

Awareness, Utilization and Influencing Factors of Social Support for Main Informal Caregivers of Schizophrenia Patients: A Cross-sectional Study In Primary Care Settings In Beijing, China

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Abstract

Background: Main informal caregivers of people with schizophrenia in Beijing are increasingly called upon to provide home-based care for their patients due to the increasing number of schizophrenia patients. This study aims to investigate the further needs of social support in the perspective of the main informal caregivers and to analyze the influencing factors of awareness and utilization of social supports in Beijing. The results obtained from this study could potentially act as reference for health and clinical professionals to implement suitable and effective programs and interventions for main informal caregivers.

Methods: A mixed-methods approach were used in this study. We performed individual in-depth interviews with 10 main informal caregivers from urban districts of Beijing to identify the caregivers' perspective on social supports and further needs. Meanwhile, the factors influencing the awareness and utilization of social supports for main informal caregivers were assessed utilizing self-designed questionnaire in 6 urban districts in Beijing.

Results: Most caregivers in in-depth interviews expressed that they had negative experiences with respect to obtaining social support, and they emphasized that they would require more support. More financial support, respect, and rehabilitation institutions were needed by the caregivers. Quantitative results show that although the government provides multi-channel resources for schizophrenia patients and their families, the awareness and utilization rate of some resources such as rehabilitation, employment, and health services were relatively lower, the rate were less than 10.0% and 5.0% separately.

Conclusions: The awareness and utilization rate of social support are low for schizophrenia patients. More services and better public attitudes should be considered for schizophrenia patients and their caregivers.

Introduction

Schizophrenia is a mental disorder that is characterized by hallucinations (auditory, visual, olfactory, or tactile) and delusions [1]. As a disease with a progressive process, schizophrenia not only increases the disability and dependency of the patients themselves, it also affects their main informal caregivers' lives. Globally, the prevalence of schizophrenia rose from 13.1 million in 1990 to 20.9 million cases in 2016 [2]. China has a large schizophrenia population in the world; the pooled prevalence of schizophrenia from 1990 to 2016 was 0.42% [2]. There are approximately 16 million patients with mental illness still in 2019 in China, of which schizophrenia patients account for about half, and the incidence rate of cities is significantly higher than that of rural areas [3].

Although schizophrenia is a low prevalence disorder, the burden of disease is substantial. The growing population and aging have led to increasing disease burden attribute to schizophrenia, particularly for middle income countries [2, 4]. Most people with schizophrenia live at home, supported by main informal caregivers [5]. Main caregiver has been defined as the person belonging to the patient's informal support system who takes care and is responsible for the patient, and commits most of his or her time to that

task without receiving any economic retribution[6]. It implies that main informal caregivers rely on a variety of strategies to confront the consequences resulting from the psychological instability of the schizophrenia patient[7]. Social support could be defined as having reliable people available to assist in meeting material resource and psychosocial need. Which encompasses emotional, instrumental, informational, appraisal, social companionship and affectionate support [8]. Schizophrenia has long been recognized as a devastating disorder for the patients' families. The symptoms may act as a stressor, causing main informal caregivers' mental health to deteriorate. It has been suggested that social support helps people stay mentally healthy in stressful situations, and protects people in various pathological states [9, 10].

As the potential interventions, social supports have been paid more attentions in recent years. The efficacy of non-pharmacological interventions for main informal caregivers of schizophrenia, and the support of application in the clinical practice were demonstrated[11]. In some western countries, social support for caregivers were more focused on a community-based multidisciplinary expert group. The content mainly included health education, psychological intervention, behavior management, mutual support group, consultations, day care, etc. The most important aspect of social support is to help families acquire the necessary specialized knowledge by providing information and skills, and then to seek out the most appropriate management ways for their problems[12].

Social support is one of the most important treatment components in the recovery of people with schizophrenia. It is extensively studied in other psychiatric conditions, but not in the main informal caregivers of people with schizophrenia in China, which showed that main informal caregivers of schizophrenia patients have low rate of the awareness and utilization of social support[13].

As the capital city of China, there were 79 thousand people with severe mental disorders in Beijing in 2019[14]. Most of them are schizophrenia patients, and the population is still growing. This study aims to investigate the further needs of social supports in the perspective of the main informal caregivers and to analyze the influencing factors of awareness and utilization of social supports in Beijing. The results obtained from this study could potentially act as reference for health and clinical professionals to implement suitable and effective programs and interventions for the main informal caregivers.

Methods

Participants and recruitment

Operationally, a main informal caregiver, in this study, were approached by the inclusion criteria as follows: (1) minimum 2 hours of daily care and the longest duration of care per day for patients at home over 6 months; (2) willingness to be interviewed as part of the study; and (3) could answer the interviewer's questions clearly and logically.

Data collection

Individual in-depth interviews

In-depth interviews with caregivers were conducted from March to May 2019 by interviewers who received training and supervision in conducting qualitative interviews. The interviews were structured and included predetermined topics and associated probes. These predetermined topics were chosen by the research team to elicit, in an open-ended fashion, an exploration of caregivers' attitudes. The topics included what kinds of supports or resources have you obtained and what further supports do you need in order to provide better care for the patients. A total of 12 main informal caregivers were enrolled by purposive sampling from urban districts of Beijing. Written consent was obtained from the participants with full explanation of the purpose and procedure of the study. Confidentiality of data and personal information was assured to the participants.

Questionnaire survey

This cross-sectional quantitative study used a non-probability, purposive sampling technique to recruit 370 main informal caregivers of people diagnosed with schizophrenia by mental illness specialist hospitals from 93 community health service centers in 6 urban districts of Beijing between March and July 2019. The caregivers were assessed using a questionnaire. Written informed consent was obtained from each participant prior to completing the questionnaire. There were three steps to developing the questionnaire. First, question lists were developed by collecting and extracting information from references. Second, several experts in related area were invited to review the questionnaire and a small sample preliminary investigation was conducted. Third, the questionnaire was adjusted according to the opinions of experts and preliminary findings before the formal investigation.

The final questionnaire included three parts. The first part collected caregivers' demographic information. The second part assessed the status of social support for caregivers with the Social Support Rating Scale (SSRS)[15] consisting of 10 items for its ease of use, demonstrated reliability and validity[16]. These items were conceptually divided into three content domains, including objective support (three items), subjective support (four items), and support usage (three items). Objective support reflects the degree of actual support received in the past. Subjective support reflects the perceived interpersonal network that an individual can count on. Support usage refers to the pattern of behavior that an individual utilizes when seeking social support. The scale was based on a Likert scale ranging from 0 to 4, and it was scored by summing the responses of the individual items. The total score of the SSRS ranges from 11 to 60, with an objective support domain ranging from 1 to 20, a subjective support domain ranging from 7 to 28, and a support usage domain ranging from 3 to 12. Higher scores indicate more social supports. The third part collected the awareness and utilization status of social supports for caregivers using a self-designed questionnaire.

Data analysis

The interviewer from the research team was experienced in qualitative research and had engaged in research of chronic diseases management including schizophrenia in community for ten years. All

interviews were audio recorded with consent from participants. Digital recordings were stored in a password-protected, secure system. Audio-taped data were transcribed verbatim. Transcripts were reviewed and analyzed by seven members of the research team. To bring a wide variety of knowledge and preconceptions to the analysis process, the team comprised professionals with different research backgrounds, including a professor and a lecturer of general practice, four graduate students and a general practitioner. The team members read all the material through several times to obtain the whole sense and then independently coded transcripts to identify themes by condensing and summarizing the contents. When no new topics were identified, data saturation was considered [17]. The point of information saturation was reached at the tenth interview in our study.

Data of questionnaires were imported into Excel 2016, and then checked by two researchers from our team. Descriptive statistical analyses were conducted for the demographic and socioeconomic characteristics of caregivers. Quantitative data were expressed as mean value \pm standard deviation (SD), and qualitative data were summarized as proportions. Independent t tests and analysis of variance (ANOVA) were used to calculate mean differences in total and subscale scores in different demographic characteristics. Linear regression analysis was performed for the potentially related factors followed by a final ordinal regression analysis to measure the correlation between the total scores of SSRS and potentially related demographic characteristics. All analyses were conducted using the IBM Statistical Package for Social Science software program Version 20.0 for Windows and all the tests are two sided, with statistical significance set at 0.05.

Results

Twelve informal caregivers of people with schizophrenia from 6 community health service centers in urban districts were selected. Only 10 caregivers were interviewed; and the other 2 declined with no reason. Most caregivers were either spouses (6/10, n=6) or children (3/10, n=3) (see Table 1 for additional characteristics). The average age of the caregivers was 65.43 ± 11.39 years, while the average age of the schizophrenia patients was 47.07 ± 10.45 years. The demographics of the patients and the caregivers are described in Table 1.

Of the 370 questionnaires administered, 363 questionnaires were returned (response rate 98.1%); 7 declined because they did not want to talk about their experiences. The mean age of caregivers was 64.6 ± 11.5 years. More than half of them were aged 61 years and above. About 35.5% of the caregivers received high school or higher education. Detailed socio-demographic information of caregivers is described in Table 2.

Qualitative findings

Two dominant themes emerged from the insights of the caregivers: the obtained support, and further needs for social support.

The obtained support

Three obtained support subcategories were identified, including financial support, medical support, and information and education support. The caregivers expressed that external financial resources including medical insurance and free medication were provided to alleviate family economic pressure at a certain extent; medical resources from society alleviated the caregiver's burdens; health education and mutual support groups organized by the community created opportunities for caregivers to communicate with others and help to alleviate the psychological pressure of caregivers. However, these means of support were insufficiently available.

We received 2200RMB subsidies per month from the government. The medications and the health examinations for him are free. (Caregiver 1)

If the patient has a sudden relapse, the general practitioners, and our neighbors would help me to prevent this violent behavior and take him to the hospital. (Caregiver 6)

The mutual support group is good, but I have no time to attend. I have to look after the patient... (Caregiver 10)

Further needs for social support

Three further needs for social support subcategories were identified, including more financial support, being respected, and affordable rehabilitation institutions. Every interviewee hoped that the government could supply more types of free medications and expand health insurance coverage for patients; they indicated that families with schizophrenia patients are more vulnerable to discrimination in China, and hoped to create a non-discriminatory environment around them; and they agreed that more affordable rehabilitation institutions should be opened for schizophrenia patients.

My son does not have a job. Our family depends on my husband's retirement pension... the treatment fee for the patient is too much expensive. We hope to get more free medical service for patients. (Caregiver 5)

Sometimes they call my son idiot and even beat him. I hope that schizophrenia patients should be fairly treated. (Caregiver 4)

I heard of Daxing Farming Therapy Base. Patients could do agriculture work or take exercise there. The patients' daily life was taken care of by doctors and nurses. We would like to take the patient there, but we can't afford it. (Caregiver 10)

Scale scores

The scale had a mean of 27.33, objective support had a mean of 6.70, subjective support had a mean of 14.56, and support usage had a mean of 6.07. The distribution of SSRS scores was shown in Table 3.

Correlation analysis

There was no significant difference between caregivers whether they have religious faith or not ($P > 0.05$). There were four factors significantly correlated with the total SSRS score. Age, education, marital status, and hours for caring patients per day were positively correlated with the total SSRS score. Correlation analysis between SSRS scores (total scores and subscale scores) and general characteristics of caregivers were shown in Table 4.

Ordinal regression analysis

We put gender, age, education, marital status, relationship with patient, main medical payment way, numbers of chronic disease, and hours for caring patients per day into the regression models, with the total SSRS scores and the three subscale scores being dependent variables, respectively. The results revealed that the main medical payment way in caring for people with schizophrenia were predictor of the SSRS scores. These results are shown in Table 5.

The awareness and utilization status of social support for caregivers

The top three awareness rates of social support for caregivers were patients could apply for disability certificate (96.14%), patients could obtain free psychotropic medications (93.66%), and patients could obtain regular medical examination once a year in the community health service center (or station) (90.08%). The top three utilization rates were patients could apply for disability certificate (90.08%), patients could obtain free psychotropic medications (83.75%), and patients could use the public transport and visit scenic spots for free (76.58%). More details are shown in Table 6.

Discussion

In this study, nine caregivers of people with schizophrenia declined to participate. The possible reasons tended to be the stigma attached to schizophrenia. There is an overall low level of understanding of the condition of schizophrenia among the public and the non-specialist domain, which, alongside the stigma that might be attached, makes it difficult for people to discuss [18]. The most important caregivers in this study were family members, especially parents and spouses, and more than half of caregivers were retirees. Due to societal roles and expectations, female caregivers are the largest contributor in the caregiving activities and responsibilities. It was suggested that such situation is common as the caregiving responsibilities are often delegated to family members with the least economic value [19], taking fewer demanding jobs, early retirement, turning down a promotion, losing job benefits and having to give up entirely.

To a certain extent, the available services, resources, and support for patients and their family caregivers can relieve the burdens on caregivers [20]. The awareness and utilization rate of disability certificates ranked first in our study. As a part of the disabled, people with mental disabilities enjoy the welfare benefits as other disabled persons, such as medical care, rehabilitation, education, employment, and social security. Almost 90.1% of schizophrenia patients have applied for disability certificates, which makes the utilization of other social resources possible. The types of social support provided by Beijing

urban areas for schizophrenia patients and their families including medical care, living security, social security, rehabilitation, labor and employment, sports and entertainment, disability certificates, home services, housing security, education and training. Caregivers' awareness of resources and their high utilization are more focused on medical care, life security, social security, housing security, etc., especially in medical care, which is directly related to the disease. The awareness and utilization rate of some resources such as rehabilitation, employment, and health services were relatively lower, the rate was less than 10.0% and 5.0% separately. Although the government provides multi-channel resources for people with schizophrenia and their families, they still had low awareness and utilization of social support. The potential reasons might be as follows: (1) the workforce of rehabilitation and social care professionals in China was insufficient [21]; (2) funding and other support from national, and social institutions for mental illness were limited, and complex application procedures and unperfect quota allocations limited the access to various types of support [22]; (3) stigma and discrimination from the public and even mental health professionals [23, 24], meanwhile, low insurance coverage with high treatment fees created barriers to mental health service utilization [25]; (4) the mutual support groups and psychological counselling provided for caregivers were often considered superficial and impractical [26].

Unlike some Western countries, China has relatively few nursing home institutions, while the existing ones are less affordable to many schizophrenia patient families. However, the breaking up of the traditional structure of extended families, smaller family sizes, greater participation of women in the labor force and growing geographical mobility and travelling distance will come to limit the ability of China society to rely entirely upon informal care for older persons. If we would like to continue emphasizing informal care as the means of meeting growing care needs in the society. It is essential that government policy operates in such a way that encourages informal care. Policy makers should emphasize services designed to support caregivers in providing care, bolstering their self-efficacy and coping repertoire, and enhancing their support network. Broadening the coverage of healthcare insurance for severe mental diseases and providing more accessible financial protection for patients with severe mental diseases are important ways to support more patients seeking medical health services [27].

Strengthening the existing primary mental healthcare system may be another important measure for treating patients. Policy makers should allocate more resources for community care, train more community care workers and make referral process effective [28]. Steps should be taken to enhance the quality of life of caregivers, care recipients and other family members. This could include support groups for caregivers that can be run by professionals such as social workers and volunteers; education sessions or sharing sessions with physicians on typical symptoms; and the establishment of family therapy clinics to which families could be referred for counselling. Regular home visits provided by health care professionals for patients especially who are immobile, and establishment of day nursing/care or respite care to cater for the needs of schizophrenia patients to relieve the main informal caregivers by taking over their tasks of caring on a temporary basis are useful when the schizophrenia illness of a family member triggers unresolved issues among family members, interferes with patient's treatment as well as causes distress to family members. Supported employment and social skills training for patients should be strengthened. Mental health professionals and policy makers should allocate sufficient resources to

implement strategies identifying high-risk populations, provide vocational training and supported employment for patients seeking jobs.

Important aspects regarding social support of caregivers were revealed in this study and it could serve as a basis for future community-based care. But it also had some limitations. First, a cross-sectional design of the present study did not allow the determination of causal relationships. Second, the caregivers' population in the 6 districts might not reflect the community health service centers in other parts of Beijing or other parts of China when generalizing the findings.

Conclusions

The awareness and utilization of social support are insufficient. More attention should be paid to improve caregivers' coping style, and give active guidance to promote the effective use of social support to reduce the burden of care.

Abbreviations

SSRS: Social Support Rating Scale; SD: standard deviation

Declarations

Ethics approval and consent to participate

This study was approved by the Medical Ethics Committee of Capital Medical University, Beijing, China. Written informed consent was obtained from each participant involved in this study. All participant information was kept confidential.

Consent for publication

Not applicable.

Availability of data and materials

The datasets generated and analyzed during the current study are not publicly available to protect participant privacy, but are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

MRW, LFC, GHJ, YW, FYW, ZLP and XQL contributed to the conception and design of this study. MRW, LFC and GHJ were involved in data collection. MRW, LFC, GHJ, YW, FYW, ZLP and XQL analyzed and interpreted the data. The manuscript was drafted by MRW and LFC and edited by XQL. The final version was reviewed and approved by all authors.

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Tables

Table 1
 Characteristics of interviewed caregivers and care recipients

Items	Caregivers (n=10)	Care recipient (n=10)
Mean age	65.43 ± 11.39	47.07 ± 10.45
Sex		
Female	9	2
Male	1	8
Self-reported general health		
Excellent/very good	0	N/A
Good	0	N/A
Fair	3	N/A
Poor	7	N/A
Relationship		
Spouse	6	N/A
Child	3	N/A
Other family relative	1	N/A
Marital status		
Married	9	8
Widowed	1	2
Education		
Elementary school	0	2
Secondary school	6	3
Higher education	4	5
Disease status		
Stable phase	N/A	5
Relatively stable phase	N/A	3
Unstable phase	N/A	2

Table 2
General characteristics of caregivers (n=363)

Characteristics	n (%)	Characteristics	n (%)
Gender		Relationship with patient	
Male	154(42.42)	Spouse	112(30.85)
Female	209(57.58)	Parents	151(41.60)
Age		Child	31(8.54)
≤50 years	38(10.47)	Brother or sister	64(17.63)
51-60 years	90(24.79)	Other Family relative	5(1.38)
61-70 years	127(34.99)	Caring years	
≥71 years	108(29.75)	≤5 years	7(1.93)
Nationality		6-10 years	52(14.33)
Han	331(91.18)	>10 years	302(83.20)
Others	32(8.82)	Main medical payment way	
Education		Basic medical insurance for urban employee	221(60.88)
Primary school or below	36(9.92)	Residents' basic medical insurance	104(28.65)
Middle school degree	121(33.33)	Others	38(10.47)
High school degree	129(35.54)	Types of chronic disease	
College degree	51(14.05)	No	4(1.10)
Bachelor degree	22(6.06)	One	242(66.67)
Master degree or above	4(1.10)	Two	69(19.01)
Have religious faith		Three and above	48(13.22)
No	328(90.36)	Time for caring patients per day	
Yes	35(9.64)	≤ 6 hours	173(47.66)
Marital status		6.5-12 hours	140(38.57)
Unmarried	11(3.03)	More than 12 hours	50(13.77)
Married	299(82.37)		
Divorced	17(4.68)		
Widowed	33(9.09)		

Others	3(0.83)
Employment status	
Employed	123(33.88)
Retired	213(58.68)
Unemployed	26(7.16)
Others	1(0.28)

Table 3
Distribution of SSRS scores (total scores and subscale scores) of caregivers

Scale	Mean ± SD	Minimum	Maximum
SSRS	27.33±6.45	12	46
Objectivesupport	6.70±2.14	1	16
Subjectivesupport	14.56±4.15	7	27
Supportusage	6.07±1.92	3	11

Table 4

Correlation analysis between SSRS scores (total scores and subscale scores) and potentially related factors

Factors	Total SSRS score	Objectives support	Subjectives support	Support usage
Gender				
Male	27.05±6.27	6.77±2.16	14.47±4.03	5.81±1.78
Female	27.53±6.59	6.65±2.12	14.63±4.25	6.26±2.00
t	-0.708	0.559	-0.360	-2.237
P	0.479	0.577	0.719	0.026
Age				
≤50 years	29.08±6.11	7.08±2.19	15.68±4.38	6.32±1.69
51-60 years	29.54±6.71	7.13±2.20	15.90±4.40	6.51±1.96
61-70 years	26.33±6.41	6.36±2.15	14.31±3.97	5.65±1.97
≥71 years	26.03±5.84	6.60±1.99	13.33±3.69	6.09±1.81
F	7.304	2.812	7.742	3.884
P	0.000	0.039	0.000	0.009
Nationality				
Han	27.35±6.46	6.74±2.18	14.53±4.12	6.08±1.89
Others	27.03±6.53	6.31±1.60	14.84±4.52	5.88±2.24
t	0.269	1.075	-0.405	0.590
P	0.788	0.283	0.686	0.556
Education				
Primary school or below	26.17±5.45	6.61±2.22	13.47±3.08	6.08±2.18
Middle school degree	26.09±6.17	6.29±2.05	14.18±4.05	5.62±1.81
High school degree	27.95±6.92	6.93±2.21	14.80±4.42	6.22±1.94
College degree	28.08±6.13	6.82±1.94	14.80±4.08	6.45±1.82
Bachelor degree	30.73±6.43	7.64±2.28	16.23±4.54	6.86±1.83
Master degree or above	26.50±3.11	5.75±1.26	15.75±4.03	5.00±0.82
F	2.804	2.287	1.601	2.984
P	0.017	0.046	0.159	0.012

Have religious faith				
No	27.34±6.30	6.76±2.12	14.57±4.07	6.01±1.87
Yes	27.20±7.88	6.17±2.26	14.46±4.93	6.57±2.29
t	0.120	1.543	0.153	-1.395
P	0.904	0.124	0.879	0.171
Marital status				
Unmarried	27.91±5.05	6.73±1.74	14.45±3.14	6.73±1.95
Married	27.94±6.41	6.84±2.08	15.04±4.16	6.07±1.91
Divorced	23.53±8.32	5.53±3.17	12.24±4.55	5.76±2.33
Widowed	23.52±4.30	5.97±1.85	11.45±2.43	6.09±1.79
Others	27.33±4.04	7.67±2.08	14.67±2.08	5.00±1.73
F	5.283	2.753	7.417	0.662
P	0.000	0.028	0.000	0.619
Employment status				
Employed	28.45±6.64	6.98±2.12	15.21±4.48	6.25±1.81
Retired	26.85±6.41	6.60±2.12	14.28±3.97	5.97±2.00
Unemployed	25.69±5.20	6.08±2.17	13.65±3.83	5.96±1.78
Others	34.00	10.00	17.00	7.00
F	2.576	2.455	1.867	0.677
P	0.054	0.063	0.135	0.567
Relationship with patient				
Spouse	27.58±5.54	6.78±2.06	14.90±4.33	5.90±1.91
Parents	26.66±6.06	6.50±1.95	13.95±3.83	6.20±2.04
Child	26.48±6.54	6.84±2.31	13.87±4.05	5.77±1.56
Brother or sister	28.55±6.72	6.92±2.57	15.48±4.27	6.14±1.70
Other Family relative	31.40±10.24	7.20±2.28	17.60±5.90	6.60±3.05
F	1.665	0.628	2.718	0.684
P	0.158	0.643	0.030	0.604
Caring years				

≤5 years	27.14±7.38	7.14±2.34	13.71±4.57	6.29±1.50
6-10 years	26.44±6.55	6.13±2.35	13.96±4.03	6.35±2.02
>10 years	27.50±6.45	6.78±2.09	14.69±4.18	6.02±1.91
F	0.591	2.217	0.824	0.672
P	0.554	0.110	0.439	0.512
Main medical payment way				
Basic medical insurance for staff members	27.86±6.79	6.86±2.15	15.00±4.30	6.00±1.98
Residents' basic medical insurance	26.88±5.67	6.72±2.08	14.04±3.82	6.12±1.67
Others	25.47±6.17	5.74±2.00	13.45±3.87	6.29±2.18
F	2.584	4.543	3.441	0.404
P	0.077	0.011	0.033	0.668
Numbers of chronic disease				
No	27.50±11.56	6.75±1.89	14.75±7.89	6.00±2.94
One	27.80±6.41	6.81±2.19	14.83±4.11	6.15±1.92
Two	27.20±6.23	6.68±1.94	14.67±4.12	5.86±1.94
Three and above	25.10±6.27	6.15±2.13	13.00±3.88	5.96±1.85
F	2.362	1.314	2.662	0.478
P	0.071	0.270	0.048	0.698
Hours for caring patients per day				
≤ 6 hours	28.03±6.73	6.65±2.30	15.15±4.33	6.23±2.00
6.5-12 hours	27.31±6.04	6.89±1.80	14.42±3.99	6.00±1.68
More than 12 hours	24.94±6.15	6.36±2.39	12.90±3.55	5.68±2.22
F	4.529	1.217	5.974	1.743
P	0.011	0.297	0.003	0.176

Table 5
Ordinal regression analysis of social support for caregivers

Independent variable	B	Wald	<i>P</i>	95% CI
Gender				
Male	0.379	1.055	0.304	-0.344~1.101
Female	0 ^a			
Age				
≤50 years	0.971	1.780	0.182	-0.455~2.397
51-60 years	0.993	2.867	0.090	-0.156~2.143
61-70 years	-0.257	0.278	0.598	-1.210~0.697
≥71 years	0 ^a			
Education				
Primary school or below	1.402	0.528	0.468	-2.381~5.185
Middle school degree	0.220	0.014	0.906	-3.418~3.858
High school degree	1.066	0.333	0.564	-2.558~4.690
College degree	0.891	0.223	0.637	-2.810~4.592
Bachelor degree	2.478	1.638	0.201	-1.317~6.272
Master degree or above	0 ^a			
Marital status				
Married	-1.526	0.481	0.488	-5.837~2.785
Divorced	-0.103	0.003	0.959	-3.986~3.781
Widowed	-1.843	0.775	0.379	-5.945~2.260
Others	-0.676	0.110	0.741	-4.682~3.329
Unmarried	0 ^a			
Relationship with patient				
Spouse	-1.812	2.138	0.144	-4.242~0.617
Parents	-1.999	2.545	0.111	-4.456~0.457
Child	-2.395	3.104	0.078	-5.059~0.269
Brother or sister	-0.955	0.610	0.435	-3.351~1.442

Other Family relative	0 ^a				
Main medical payment way					
Basic medical insurance for staff members	1.310	5.803	0.016	0.244~2.375	
Residents' basic medical insurance	1.228	4.388	0.036	0.079~2.377	
Others	0 ^a				
Numbers of chronic disease					
No	-0.080	0.002	0.964	-3.548~3.570	
One	0.523	1.081	0.298	-0.463~1.547	
Two	0.383	.434	0.510	-0.757~1.524	
Three and above	0 ^a				
Hours for caring patients per day					
≤ 6 hours	0.196	0.146	0.703	-0.811~1.203	
6.5-12 hours	0.261	0.253	0.615	-0.757~1.280	
More than 12 hours	0 ^a				

CI: confidence interval

Table 6

The awareness and utilization status of social support for caregivers

Items	Awareness rate (n%)	Utilization rate (n%)
Social security		
Patients could apply for disability certificate.	349(96.14)	327(90.08)
Patients could use the public transport and visit scenic spotsfor free.	295(81.27)	278(76.58)
For Beijing residents,patients could apply for basic medical insurance.	189(52.07)	126(34.71)
For Beijing residents,patients could apply for pension subsidy.	147(40.50)	95(26.17)
Warm home.	176(48.48)	49(13.50)
Single-child disabled family couldapply for special support policies in Beijing.	54(14.88)	21(5.79)
Patients could apply for social insurance subsidy for disabled persons in urban areas.	46(12.67)	21(5.79)
Patients could participate in rehabilitation labor programs.	97(26.72)	21(5.79)
Patients couldobtain financial assistance during participating in in rehabilitation labor programs.	54(14.88)	11(3.03)
Patients can participate in vocational trainingfordisabilities.	68(18.73)	16(4.41)
Patients couldobtain corresponding subsidies during vocational training.	47(12.95)	8(2.20)
Patients could be admitted to stay in a rehabilitation institution organized by the district.	58(15.98)	15(4.13)
Patients could obtain corresponding subsidies during they stay in a rehabilitation institution organized by the district.	29(7.99)	11(3.03)
Patients could apply for the reduction of individual income tax.	41(11.29)	11(3.03)
Patients couldobtain tax incentives for Beijing disabled.	43(11.85)	9(2.48)
Patients could be admitted to stay in Beijing social welfare institutions for the disabled.	44(12.12)	10(2.75)
Patients could obtain corresponding subsidies during staying in Beijing social welfare institutions for the disabled.	29(7.99)	12(3.31)
Patients could get employment support in Beijing.	58(15.98)	3(0.83)
Patients could get support when theystarting a business in Beijing.	47(12.95)	4(1.10)
Financial support		
Patients couldobtain disability living allowance in Beijing(100 bucks / month).	288(79.34)	262(72.18)

Patients could obtain Beijing residents' home disability service (100 bucks / month).	219(60.33)	158(43.53)
Patients could obtain minimum living allowances for Beijing residents.	283(77.96)	123(33.88)
Patients could apply for basic living allowance for severely disabled families.	108(29.75)	54(14.88)
Patients who lived in dire poverty could get support.	112(30.85)	49(13.50)
Medical support		
Patients could obtain free psychotropic medications.	340(93.66)	304(83.75)
Patients could obtain regular medical examination once a year in the community health service center (or station).	327(90.08)	230(63.36)
Patients could obtain support to reduce the burden of medical expenses.	199(54.82)	151(41.60)
Poverty severe patients could get psychiatric diagnosis and treatment subsidy.	109(30.03)	76(20.94)
Education support		
Patient's children could obtain subsidies when be educated.	46(12.67)	20(5.51)
Living conditions support		
Patients or their families are supported by welfare guarantees to improve living conditions.	115(31.68)	30(8.26)