definition of fatigue, assessing this particular symptom was investigated in previous researches (Small & Lamb, 2000; Trendall & Esmond, 2007). In the study of Trendall & Esmond (2007), the fatigue tool was developed specifically for assessing fatigue in COPD patients.

After two stages of analysis, the researchers proposed a fatigue tool for COPD patients in clinical setting that will be utilized by nurses. The outcome and suggestions resulting from the research, which was studied in the Western culture, roused the authors' interest to apply the fatigue tool in a different culture.

To help COPD patients cope with symptoms, especially evaluate fatigue, the Trendall Fatigue Tool was developed by experts Judith Trendall and Glenda Esmond (2007). This tool has since been utilized by nurses in evaluating COPD symptoms in their patients and aid in managing the condition to reduce or prevent symptoms of fatigue.

Study Abstract

This study was a part of the thesis entitled "Effects of Modified Thai Massage on Reducing Fatigue in Patients with Chronic Obstructive Pulmonary Disease". The Trendall Fatigue Tool was used to assess fatigue in COPD patients. This tool was originally developed in English with 14 statements that were divided into four sections. Each statement was designed into a three point linear visual analogue scale on 10 cm line. In the English version, the tool was recommended to used on patient who is too ill to respond verbally. In this study, we used forward-translation followed by testing of content validity, cross-cultural equivalences and internal consistency.

In consonance to our study objective of testing the validity and reliability of the Trendall Fatigue Tool in Thai version, the results showed that the Thai version of the Trendall Fatigue Tool had good cultural validity with a CVI of 0.96,. Cronbach's alpha was 0.85 when used with 30 patients with COPD at the Out-Patient Department in a general hospital in Northeast, Thailand. It is necessary to use this tool with COPD patients under different levels of severity for testing of relevance to clinical practice.

Methodology

This study was a description research design. Samples in this research were the COPD patients from the Out-Patient Department in a general hospital in Northeast Thailand. Thirty patients were selected by purposive sampling with inclusion criteria of the research such as: aged 60 and over; diagnosis of COPD with fatigue symptom; male patients; and using Thai language.

Research Instruments

The instrument in this study was composed of two parts. The first part was the demographic data developed by the authors. The second part was the Trendall Fatigue Tool with 14 statements from four categories: Interest in surrounding; Physical capacity, Personality; Physical appearance .

The format of the Trendall Fatigue Tool was designed in form of linear visual analogue scale with symptoms of three points on a ten centimeters line.

Translating the Study

The authors began the research by first obtaining permission from the original tool owner, Glenda Osmond, to translate the tool from English to Thai. Translating, per se, required two steps to accomplish it :

First Step: Translation

The Trendall Fatigue Tool in the original English version was translated to Thai by a pair of Thai-English bilinguals.

Second Step: Deliberation

The authors and the translators discussed further and compared both the original and translated versions. Each word in the translation was thoroughy clarified and its usage was justified.

Testing its Validity

A final translated Thai version underwent the so-called cultural validity test conducted by three experienced bilingual persons who are also experts in the nursing perspective.

The first task of these three experts was to evaluate the appropriateness and meaning of the translated words against its English version counterpart. The Content Validity Index (CVI) of inter-rater agreement was calculated before the second work was done.

After the content validity testing was done, the consensus of items in relevance with Thai people was tested using the CVI. The lower limit of acceptability for a CVI is 80 or over.

Testing its Reliability

The Thai version of the Trendall Fatigue Tool was further edited by the authors before applying it to the COPD patients. The COPD patients who all had characters of inclusion criteria sample flame were approached to participate in the research project. Only the patients who were willing to join were queried and assessed by using the validated Thai version of the tool. The internal consistency reliability was tested by using Cronbach's alpha coefficient.

Obtaining Results

The samples comprised of 30 COPD male patients; 43.3% of which were unemployed (Table 1); and with ages ranging from 60 to 89 years old with mean of age 72.87 years old (SD: 8.5). The COPD incidence range in the patients is within 1-10 years and mean of COPD period is 2.58 years. (SD: 2.28). Content and validity testing were also conducted using the categories mentioned earlier. To further illustrate, refer to the tables below:

Table 1 - Content

Item	Expert 1	Expert 2	Expert 3	Expert in Agreement	Item CVI
Categories 1: Interest in surrounding					
1	✓	✓	✓	3	1.0
2	✓	✓	✓	3	1.0
3	✓	✓	✓	3	1.0
4	-	✓	✓	2	.67
5	✓	✓	✓	3	1.0
6	✓	✓	✓	3	1.0
Categories 2: Physical capacity					
7	✓	✓	✓	3	1.0
8	✓	✓	✓	3	1.0
9	✓	✓	✓	3	1.0
10	✓	✓	✓	3	1.0
11	✓	✓	✓	3	1.0
12	✓	✓	✓	3	1.0
13	✓	✓	✓	3	1.0
14	✓	✓	✓	3	1.0
15	✓	✓	✓	3	1.0
16	✓	✓	✓	3	1.0
17	✓	✓	✓	3	1.0
18	✓	✓	✓	3	1.0
Categories 3: Personality					
19	✓	✓	✓	3	1.0
20	✓	-	✓	2	.67
21	✓	✓	✓	3	1.0
22	✓	-	✓	2	.67

Item	Expert 1	Expert 2	Expert 3	Expert in Agreement	Item CVI
Categories 3: Personality (Con'd)					
23	-	-	✓	1	.33
24	✓	✓	✓	3	1.0
25	✓	✓	✓	3	1.0
26	✓	✓	✓	3	1.0
27	✓	✓	✓	3	1.0
28	✓	✓	✓	3	1.0
30	✓	✓	✓	3	1.0
31	✓	✓	✓	3	1.0
32	✓	✓	✓	3	1.0
33	✓	✓	✓	3	1.0
34	✓	✓	✓	3	1.0
35	✓	✓	✓	3	1.0
36	✓	✓	✓	3	1.0
Categories 4: Physical appearance					
37	✓	✓	✓	3	1.0
38	✓	✓	✓	3	1.0
39	✓	✓	✓	3	1.0
40	✓	✓	✓	3	1.0
41	✓	✓	✓	3	1.0
42	✓	✓	✓	3	1.0
Proportion relevant	.98	.93	1.00	Average CVI	.96

Table 2 - Cultural

Item	Expert 1	Expert 2	Expert 3	Expert in Agreement	Item CVI
Categories 1: Interest in surrounding					
1	✓	✓	✓	3	1.0
2	✓	✓	✓	3	1.0
3	✓	✓	✓	3	1.0
4	✓	✓	✓	3	1.0
5	✓	✓	✓	3	1.0
6	✓	✓	✓	3	1.0
Categories 2: Physical capacity					
7	✓	✓	✓	3	1.0
8	✓	✓	✓	3	1.0

Item	Expert 1	Expert 2	Expert 3	Expert in Agreement	Item CVI
Categories 2: Physical capacity (Con'd)					
9	✓	✓	✓	3	1.0
10	✓	✓	✓	3	1.0
11	✓	✓	✓	3	1.0
12	✓	✓	✓	3	1.0
13	✓	✓	✓	3	1.0
14	✓	✓	✓	3	1.0
15	✓	✓	✓	3	1.0
16	-	✓	✓	2	.67
17	-	✓	✓	2	.67
18	✓	✓	✓	3	1.0
Categories 3: Personality					
19	✓	✓	✓	3	1.0
20	✓	✓	✓	3	1.0
21	✓	✓	✓	3	1.0
22	✓	✓	✓	3	1.0
23	✓	✓	✓	3	1.0
24	✓	✓	✓	3	1.0
25	✓	✓	✓	3	1.0
26	✓	✓	✓	3	1.0
27	✓	✓	✓	3	1.0
28	✓	✓	✓	3	1.0
30	✓	-	✓	2	.67
31	✓	✓	✓	3	1.0
32	✓	✓	✓	3	1.0
33	✓	✓	✓	3	1.0
34	✓	✓	✓	3	1.0
35	✓	✓	✓	3	1.0
36	✓	-	✓	2	.67
Categories 4: Physical appearance					
37	✓	✓	✓	3	1.0
38	-	✓	✓	2	.67
39	✓	✓	✓	3	1.0
40	✓	✓	✓	3	1.0
41	✓	✓	✓	3	1.0
42	✓	✓	✓	3	1.0
Proportion relevant	.93	.95	1.00	Average CVI .96	

Discussion and Conclusion

The study findings indicated that the Thai version of the Trendall Fatigue Tool was valid and reliable for evaluating the Thai COPD patients. Based on the Cronbach's alpha coefficient, a result of .85 indicated that the tool had good internal reliability.

Content validity was ensured by the processes of translation by two experienced bilinguals (Thai-English) and cross-cultural validation by three experienced bilinguals and experts in Nursing Science - both processes yield a CVI of .96. Moreover, the Thai version of Trendall Fatigue Tool had no problem with content validity and cultural validity.

Originally developed to be utilized by nurses in managing symptoms in COPD patients, translating the Trendall Fatigue Tool to apply to another culture is a breakthrough to getting back the quality of life of more people afflicted with a dreaded disease.

And fatigue, being common symptom among COPD patients (Theander and Unosson. 2004), Nurses ought to study, train, and fully understand how the Trendall Fatigue Tool can be utilized for effective assessment of fatigue and management of other symptoms as well. ■

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