2018 International Conference on Medicine Sciences and Bioengineering (ICMSB 2018)
ISBN: 978-1-60595-560-5

Depression Status and Influencing Factors Among the Rural Poor Elderly in Poverty-stricken Townships

Jian HU[a], Meng-Qin HE

Department of Public Management, School of Public Management, Guizhou University of Finance and Economics, Guiyang, China

[a]jianhucdc@126.com

Keywords: Poor elderly people, Depression, Objective support, Influencing factor.

Abstract: Objective To describe the depression status of the rural poor elderly in poverty-stricken townships, and analyze the factors that influenced the depression status. **Methods** A cross-sectional survey was conducted with a structured questionnaire among 249 old people at the age of 60 or older in August 2013 in eight villages of Zhuchangping township in Xingyi city, Qianxinan autonomous prefecture of Buyei and Miao minorities, Guizhou province. The depression was measured by the geriatric depression scale (short form), and multivariate logistic regression method was applied to analyze influencing factors. **Results** The component ratio of depression among the poor elderly was 81.6% (a mild depression of 23.7%, a moderate depression of 26.3%, and a severe depression of 31.6%), higher than among the non-poor elderly with a statistically significant difference (*P=0.01*). Compared with male, non-poor and not walking difficultly elderly people, female, poor and walking difficultly elderly people were more likely to report the depression with the *OR* value of 3.10, 4.16, and 2.08, respectively. Compared with the elderly who had not received objective supports, subjective supports within family, and not met with migrant children in one year, the elderly who had received objective supports, subjective supports within family, and met with migrant children in one year were less likely to report depression with the *OR* value of 0.39,0.52,and 0.32, respectively. **Conclusion**: The status of depression was bad among the rural poor elderly in the poverty-stricken township. The influencing factors were gender, difficulty in walking, objective support, subjective support within family, and meeting with migrant children in one year.

Introduction

Fifteen ministries including the National Health and Family Planning Commission jointly issued the “Guiding Opinions on Implementing Poverty Alleviation Projects for Health” in September 2016. The Opinions required to provide the basic medical and health services among the rural poor people, in order to achieve the poverty eradication goals, gradually eliminate the phenomenon of “the illness-caused poverty and the poverty-caused illness” in poor areas, and realize health for all. According to the report of Guizhou Provincial Bureau of Statistics, there were 66 poverty-stricken counties (55 key counties for nation to poverty alleviation development and 16 counties for concentrations of contiguous special difficulty), 9,344 poverty-stricken townships and 2.8 million of the rural poor people in 88 counties (cities and districts) of Guizhou province in 2016 [1]. The rural poor elderly had a high life pressure with a partial disability and diseases, so that they had weak mental capacities and were prone to negative psychologies in their changing life difficulties. In that case, a mental

health poverty alleviation work was urgent. At present, the depression is the most common disease that severely impairs the mental health of the rural poor elderly. The incidence of suicide among the elderly with the depression is more than 20 times among the average elderly [2]. The depression always threatens the mental health of the rural poor elderly and increases the incidence of suicide among the rural poor elderly. Thus, it was academically concerned [3-4] and a survey on depression was conducted among 249 rural old people in Xingyi county.

Methodology

Research Design and Study Population

Zhuchangping town is one of the 8 poverty-stricken areas in Xingyi county, Qianxinan autonomous prefecture of Buyi and Miao minorities, Guizhou province with a high representative. There are the eight administrative villages, such as Zhuchangping, Tianwan, Yakouzhou, Baoshang, Zhangwan, Maocaowan, Yaxitan, and Longtan village. Cross-sectional study design and cluster sampling method were used to choose 249 old people aged 60 or older in the eight administrative villages of Zhuchangping town. There were 38 poor old people in this study, including 36 old people from the poor households who were identified by the local poverty alleviation department, and 2 old people from the low income households who were received the civil administration's minimum living guarantee.

Questionnaire and Data Collection

The questionnaire was designed based on the Geriatric Depression Scale (short form) [5], and the Understanding Social Support Scale and Social Support Rating Scale in a handbook of mental health assessment scale [6]. A one to one interview survey was performed with a structured questionnaire. The project members, professional personnel of Guizhou provincial center for disease control and prevention, and the local township health center were trained as investigators.

Main Measurement

(1) The status of depression. The depression of the elderly was measured by the Geriatric Depression Scale (short form), which was the depression screening scale for the elderly. The GDS inquired the elderly about the feeling in the last one week (yes, no), including 15 questions. Among the 15 questions, 10 questions were the positive sequence scoring ("yes" indicating a depression, one point scored; "no" indicating a non-depression, zero point scored), and 5 questions were the antitone scoring ("no" indicating a depression, one point scored; "yes" indicating a non-depression, zero point scored).The score range from 0 to 4 was classified as a non-depression, from 5 to 15 as a depression (from 5 to 8 as a mild depression, from 5 to 11 as a moderate depression, from 12 to 15 as a severe depression) [5]. (2) The status of health and disability: illness in the last two weeks (yes, no), chronic disease (yes, no), listening with difficulty (yes, no), walking with difficulty (yes, no), vision impairment (yes, no), care for daily life (yes, no); (3) The status of social supports and the evaluation of social supports. The status of social supports included living style (living alone at home, living with children, living in gerocomium), economic source (themselves/their spouses, children/social relieves), life difficult allowance (yes, no), older people bonus (yes, no), medical insurance (yes, no), new rural endowment insurance (yes. no), meeting with migrant children in one year (<1 year, ≥1 year), phone contacting with children every week (yes, no), visiting a doctor

conveniently (yes, no), mental health consultation service (yes, no), medical organization distance(≥1 km,<1 km), old people recreation place (yes, no), old people compensative service (yes, no), old people cultural organization (yes, no), attending to old people recreation(yes, no). The evaluation of social supports included three dimensions of subjective support, objective support and support utilization degree, which were measured by the Understanding Social Support Scale and the Social Support Rating Scale [6]. The total score of social support included the cumulative scores of a subjective support, objective support, and support utilization degree. With an average score as a critical value, the social support , subjective support (subjective support within family, subjective support outside family), objective support, and support utilization degree were divided into two groups of "high" and "low". The "high" group was coded as "1", and the "low" group as "0". Cronbach coefficient was 0.65 for the depression, and 0.76 for the social support, indicating a higher internal consistency reliability of the questionnaire.

Data Analysis

Descriptive analysis, χ^2 test, and logistic regression analysis were performed through SPSS19.0 statistical analysis software.

Result

Status of Depression

Among the 249 rural elderly, the component ratio of depression among the poor elderly was 81.6%, higher than the non-poor elderly of 56.4%. In addition, 31.6% of a severe depression among the poor elderly was higher than among the non-poor elderly with a statistically significant difference. See Table 1.

Table 1. Comparison of depression between the poor elderly and the non-poor elderly [n, (%)].

Variable	Poor elderly	Non poor elderly	Total	χ^2	*P*
Depression					
Yes	31(81.6)	119(56.4)	150(60.2)	8.53	0.004
No	7(18.4)	92(43.6)	99(39.8)		
Degree of depression					
non depression	7(18.4)	92(43.6)	99(39.8)	28.72	0.000
mild depression	9(23.7)	65(30.8)	74(29.7)		
moderate depression	10(26.3)	42(19.9)	52(20.9)		
severe depression	12(31.6)	12(5.7)	24(9.6)		

Influencing Factor Analysis for Depression

There was a statistically significant difference in depression among the rural elderly with different gender (χ^2=10.85, *P*=0.001), poor elderly people (χ^2=8.53, *P*=0.004), walking with difficulty (χ^2=4.43,*P*=0.035), illness in the last two weeks (χ^2=12.12, *P*=0.000), chronic disease (χ^2=13.94, *P*=0.000), alcohol drinking (χ^2=6.25, *P*=0.012), family harmony (χ^2=6.55,

P=0.010), meeting with migrant children in one year (χ^2=6.55, P=0.010), objective support (χ^2=17.16, P=0.000), subjective support within family (χ^2=6.33, P=0.012), and social support (χ^2=4.68, P=0.030). A multivariate logistic stepwise regression analysis for depression was performed. The results showed that poor elderly people, walking with difficulty and gender were forward predictive variables. Objective support, subjective support within family, and meeting with migrant children in one year were inverse predictive variables. The poor elderly were more likely to suffer from depression than the non poor elderly. The elderly who walked with difficulty were more likely to report depression than the elderly who did not. Female old people were more likely to report depressions than male old people. The elderly with objective support were less likely to report depressions than the elderly without objective support. The elderly with subjective support within the family were less likely to report depressions than the elderly without subjective support within the family. The rural elderly who met with their migrant children in one year were less likely to report depressions than the rural elderly who did not. Their *OR* ratio was 3.10, 4.16, 2.08, 0.39, 0.52, and 0.32, respectively. See table 2.

Table 2. Logistic regression analysis for depression among the rural elderly.

Variable		Reference	*B*	*SE*	*Wald*	*P*	*OR*	*95%CI*
Gender	Female	Male	0.73	0.29	6.31	0.012	2.08	1.17~3.67
Poor elderly	Yes	No	1.13	0.48	5.55	0.019	3.10	1.21~7.96
Walking with difficulty	Yes	No	1.43	0.52	7.51	0.006	4.16	1.50~11.52
Objective support	Yes	No	-0.94	0.30	9.76	0.002	0.39	0.22~0.70
Support within family	Yes	No	-0.65	0.31	4.48	0.034	0.52	0.29~0.95
Meeting with children	Yes	No	-1.13	0.46	5.96	0.015	0.32	0.13~0.80
Constant term			-2.23	0.67	11.09	0.001		
-2 log likelihood			134.97					
Model Chi-Square			49.33			0.000		
Cox & Snell R Square			0.18					

Discussion

This study reported firstly that the component ratio of depression, especially of a moderate depression and a severe depression, for the poor elderly was higher than for the non-poor elderly ($P<0.01$). The results of the multivariate logistic regression analysis showed that after controlling for the influences of gender, walking with difficulty, objective support, subjective support within family, and meeting with migrant children in one year, the poor elderly were more likely to suffer from depression than the non-poor elderly. This indicated that the depression status of the poor elderly in the poverty-stricken township might be paid highly attention by relevant departments. The results of this study showed that the rural female elderly were more likely to report depression than the rural male elderly, which was consistent with other findings of studies [7]. This suggested that the relevant departments might concern the mental health of the rural female elderly and implement mental health intervention activities. The result showed that the elderly who walked with difficulty were more likely to report depression than the elderly who did not. This indicated that the construction of township health centers and rural health centers might be strengthened, and medical service stations might be increased. In order to reduce the incidence of depression, the health policies

for the rural elderly, especially the elderly walking with difficulty, might be formulated to encourage rural health professionals to provide psychological health intervention services regularly, combing with the national basic public health services [8].

The results of this study also showed that objective support, subjective support within family, and meeting with migrant children in one year were inverse predictive variables for depression. It was contrary to other research findings that parent-child support did not affect the incidence of depression in rural empty-nesters [9]. The possible reason is that children have been working away from home for a long time, so that the meeting frequency is not often. Children, family members, communities, social networks, and the active care and physical assistance for the elderly are not enough. The elderly are more likely to suffer from psychological disorders since the lack of emotional guidance and release after encountering negative events. Thus, it suggested that the migrant children might care more about their parents, shorten the time interval of meeting, give more psychological comfort to their parents, and strengthen emotional communication with them. At the same time, children might give the necessary help in material to the elderly, and feed their parents economically [10], rather than being "gnawing at the old." In addition, the relevant government and departments of civil affairs, poverty alleviation, senior citizens' work committee, township government, village committee might increase pension service subsidies for the poor elderly gradually, provide a variety of services such as housekeeping, food delivery and accompany actively, and carry out activities beneficial to the physical and mental health for the elderly to meet the diverse needs of the poor elderly. It also suggested that policies might be improved on the living security, medical assistance and welfare services for the rural poor elderly who live in poverty-stricken townships in accordance with the Law on the Protection of the Rights and Interests of the Elderly in the People's Republic of China.

Acknowledgement

This research was financially supported by the National Social Science Foundation of China (14BGL213), and the Science Research Fund Project of Guizhou University of Finance and Economics in 2018.

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