

# Pay Attention to Unpaid Caregivers: Balancing Health Behavior and Opportunity Cost

Yuqi Liu

School of economics, University of Warwick, Coventry, CV4 7AL, UK

**Abstract.** With the acceleration of the aging process of the population, the number of disabled elderly groups is increasing, and the role of unpaid caregivers is becoming more and more important. However, caregivers are faced with many challenges, such as physical and mental health, economic pressure and social identity, while assuming the responsibility of caring. Firstly, this paper analyzes the stress of unpaid caregivers from the three levels of individual, society and family. Secondly, it explores the difficulties faced by caregivers and the current situation of care, and analyzes the satisfaction of caregiver's needs in daily life, medical treatment and psychological comfort. Finally, combined with the opportunity cost method, replacement cost method and other evaluation methods, the paper puts forward the countermeasures of health intervention for unpaid caregivers.

**Keywords:** Unpaid Caregivers; Health Behavior; Opportunity Cost.

## 1. Introduction

With the increasing process of population aging in China, the number of disabled elderly groups is gradually increasing, and unpaid caregivers play an indispensable role in this process. Unpaid caregivers are usually family members, mainly responsible for the daily life care, medical care and emotional companionship of the elderly. However, long-term and high-intensity care work often brings great physical and mental pressure to caregivers, which not only affects their own health, but also may cause multiple difficulties in family and society. Studies have shown that unpaid caregivers often face physical fatigue, emotional distress and economic pressure in the process of care, and these pressures are often ignored by society. The purpose of this paper is to explore the trade-off between the health behaviors of unpaid caregivers and the opportunity cost, and to propose relevant solutions by analyzing the sources of caregivers' stress and health intervention needs.

## 2. Stress Performance of Unpaid Caregivers

### 2.1 Personal Pressure

With the deterioration of the physical function of the disabled elderly, they need the company of caregivers in all aspects. In this case, if the caregiver is in good health, it is not a problem to do this work, but if the caregiver is in poor health, it will bring challenges to his or her care work. Long-term and high-intensity care for the elderly will have a negative impact on the physiology of the caregivers, making their already weak body even worse. Through the survey, it is found that the physiological problems of unpaid caregivers are mainly manifested in the following aspects: taking care of the elderly needs to consume a lot of physical strength, especially for the disabled elderly, whose daily life depends entirely on the caregivers, and sometimes even needs to be held or carried, in the long run, the caregivers will feel tired. This is especially true for female spouse caregivers. Because for them, they are already old, their physical strength is limited, and some of them are suffering from diseases, so in the face of this "high-intensity" physical work, sometimes it seems inadequate; of course, this kind of work is not easy even for the caregivers of their children. Generally speaking, these child caregivers belong to the "sandwich layer" group, that is, there are old people and young people. At the same time, many of them have their own jobs. They usually have to sacrifice their leisure time to take care of the elderly. Because they are "working around the clock" all day, they will also be exhausted.

## 2.2 Social Pressure

In addition to personal pressures, unpaid caregivers of the disabled elderly also face certain social and cultural pressures, which are external, but also a great problem for caregivers, mainly manifested in the following aspects: Community is a social life community formed by people gathered in a certain area, compared with urban communities. Fei Xiaotong believes that "the scope of memory and life needed by people living in a rural society is different from that of people living in modern cities", and that the countryside is an "acquaintance society" of "being born here and dying here". In such a society, because we are familiar with the situation of each family, some family affairs may become the topic of discussion. For the unpaid caregivers of the disabled elderly, because they are different from other families, they are likely to become the focus of community discussion. For example, in the process of caring for the elderly, some elderly people lose control of their eating and drinking, so caregivers have to control their diet, but this may be mistaken by some people who do not know the truth that they are not filial, thus making them face tremendous pressure of community filial piety public opinion. Although many unpaid caregivers also want to have their own independent time, go out and participate in some social activities. However, if they do so, they may be misunderstood by the people around them as irresponsible for the elderly, they will think that there are still disabled elderly people in the family who need to be taken care of, and there will be no leisure and entertainment. In order to avoid the pressure of public opinion on filial piety, many caregivers seldom go out to participate in activities, and even if they do, they come and go in a hurry.

## 2.3 Family Pressure

Families of the disabled elderly have a heavy financial burden, which is mainly manifested in poor living conditions, declining consumption and living standards, etc. Some families are filled with a sense of economic crisis, and even fear of "sitting idle". In the survey, the author found that 70% of families have a sense of economic crisis, and only 10% of families have a weak sense of economic crisis. It is precisely because of this sense of economic crisis that many families control their consumption, and the quality of life has declined to a great extent compared with before. In the survey, many caregivers believe that economic pressure is the biggest pressure they and their families are facing at present. Taking care of the elderly, especially the disabled elderly, often causes contradictions and problems in many aspects, such as family responsibility, housework arrangement, etc. In this regard, Western scholars Wittenberg and others have pointed out that the child caregivers play a variety of roles, long-term care work, making it difficult for the child caregivers to achieve a balance among housework, work, children's education and the elderly. It makes the relationship between family members tense and the family atmosphere dignified. In our country, another special situation is that under the influence of traditional culture, family care responsibilities have obvious gender tendencies, that is to say, women take care of the elderly as a matter of course. In recent years, the phenomenon of "feminization of caring responsibilities" has been aggravated invisibly by the low birth rate of families and the large population mobility. In this case, women have to do everything in the family, and it may be difficult for them to get the understanding of others. This will lead to conflicts and even quarrels with their families.

## 3. Current Situation of Unpaid Caregivers

### 3.1 Care Content of Caregivers and Satisfaction of Needs of Disabled Elderly

The disabled elderly have a higher demand for daily life activities, medical treatment and psychological comfort. Among them, daily life mainly includes travel, cleaning, living, excretion, diet, etc.; medical care mainly includes chronic disease management, rehabilitation, medication, medical treatment, accident coping skills, etc.; Psychological comfort is mainly manifested in identity, hospice care, companionship and so on. At present, unpaid caregivers also provide care according to the actual needs of the disabled elderly. The unpaid caregivers mainly provide care for the disabled

elderly in daily life, emotional companionship, time support and financial support. The order of caring behavior was economic support, disease support, caring skills, social support, life care and psychological support. The above studies reflect that the unpaid caregivers give care to the disabled elderly in daily life, medical treatment, psychological comfort and economy. However, due to the influence of the degree of disability of the elderly, the relationship between caregivers, the time of care, the monthly income level of caregivers and the support received by caregivers, more than 50% of the disabled elderly's care needs are not met, mainly in the aspects of medical care services, meal services, spiritual comfort, daily travel activities, etc. The higher the disability level of the elderly, the lower the monthly income level of the caregivers and the less support they receive, the lower the satisfaction of the needs of the disabled elderly.

### **3.2 The Burden of Caregivers and the Demand for Supportive Services**

While providing care for the disabled elderly, unpaid caregivers also have corresponding care burden. Most scholars use quantitative research methods and Zarit Caregiver Burden Scale to evaluate the burden level of caregivers, while some scholars use qualitative research methods to summarize the care experience of caregivers. Most studies have shown that the burden of caregivers of disabled elderly people is moderate or above, mainly in physical, psychological, economic, social relations and other aspects. Physiologically, it is mainly reflected in the caregiver's physical health and quality of life. Psychologically, it is mainly reflected in the caregiver's mood and depression. Economically, it is mainly reflected in the family's monthly income level and medical expenses for caring for the elderly. Social relations are mainly reflected in the lack of social recognition and effective support. In order to reduce the burden of caregivers and improve the quality of care, relevant studies have proposed to provide support services for unpaid caregivers. The survey found that unpaid caregivers hope to get support in economic aspects, medical knowledge and skills, breathing services, social recognition and so on.

## **4. Pay Attention to the Health Behavior of Unpaid Caregivers and the Trade-Off Method of Opportunity Cost**

### **4.1 Cost Evaluation Method for Unpaid Caregivers**

The opportunity cost method refers to the possible loss of benefits in choosing one option and giving up the best of the other options. When evaluating IC time, the opportunity cost method uses the product of individual market wage rate and informal nursing time to estimate the time value of IC. The market wage rate can refer to the wage standard of people with similar gender, age or education level as unpaid caregivers. For housewives or retirees, the national or regional minimum wage, the average hourly wage, or the actual wage of the caregiver is often used as the unit time cost of IC. Opportunity cost method focuses on measuring the benefits or opportunities that unpaid caregivers give up because of providing care services, but it does not consider the time use preferences of unpaid caregivers, and it is difficult to determine the wage rate of unpaid caregivers in the non-labor market (such as retirees, disabled persons, etc.).

Replacement cost method, also known as commodity agency method, refers to the use of market prices close to labor to estimate the time cost of providing informal care services. In the actual calculation, it is assumed that patients need to purchase formal nursing services instead of informal nursing services, and the wages or market prices of formal nursing staff (such as nursing workers in nursing homes, housekeepers, etc.) are regarded as the unit time cost of IC. The replacement cost method mainly uses the price of market substitutes to evaluate the time cost of IC, but the substitutes may not be able to replace IC completely, and the replacement cost method needs to distinguish between formal and informal nursing tasks, which is difficult to operate in practical application.

Conditional valuation method is an indirect method to evaluate IC time cost, which determines the monetary value related to the provision of goods or services by investigating the willingness to pay

(Willingness to Pay, WTP) or willingness to accept (Willingness to Accept, WTA) of unpaid caregivers. In this approach, the investigator asked the unpaid caregiver the minimum amount he or she would be willing to accept or the maximum amount he or she would be willing to pay for additional care. Conditional valuation method considers and evaluates time preference from the perspective of unpaid caregivers, but focuses on monetary value, unpaid caregivers may refuse to answer, leading to too high or too low results.

Conjoint analysis, also known as conjoint measurement, is a method of analyzing respondent's preferences for a set of multi-attribute choices, requiring respondents to choose or rate different hypothetical scenarios, or make paired choices. The welfare assessment method refers to the assessment of the compensation required for an unpaid caregiver to provide an additional hour of IC. In addition, the self-rating burden scale and EQ-5D scale can also be used to assess the health-related burden of unpaid caregivers, but the data collection time is long, the process is complex and the cost is high.

As shown in Table 1, the three cases reflect different methods for calculating opportunity costs for different personnel. The first case is a teacher's child who takes care of a disabled elderly person for 30 hours per week. According to their salary standard, the income they give up per week is 1800 yuan. Case 2: A retired spouse takes care of a disabled elderly person for 20 hours per week without any additional income loss due to retirement. Case 3: A relative of a freelancer takes care of a disabled elderly person for 15 hours per week. Based on their salary standard, the income they give up per week is 1200 yuan.

**Table 1.** Opportunity Cost Cases of Caregivers

Case number	Caregiver role	Length of care (hours/week)	Caregiver occupation	Average wage of caregiver (yuan/hour)	Income forgone (yuan/week)
1	Children	30	Teacher	60	1800
2	Spouse	20	Retirement	0	0
3	Relative	15	Freelancer	80	1200

#### 4.2 Health Intervention Methods for Unpaid Caregivers

Zastrow and others have perfected the theory of social ecosystem, which is divided into three levels: micro-system, meso-system and macro-system, in which the micro-system is the individual's physiological, psychological and behavioral subsystems, and the meso-system is the small-scale groups such as family, work and community. Macroscopic system refers to the organization, institution, culture, policy, law and so on that are not involved in the microscopic and mesoscopic system. This theory has been proved to have a positive effect on social intervention work and health promotion, so this paper summarizes the relevant interventions to improve the guilt of unpaid caregivers of the disabled elderly according to this theory. Micro-system refers to the individual characteristics of the disabled elderly caregivers, such as physiology, psychology and behavior. Based on this, relevant interventions are carried out for the individual physiology, psychology and behavior of unpaid caregivers. Most of the unpaid caregivers of the disabled elderly in China are middle-aged and elderly people, most of whom suffer from chronic diseases, coupled with heavy care tasks, resulting in the gradual decline of their physiological functions, so they think that they do not take good care of the disabled elderly and feel guilty, so they should pay more attention to the physical condition of the unpaid caregivers. The system refers to small-scale groups such as family, work and community.

## 5. Conclusion

Through the discussion of health behaviors and opportunity cost of unpaid caregivers, this paper reveals the various pressures that caregivers bear in the process of caring for the disabled elderly. Unpaid caregivers not only face physical, psychological and social pressures, but also face enormous challenges in economic and caring skills. Through the analysis of different cost assessment methods and health interventions, this paper puts forward a number of recommendations to improve the situation of caregivers, aiming to provide better support and help for unpaid caregivers. However, there are still some limitations in the study, such as the sample selection of caregivers and the breadth of data collection, which need to be further explored. Future research can pay more attention to the personalized needs of unpaid caregivers and the construction of social support system, and promote the improvement of policies and services.

## References

- [1] Bradley C J, Schulick R D, Yabroff K R: Unpaid Caregiving: What are the hidden costs? *JNCI: Journal of the National Cancer Institute*, Vol. 114 (2022) No.11-22: 1431-1433.
- [2] Kim A, Woo K: Gender differences in the relationship between informal caregiving and subjective health: the mediating role of health promoting behaviors, *BMC Public Health*, Vol. 22 (2022) No.1: 311.
- [3] Magaña I, Martínez P, Loyola M S: Health outcomes of unpaid caregivers in low-and middle-income countries: A systematic review and meta-analysis, *Journal of Clinical Nursing*, Vol. 29 (2020) No.21-22: 3950-3965.
- [4] Longacre M L, Brewer B, Hubbard A, et al: Caregiver health by context: moderating effects of mental health and health behaviors, *Western Journal of Nursing Research*, Vol. 43 (2021) No.7: 622-630.
- [5] Tough H, Brinkhof M W G, Fekete C: Is informal caregiving at odds with optimal health behaviour? A cross-sectional analysis in the caregiving partners of persons with spinal cord injury, *Health Psychology and Behavioral Medicine*, Vol. 8(2020) No.1: 526-542.