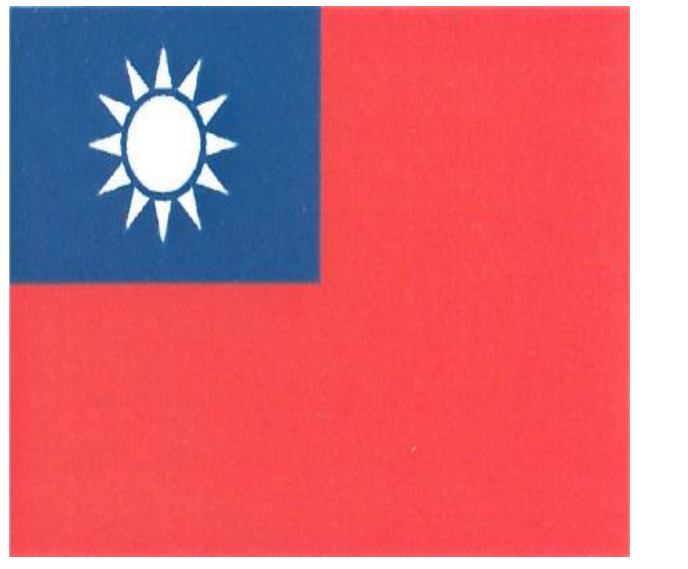




Exploring the determinations of health literacy and mediating effects of empowerment in cancer patients



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Background

With advancements in medical technology, the survival of patients with cancer is prolonged. Patient participation in the care plan is required during long-term co-existence with the disease to improve quality of care and effectiveness. However, health literacy affects how patients accurately acquire and understand health information and the relevance of communicating this information to caregivers. Therefore, understanding patients' health literacy is key to planning patient-centered care.

The study

Purpose

The aims of this study was to investigate the associated factors of health literacy and mediating effect of empowerment between social support and health literacy in newly diagnosed cancer patients.

Methods

This study adopted a cross-sectional design, and the participants who are newly diagnosed cancer within six months were recruited by random sampling in a medical center. The structured questionnaire was used to collect data in medical institutions of the Northern Taiwan, which includes Cancer-related Health Literacy Questionnaire (CHLQ), Patient Empowerment Scale (PES) and Chronic Illness Resource and Support (CIRS) self-administered format. SPSS version 22.0 was used for data analysis. The status and distribution of the variables were analyzed by descriptive statistics such as mean, standard deviation and median. The correlation between variables and health literacy were analyzed by Spearman's correlation coefficients, Mann-Whitney U test, Kruskal-Wallis test, Chi-square test and Pearson correlation coefficient. Multivariate regression and stepwise regression were used to validate predictive factors of health literacy before performing hierarchical multiple regression analysis to evaluate the mediating effects of health literacy.

Result

A total of 350 valid questionnaires were collected. The mean age of subjects was 55.42 years (SD= 10.35). Most subjects had an educational level of senior high school (29.71%), colorectal cancer (25.71%), stage IV cancer (30.86%), and underwent treatment with surgery and chemotherapy (29.43%). The mean scores for the social support, patient empowerment, and health literacy scales of patients newly diagnosed with cancer were 59.03 (SD=11.15), 46.64 (SD= 5.71), and 21.55 (SD= 5.14) points, respectively. Educational level, age, chronic disease resource and support, type of cancer, employment status, and mean personal monthly income in the past year were found to be significant factors affecting health literacy ($p < 0.001 - 0.049$), consisting 49.4% of the total variance. Social support was found to have significant positive effects on the patient's level of empowerment ($\beta = 0.445$, $p < 0.001$), which was significantly positively correlated with cancer health literacy ($p < 0.001$) but did not reach statistical significance after adjusting for social support ($p = 0.913$). Therefore, empowerment is not a mediating factor of chronic disease resource and support and cancer health literacy.

Conclusion

To improve health literacy in patients who are newly diagnosed with cancer, medical staff can provide diverse, in-depth, and personalized resource and support intervention to promote patient awareness and understanding of the current situation, which will increase their empowerment and cancer health literacy, with the hope that this will improve patient participation in subsequent disease care, medical decisions, and problem-solving.

Table 1. Demographic Characteristics of Subjects (N = 360)

Variable	n	%
Age		
≤ 50	107	30.57
51 ~ 64	177	50.57
≥ 65	66	18.86
Gender		
Men	182	52.00
Female	168	48.00
Education		
≤ primary school	59	16.86
Junior high school	92	26.29
Senior high school	104	29.71
College	54	15.43
≥ University	41	11.71
Employment status		
Unemployed	213	60.86
Employed	137	39.14
Cancer diagnosis		
Colorectal	90	25.71
Lung	36	10.29
Breast	86	24.57
Head & Neck	77	22.00
Others	61	17.43
Cancer Stage		
Stage 0	5	1.43
Stage I	64	18.29
Stage II	74	21.14
Stage III	96	27.43
Stage IV	108	30.86
Comorbidity		
YES	159	45.43
NO	191	54.57

