Successful Ageing: A case study of Rayong Province, Thailand

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ABSTRACT

Objective: To study the proportion of successful ageing and influencing factors on the successful ageing in Rayong province, Thailand. Materials and Methods: The study used secondary data from the project "Life Happiness of the Elderly in Rayong Province," a study conducted in 2008. The subjects were 400 elderly, aged 60-80 years. The data were analyzed by frequency, percentage, mean, SD, and Multiple logistic regression. Results: 27.5% of the ageing in Rayong province were successful ageing assessed by 3 criteria which were having a good family relationship, high self-esteem, and high life happiness. The factors influencing the success of ageing with statistical significance were family monthly income and social activity participation. The ageing with sufficient family income had a 7.5 times higher chance of success than those with insufficient income, and the ageing who participated at a high level in social activity had a 62 times higher chance than those with low participation. Conclusion: The findings indicated that the factors influencing the success of ageing were family monthly income and social activity participation. So, the family and responsible organizations should encourage the community participation of the ageing and provide sufficient income to lead to success in ageing.

INTRODUCTION

The worldwide proportion of the ageing population is increasing, from 10.0% in 2000 to 14.2% and 21.0% in 2025 and 2050, respectively. For Thailand, the ageing people survey by The National Statistics Office of Thailand in 2007 found that the proportion of the ageing had increased from 6.8% in the year 1993 to 9.4% in 2002 and to 10.7% in 2007. It showed that Thai society was changing to an ageing society in which the populations aged over 60 were higher than 10% of the total population. Approaching old age results in many changes, physical degeneration, psychological, emotional, and social changes causing disease and health problems. About 31.7% of the Thai ageing population confront hypertension, and 13.3% have diabetes mellitus, which is
congruent with a study of the elderly in the rural community in Malaysia that found the prevalence of chronic illnesses among the elderly was high (60.1%), and lead to a problem of activities in daily life. These problems may reduce their success in life.

Success is important for life and is desired by all people in society including the ageing. A study of the ageing’s success in Shanghai, China by Li C et al.4 found that 46.2% of the ageing had success in ageing. The factors used to define the meaning of successful ageing in this study were mental health, ability to perform daily activity, and satisfaction in life. These findings differ from the study of Depp CA and Jeste DV5 who did a study that reviewed 28 research studies related to successful ageing published in academic journals and found different definitions of successful ageing, mostly defined by using disability determinants. The study showed the average proportion of successful ageing was 35.5% and factors correlated with success in ageing included being of younger age, being a non-smoker, not having diabetes, not having joint pain, exercise, and social participation.

Factors that determine success in ageing in health and psychological dimensions among the 28.6% of the successful ageing Chinese living in Singapore, as found by Ng TP et al.6 included age, gender, education, living in a better house, exercise, and nutritional status.

For Thailand, there have been fewer studies on successful ageing, but there have been some studies on similar issues such as those on the quality of life and happiness in life. For example, the study of the quality of life among the Thai ageing by Sirivanarungsun P7 found that 25.5% of the elderly had a quality of life that was good. Nanthamongkolchai S et al.8 found that 22.7% of ageing females in Rayong province, Thailand had a high level of life happiness. The factors influencing life happiness were self-esteem, social support, and family relationships.

The literature review revealed different definitions and issues regarding successful ageing, including the proportion of successful ageing, and relevant factors. So, for this study, the researchers wanted to study successful ageing in the component of the ageing with high self-esteem, good family relationships, and a good level of life happiness by using the case study of Rayong Province which aimed to study the proportion of successful ageing by developing criteria and factors influencing the success of ageing in Rayong Province, Thailand. The results may be used as guidelines for the ageing to help them achieve success.

**MATERIALS AND METHODS**

The study used secondary data from the “Life Happiness of the Elderly in Rayong Province” project which collected data by interviewing 400 of the ageing, both men and women aged from 60-80 years during June 6th to July 31st 2008. The samples were selected by multi-stage random sampling, selecting 4 districts from 8 districts in Rayong which were Wangchan, Klaeng, Khaochamao, and Bankhái district. Several variables were selected from some parts of the multi-part interview questionnaire. The selected parts consisted of Part 1: Socio-demographics included sex, age, education, marital status, family income, chronic disease, and migration of family members. Part 2: Personality evaluation adapted from the concept of Eysenck HJ10 consisted of 16 questions which were later analyzed in terms of two categories: an open personality and closed personality. Part 3: Self-esteem assessment was adapted from Coopersmith S11 concept and consisted of 21 questions which were analyzed in terms of high and low self-esteem. Part 4: Family relationships evaluation was adapted from Friedman MM12 Morrow WR, and Wilson RC13 concept and consisted of 15 questions interpreted as high and low family relationships. Part 5: Social participation assessment was adapted from Lemon BW et al14 and included 8 questions analyzed in terms of high level participation (total score over 80%) and low level (total score less than 80%). Part 6: Ageing life happiness assessment was adapted from the concept of Diener E15, Argyle M16 and Neugarten BL17 and consisted of 21 questions analyzed in terms of high and low level of life happiness.

The questionnaires developed for the study were validated on the content by 3 experts and were tested for validity by 35 ageing people with similar characteristics to the samples. Gronbach's alpha coefficient of the personality evaluation was 0.72, family relationships was 0.92, self-esteem was 0.90, social participation was 0.81, and life happiness was 0.90. Successful ageing in the study means the ageing who got a high score (80 and above) on 3 indicators regarding family relationships, self-esteem, and life happiness; for those scoring lower than 80, it was considered normal ageing.
Data were analyzed by frequency, percentage, means, standard deviation and multiple logistic regression.

Ethical Approval
The research proposal of the project “Life Happiness of the Elderly in Rayong Province” was reviewed and approved by the Ethics Committee for Human Research, Faculty of Public Health, Mahidol University, Bangkok Thailand: Ref. No. MUPH2008-050.

Limitation of the data
The study was only able to use chronic disease as the indicator of health status. Factors which could not be used in the assessment of successful ageing were history of hospital admission, the ability to perform daily life activity, disability, health behavior including social and environmental indicators which were not available from the secondary data.

RESULTS

General characteristics
The studied subjects had a higher proportion of ageing females (58.2%) than males (41.8%) with an average age of 68.8 years. Most had finished primary school or higher (74.8%), 64.5% were married, 78.3% had sufficient monthly income, 48.0 had no chronic disease, 55.8% were open personality character, and 69.3% had no history of family member migration in the past year.

Proportion of the successful ageing who passed the developed criteria
When analyzing the ratio of successful ageing in Rayong province by using 3 criteria which were good family relationships, high self-esteem, and high life happiness, it was found that 27.5% of the ageing passed the criteria, while 72.5% did not pass the criteria and were considered as normal ageing (Table 1).

Table 1 Number and percentage of successful ageing (n = 400)

<table>
<thead>
<tr>
<th>Items</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Successful ageing</td>
<td>110</td>
<td>27.5</td>
</tr>
<tr>
<td>Normal ageing</td>
<td>290</td>
<td>72.5</td>
</tr>
</tbody>
</table>

Characteristics of successful ageing
Characteristics of successful ageing among males and females were similar, 62.7% of the successful ageing were aged between 60-79 years, with an average of 68.4 years, 72.7% were married, mostly they had finished primary school or higher (85.5%), almost all (96.4%) had sufficient monthly family income, 53.6% had no chronic disease, 89.1% had no history of family member migration in the past year, 74.5% had an open personality character, and 85.5% had a high level of social activity participation (Table 2).

Table 2 Number and percentage of successful ageing by general characteristics (n = 110)

<table>
<thead>
<tr>
<th>General characteristic</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>56</td>
<td>50.9</td>
</tr>
<tr>
<td>Female</td>
<td>54</td>
<td>49.1</td>
</tr>
<tr>
<td>Age (year)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60 - 69</td>
<td>69</td>
<td>62.7</td>
</tr>
<tr>
<td>70 - 80</td>
<td>41</td>
<td>37.3</td>
</tr>
<tr>
<td>Mean = 68.4 SD = 5.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Couple</td>
<td>80</td>
<td>72.7</td>
</tr>
<tr>
<td>widow/divorce/separation</td>
<td>30</td>
<td>27.3</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary school or higher</td>
<td>94</td>
<td>85.5</td>
</tr>
<tr>
<td>Less than primary school</td>
<td>16</td>
<td>14.5</td>
</tr>
<tr>
<td>Monthly family income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sufficient</td>
<td>106</td>
<td>96.4</td>
</tr>
<tr>
<td>Insufficient</td>
<td>4</td>
<td>3.6</td>
</tr>
<tr>
<td>Chronic disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>59</td>
<td>53.6</td>
</tr>
<tr>
<td>Have</td>
<td>51</td>
<td>46.4</td>
</tr>
</tbody>
</table>

Factors influencing the successful ageing
When analyzing the factors influencing successful ageing by multiple logistic regression, it was found that monthly family income, and social activity participation had an influence on successful ageing to a level of statistical significance ($p<0.05$). The ageing with sufficient family income had 7.5 times higher opportunity to achieve than those with insufficient income. The ageing who participated highly in social activity had 62 times higher chance to achieve than those with low participation. The factors of sex, age, marital status, education, chronic disease, migration of family, and personality did not influence the success of the ageing ($p>0.05$) (Table 3).
Table 3 Factors influencing the successful ageing (n = 400)

<table>
<thead>
<tr>
<th>Factors</th>
<th>B</th>
<th>OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex: Female (1)</td>
<td>0.12</td>
<td>1.12 (0.50-2.50)</td>
</tr>
<tr>
<td>Age: 60-69 years (2)</td>
<td>-0.28</td>
<td>0.76 (0.35-1.63)</td>
</tr>
<tr>
<td>Marital status: married (3)</td>
<td>0.06</td>
<td>1.05 (0.45 to 2.49)</td>
</tr>
<tr>
<td>Education: Primary school or less (4)</td>
<td>0.17</td>
<td>1.18 (0.47-2.98)</td>
</tr>
<tr>
<td>Chronic disease: no (5)</td>
<td>0.24</td>
<td>1.27 (0.61-2.64)</td>
</tr>
<tr>
<td>Migration of family members: No (6)</td>
<td>0.30</td>
<td>1.35 (0.35 to 3.46)</td>
</tr>
<tr>
<td>Monthly family income: sufficient (7)</td>
<td>2.02*</td>
<td>7.55 (2.03 to 28.09)</td>
</tr>
<tr>
<td>Personality type: open type (8)</td>
<td>0.42</td>
<td>1.51 (0.71 to 3.25)</td>
</tr>
<tr>
<td>Participation in social activities: high (9)</td>
<td>4.13*</td>
<td>62.04 (29.13-132.15)</td>
</tr>
</tbody>
</table>

-2 Log Likelihood: 216.33
p-value: <0.001
n: 400

Note: The success of the ageing: success = 1, Normal = 0
*statistical significance at p-value <0.05, OR = Odds Ratio, B = Coefficient
Number in brackets after the Adjusted OR is 95% Confidence Interval (95% CI)
Number in brackets after each factor is the referencing number
1. Male, 2. 70-80, 3. widow/divorce/separation, 4. Less than primary school education,

DISCUSSION

The results showed that 27.5% of the ageing in Rayong passed the criteria of successful ageing developed by the researcher which was congruent with the findings of Ng TP et al\(^5\) that 28.6% of the Chinese ageing living in Singapore were among the successful ageing, and the study of Depp CA and Jeste DV\(^5\) who reviewed 28 research journals about the successful ageing indicated the average proportion of successful ageing was 35.8%, which is a little higher than this study, but findings in this study differ from study of Li C et al\(^4\) who found the proportion of successful ageing in Shanghai, China was 46.2%, comparatively higher than this study. If comparing with the study of Sirivanarungsan P et al\(^7\) about quality of life of the ageing in Thailand and the study of Nanthamongkolchai S et al\(^8\) about life happiness among female ageing, they had a similar proportion with 25.5% having a good quality of life, and 22.7% having a high level of life happiness.

The factors that influenced successful ageing were sufficient monthly family income, and high level of social activity participation which could show that sufficient family income is crucial to assure basic security, well-being, and daily lives of the ageing. If family income is sufficient for spending, it leads to a good relationship and good opportunities to participate in community activities, which is congruent with the study of Chaves ML et al\(^18\) who found that family income was associated with successful ageing in Brazil\(^5\) urban areas. For the social activity participation factors, if the ageing is highly involved in social activity, it could help promote the role of the ageing and indicate the ability, worthiness, independency, and adjustability of the ageing that leads to the sense of high self-esteem and life happiness. Furthermore, the participation in social activity causes the ageing to learn and share information that will benefit themselves and others and lead to success. This is consistent with the study of Depp CA and the study of Jeste DV\(^5\) who found that community participation had an influence on the success of ageing. The study of Li C et al\(^4\) indicated that the use of leisure time to participate in social activity of the ageing was associated with successful ageing in Shanghai, China.

From the results of the study, there are recommendations for the ageing, families, and responsible organizations to promote self-esteem, life happiness, and good family relationships in order to increase the proportion of successful ageing including the rising of family income and give more support for social activity participation.

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