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硕 士 学 位 论 文

厦门市老年人失能问题研究

Research on the elderly disability in Xiamen

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## 摘要

### 目的

中国老龄化形势严峻，与之相伴而生的老年人失能问题也急剧凸显。本文拟通过对厦门市老年人失能问题的调查研究，了解厦门市失能老年人的数量、程度、分布特征，失能原因及照护现状，并分析失能相关的影响因素及失能对老年人健康状况带来的影响，为开展老年人失能预防控制工作和完善失能老年人社会保障体系提供循证依据。

### 方法

1. 采用多阶段抽样的方法，抽取厦门市 60 岁及以上户籍老年人作为调查对象。开展面对面问卷调查，调查内容包括基本信息、失能原因、失能老年人照护现状、日常生活自理能力和健康状况。

2. 利用 Katz 指数量表评价老年人日常生活自理能力（Activities of Daily Living, ADL），进而判断其失能状况，采用 Cronbach's  $\alpha$  系数评价量表的信度。通过“老年人健康功能综合评定量表”和健康期望寿命表评价失能对老年人健康状况带来的影响。

3. 对调查老年人基本信息及老年人失能情况进行描述性分析，定量资料用均数和标准差表示，定性资料用相对数表示。失能状况的影响因素分析采用  $\chi^2$  检验和二分类 Logistic 回归，失能程度的影响因素分析采用非参数检验和有序多分类 Logistic 回归。不同失能状况老年人的健康得分比较采用 Wilcoxon 秩和检验，不同失能程度老年人的健康得分比较采用 Kruskal-Wallis  $H$  检验。采用 Sullivan 方法编制老年人健康期望寿命表，计算期望寿命、健康期望寿命和 ADL 依赖期望寿命。

### 结果

1. 本次调查包括厦门市 6 个区, 38 个街道/乡镇, 173 个社区; 共发放问卷 14373 份, 最终回收有效问卷 14292 份, 有效率 99.44%。调查老年人基本情况: 男性 (48.19%) 比例略低于女性 (51.81%); 平均年龄为  $71.49 \pm 8.34$  岁, 其中 60~69 岁占 48.22%; 居住地为城市者占 48.92%, 村改居者占 25.63%, 农村者占 25.45%; 69.56% 的老年人在婚; 独居老年人占 11.07%; 2.42% 的老年人没有子女, 56.27% 的子女数  $\geq 3$  个; 文化程度仅为小学及以下者占 63.78%; 27.47% 的老年人经济状况较差, 20.57% 经济状况较好; 63.57% 的老年人患有慢性病。

2. 本次调查有 1793 名老年人失能, 失能率为 12.55%, 其中部分失能率为 8.28%, 轻、中、重度完全失能率分别为 1.06%、0.79%、2.42%。以洗澡的失能率最高 (10.52%), 吃饭的失能率最低 (5.91%), 失能评定量表 Cronbach's  $\alpha$  系数为 0.973。不同特征老年人失能率比较: 女性 (14.29%) 失能率高于男性 (10.67%); 随着年龄的增加, 失能率越高, 80 岁及以上的老年人失能率为 32.35%; 农村老年人失能率高于城市老年人 (16.77% vs. 9.70%); 非在婚老年人失能率 (22.31%) 高于在婚老年人 (8.30%); 独居、仅与子女居住、与其它人居住老年人的失能率分别为 18.71%、21.29%、19.95%; 无子女老年人 (32.37%) 高于有子女老年人; 小学以下者失能率为 20.52%, 随着文化程度的增高失能率逐渐降低; 经济状况较差老年人 (26.22%) 失能率高于收支平衡和经济状况较好的老年人; 随着慢性病患病种数的增加, 失能率增大, 患有 3 种及以上慢性病的老年人失能率为 28.03%。

3. 年纪大导致的功能自然衰退和疾病是引起失能的主要原因, 分别占失能原因的 45.43% 和 37.10%。脑血管病是导致失能的最主要疾病, 占疾病所致失能的 41.82%, 而且随着失能程度的加重, 脑血管病所占比例增大。失能老年人的主要照护人为配偶和儿子, 分别占 35.29% 和 31.67%。

4. 失能状况的影响因素分析: 单因素结果显示性别、年龄、居住地、婚姻状况、家庭居住情况、子女数、文化程度、个人经济情况、慢性病患病种数的失能率差异具有统计学意义; 多因素结果显示年龄、居住地、婚姻状况、家庭居住情况、子女数、文化程度、个人经济情况、慢性病患病种数等 8 个变量进入回归方程。失能程度的影响因素分析: 单因素结果显示性别、年龄、居住地、家庭居住情况、子女数、文化程度、个人经济情况、慢性病患病种数的失能程度差异具有

统计学意义，而不同婚姻状况失能老年人的失能程度差异不具有统计学意义 ( $P=0.548$ )；多因素结果显示年龄、居住地、家庭居住方式、子女数、个人经济状况及慢性病患者种数等 6 个变量进入回归方程。

5. 失能老年人健康综合得分中位数为 45.00 分，低于完全自理老年人 (72.50 分)。日常生活能力 (11.00 VS. 25.00)、身体健康状况 (12.00 VS. 18.00)、精神健康状况 (14.00 VS. 18.00)、认知功能 (16.00 VS. 24.00) 和经济资源 (13.00 VS. 15.00) 等 5 个维度得分的中位数均低于完全自理老年人。随着失能程度的加重，日常生活能力、身体健康状况、精神健康状况、认知功能等 4 个维度的得分以及总分均呈现下降趋势。

6. 年龄 60~64 岁老年人的期望寿命为 25.23 岁，其中健康期望寿命为 21.14 岁，ADL 依赖期望寿命为 4.09 岁；ADL 依赖期望寿命与期望寿命的比值为 16.22%，该比值随着年龄增长而增大，女性老年人各年龄段该比值均大于男性。

## 结论

1. 厦门市老年人总体失能率低于全国水平及国外大部分研究的结果，但是重度完全失能率高于全国水平。

2. 功能自然衰退和慢性病是导致老年人失能的主要原因，其中脑血管病是与失能相关的最主要慢性病。

3. 失能老年人照护以家庭照护为主，主要照护人以配偶和儿子的比例较高。

4. 女性、高龄、居住地为农村、非在婚、仅与子女或与其它人居住、无子女、文化程度低、经济能力差、患慢性病种数多是老年人失能的危险因素。

5. 老年人失能后健康状况变差，且失能程度越严重，健康状况越差，尤其是日常生活能力；失能对女性老年人生命质量的影响较男性严重。

**关键词：**老年人 失能 影响因素 多维健康功能评价 健康期望寿命

## Abstract

### Objective

China has experienced an unprecedented process of aging in its population. The situation of elderly disability presents a serious public health challenge. We conducted the current study among the elderly in the Xiamen municipal area to understand the present situation of elderly disability, explore the related impact factors and assess the influence of disability on the health of the elderly, which will provide an evidence-based guidance for implementing policy of gerontological prophylaxis in disability.

### Methods

1. A cross-sectional study was performed on individuals  $\geq 60$  years of age and who registered their households for interviews. Multistage probability sampling was performed in order to select participants and a face-to-face interview was conducted. The questionnaire contains demographic information, the major reasons for the disability, the care of disabled elderly, the activities of daily living and health of the elderly.

2. The activities of daily living (ADL) were assessed by the Katz Index Scale to evaluate the disability. The reliability of the scale was estimated by Cronbach's alpha. The multidimensional Health Assessment Scale and health expectancies table were performed to assess the influence of disability on the health of the elderly.

3. Statistical analysis was showed as follow. First, some basic descriptive statistics were calculated, which included mean and standard deviations for quantitative variables, and proportions for qualitative variables. Second, chi-square tests and binary logistic regression were performed to identify impact factors for the disability; nonparametric tests and ordinal logistic regression were applied to identify impact factors for the degree of disability. Third, Wilcoxon rank sum tests and Kruskal-Wallis  $H$  tests were used to examine the differences in health score among

different disability status and degree, respectively. Finally, Sullivan method was performed to draw the health life expectancy table of elderly, and calculate life expectancy, disability-free life expectancy and dependent life expectancy.

## Results

1. This survey covered 6 districts, 38 sub-districts and 173 communities, and a total of 14,373 respondents were interviewed. In the end, 14,292 (99.44%) valid questionnaires were obtained. The demographic characteristics of all valid participants were shown as follow. There were slightly less men than women (48.19% vs.51.81%). Their mean age was  $71.49 \pm 8.34$  years and there were 48.22% of participants who were between 60~69 years of age. The proportion lived in urban, urban village, rural were 48.92%, 25.63% and 25.45%, respectively. The proportion of married participants and single participants were 69.56% and 11.07%, respectively. The proportion of having no children was 2.42%, but there were 56.27% of the participants have three and above children. There were 63.78% of the participants who had only attained primary or lower-level education. The proportions of the elderly in poor and good economic status were 27.47% and 20.57%, respectively. 63.40% suffered from chronic diseases.

2. There were 1,793 disabled elderly in this survey. The disabled prevalence of 14,292 participants was 12.55%, among which the proportion of relatively disabled, slight completely disabled, medium completely disabled, and severe completely disabled were accounted for 8.28%, 1.06%, 0.79% and 2.42%, respectively. The overall prevalence of disability was highest in bathing (10.52%) and the lowest in feeding (5.91%). As measured by the modified Katz Index Scale, the Cronbach's alpha coefficient was 0.973. The prevalence of elderly disabilities according to different demographic characteristics was shown as follow. Female (14.29%) were more likely to suffer from disability than male (10.67%). The elderly aged  $\geq 80$  years (32.35%) showed much higher disability prevalence than other ages. Prevalence of disability was higher in rural (16.77%) than urban (9.70%). Prevalence of disability was higher in unmarried elderly (22.31%) than the married (8.30%). The disability



prevalence in elderly who were alone, only lived with children and lived with others were 18.71%, 21.29% and 19.95, respectively. The elderly who had no children has the greatest prevalence (32.37%). The elderly who were illiterate (20.52%) appeared to have worse functionality. Elderly who were in bad economic status (26.22%) presented a higher prevalence of disability. As suffering more kinds of chronic disease, the risk of disability increased, particularly in the elderly who suffered three or more kinds of chronic disease (28.03%).

3. The major reasons for the disability were the natural deterioration of the function and diseases, which accounted for 45.43% and 37.10%, respectively. Cerebrovascular disease was the major cause of disability in the disease, accounting for 41.82% the part of the disability caused by diseases. The major care providers for disabled elderly were Spouse and son, which accounting for 35.29% and 31.67%, respectively.

4. The analysis in impact factors of the disability status showed that: the prevalence of disability were difference among different gender, age, residence, marital status, living arrangement, the number of children, educational level, personal economic status and the number of chronic diseases; age, residence, marital status, living arrangement, the number of children, educational level, personal economic status and the number of chronic diseases entered the final binary logistic model. The analysis in impact factors of the disability degree showed that: apart from marital status ( $P=0.548$ ), the difference were significance among gender, age, residence, living arrangement, the number of children, educational level, personal economic status and the number of chronic diseases; age, residence, living arrangement, the number of children, personal economic status and the number of chronic diseases entered the final ordinal logistic model.

5. The median of the total health score in disabled elderly was 45.00, which was lower than non-disabled (72.50), which was the same as the aspects of activities of daily living (11.00 VS. 25.00), physical health (12.00 VS. 18.00), mental health (14.00 VS. 18.00), cognitive function (16.00 VS. 24.00), and economic resources

(13.00 VS. 15.00). With the increase of disabled degree, the total health score decreased, which was the same as the aspects of activities of daily living, physical health, mental health and cognitive function.

6. In 60-64 years old group, the life expectancy, disability-free life expectancy and dependent life expectancy were 25.23 years, 21.14 years and 4.09 years, respectively. The ratio of dependent life expectancy and life expectancy was 16.22% in 60-64 years old group, which increased as age. The ratio of dependent life expectancy and life expectancy in female were higher than male in all age group.

## **Conclusion**

1. The prevalence of elderly with disabilities in our study were lower as compared with several studies in which the same scale of items were used, however, the prevalence of severe completely disabled was higher than national level.

2. The major reasons for the disability were the natural deterioration of the function and diseases. Cerebrovascular disease was the major cause of disability in the disease.

3. The care for disabled elderly was mainly home-based, the major caretakers were spouse and son.

4. Female, older age, rural living, unmarried status, only living with children or living with others, illiteracy, poor economic status and chronic illnesses were risk factors to disability.

5. The health status of elderly deteriorated after suffering disability. With the increase of disabled degree, the worse health status they showed, especially the aspect of activities of daily living. The impact of disability on the quality of life of female was more severe than male.

**Keywords:** Elderly; Disability; Impact factors; Multi-health functional assessment; Disability-free life expectancy

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## 第一章 背景与目的

### 1.1 研究背景

人口老龄化是 21 世纪世界人口发展的主要趋势，如何面对老龄化社会所带来的一系列问题已成为全世界共同关注的焦点，目前，老龄化问题不仅仅局限于发达国家，发展中国家同样面临着严峻的挑战<sup>[1, 2]</sup>。中国于 1979 年 9 月颁布《中华人民共和国人口与计划生育法》后，严格控制出生率，同时人群的死亡率下降、平均寿命逐渐延长，导致在过去 30 年人口老龄化速度不断加快<sup>[3-5]</sup>。根据联合国标准，当一个国家或地区 60 岁及以上老年人口占总人口的 10%或 65 岁及以上老年人口占总人口的 7%，即意味着这个国家或地区的人口处于老龄化阶段<sup>[6]</sup>，中国于 2000 年左右进入“老龄化社会”<sup>[7, 8]</sup>。2013 年底，中国 60 周岁及以上老年人口已达 2.02 亿，其中 65 周岁及以上为 1.32 亿，分别占人口总数的 14.9%和 9.7%，达到了高度老龄化的程度<sup>[9]</sup>。而且现阶段中国老龄化仍呈快速发展态势，预计 2050 年我国 60 岁及以上和 65 岁及以上老年人将分别达到 4.4 亿和 3.3 亿，所占总人口比例也将分别超过 30%和 20%<sup>[1, 4, 10]</sup>。

随着人口老龄化程度的不断加剧，老年人失能风险急剧增加、失能老年人口迅速增长，社会面临着巨大挑战<sup>[11]</sup>。我国是目前世界上失能老年人口最多的国家，2010 年末，中国完全失能和部分失能老年人合计 3300 万，占我国总老年人口数的 19.0%，其中完全失能老年人 1080 万，占老年人口总数的 6.25%<sup>[12]</sup>。老年人失能导致其身心健康状况下降，从而影响自身生活质量，同时失能老年人所产生的赡养和照护问题随时可能演变为家庭矛盾，成为影响家庭和谐、代际和谐的潜在因素<sup>[13]</sup>。因此，如何在我国“未富先老”的特殊国情下，制定和完善失能老年人的支持对策，不仅是国情所迫、大势所趋，也是解决民生之苦、构建和谐社会的当务之急与重任。

截至 2013 年 8 月 31 日，厦门 60 周岁及以上的户籍老年人口数已达 26.46 万，占户籍总人口的 13.63%，已呈现高度老龄化状态。那么，厦门市老年人的失能情况如何，失能老年人的照护现状及健康状况又如何，应该采取哪些切实可行的失能老年人支持对策均是当前亟待解决的重大民生问题。开展“厦门市老年

人失能问题研究”不仅是积极应对人口老龄化战略研究的一个重要组成部分，也是推动老龄事业发展的一项基础性奠基工程，对提高老年人生活质量及社会持续平稳发展具有重要的现实意义和指导意义。

## 1.2 研究目的

本研究拟通过对厦门市老年人失能问题的调查，了解厦门市老年人失能情况（数量、程度、分布特征）、失能原因及照护现状，并分析失能相关的影响因素及失能对老年人健康状况所带来的影响，为开展老年人失能预防控制工作和完善失能老年人社会保障体系提供循证依据。



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