

Health Situation Analysis of Hospitalized Thai Older Persons in the Year 2010

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Background: Thailand has reached an ageing society on account of demographic transitions. Hospitalized elders are susceptible to having detrimental consequences in many aspects. Understanding the situation regarding elders being hospitalized would help allied-healthcare workers to focus and take necessary action on particular issues.

Objective: To demonstrate the admission rate of elders, common causes of hospitalization and their mortality rates.

Material and Method: Information on illness of inpatients and casualties came from hospitals nationwide and from hospitals withdrawals from the 3 health insurance schemes in fiscal 2010. The data included 96% of the population. The data were analyzed by age groups and burdensome diseases.

Results: Elders posed the highest rate of all hospitalization (24.3/100 older persons) and the proportion increased with age. The top three common causes for hospitalization were diseases of respiratory tract (13%), circulatory (12%) and digestive system (11%). Mortality rates were highest in elders with pneumonia (129.7/100,000 persons).

Conclusion: Older hospitalization was the highest for all hospitalization ages. Common causes for hospitalization are partly the consequences of modifiable factors. Thus, healthcare providers require extensive effort to enhance education and training to allied-healthcare workers regarding preventive and early diagnosis strategies to those with frequent illnesses.

Keywords: Hospitalization, Older person, Thailand

J Med Assoc Thai 2012; 95 (Suppl. 7): S81-S86

Full text. e-Journal: <http://jmat.mat.or.th>

Thailand's population is ageing rapidly as a result of demographic transitions. In 1960, the proportion of people aged 60 years and over was 5.4%. It increased to 10.3% in 2005 and will double to 20% in 2025 which is about 14.0 million people⁽¹⁾. This changing has in-depth implications on the social, economic and healthcare aspects of human development. Focusing on the healthcare aspect, an occurrence of functional decline and multiple comorbidities in the elderly can result in facing the state of dependency. Older persons usually have atypical presentation when they have

illness such as an acute change in mental status, falls, vague symptoms, altered pain sensation causing inability to localize pathology and unusual medication reaction⁽²⁻⁴⁾. Thus, it is essential for allied-healthcare workers to understand pathophysiologic change in older adults to avoid delay in treatment which will result in unfavourable outcomes.

Since hospitalization is a major risk for older persons especially in the very old elderly, hazard of hospitalization in the elderly does not only result in functional decline due to the main causes of admission, it can also result in complications from other causes that are irreversible and causes poor quality of life in long term. The negative effect of hospitalization happens instantaneously and progresses quickly. As ageing is vulnerable to functional decline, including low muscle mass and strength, vasomotor instability,

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poor aerobic capacity and pulmonary ventilation, decreased bone density, altered sensory continence, thirst and appetite, hospitalization can enhance those vulnerable factors which progressively decline to a state of permanent change⁽⁵⁾.

Objective

Understanding recent situations of older hospitalization would be beneficial in focusing on common problems that contribute to global outcomes including physical, economic and psychosocial aspects. Benefit also assists healthcare providers to take serious action to face these problems. Therefore, the objective of the present study was to demonstrate the admission rate of older person and common causes of hospitalization and their mortality rates.

Material and Method

Patient population

Data included inpatient Medical Expensing Forms for the fiscal year 2010 (October 1, 2009 to September 31, 2010) from the National Health Security Office (NHSO), Thailand and inpatient data from the Civil Servants Benefit System from the Comptroller General's Department and the Social Security Office.

Data received from the analyst team was checked for accuracy by examining for (a) overlapping information (b) visit dates (c) missing items (d) incorrect coding and (e) dated with the correct fiscal year.

Patient demographics and clinical characteristics

Baseline characteristics of older patients including age, gender, level of hospital, region where hospital was situated, admission rate, mortality rate, and common causes of hospitalization were recorded from enrollment data.

Outcome measures

The present study outcomes were admission rate and mortality rate per 100,000 populations at the same age group; 61-70, 71-80 and over 80 years.

Statistical analysis

The explanation of variable, tables of frequency enumeration and interrelationships were written using the SPSS program and checked before analyzing. After analyzing the data, the research team passed the primary analysis to ten medical specialists in order to check the face validity of the information. Upon confirmation of face validity, the data were compared to the Ministry of Public Health's Statistics

Report 2010 for trend congruence as well as the hospital's mortality reporting for each age and disease group for a comparison with the National Death Registration of the Registry Administration, Ministry of Interior Affairs⁽⁶⁾.

Ethics approval was provided by Ethic Committee of Medicine Faculty, Khon Kaen University under the respect of Helsinki Declaration.

Results

Size and trend of older person's hospitalization

There was the highest rate (24.3 admissions per 100 older persons) of hospitalization among patients aged over than 60 years. The result revealed that about a third of admission among older persons aged over 80 years experienced hospitalization (Fig. 1). The admission rate per 100 adults by age in the elderly was highest in primary care hospital (11.2), followed by tertiary care (6.7) and secondary care hospital (5.3).

Common causes for hospitalization and mortality rate

The elderly were most frequently hospitalized with respiratory tract disease (13%), followed by disease of circulatory (12%) and digestive system (11%). Other causes for hospitalization were demonstrated in Fig. 2.

Regarding respiratory tract disease, admission rates per 100,000 persons were highest in older persons with chronic obstructive pulmonary disease (COPD) (1,300.7) and pneumonia (1,092.1). Although COPD was the highest, the mortality rate was greater in older persons with pneumonia (Fig. 3). The average mortality rate per 100,000 persons of older persons with COPD and pneumonia were 35.7 and 129.7, respectively.

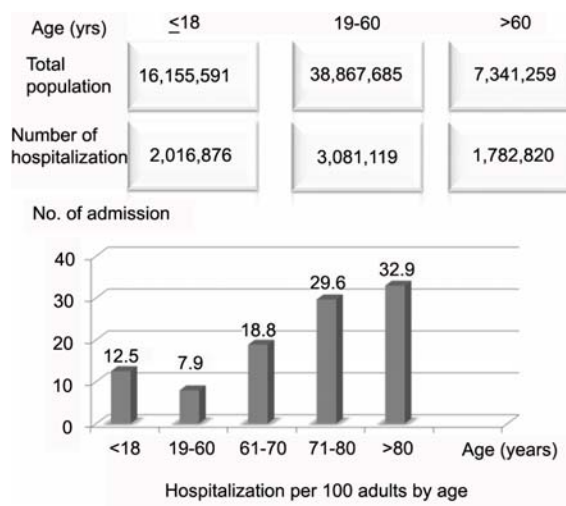


Fig. 1 Hospitalization of Thai population in 2010

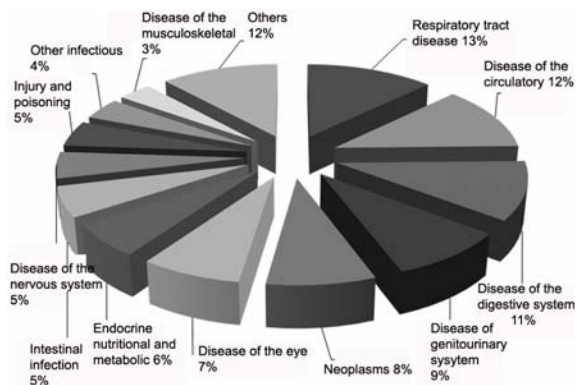


Fig. 2 Common causes for hospitalization in the elderly

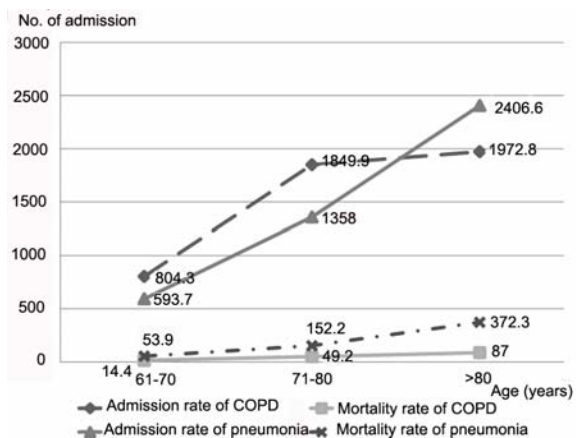
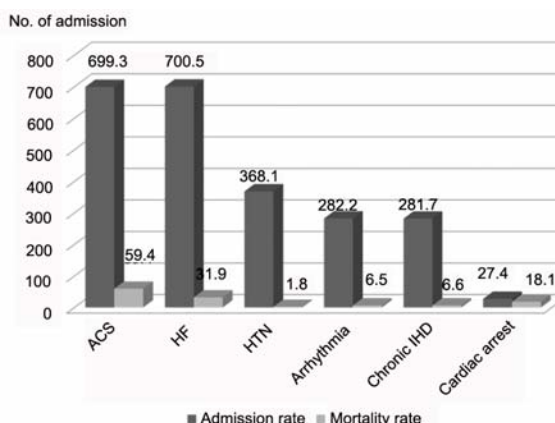


Fig. 3 Admission and mortality rate per 100,000 older persons with chronic obstructive pulmonary disease (COPD) and pneumonia

In the area of disease of circulatory system, the admission and mortality rate were shown in Fig. 4. Interestingly, though persons with cardiac arrest were found relatively less than other causes, over a half of older persons could not survive. These figures also increased with age.

With regard to the disease of gastrointestinal system, gastric disease was a leading reason for admission in the elderly with the rate of 767.1 per 100,000 persons, followed by hepatobiliary disease (155.2) and reflux disease (29.1). The mortality rate was highest and similar in both gastric and hepatobiliary diseases. According to Fig. 5, the admission rate of persons with acute renal failure and/or acute nephritis was slightly lower than the ones with chronic kidney disease at age 61-70 years; the figures increased linearly while admission rate of persons with chronic kidney disease remained stable from age over than 70 years.

The top 5 admission rates with neoplasm



ACS; acute coronary syndrome, HF; heart failure, HTN; hypertension, chronic IHD; chronic ischemic heart disease

Fig. 4 Admission and mortality rate per 100,000 older persons with disease of circulatory system

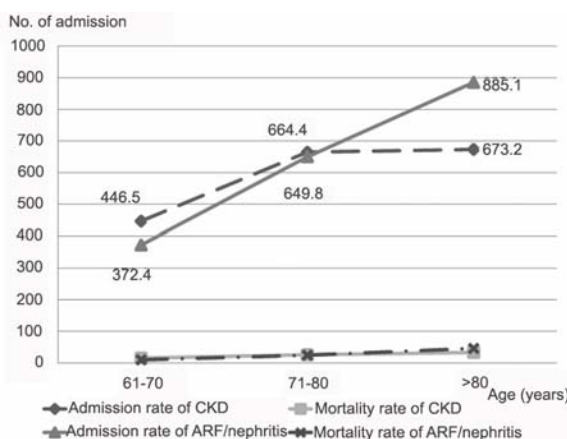
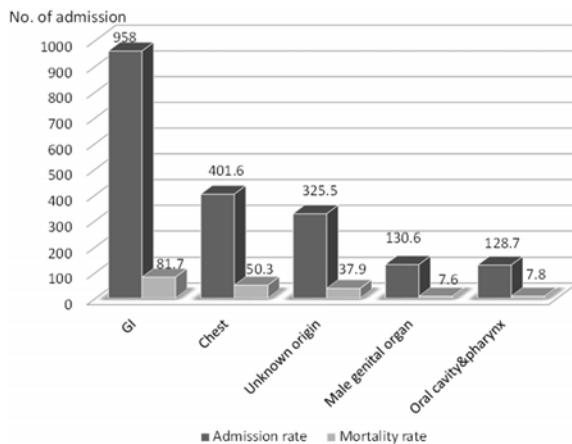


Fig. 5 Admission and mortality rate per 100,000 older persons with acute renal failure (ARF)/acute nephritis and chronic kidney disease (CKD)

among older persons by gender were summarized in Fig. 6 and Fig. 7.

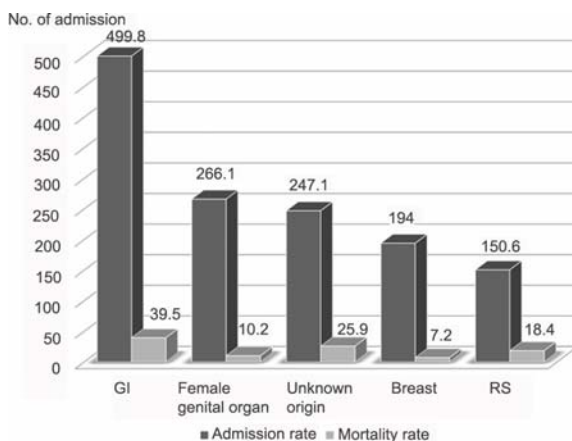
Discussion

The proportion of older hospitalization was the highest age group. The admission rate increased in relation to the increasing age. It was found that the oldest-old elderly (80 years or over) became the majority of older hospitalization. As mentioned earlier, hospitalization creates many problems for the elderly, especially in the very elderly as well as for their families and the society. Comprehensive geriatric assessment (CGA) is a multidimensional, multidisciplinary diagnostic instrument designed to collect data on the medical,



GI; gastrointestinal tract disease

Fig. 6 Admission and mortality rate per 100,000 older males with neoplasm



GI; gastrointestinal tract disease, RS; respiratory system

Fig. 7 Admission and mortality rate per 100,000 older females with neoplasm

psychosocial and functional capabilities and limitations of elderly patients particularly in older person with multiple comorbidities. It can help allied-healthcare workers to identify treatable causes of functional decline such as immobilization and delirium^(2,4,7).

Diseases of respiratory tract, circulatory and digestive tract were found to be the top three common causes for hospitalization in the elderly. These statistics should consider that all mentioned diseases are possible complications of chronic illness such as hypertension, diabetes mellitus and cerebrovascular disease which are the leading causes of chronic illness in older adults according to the report from the foundation of Thai Gerontology Research and development Institute (TGRI)⁽¹⁾. Therefore, preventive strategy and

appropriate management those underlying diseases could reduce admission rate and severity of disease.

In older adults with cardiac arrest, the mortality rates were high. This might not imply the failure rate of cardiac-pulmonary resuscitation. Because older adults with cardiac arrest on admission usually had severe illnesses and it might be inappropriate to do cardiac-pulmonary resuscitation in some diseases such as advanced dementia and cancer which could prolong suffering to the patients.

Regarding to the genitourinary tract diseases, acute and chronic kidney diseases became the leading causes of admission and death in the elderly and tended to increase with age. In the area of chronic kidney disease, it is like the tip of an iceberg because chronic kidney disease is the consequence of other diseases or conditions such as diabetes, hypertension, and drug-induced renal impairment. Non-modifiable and modifiable risk factors are crucial for risk stratification and for understanding the pathophysiology for disease progression. In particular, considering modifiable risk factors such as diabetes, hypertension, smoking, proteinuria and obesity in risky person or early phase of disease is important for prevention or delay of disease progression. For hospitalized persons with acute renal failure, old age is one of the risk factors for developing renal failure which is mainly due to a reduced glomerular filtration rate (GFR), complex comorbidities and polypharmacy issue. Recovery of this condition depends on severity of illness, underlying diseases, length of time requiring dialysis and pre-existing kidney diseases. Again, acute renal failure is the consequence of preexisting condition, appropriate management early can recover renal function eventually⁽⁸⁾.

With regard to cancer, it had been the leading cause of death among Thai populations from 2005-2009⁽⁹⁾. Lifestyle is associated with some cancers such as cholangiocarcinoma, hepatoma and cervical cancer. Therefore, encouragement of lifestyle modification in the working age group, for example, smoking cessation, eating well-cook diet and avoiding use of intravenous drug abuse and having tattoos would be one of the preventive strategies. Furthermore, cancer screening program should be done under consideration of viability, effectiveness and appropriateness⁽¹⁰⁾.

Study limitations

There are some limitations of the present study. Firstly, because of the limited data, it is impossible to analyze prevalence rate of diseases but only

admission rate. Secondly, there is a potential misclassification of data collection in that some patients were either inappropriately included or excluded based on ICD-10 codes. Finally, some data associated to risk factors of delirium are unavailable, hence the results of the present study need to be interpreted in the context of limitations.

Conclusion

Older hospitalization has become the highest frequency of all age groups, possibly resulting in functional decline regardless of treating conditions on admission. Allied-healthcare workers should have a good working knowledge of geriatric syndromes. Implementing CGA should be helpful in preventing and early detecting complications of older hospitalization. Common causes of hospitalization are partly the consequences of modifiable factors that can be preventable at younger age. Therefore, health care providers requires considerable effort to enhance education and training to allied-healthcare workers regarding preventive and early diagnosis strategies to those frequent diseases or conditions.

Acknowledgement

The authors wish to acknowledge the support of the Khon Kaen University Publication Clinic, Research and Technology Transfer Affairs, Khon Kaen University, for their assistance.

Potential conflicts of interest

None.

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สถานการณ์สุขภาพในผู้สูงอายุไทยที่นอนพักรักษาในโรงพยาบาลปี พ.ศ. 2553

ปณิตา ลิ้มปะวัฒน์, สุมิตร สุตรา, ยุพา ถาวรพิทักษ์, โกสินทร์ วีระธร, จาริณญ์ จินดาประเสริฐ, พิศาล ไม้เรียง

ภูมิหลัง: ประเทศไทยได้เข้าสู่สังคมผู้สูงอายุแล้วอันเป็นผลจากการเปลี่ยนผ่านประชากร ผู้สูงอายุที่นอนพักรักษาในโรงพยาบาลมีความเสี่ยงต่อการเกิดผลแทรกซ้อนหลากหลาย การทราบถึงสถานการณ์การนอนพักรักษาในโรงพยาบาลจะช่วยให้บุคลากรทางการแพทย์ให้ความสำคัญและมุ่งประเด็นการดูแลรักษาได้ชัดเจนมากยิ่งขึ้น

วัตถุประสงค์: เพื่อทราบอัตราการนอนพักรักษาในโรงพยาบาลในผู้สูงอายุไทย สาเหตุสำคัญของการนอนพักรักษาในโรงพยาบาล และอัตราการเสียชีวิต

วัสดุและวิธีการ: ข้อมูลการเจ็บป่วยของผู้ป่วยในและผู้เสียชีวิตในโรงพยาบาล มาจากข้อมูลที่โรงพยาบาลส่งเบิกจ่ายจากระบบประกันสุขภาพ 3 แห่ง คือ ระบบประกันสุขภาพถ้วนหน้า ระบบประกันสังคม และระบบสวัสดิการรักษายาบาลข้าราชการ ในปีงบประมาณปี พ.ศ. 2553 ซึ่งครอบคลุมประชากร 62 ล้านคน (ร้อยละ 96 ของประชากรของประเทศ) ข้อมูลที่ได้ถูกวิเคราะห์ตามกลุ่มอายุและปัญหาสุขภาพ

ผลการศึกษา: ผู้สูงอายุเป็นกลุ่มที่มีอัตราการนอนพักรักษาในโรงพยาบาลมากที่สุด (24.3 ต่อประชากรสูงอายุ 100 ราย) และสัดส่วนสูงขึ้นเมื่ออายุมากขึ้น สาเหตุ 3 อันดับแรกของการรับรักษาในโรงพยาบาล คือ โรคระบบทางเดินหายใจ (13%) โรคระบบหัวใจและหลอดเลือด (12%) และโรคระบบทางเดินอาหาร (11%) อัตราการเสียชีวิตสูงสุดในผู้สูงอายุที่เป็นโรคปอดอักเสบ (129.7 ต่อประชากร 100,000 คน)

สรุป: ผู้สูงอายุเป็นวัยที่เสี่ยงต่อการนอนพักรักษาในโรงพยาบาลมากที่สุด สาเหตุสำคัญของการนอนพักรักษาในโรงพยาบาลบางส่วนสามารถปรับเปลี่ยนได้ ดังนั้นผู้เกี่ยวข้องด้านสาธารณสุขควรส่งเสริมการให้ความรู้และฝึกอบรมบุคลากรทางการแพทย์เกี่ยวกับการป้องกันและวินิจฉัยโรคตั้งแต่ระยะเริ่มแรกในโรคหรือภาวะที่เป็นสาเหตุที่พบบ่อยในผู้สูงอายุ
