# Current Status of Treatment Compliance of Elderly Hypertensive Patients in Community

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**Abstract:** To investigate the current situation and influencing factors of treatment compliance of elderly hypertensive patients in Changchun community. The survey used a random sample and questionnaire of 373 elderly patients with hypertension in community. The total score of treatment compliance of elderly hypertensive patients in Changchun community was (3.16±0.70). The highest score was medication compliance (3.29±0.01). The lowest score was compliance of daily life management (3.04±1.02). The factors affecting treatment compliance were economic sources, pre-retirement occupation, hospitalization times and sources of medical expenses. The treatment compliance of elderly hypertensive patients in Changchun community is not high, which is at a medium level. The daily life management compliance needs to be paid great attention. Strengthening community health education activities on hypertension will help to improve the treatment compliance of elderly hypertensive patients in community.

## 1. Introduction

Hypertension, as the most common chronic disease in the elderly, is irreversible and recurrent [1]. Its low control rate makes it still problem Global challenges [2, 3] However, the poor treatment compliance of hypertension patients is the main reason for the low control rate of blood pressure [4]. The purpose of this study is to understand the elderly hypertension in Changchun community, the current situation of patients' treatment compliance and its influencing factors.

## 2. Object and Method

### 2.1 Research object

A questionnaire survey was conducted among 373 patients with essential hypertension aged 60 years and over who took medicine for more than 3 months in 6 community health service centers in Changchun from March to September 2015 by convenience sampling method. Selection criteria: informed consent, can correctly understand the meaning of the questionnaire entries; exclusion criteria: secondary hypertension, mental disorders and severe acute and chronic diseases.

### 2.2 Research tool

(1) Self-compiled general situation questionnaire: designed by the researcher, mainly including age, sex, education level, spouse or not, monthly income, financial source, pre-retirement occupation, living condition, duration of disease, combined with chronic diseases, types of antihypertensive drugs, hospitalization times, sources of medical expenses, etc. (2) Hypertension Treatment Compliance Scale: the scale consists of 25 items and 4 dimensions. The final score ranged from 25

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to 125. The higher the score, the better the treatment compliance is. The scale has good reliability and validity.

### 2.3 Investigation method

With the assistance of community leaders and relevant community staff, the survey obtained the consent and cooperation of the respondents, and the questionnaires were distributed and recycled by the members of the project team. A total of 400 questionnaires were issued and 386 were recovered, with a recovery rate of 96.5%. 13 invalid questionnaires were excluded and 373 valid questionnaires were obtained, with an effective rate of 96.63%.

### 2.4 Statistical method

Descriptive statistics, t-test and variance analysis were performed with SPSS16.0 software.

## 3. Results

### 3.1 Basic situation of treatment compliance of elderly hypertensive patients in community

The total score of patients' treatment compliance was (79.07 $\pm$ 17.52) and the average score was (3.16 $\pm$ 0.70). The scores and average scores of four dimensions of treatment compliance are shown in Table 1.

Table1. The treatment compliance of patients with hypertension ( x±s)

| Factors | Number of entries | Scores | Average scores |
|---|---|---|---|
| Medication compliance | 5 | 16.43±5.07 | 3.29±1.01 |
| Compliance of bad medication habits | 8 | 25.88±7.34 | 3.24±0.92 |
| Compliance of daily life management | 10 | 30.41±10.16 | 3.04±1.02 |
| Compliance of Tobacco and Alcohol Habits Management | 2 | 6.35±2.76 | 3.18±1.38 |

### 3.2 Univariate analysis of treatment compliance of elderly hypertensive patients in community

Univariate analysis was made on the factors that might affect the compliance of elderly hypertensive patients in community. The variables included age, sex, education level, spouse's presence or absence, and monthly income, financial source, pre-retirement occupation, living condition, duration of illness, combined with other chronic diseases, taking antihypertensive drugs, number of hospitalizations, source of medical expenses, see Table 2.

Table2. Univariate analysis of treatment compliance of elderly hypertensive patients in community (n= 373)

| Variable | Classification | n(%) | Compliance score(x±s) | *F* or *t/P* |
|---|---|---|---|---|
| Ages(year) | 60-69 | 163(43.7) | 80.79±17.47 | 1.810/0.165 |
| | 70-79 | 146(39.1) | 78.47±16.70 | |
| | 80- | 64(17.2) | 76.08±19.16 | |
| Gender | Male | 166(44.5) | 78.41±16.73 | -0.651/0.515 |
| | Female | 207(55.5) | 79.60±18.14 | |
| Education degree | Junior high | 197(52.8) | 79.38±18.12 | 1.030/0.397 |
| | High school | 106(28.4) | 76.92±17.19 | |
| | Junior College | 40(10.7) | 82.15±14.38 | |
| | Bachelor degree | 30(8.0) | 80.50±18.00 | |
| Monthly income | <1500 | 102(27.3) | 76.84±16.09 | 2.111/0.098 |
| | 1500- | 93(24.9) | 77.06±19.83 | |
| | 2500- | 97(26.0) | 80.76±17.15 | |
| | 3500- | 81(21.7) | 82.15±16.46 | |
| Spouse | Yes | 233(62.5) | 79.27±18.31 | 0.285/0.776 |
| | No | 140(37.5) | 78.74±16.16 | |
| Economic source | Pension | 264(70.8) | 80.80±17.21 | 7.435/0.001 |
| | Relatives provide | 64(17.2) | 71.56±18.21 | |
| | Other | 45(12.1) | 79.60±15.75 | |
| Pre-retirement occupation | Cadre | 86(23.1) | 83.44±17.39 | 0.298/0.002 |
| | Worker | 176(47.2) | 78.52±16.97 | |
| | Farmer | 79(21.2) | 79.41±16.03 | |
| | Other | 32(8.6) | 69.50±20.73 | |
| Living condition | Living alone | 75(20.1) | 77.83±14.63 | 0.235/0.872 |
| | with a spouse | 176(47.2) | 79.73±18.59 | |
| | with Children | 74(19.8) | 78.55±16.98 | |
| | spouse and kids | 48(12.9) | 79.38±18.77 | |
| Duration of disease (year) | 1-10 | 195(52.3) | 79.43±16.79 | 0.493/0.611 |
| | 11-20 | 139(37.3) | 78.05±18.91 | |
| | >20 | 39(10.5) | 80.92±16.05 | |
| Complicated with chronic diseases | None | 201(53.9) | 78.19±16.24 | 0.615/0.606 |
| | one | 109(29.2) | 80.97±19.15 | |
| | two | 56(15.0) | 78.52±18.86 | |
| | three | 7(1.9) | 79.14±16.51 | |
| antihypertensive drugs types | One kind | 256(68.6) | 79.30±17.55 | 0.581/0.628 |
| | Two kind | 109(29.2) | 80.97±19.15 | |
| | Three kind | 5(1.3) | 80.00±17.96 | |
| | Three or more | 3(0.8) | 66.00±23.64 | |
| Hospitalization times | Never | 152（40.8） | 81.16±16.52 | 3.095/0.040 |
| | Once or twice | 132（35.4） | 79.14±19.42 | |
| | Three or more times | 89(23.9) | 75.38±15.70 | |
| Medical expenses | Free | 103(27.6) | 76.98±16.33 | 13.370/0.000 |
| | Private | 47(12.6) | 67.89±18.96 | |
| | Partial expense | 81(21.7) | 78.04±13.96 | |
| | Medical insurance | 142(38.1) | 84.87±17.60 | |

### 3.3 Multivariate regression analysis of treatment compliance of elderly hypertensive patients in community

Taking the total treatment compliance as dependent variable, four significant variables (economic source, pre-retirement occupation, hospitalization times, medical expenses) of single factor as independent variables were included in the model for multiple linear regression analysis; the determinant coefficient of the factors entering the regression equation was 0.127, which could explain 12.7% of the total variation of treatment compliance; the medical expenses, hospitalization times and pre-retirement occupation are the main factors affecting the treatment compliance of elderly hypertensive patients in community. The magnitude of the standardized regression coefficient shows that the influence on treatment compliance of hypertension patients ranks from big to small as "medical expenses", "hospitalization times" and "pre-retirement occupation". See Table 3.

Table 3. Multivariate regression analysis of treatment compliance of elderly hypertensive patients in community

| independent variable | *B* | *SE* | *Bate* | *t* | *P* |
|---|---|---|---|---|---|
| Medical expenses | 4.438 | 0.729 | 0.313 | 6.078 | 0.000 |
| Hospitalization times | -4.637 | 1.134 | -0.208 | -4.091 | 0.000 |
| Pre-retirement occupation | -3.947 | 0.986 | -0.197 | -4.003 | 0.000 |

Equation model: $R$= 0. 356; $R^2$= 0. 127; $F$ = 17. 901.

### 4. Discussion

The overall level of treatment compliance score of the patients in this study is not high, which is higher than that of Zhang Shuhao [5] (45.97±21.50), Zhang Juan [6] (54.42±13.40) using the same hypertension compliance scale, but lower than the results from Bobb-Livepool and other foreign scholars [7], which shows that the treatment compliance of the elderly hypertensive patients in China is not high.

In this study, the highest score was found in compliance with medical treatment (3.29±1.01), which was higher than Wang Yingfang's (2.48±1.43). The lowest score was found in daily life management compliance, which was consistent with Zhang Juan's [6], and higher than Li Huaping's [9]. Thus, daily life management compliance directly affects the overall level of treatment compliance. Therefore, community health service centers can regularly give lectures on hypertension knowledge, to explain the problems and details that should be paid attention to in the course of hypertension treatment, especially insisting on taking medicine, and strictly follow the doctor's instructions, and explain in detail the dosage, frequency, time, medication methods, etc. At the same time, the staff should emphasize personal living habits and tell the patients to pay attention to the influence of unhealthy diet on hypertension treatment. To explain the effect of less salt and less oil in diet on diseases, to carry out mental health lectures, and to reasonably alleviate patients' bad mood. Community managers should improve community health and recreational facilities, provide reasonable conditions and environment for the elderly to keep fit, so that elderly hypertensive patients can exchange hypertension-related knowledge in fitness and recreation; at the same time, listing successful cases with better control effect of hypertension to improve the treatment beliefs and attitudes of elderly hypertensive patients, and then improve their treatment compliance, achieve control effect, reduce fewer complications.

According to the specific conditions of elderly patients with hypertension, we should do a good job in differentiating the symptoms of community treatment, and try not to let patients hospitalize in the hospital, so as to reduce their worries about the condition. Medical fee payment has a great

influence on the attitude of elderly patients with hypertension. Community nursing workers and managers should pay attention to those elderly patients with hypertension at their own expense, encourage them to participate in medical insurance, establish the idea of going to community with minor diseases and go to hospital with major diseases, by do this to reduce their expenditure on medical treatment.

To sum up, the overall level of treatment compliance of elderly hypertensive patients in community is not high and is related to many factors. Community health service centers can regularly give lectures on hypertension knowledge, improve medical service system and medical insurance reimbursement system, reduce the number of hospitalizations for elderly hypertensive patients in community, improve community health and entertainment facilities, and provide reasonable fitness for the elderly. And then improve the treatment compliance, achieve control effect, reduce complications.

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