# Hunger and poverty among elderly patients attending an emergency department

KY Tham, SL Poon, SY Thong

*Background:* Singapore is an affluent small nation-state with a high per capita gross domestic product. *Objective:* To determine the prevalence of hunger and poverty among elderly patients attending an emergency department (ED). *Methods:* All patients aged 65 years and above who sought treatment at the ED of an urban acute care hospital over one week between 0900 and 1700 hours were surveyed. Two trained interviewers administered a face-to-face close-ended questionnaire. Data collected were demographics, health status and surrogate indicators of poverty and hunger. *Results:* Of the 210 non-critically ill patients approached, data was available for 194 (92.4%), of which 51% were men. The mean age was 76.7 (SD 7.4) years. Majority of the patients were well taken care of but a minority were not coping: 0.5% was homeless, 3.1% had skipped medical appointments in the last year due to lack of money, 1% did not have enough to eat and were not receiving any food aid and 1.5% borrowed money to buy food in the previous six months. Despite their advanced age, there were 12 (6.2%) who were sole breadwinners for their families. Twenty-one patients (10.8%) were already on welfare assistance and 5.7% received food aid to supplement their basic food needs. *Conclusion:* Though the numbers were not alarming, it was worrying that some elderly patients were going hungry or skipping medical appointments due to lack of money or still had family dependent on their income. The ED can help by actively identifying these at-risk elderly and referring them for welfare assistance. (*Hong Kong j.emerg.med.* 2003;10:97-103)

Keywords: Elderly, emergency department, hunger, poverty

## Introduction

Singapore is an affluent multi-racial, multi-lingual nation-state of 3.26 million resident population enjoying a per capita gross domestic product of S$39, 585 (about US$23,000) in 2000.[1] In 2000, elderly persons aged 65 and above formed 7.3% of the population.[2] This proportion is projected to rise to 19% by year 2030 as a result of the ageing of the post-war baby-boomers born between 1945 and 1966,[3,4] making Singapore the fastest ageing society in Asia after Japan. With this ageing population, issues of health, sickness, wealth and poverty become important concerns for the individual, for health care providers and for the nation.

The ED is a fast paced environment where often, the emphasis is to treat acute medical problems in the most cost-efficient manner. Elderly patients, a vulnerable group in terms of sickness, hunger and poverty, may have socio-economic factors that have direct impact on their acute medical problems. Most ED staff would not be cognizant of elderly patients' socio-economic problems unless there were medical grounds to make such enquiries. Our study therefore aimed to determine the prevalence of hunger and poverty in a sample of elderly ED patients.

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## Methods

### *Study design*

This study was an interview survey of a convenience sample of ED patients who were 65 years or older. The study was approved by the hospital ethics committee.

### *Study setting and population*

The survey was conducted in the ED of Tan Tock Seng Hospital, Singapore, an urban acute care general hospital with 1,000 beds. The year 2000 annual census of the ED was 116,125 patients. The study population included all elderly persons aged 65 and above registered for ED consultation between 0900 to 1700 hours who were awaiting care. Patients with critical conditions or were haemodynamically unstable were excluded from the interview.

### *Study protocol*

After a small pilot study, a prospective face-to-face questionnaire survey was carried out. The survey was conducted from the 13th to 19th November 2000 between 0900 to 1700 hours. The 2nd (SLP) and 3rd authors (SYT) interviewed the patients using a closed-ended questionnaire. Participation was voluntary. Each interview took five to ten minutes. As far as possible, the elderly were interviewed in their own chosen natural language (English, Chinese, Malay or Tamil) or Chinese dialect (Hokkien, Cantonese, Teochew etc.). Occasionally nursing staff helped with translation. If the patient was not able to answer the questions due to medical conditions e.g. dementia, aphasia, or needed help to answer the questions, then the caregiver when available, was also interviewed. Caregivers included family members, domestic maids and friends.

### *Measures*

The questionnaire contained 23 items, collecting data on demographic information, health status, and surrogate indices of hunger, food insecurity and poverty. Having examined the Food-Security/Hunger Core Module[5] and the Radimer/Cornell measures,[6] we decided to develop our own questions because the way food is purchased and prepared is very different in Singapore. Elderly persons in Singapore might feel shy or inhibited discussing their income or lack thereof, and hence surrogate questions and indices were used in the questionnaire instead. Examples of surrogate indices of poverty included "in the last one year, did you skip medical appointment because of a lack of money?", "are you the sole breadwinner for your family?" which meant whether the elderly person's income was the only means of support for the family, "do you feel that your income is adequate?" and "are you receiving welfare assistance?". The number of respondents who wanted referral to the hospital social work service was also recorded.

### *Data analysis*

Data were analyzed with Statistical Package for Social Science (Windows version 8.0). Besides descriptive statistics, chi-squared test was used for comparison of ordinal variables and t-test for scale variables. A p-value equal to or less than 0.05 was considered significant.

## Results

During the survey, 210 elderly patients were approached, of which two declined participation, and 14 patients were either suffering from dementia or speech problems and did not have any accompanying caregiver, and hence no further information was obtained. Data from 194 patients was collected and analyzed. More than half (51.5%) of interviewees had help from caregivers in answering the questionnaire. The proportion of male (51%) to female (49%) patients was almost equal. The overall mean age was 76.7 (standard deviation [SD] 7.4) years, with the youngest patient at age 65 and the oldest at 96.9 years. The mean age for men was significantly lower ($p<0.0001$) at 74.7 (SD 6.8) years compared to 78.3 (SD 7.5) years for women. Table 1 summarized the demographic information of the patients. Compared to the racial distribution in Singapore whereby 76.8% were Chinese, 13.9% Malay, 7.9% Indian and 1.4% other racial groups,[2] our study population had an over-representation of Chinese (82%) patients that was not statistically significant. Majority (79.4%) of

Table 1. Patient characteristics (n=194)

| | |
|---|---|
| Mean age (SD) | 76.7 (7.4) years |
| Median age | 75.3 years |
| Gender – male | 99 (51%) |
| Race | |
| Chinese | 159 (82%) |
| Malay | 18 (9.3%) |
| Indian | 15 (7.7%) |
| Others | 2 (1.0%) |
| Place of residence | |
| Public housing 1-3 room apartment | 59 (30.4%) |
| Public housing 4-5 room apartment | 85 (43.8%) |
| Private residence/property | 29 (14.9%) |
| Homeless/No property | 1 (0.5%) |
| Nursing home | 20 (10.3%) |
| Employment status | |
| Retired | 121 (62.4%) |
| Never worked | 54 (27.8%) |
| Working part-time | 6 (3.1%) |
| Working full-time | 13 (6.7%) |
| Chronic illness | |
| Hypertension | 77 (39.7%) |
| Diabetes | 45 (23.2%) |
| Heart disease/Coronary artery disease | 40 (20.6%) |
| Others | 34 (17.5%) |

the community dwelling elderly respondents lived with their children or families while 18% lived alone. Family members accompanied 77.4% of them for their visit to the ED.

More than two thirds (68%) of the elderly had chronic illnesses and were on long-term medication. Of these patients, 66.7% had primary health physicians as their regular doctors while the rest had specialists as their regular doctors. When asked to recall the fees they paid for the immediate last consultation with their doctor, 38% felt that it was expensive, 43.5% said it was just right and 18.5% felt that the payment was cheap. Whether their regular doctor was a primary health care physician or a specialist did not significantly influence the patients' view of the affordability of the fees. In the previous year, six patients had skipped medical appointment due to a lack of money, with three doing so on more than three occasions. Only one of these six patients said that the medical fees were expensive while four felt that the fees were just right.

In the three days prior to the survey, 113 (58.2%) patients said that they had enough to eat, 79 (40.7%) had no appetite due to their illnesses and two reported that they did not have enough to eat. Three (1.5%) patients needed to borrow money to buy food in the last six months and did so on more than six occasions. None of these three was receiving any food aid and two of them were the ones who reported that they did not have enough to eat in the previous three days. There were 11 (5.7%) patients who were receiving food aid e.g. Meal Services for Elderly[4] to supplement their basic food needs.

Twenty-one (10.8%) patients were receiving welfare assistance either from government or voluntary welfare organizations. Of these 21, seven were also on food assistance programs. During the survey, five patients indicated that they would like referral to the hospital social welfare service. Figures 1 and 2 are charts showing the hunger and poverty indices.

More than two-thirds (67.5%) of elderly patients received pocket money from their family regularly while the rest did not. Among the elderly patients, more than half were retired but six were holding part time jobs and 13 were still working full time. The mean age of these 19 (9.8%) working elderly was 70.1 (SD 4.5) years, which was significantly ($p<0.0001$) lower than the mean age of 77.1 (SD 7.3) years of the non-working patients. Of these working elderly persons, 15 were not receiving welfare assistance, 14 were not receiving pocket money from their family, nine were the sole breadwinners for their family and seven felt that their income was inadequate. None of these 19 reported any food insecurity. Table 2 summarized the characteristics of these 19 working elderly persons.

There were a total of 12 (6.2%) elderly patients who were the sole breadwinner for their family, of whom nine were working part-time or full time and three

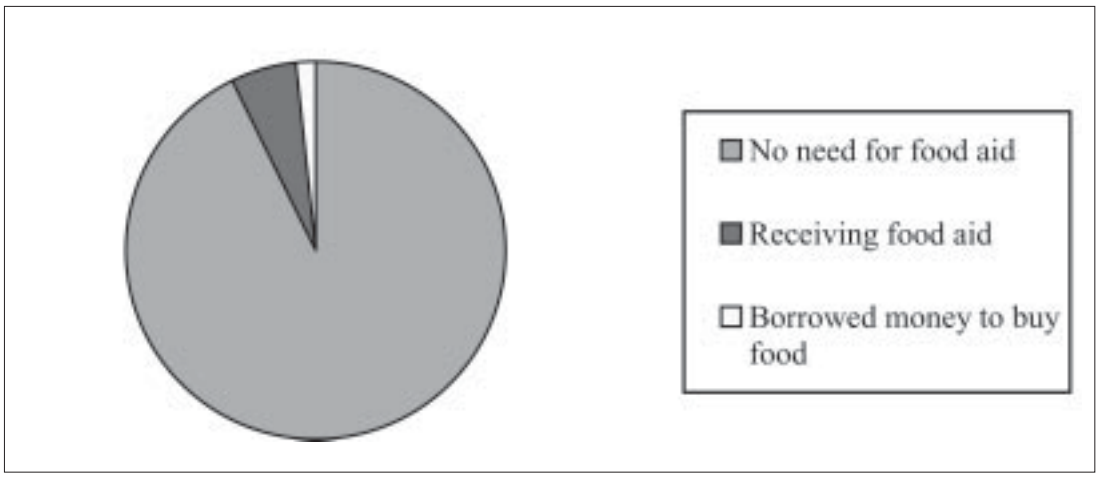


Figure 1. Hunger and food insecurity among 194 elderly ED patients.

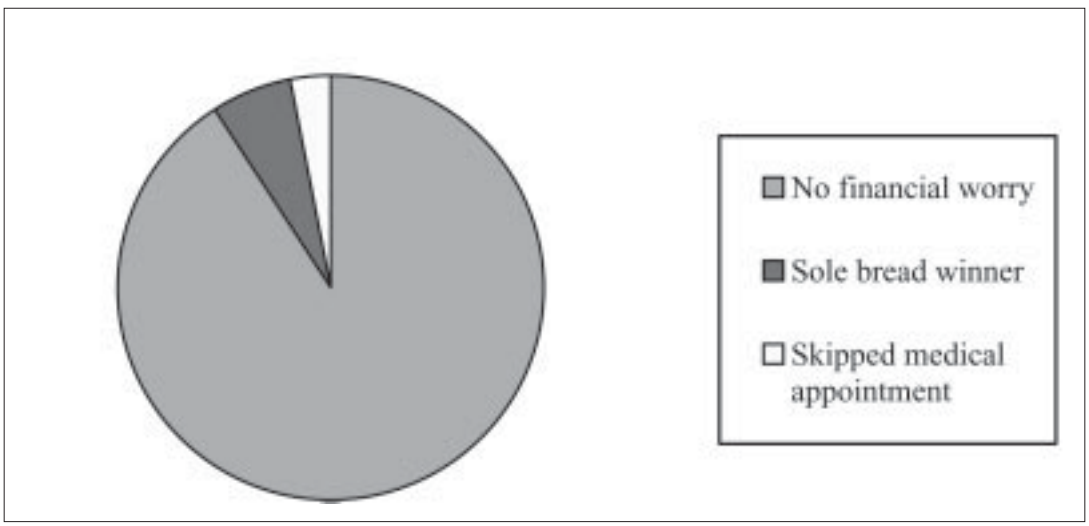


Figure 2. Poverty among 194 elderly ED patients.

Table 2. Hunger and poverty among working elderly patients (n=19)

| | |
|---|---|
| Mean age (SD) | 70.1 (4.5) years |
| Median age | 68.6 years |
| Poverty | |
| Skipped medical appointment in the previous year because of a lack of money | 0 |
| Felt that income was adequate | 12 (63.2%) |
| Sole bread winner for their family | 9 (47.4%) |
| Receiving pocket money from family regularly | 5 (26.3%) |
| Welfare assistance | |
| Receiving government pension | 4 (21.1%) |
| Receiving welfare assistance | 4 (21.1%) |
| Wanted referral to hospital social worker | 3 (15.8%) |

had some other sources of income. Two of these three non-working elderly persons were receiving welfare assistance but one still reported that he skipped medical appointment in the past year due to lack of money, did not have enough to eat in the three days prior to the survey and had borrowed money to buy food on more than six occasions in the last six months. Five of these 12 felt that their income was not adequate and these five were among the working elderly. Seven of these elderly were supporting their family with their income where else the remaining five were supporting themselves only. None of these 12 was receiving regular pocket money from their family and none was on any food aid program.

## Discussion

In Singapore, it is not unusual for adult children to support and provide for their parents in their retirement and old age. In formulating some of its public policies e.g. town planning, housing, transport, income tax, the Singapore government encourages such support, helping to build an infrastructure that enables elderly persons to live in the community close to their family. Our study found that majority of the elderly ED patients were supported by their children or family members as far as food, shelter and health were concerned. In concordance with the larger social norm in which 93% of the elderly were reasonably fit and lived in the community with or near to their family,[4] most of our patients lived with their family members, had enough to eat, were able to afford medical consultations and medications and received pocket money regularly from their children. When sick, most of them were accompanied by their family members to the ED.

On the other hand, our study found a few elderly persons whose basic needs were not assured. They did not have enough to eat, had to borrow money to buy food or missed medical appointment due to a lack of money. Though our figures for hunger and food insecurity were not as high as that reported by Kersey et al,[7] whose study included all adult patients, as well as that reported by Wellman et al,[8] it was nonetheless a disturbing finding in view of the fact that as a nation, Singapore's population is small and stable, and the per capita gross domestic product is extremely high. Food is generally considered affordable because a nutritionally balanced, ready cooked meal is easily available for about S$5 (US$2.90) from the many food centres in Singapore. Hence not having enough to eat for three days or borrowing money to buy food are culturally appropriate indices of food insecurity in Singapore.

The current official retirement age in Singapore is 55 years.[9] It was interesting to find that almost 10% of our respondents continued to hold jobs despite their mean age being one and a half decades beyond 55. Nine of these 19 working elderly persons reported that they were sole breadwinners, which meant that they were working because they need to support themselves or their family. Though none of these working patients reported food insecurity or poverty, they remained at-risk and vulnerable. Their income and livelihood would be easily threatened should they fall ill.

For the small group of non-working sole breadwinners, the situation seemed more precarious. Though already on welfare assistance, there were still poverty and food insecurity reported. This was probably understandable given the fact that government welfare assistance ranged from S$230 (about US$134) per month for an adult to S$390 (about US$227) per month for a two-adult household.[4]

All of our respondents were born in year 1935 or earlier, together known as the pre-war/war cohort, war being that of World War II (WW II). The tremendous socio-political changes in Singapore during and after WW II resulted in many of the pre-war/war cohort receiving little or no formal education. Though our survey did not capture information about the patient's education attainment, it was likely that a significant number had little or no education. Therefore for those elderly persons who need to fend for themselves, they might not know how to seek help or were unaware of the social services and welfare schemes available to them. As such, health care service providers like the emergency department can play a role in helping to

identify these at-risk elderly. Emergency department doctors and nurses need to proactively ask elderly patients their socio-economic well-being to capture those at-risk, and once identified, activate protocols that will enable the elderly to access information and gain entry into appropriate welfare programs and social services in the community. As pointed out by Adams[10] in his commentary, ED doctors and nurses need to recognize that the needy are present among our patients and help build a fuller social-services infrastructure into our routine operations to help these patients better.

## Limitations

There were several limitations to our study. Firstly, only a convenient sample was taken and the survey was conducted at a single institution. While we were certain that all eligible elderly within the survey time frame were approached, we could not be certain that the sample was representative of the elderly in the community. On the other hand, this was compounded by the reputation that the study institution had in the community as one that was friendly towards elderly and needy patients.

The findings were based entirely on the self-report by the participating patients. For some patients, their welfare and financial status were sensitive issues and they might not admit to having difficulties.[5,11] In cases where the patient could not be interviewed and caregivers were interviewed instead, the information provided by these caregivers might not have been accurate. Where the patient's family member answered the questions in the survey, the answers might be skewed to project a better image of the status of the patient or family.

Due to the lack of formal education among the elderly patients, the interviews were conducted in the patient's chosen natural language, which might be English, Chinese, Malay, Tamil or one of the Chinese dialects e.g. Cantonese. As such, the questions were not asked in exactly the same way for every respondent. However, the questions were simple and appropriate direct translations were adhered to. Hence we believed that the information gathered was not adversely affected by the use of different languages or Chinese dialects.

The items used in the questionnaire were not previously validated. Having examined two previously validated instruments,[5,6] we were not sure if they were applicable to the elderly in Singapore, and hence we did not use these instruments. Keeping in mind that the subjects were sick or injured elderly persons, we wanted to keep respondent burden to a minimum and hence we also limited the number of questions and surrogate indices for hunger and poverty.

## Conclusion

Most of the ED elderly patients in our sample were adequately provided for and well taken care of by their family members. Among the rest of them, some of the needy elderly were already identified and receiving welfare assistance or food aid. For the small group of needy elderly who have slipped through the welfare safety net, the ED can proactively identify them and help them to access the appropriate social and welfare services.

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