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Original article

Investigation and countermeasures on the health-promoting lifestyle of the disabled elderly in a rural area

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ABSTRACT

Objective: To investigate the level of health-promoting lifestyle in the disabled elderly in a rural area and to provide useful countermeasures for health care workers and the government to improve the elderly's lifestyle behaviors.

Methods: A total of 446 disabled elderly people were recruited and examined using the General Questionnaire and Health-Promoting Lifestyle Profile II.

Results: The mean score of the health-promoting lifestyle was 109.73 (SD = 16.80), in which 90.6 percent of the disabled elderly demonstrated unhealthy lifestyle behaviors. The average score for each of the subscales included the following: interpersonal relations, stress management, nutrition, self-actualization, health responsibility, and sports activity.

Conclusions: The health-promoting lifestyle of the disabled elderly needs to be improved; health care workers and the government should pay more attention to the countermeasures that can improve the lifestyle behaviors and promote the health of the disabled elderly.

1. Introduction

A health-promoting lifestyle is one that is self-initiated, continuous, and requires daily activity undertaken with the deliberate aim of increasing or promoting an individual's health and wellbeing.[1] Numerous studies have demonstrated that individuals who are engaged in health-promoting lifestyles will remain healthy and functional while experiencing less burden from disease and disability, and it can help to reduce the incidence of disease and complication, as well as save a lot of medical resources.[1–3] However, the studies related to the health-promoting lifestyle are primarily concentrated on populations, such as the elderly in the community[1,2] and other chronic disease patients.[3,4] Moreover, little is known regarding to the level of health-promoting lifestyles in the disabled elderly in a rural area. The aim of the study was to investigate the health-promoting lifestyle of the disabled elderly and to provide useful countermeasures to improve the lifestyle behaviors of the elderly.

2. Methods

2.1. Objective

This was a cross-sectional descriptive study, which lasted from November 2014 to March 2015. Multi-stage stratified random cluster sampling was adopted. First, three counties were randomly selected from the six counties of Kai Feng City. Second, four rural locations were randomly selected in every selected county. Third, twenty-seven villages were randomly selected in every selected countryside. Next, the elderly in twenty-seven villages were recruited with the criteria of disability, which is widely used worldwide. Finally, a total of 446 disabled elderly aged 60 years and older were invited to participate in the survey. The exclusion criteria included people who have moderate/severe deafness or people who cannot finish the study, such as those having a mental disease or other communication disorders.

2.2. Methods

2.2.1. The general questionnaire

The General Questionnaire included the individual demographics, such as age, gender, religion, education level, the degree of disability, and causes of disability.

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2.2.2. The criterion of disability

The international criteria of disability were used in the study. The criteria consisted of six indicators which include the capacity for eating, clothing, going to bed, using a toilet, walking indoor, and taking a bath. If the person "could not do"[1,2] of these tasks, he/she was defined as "mildly disabled"; if he/she "could not do",[3,4] he/she was defined as "moderately disabled"; if he/she "could not do",[5,6] he/she was defined as "severely disabled".[5]

2.2.3. The health promoting lifestyle profile II (HPLP II)

The scale was first compiled by the American nursing scientist Walker[6] et al. The HPLP II consists of 52 items, which consists of 6 subscales: nutrition, physical activity, health responsibility, interpersonal relations, self-actualization and stress management. The higher the total score, the healthier the lifestyle. The total score ranges from 50 to 208 and is divided into four grades (52–91, 92–131, 132–171, and 172–208, indicating poor, general, good and excellent lifestyle).[7] To increase the comparability of each of the subscales, the article will use the average score method to compare. Namely, the average score = total score of each subscale/the number of items in the subscale. A study by Zhang showed that the scale had high reliability and validity.[7] In our study, Cronbach's α coefficient of HPLP II was 0.939 for the total scale and ranged from 0.621 to 0.850 for the six subscales.

2.3. Ethical issues

This study was approved by the Nursing School of Henan University and selected village leaders. Before the interview, each participant was informed verbally about the aims and methods of the study. They were assured that the data would be only used for the purpose of the survey and would be treated confidentially. Given the limitations of education and health status of the participants, all of the participants were interviewed face-to-face to ensure the reliability of the data.

2.4. Statistical analysis

All completed questionnaires were numbered with an individual number. Double data entry was performed by the researcher and her colleagues using Epidata Version 3.0. Computer and manual checks were used to ensure that the data were entered accurately. Statistical analyzes were performed using the software package SPSS 18.0. Descriptive statistics, including minimum, maximum, frequencies, percentages, means and standard deviations (SD) were used to describe the sample characteristics and the level of lifestyle behavior of the participants.

3. Results

3.1. General information

A total of 446 rural disabled elderly subjects were investigated, and 446 subjects completed the questionnaire. The response rate for the completed questionnaires was 100% (446/446). Of the 446 participants, 235 (52.7%) were male and 211 (47.3%) were female. The ages of the respondents ranged from 60 to 104 years, with a mean age of 74.82 years (SD = 8.67). The socio-demographic characteristics of the participants are shown in Table 1.

3.2. Health behavior score of rural disability of the elderly (Table 1)

The total score of HPLP II varied from 72 to 154. The mean score of the participants was 109.73 (SD = 16.80). The average score for each of the subscales is as follows: interpersonal relations, stress management, nutrition, self-actualization, health responsibility, sports activity. The average score and min, max, total score of HPLP II are shown in Table 2.

Table 1
Demographic characteristics of the sample (n = 446).

Variable	N	Percentage	Score of HPLP II
Gender			
Male	235	52.69	111.75 ± 16.85
Female	211	47.31	107.49 ± 16.50
Age			
60–69 years	138	30.94	114.35 ± 15.45
70–79 years	154	34.53	110.14 ± 17.41
80–104 years	154	34.53	105.20 ± 16.26
Religion			
Have	79	17.71	110.92 ± 15.36
Not have	367	82.29	109.48 ± 17.11
Education			
No formal education	209	46.86	103.20 ± 16.23
Primary	167	37.44	111.89 ± 13.94
Junior high school	64	14.35	122.75 ± 14.14
Senior high school and above	6	1.40	138.50 ± 9.75
Degree of disability			
Mild	255	57.18	116.89 ± 14.56
Moderate	109	24.44	103.91 ± 14.00
Severe	82	18.39	95.23 ± 14.35
Cause of disability			
Disease	330	74.00	110.28 ± 16.43
Damage	24	5.40	107.00 ± 17.38
Older	92	20.63	108.50 ± 17.99

4. Discussion

4.1. Health-promoting lifestyle in disabled elderly in rural areas

In our study, the mean score of the health-promoting lifestyle of the disabled elderly was 109.73 (SD = 16.80), which was significantly lower than the score found in community-dwelling elderly.[8] Our study also demonstrated that the disabled elderly scored higher on the interpersonal relations subscale and stress management subscale and lower on the physical activity subscale and health responsibility subscales among the six subscales. In addition, 90.6% the disabled elderly had engaged in unhealthy lifestyle behaviors. The reasons leading to this phenomenon could be summarized as the following: First, due to the loss of the ability of daily life, the disabled elderly have to rely on his/her family members every day, which may directly result in the elderly having a lower evaluation on his/her own lifestyle behaviors. Second, the lower the level of education, the poorer the health awareness. When communicating with the disabled elderly, I found that most of them did not pay attention to the importance of health behaviors, particularly those who did not receive any formal education. Third, the economics in rural areas are relatively weaker than that in urban areas. In addition to the inadequate medical resources and health insurance system, all of these limited resources may hinder the elderly from strongly adopting the healthy lifestyle behaviors. Thus, all of the reasons mentioned above may contribute to the poor lifestyle behaviors of the disabled elderly, and all of us should do our best to improve their situations together.

4.2. Countermeasures improving the lifestyle behaviors of the disabled elderly

Health-promoting lifestyles are a series of behaviors, which guide an individual's family, community and society to improve peacefulness, happiness and realize health proficiency.[1] Thus, to attain a healthier behavior, the individual's family, health care