Factors Influencing the Intention of Regular Health Examinations among Older People

Pei-Ti Hsu
Deh Yu College of Nursing and Health, Taiwan

ABSTRACT
The purpose of this study was to examine the current state of intentions regarding regular health examinations among older adults and to identify the factors influencing these intentions. The study participants were individuals over 65 years old in Keelung City. Data were collected through self-designed structured questionnaires and individual interviews conducted by questionnaire interviewers. T-tests, one-way ANOVA, and Pearson product-moment correlation were used to analyze the current state and influencing factors of the intention to undergo periodic health examinations. The study subjects were individuals over 65 years old in Keelung City. The analysis revealed a statistically significant difference in the intention to undergo regular health examinations based on sex ($t=2.32$, $P<.02$). Education level also showed a significant effect ($F = 4.150$, $P < .001$), with higher education levels associated with a greater intention to undergo periodic health examinations compared to those who were illiterate. Marital status significantly influenced the intention for periodic health check-ups ($F=3.22$, $P< .05$). Additionally, there was a statistically significant difference related to economic status. The study found that greater access to health information was associated with a stronger intention to undergo regular health examinations among the subjects. Therefore, promoting health information about regular health examinations is crucial for the elderly in the community.

Introduction

According to the United Nations, a society is classified as an aging society when individuals aged 65 and older comprise more than 7 percent of the total population. When this demographic exceeds 14 percent, the society is considered an aged society (Gao, et al., 2022). In 1993, the proportion of individuals aged 65 and older in Taiwan's total population officially exceeded 7%. By the end of December 2020, this demographic accounted for 11.986% of the total population (Statistic Bureau of Ministry of the Interior, 2022). The aging rate of Taiwan's population is quite rapid. In 2017, the proportion of individuals aged 65 and older reached 14%, classifying Taiwan as an aged society. It is estimated that by 2025, this demographic will account for 20% of the population, marking Taiwan's transition into a super-aged society (Statistic Bureau of Ministry of the Interior, 2022).

The rapid increase in the elderly population has significantly impacted healthcare systems. With the growing demand for healthcare services among the elderly, rising medical costs, and increasing awareness of the importance of elderly healthcare, the health issues of the elderly have become a critical focus of Taiwan's healthcare policy. This has underscored the importance of regular health examinations for the elderly and led to advocacy for their implementation. Regular health examinations can not only reduce social expenditure on medical care but also improve the quality of life for the elderly(Li Lei, et al.,2022). Regular health examinations can detect and treat diseases early, even before symptoms appear. Early-stage diseases can be identified through these examinations, allowing for timely interventional treatment to control and prevent the disease from worsening, thereby reducing the incidence of disability (Lin, et al., 2009 ; Hsu, 2015 ; Shih, et al., 2021).

In recent years, the health and well-being of the elderly have garnered increasing public attention. Promoting regular health examinations for the elderly is essential for maintaining their health. Early detection and treatment of chronic diseases, delaying disease progression, fostering a health-promoting lifestyle, improving quality of life, and extending lifespan are all valuable goals. This motivated the researchers to explore the factors associated with regular health check-ups in the elderly. Based on the above considerations, our research has the following objectives:

1. To understand the current status of regular health examinations among the subjects.

2. To investigate the factors influencing the subjects' intention to undergo regular health examinations.

Materials and Methods

Research Structure

Based on the study's purpose and literature review, the framework of this study (Figure 1) is presented. It primarily explores the relationship between demographic variations among the subjects, the convenience of physica examinations, health information, and the intention to undergo regular health examinations.
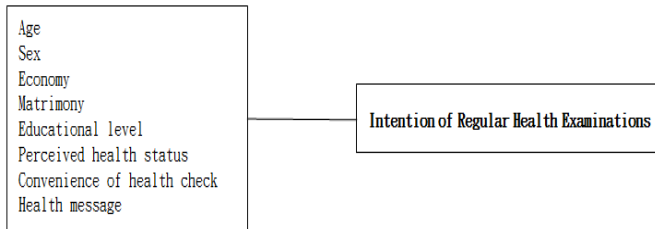
Figure 1. Research Structure

Data Collection and Ethic Concerns

In this study, elderly mothers aged over 65 residing in Keelung City were selected as participants. The study employed a cross-sectional design, and samples were chosen through intentional sampling methods. Participants were recruited from various community care centers in Keelung City, and data were collected through individual interviews conducted by trained interviewers. Prior to the interviews, the interviewers explained the study's purpose to the participants, ensuring them that the collected data would only be used for research purposes. Upon obtaining consent, interviews were conducted anonymously. Participants were informed of their right to withdraw from the study at any time. The selection criteria for participants were as follows: (1) aged 65 or above, (2) scored 91 or higher on the Pap scale, (3) able to communicate in Chinese or Taiwanese, (4) capable of independent mobility without physical disabilities, (5) absence of mental disabilities, as indicated by a score above 8 on the Short Portable Mental Status Questionnaire (SPMSQ), and (6) willingness to participate in the study after explanation by the researcher.

Research Tools

The construction of this year's tool primarily draws upon relevant literature from both domestic and international sources, aligning with the framework of the current study. Initially, a structured questionnaire was developed, encompassing influential variables such as age, gender, socioeconomic status, marital status, living arrangements, educational attainment, perceived health status, and accessibility of physical examinations, along with a scale assessing the intention for regular health examinations. Expert validation of the questionnaire was conducted by two nursing experts, one elderly care specialist, and one health education expert. Content validity index (CVI) was employed as the measure for expert validation, with the CVI values below 0.8 prompting modifications based on expert feedback. Subsequently, the revised questionnaire was assessed, and the total CVI value for each question was calculated by dividing the cumulative CVI value by the number of questions in the scale. The CVI values for each scale within the questionnaire ranged from 0.84 to 0.90, indicating satisfactory content validity.

(1)Influencing factors: This encompasses variables such as age, gender, socioeconomic status, marital status, living arrangement, educational attainment, perceived health condition, and accessibility of physical examinations.

(2)Intention of regular health examination scale

This scale comprises three questions:"I intend to undergo a health examination within the next 6 months.""I am considering undergoing a health examination within the next 6 months. "I am committed to undergoing regular health examinations within the next 6 months." Participants responded on a five-point scale ranging from "strongly disagree"(1)to "strongly agree"(5). In this study, the ronbach's α coefficient t for this scale was 0.96, indicating high reliability of the questionnaire results.

Data Collection and Data Analysis

(1) Descriptive statistics

Gender, socioeconomic status, marital status, and educational level of the study participants were described using frequency distributions and percentages.

Descriptive statistics including mean values and standard deviations were employed to depict the age, perceived health status, convenience of physical examinations, health information accessibility, and intention for regular health examination.

(2) Inferential statistics

T-tests and one-way analysis of variance (ANOVA) were utilized to examine differences between various types of variables and the intention for regular health examinations. In cases where significant differences were observed, Scheffé's post hoc method was employed for pairwise comparisons. If heterogeneity in variance was detected, Dunnett's T3 test was applied for post hoc analysis.

Pearson product-moment correlation analysis was conducted to examine the relationships between age, perceived health status, convenience of physical examinations, access to health information, and the intention for periodic health examinations. All the statistic threshold tested by this research was set at $\alpha = .05$

Results

Descriptive statistics of study subjects

Table 1. Descriptive statistics of variables (n =180)

variables	No. of people	Distribution	
		%	Mean(±SD)
Age			76.9 (±7.2)
Gender			
Male	102	66.6	
Female	78	33.4	
Education degree			
Illiterate	8	4.2	
Grade school	36	18.9	
Junior high school	26	13.7	
High school	72	37.9	
College	38	25.3	
Marriage			
Married	94	49.5	
Widowed	36	18.9	
Unmarried	34	17.9	
Divorced	16	8.4	
Living status			
Living alone	30	15.8	
Living with spouse	72	37.9	
Living with children	48	25.3	
Three generations living under one roof	30	15.8	
Economic consciousness			
Not enough	74	38.9	
Ordinary	100	52.6	
Enough	6	2.1	
Perceived health status			4.02(±0.47)
Convenience of inspection			1.77(±0.31)
health information			3.72(±0.56)
Regular health checkup intentions			12.20(±2.86)

The descriptive statistics of the study participants are presented in Table 1. Among the participants, 94 individuals (49.5%) were married, while at least 16 individuals (8.4%) were divorced. Additionally, 72 individuals (37.9%) resided with their spouses. Approximately 100 individuals (52.6%) reported an average economic status. Gender distribution

indicated that 102 individuals (66.6%) were male, while 78 individuals (33.4%) were female. Moreover, 72 individuals (37.9%) had completed high school education. The mean age of the participants was 76.9 years ($\pm$7.2). The average score for perceived health status was 4.02 ($\pm$0.47), convenience of health examination was 1.77 ($\pm$0.31), and health information was 3.72 ($\pm$0.56). The average score for participants' intention for regular health examinations was 12.20 ($\pm$2.86) points, suggesting a moderate level of intention for regular health examinations.

Inferential statistic

A statistically significant difference was found between gender and the intention for regular health examinations (t = 2.32, $P < .02$). Similarly, there was a statistically significant difference between education level and the intention for periodic health examinations (F= 4.150, $P < .001$), with a higher intention observed among those with education compared to those with no formal education. Furthermore, marital status was significantly associated with the intention for periodic health check-ups (F=3.22, $P < .05$). Additionally, a statistically significant difference was observed between economic awareness and the intention for regular health examinations (F=3.59, $P < .05$). Specifically, individuals with a greater economic awareness demonstrated a higher intention for regular health examinations compared to those with lower economic awareness.

A significant positive correlation was observed between health information and the intention for regular health check-ups (r = .21, $P < .01$). This finding suggests that individuals with greater access to health information tend to exhibit a stronger intention for regular health check-ups. Consequently, promoting regular health check-ups among elderly individuals in the community is of paramount importance, emphasizing the significance of health message dissemination.

Conclusion

Greater access to health information among the study subjects correlates positively with a heightened intention for regular health examinations. Hence, advocating for increased dissemination of health information regarding regular health examinations among the elderly population within communities holds significant importance.

References

[1] Gao, S.-F., Liu, W.-M., Wu, S.-J., Wang, J.-Z., Song, H.-J., Zheng, W.-Y., Li, Z.-Y., Chen, Z.-R., Chen, C.-F., Yang, Q.-X., Lin, Y.-R., Lin, Z.-Q., Chen, H.-J., Lin, Y.-X., Zhuang, Y.-G., Chen, Y.-J., Zhao, M.-L., & Liu, Q.-H. (2022). *New Geriatric Nursing*. New Taipei City: Yongda Bookstore.

[2] Statistic Bureau of Ministry of the Interior, 2nd weekly Interior disclosure.Internet: http://www.moi.gov.tw/stat (accessed 3 January 2016).

[3] Li Lei, Yongzhen Tang, Qiuxia Zhang, Min Xiao, Lei Dai, Junyan Lu, Xinxin Lin, Xiangqi Lu, Wei Luo, Jiazhi Pan, Xiaoyu Xin, Shifeng Qiu, Yun Li, Shengli An, corresponding author, Jiancheng Xiu (2022). The Association Between the Frequency of Annual Health Checks Participation and the Control of Cardiovascular Risk Factors. *Front Cardiovasc Med. 9*(860503).

[4] Lin, W.-S., Ma, S.-T., Yang, C.-Y., Chang, P.-W., & Yeh, C.-H. (2009). A study on the health examination behaviors and related influencing factors of people aged 40 and above. *Chia Nan Annual Bulletin, 35*, 560-571.

[5] Hsu,Y.-W.(2015). *Health Promotion*. New Taipei City: New Wun Ching Developmental Publishing.

[6] Shih, C.-Y., Chang, K.-T., Ho, Y.-T., Chuang, Y.-H., Chang, J.-A., Lin, Y.-C., Chang, J.-B., & Lin, Y.-C. (2021). *Chinese Journal of Occupational Medicine, 28*(3), 259-267.