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Original Article

Healthcare Service Utilization and Associated Factors in Community-Dwelling Elderly in Northern Taiwan: One Medical Center's Experience

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SUMMARY

Background/Purpose: To find differences in healthcare utilization among urban community-dwelling elderly in northern Taiwan in comparison with national survey data and to determine the factors associated with such utilization.

Methods: A cross-sectional survey was conducted among 1358 elderly (601 men, 44.3%; 757 women, 55.7%) who had received a senior-citizen health examination between March and November of 2009. Andersen's behavioral model of healthcare was adopted in this study.

Results: Up to 94.5% of elderly preferred utilizing Western medicine to treat their illnesses, which was higher than the 77.8% in 2005 and 68% in 2009. Only 2.1% chose to ignore their illnesses. Women and respondents aged 80 years old or older tended to utilize numerous types of healthcare services. Education level, living arrangement, being treated for chronic diseases, perceived health status, Brief Symptom Rating Scale score, and health concerns all influenced participants' healthcare service utilization.

Conclusions: To reduce the gap in healthcare utilization between different domicile people living in urban and non-urban areas, medical treatment should be modified by different health-seeking behaviors in these areas.

1. Introduction

The Council for Economic Planning and Development predicted that elderly (more than 65 y/o) will reach 22.5% by 2028 (approximately 5,360,000 people).[1] A National Health White Paper (2020) reported that the main factor influencing the higher life span was medical care.[2] Thus, improving education or enhancing care services may be needed to ensure that elderly make wise decisions concerning medical care and their health.

A study by the National Institutes of Health in 2003 revealed that individuals aged older than 65 years were exhibiting greater healthcare utilization.[3] Other studies have shown that individuals who were younger and had higher education levels tended to seek out Western medicine treatment,[4] as did elderly who were conscious of being ill.[5] One study found that, as age increased, so did the utilization rate of traditional Chinese medical treatment.[6]

Among individuals aged 65 years or older, 57% of women and 44% of men also used herbal medicine, vitamins, and mineral supplements. A higher likelihood of polypharmacy was also found with increasing age.[7] Compliance awareness has been found to be closely related to education level.[8] Additionally, among individuals with lower compliance with medical treatment, there was a greater tendency to purchase medication by themselves.[8]

One major factor determining accessibility to medical care is convenience.[9] With greater convenience, elderly are more likely to seek out regular treatment, and would be less likely to purchase medication on their own or utilize folk therapies.[9] The United State (US) Centers for Disease Control and Prevention found that the main reason for the US population aged more than 65 years old who delayed in seeking medical care when ill was the difficulty of accessing such care.[10]

To maintain the body's healthy functioning, elderly must engage in greater physical activity and healthy behaviors.[11] The motivation for health promotion was still high in the aging group, and they had sufficient time to engage in healthy behaviors.[12] Therefore, health

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protection and promotion are important concepts to maintain health of the elderly.

Andersen (2008) mentioned that one of the challenges of the 21st century in the medical field is to provide the best medical care possible for the elderly (aged ≥65 years).[13] In 1968, Andersen devised the behavioral model of health services use, which help expand researchers' understanding of individuals' healthcare utilization behaviors.[5,14] Individuals' healthcare use can be understood in terms of three sets of factors: predisposing, enabling, and need[14] (Fig. 1).

The main goal of this article was to compare healthcare services utilization (Western, Chinese medicine, and complementary/alternative medicine) among elderly individuals in northern Taiwan with national survey data. Andersen's behavioral model was used to frame the influencing factors of such utilization.

2. Methods

2.1. Study participants

This study targeted elderly (aged ≥65 years) who had received a health examination from March to November of 2009 at medical centers in Taipei City. Questionnaires were completed via one-on-one interviews. A total of 1399 elderly individuals underwent these interviews. Of these, 43 provided incomplete questionnaires due to specific disabilities and, thus, were excluded. Ultimately, a total of 1356 complete questionnaires (response rate: 96.9%) were used in the analysis.

The study protocol was examined and approved by the Human Research Ethics Committee of the researcher's hospital (project research number 09MMHISO11).

All participants provided written informed consent.

2.2. Physical and mental status

2.2.1. Physical health status

Two questions were asked: "How many chronic diseases are you receiving treatment for?" and "Compared to other people of your age, how is your current health status?" Respondents answered this latter question by choosing one of the following five options: excellent, good, the same, not good, and bad.[16,17]

2.2.2. Brief Symptom Rating Scale

Mental health was screened using the Brief Symptom Rating Scale (BSRS-5). This self-rated questionnaire requires respondents to report whether, in the past week, they had felt tense, blue, irritated, or inferior or had trouble falling asleep. Responses are rated on a scale from 0 to 4 with 0 meaning "not at all" and 4 meaning "extremely." Total scores ranged from 0 to 20.[18,19] When a score of ≥6 was used as the cut-off for psychiatric cases, the classification accuracy of the BSRS-5 was 76.3% (78.9% sensitivity, 74.3% specificity, 69.9%).[18]

2.3. Assessment of socio-demographic variables

Socio-demographic variables assessed included gender, age, education level, and living arrangement. Age was divided into four groups: 65–69, 70–74, 75–79, and ≥80 years old. Education level was classified into the following five levels: illiterate, elementary school, junior high school, senior high school, and college or higher. Living conditions were defined as living alone or living with family.

2.4. Questionnaire development

A questionnaire was developed based on the available literature.[16,17,20–22]

1. Health-risk behaviors: Three types of health-risk behaviors were assessed during the interview: alcohol consumption, smoking tobacco, and sedentary lifestyle in the previous six months.[20]
2. Health concerns: Three questions were used: "Do you usually discuss your own or others' health issue with others?" "Do you pay attention to news coverage of relevant medical and health issues?" and "Do you pay attention to food labels?", Participants answered each question as "never," "seldom," "sometimes," or "usually".[16,17]
3. Health-seeking behavior and healthcare utilization: To assess health-seeking behavior, the following question was used: "When you feel uncomfortable, what is the most common way you deal with?" Five areas were listed as responses (Table 1). Participants were asked to indicate the frequency with which they utilized six types of healthcare services: (1) Western medicine outpatient services (2) Chinese medicine outpatient services (e.g., herbal medicine, acupuncture, moxibustion) (3) purchasing Western medication (4) purchasing Chinese medicine (5) eating an organic diet, and (6) complementary/alternative medicine (e.g., recalling the soul[21], gua sha, cupping therapy, manipulation, chiropractic, massage, reflexology, bone reduction, and traditional trauma dislocation).[22]

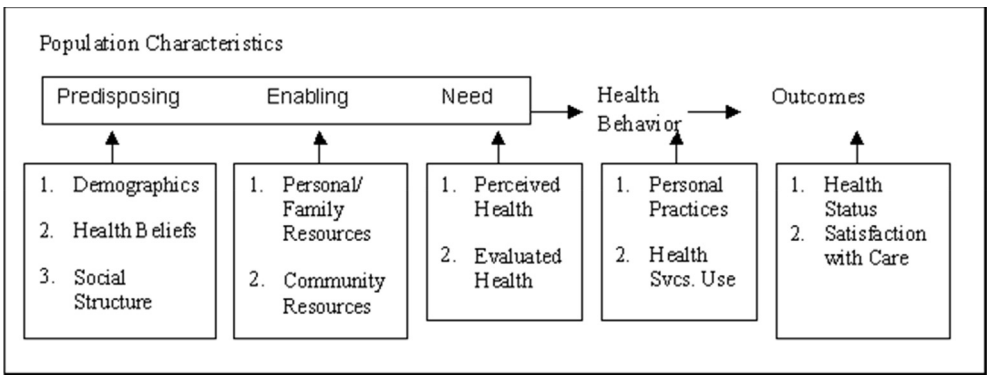

Fig. 1. The Behavioral Model[15,16].