The 24th REVES Conference

- Inequalities in Health by Socio-economic Status: Is It a Universal Fact?

25 – 27, May, 2012

Chung Shan Medical University

Taichung, Taiwan (R.O.C.)

Program, Abstracts

&

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- Differences in the top 10 causes of outpatient visits among age 45-64—Taiwan, 2000 and 2009
- Telecare in long-term ventilator dependent patients
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- Long term determinants of functional decline of mobility: An 11-year follow-up of 5,464 adults of late middle aged and elderly
- Long term determinants of mortality: An 11-year follow-up of 4,413 adults of late middle aged and elderly
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- Difference of the ten leading diagnosis for elder ambulatory visits between year 2000 and 2009
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- The impact of socioeconomic status on tuberculosis

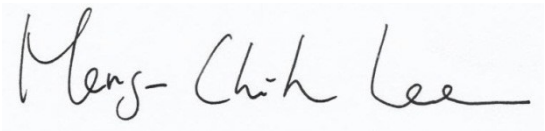
Welcome Message

On behalf of the organizing committee of the 24th REVES meeting, I would like to extend our sincere welcome to all distinguished guests worldwide to attend the 24th REVES meeting held at the Chung Shan Medical University during May 25-27, 2012.

A Chinese greatest philosopher , Confucius, said that "It is the happiest thing to have friends come from afar". We are very pleased to welcome all our friends join us in this great meeting and listen to your important presentations. We also very much hope that you and your accompanying family will enjoy this meeting as well as the post-conference free tour on May 28 to visit two most attractive scenic places in the central part of the island : "Formosan Aboriginal Cultural Village" and "Sun Moon Lake".

Hopefully, you will have a very memorable stay in Taichung, Taiwan, and will be greatly benefited from 2012 REVES meeting. Again, our sincere welcome.

Meng-Chih Lee, MD, PhD,MPH



Chair, Organizing Committee of the 24th REVES meeting
Professor, Chung-Shan Medical University
Superintendent, Taichung Hospital,
National Department of Health, Executive Yuan, R.O.C

Welcome Message

Professor Saito, Professor Liang, Professor Lee,
Professor Lin and all esteemed scholars and guests

Today we are honored to host this 24th REVES meeting in Chung Shan Medical University and to welcome you to Taichung city. Among us are many local representatives, and international scholars from over 20 different countries that flew overseas to arrive at our city. Our joy and gratitude can only be summarized by Master Confucius –" How happy we are, to have friends from afar!"

In our culture, we have a good luck charm named "five fortunes surrounding longevity" *(Wu Fu Peng Shou)*. Among these five blessings is health, which coincides with REVES's goals of increasing health expectancy. This year's meeting theme, "Inequalities in health by socio-economic status: is it a universal fact?" is also a pivotal matter for me as a public servant. I personally believe this meeting would help all of us to get closer to the goal of healthy longevity for all people.

Of course, please spare some time after the symposium to visit our "Ilha Formosa," the beautiful island, as the Dutch sailors first named our land. Let Taiwan's culture and beauty touch your heart.

In closing, wish this meeting be a fruitful experience, and health and happiness to everyone.

Jason Hu
Mayor, City of Taichung
05/25/2012

Welcome address from Te-Jen Lai

My Dear Friends,

Welcome to Chung Shan Medical University in Taichung, Taiwan.

Réseau Espérance de Vie en Santé (REVES) has promoted the use of health expectancy as a population health indicator since its establishment in 1989. One of its main activities is assembling studies in order to provide a synthesis of patterns and trends in health expectancy worldwide. This year's conference will explore inequalities in health by socio-economic status: Is it a universal fact. This conference will serve as a platform for investigators to exchange their findings; and more optimistically, provide insight into ways to increase life expectancy across different socioeconomic levels. Related health and geriatrics topics will also be presented and discussed.

As President of Chung Shan Medical University and President of Taiwanese Society of Geriatric Psychiatry, I am honored to host the 24th annual REVES meeting. On behalf of our institution and society, I sincerely welcome all the participants from over 20 countries and wish this conference successful.

President, Chung Shan Medical University

President, Taiwanese Society of Geriatric Psychiatry

Welcome Remarks

On behalf of the Bureau of Health Promotion, I would like to welcome all of you to Taichung and to the 24th REVES International Conference.

REVES is one among the very important international research network on health expectancy and disability researches. I would like to express my gratitude to Professor Yasuhiko Saito and all the team members of Chung Shan Medical University who make it possible for the 24th REVES International Conference to be held in Taiwan. The Bureau of Health Promotion is indeed honored to be the co-organizer of this conference.

To prolong healthy life expectancy is one of the highly prioritized agenda of the Bureau. We devote ourselves to prolong active and chronic disease free year of life of the people and to promote people's health and well-beings. The Bureau has established the health surveillance system to keep monitoring non-communicable diseases and factors which is influential to people's health expectancy. We also conduct longitudinal studies to collect data that enable us to better understand people's health status and to investigate factors that are associated with healthy life expectancy.

We appreciate the opportunity to have all experts and researchers for getting together. We are very grateful for having international and local speakers who share their expertise and professionalism. We'd also like to thank all delegates for their participation and supports and look forward to exchanging ideas, sharing experiences and learning from each others at this conference.

We sincerely welcome all distinguished guests who travel from far away to "the Beautiful Island" with its rich cultural heritage. Wish this conference every success and all participants a very fruitful and enjoyable meeting.

Shu-Ti Chiou
Director-General
Bureau of Health Promotion

Meeting Organization

Yasuhiko Saito (Consultant)
Meng-Chih Lee (Chair)
Te-Jen Lai
Harvey Lin
Chi-Haw Yen
Ya-huei Wang
Meng-Fan (Mandy) Li
Baai-Shyun Hurng
Yu-Hsuan Lin
Sophia Shiao

Organizers :

Center for Education and Research on Geriatrics and Gerontology,
Chung Shan Medical University
Chung Shan Medical University Hospital

Co-organizers :

Bureau of Health Promotion, Department of Health, R.O.C.(Taiwan)
Taichung Hospital, Department of Health
Taiwanese Society of Geriatric Psychiatry
Gerontology Research Center, Shih Chien University

Conference Program

第24屆健康預期壽命國際研討會

〔The 24th International Conference on Health Expectancy〕

主題：社會經濟地位在健康上的不平等：這是否為普遍的事實？

〔Inequality in Health by Socio-economic Status : Is It a Universal Fact？〕

Venue: Cheng-Hsin Building, Chung Shan Medical University, Taichung, Taiwan

Conference Program

1st Conference Hall : **正心樓一樓0112教室, Cheng-Hsin Building, Room 0112**		
1st Day – Friday May 25th		
Morning Sessions		
8:30-9:15	**Welcome coffee and Registration**	
9:15-10:00	**<u>Opening Welcome Session</u>** ● Mayor, Taichung City (Mayor Jason Hu) ● President of the Chung Shan Medical University (Dr. Te-Jen Lai) ● Director- General, Bureau of Health Promotion (Dr. Shu-Ti Chiou): **(Heath promotion in Taiwan)**	**Presider: Prof. MC Lee**
10:00-10:15	**Group photo session**	
10:15-10:45	**Coffee break**	
10:45-12:45	**REVES's first objective: Estimating health expectancy** **Chair: Carol Jagger**	
Gender difference in healthy life expectancy in India		Sreerupa, S. Irudaya Rajan and Yasuhiko Saito

Trends in disability-free life expectancy in the European Union, 2005-2010	Jean-Marie Robine for the EHLEIS Group
An analysis of trends in healthy life expectancy: Evidence from the Russian Federation	Yuka Minagawa
Estimating health-adjusted life expectancy by medical care utilization data in Taiwan: A log transformation study	Statistic Study Group, Department of Health, Taiwan
12:45-13:45	**Lunch Time**

Afternoon Sessions		
13:45-15:15	**Health expectancy within a country** **Chair: Lois M. Verbrugge**	
How have inequalities in DFLE changed for local areas in England and Wales between 1991 and 2001?		Pia Wohland
Educational inequalities in healthy life years in Belgium: Are there regional variation?		Nicolas Berger
Health expectancy by sex and region in Vietnam		Liem Nguyen
15:15-15:45	**Posters &Coffee Break**	
15:45-16:45	**Health expectancy estimation by IMaCh** **Chair: Zachary Zimmer**	
Could IMaCh treat irreversible deterioration of health?		Nicolas Brouard
ALE by sex and SES in Singapore		Yasuhiko Saito, Angelique Chan, Rahul Malhotra and David Matchar
16:45-16:50	**Short Break**	
16:50-17:50	**The long arms of childhood** **Chair: Emmanuelle Cambois**	
Childhood socio-economic status and obesity in later life: Findings from the Singapore Social Isolation, Health and Lifestyles Survey		Rahul Malhotra, Chetna Malhotra, Angelique Chan, and Truls Ostbye
Cumulative childhood adversity and active life expectancy among U.S. adults		Jennifer Karas Montez, Mark D. Hayward and Chi-Tsun Chiu
18:00-20:00	**Welcome Reception Cocktail Party (for all participants)** **10th floor, Cheng-Hsin Building** **Steering Committee meeting (10th floor, room 1023)**	

2nd Day – Saturday May 26th		
Morning Sessions		
9:00-10:30	**Sex difference in health expectancy** **Chair:** Roberto Ham Chande	
To what extent is the French sex gap in health expectancies a social issue?		Emmanuelle Cambois
Gender Differences in ALE in Singapore 2009.		Soon Hock Kang, Vanessa Yong and Angelique Chan
Health inequality by gender and wealth status: A special focus on the length of life without diabetes in Kerala, India		Krishna kumar C.S. and K. Navaneetham
10:30-11:00	**Posters &Coffee Break**	
11:00-12:30	**Work, occupation and income** **Chair: Kuan-Jeng Chen**	
Income inequality and life expectancy in Taiwan		Statistics Study Group, Department of health, Taiwan
Twenty-five year trend of retiring CERN employees' health status by professional categories		Herrmann FR, Zekry D, Graf CE, Giannelli SV, Fassnacht V, Diss J-P, Gold G, and Michel JP
Application of health expectancy research to DHS data: A case of Bangladesh		Md. Ismail Tareque and Kazuo Kawahara
12:30-13:30	**Lunch Time**	

Afternoon Sessions		
13:30-15:00	**Studies based on longitudinal survey data in Taiwan** **Chair: Meng-Chih Lee**	
Religious involvement, total and active life expectancy in Taiwan		Mira Hidajat, Zachary Zimmer and Hui-Sheng Lin
Social participation and mental health life expectancy: The case of older adults in Taiwan from 1996 to 2003		Chia-Yi Chiao
Health transition before and after 1995 health reform in Taiwan		Chi-Tsun Chiu and Meng-Fan Li
15:00-15:30	**Posters &Coffee Break**	
15:30-16:30	**Successful aging in Taiwan** **Chair: Edward Tu**	
The predictive factors of successful aging		Pei-Ti Chu

Keep on walking: Correlations among life styles and successful aging in Taiwanese older women	Chih-Hsun Wu, Chun-Wei Chiang, Yu-Hsuan Lin and Baai-Shyun Hurng
16:30-17:30	**George Myers Memorial talk :** **Healthy Life Expectancy in East Asia: Implications for Research and Policy** **Dr. Jersey Liang**
18:30	**Conference dinner at Hotel National** **(for invited guests only)**

3rd Day – Sunday May 27th		
Morning Sessions		
9:00-10:30	**Educational differences in mortality** **Chair: Marten Lagergren**	
Educational differences in health in Taiwan		Chi-Pang Wen
Multiple dimentions of health among Filipino older persons: Results from the 2007 Philipine longitudinal study on aging (PLSOA)		Grace Cruz
10:30-11:00	**Posters &Coffee Break**	
11:00-12:30	**Health Expectancy and Population Projections** **Chair: Nicolas Brouard**	
Mind the gap: Different strategies to reach the EU goal of increasing disability-free life expectancy in Europe		Carol Jagger for the EHLEIS Group
Prediction of life expectancy and health life years in Sweden 2010-2040 using microsimulation		Marten Lagergren
SES, aging and health expectancies in a middle-income country		Cesar González, Roberto Ham Chande and Mariana López-Ortega
12:30-13:30	**Lunch Time**	

Afternoon Sessions		
13:30-15:00	**Proposals to new approach** **Chair: Mark D. Hayward**	
Aggregate morbidity-based mortality modeling		James P Thompson and Robert Eberlein
Midlife Trends in Activities and Disability		Lois M. Verbrugge and Xian Liu
Population Projection by health status for the elderly Japanese		Yasuhiko Saito, Dalkhat Ediev, Vanessa Yong and Sergei Scherbov
15:00-15:30	**Posters &Coffee Break**	
15:30-16:30	**Studies based on data from Taiwan** **Chair: Te-Jen Lai**	
Patterns of aged-people life expectancy in three Chinese cities		Jiaying Zhao, Jow-Ching Tu and Zhongwei Zhao
Impacts of National Health Insurance and Recession on medical care disparity in Taiwan: Lessons from the Natural Experiment Study (1992-2002)		Statistics Study Group, Department of Health, Taiwan
16:30-17:00	**Closing session**	**Chair: Jean-Marie Robine** **Meng-Chih Lee**

Poster Presentation

1.	**Estimating tooth life expectancy by teeth extraction data in Taiwan**	Statistics Study Group, Department of Health, Taiwan
2.	**Linking universal coverage to good health**	Vivian CR Hsieh, Jennifer CL Wu, Trong-neng Wu and Tung-liang Chiang
3.	**Differences in the top 10 causes of outpatient visits among age 45-64—Taiwan, 2000 and 2009**	Shao-Ping Yuan
4.	**Telecare in long-term ventilator dependent patients**	Shao-Ping Yuan, Yao-Chen Wang, Chung-Yu Lai, Tsat-Ling Liu, Chin-Pyng Wu, Yi-Chen Lu, Kun-Shan Ji, Feng-Huei Lin, and Tsung-Po Tsai
5.	**Nurse's Attitudes towards and Willingness the elderly Care of Medical Center in The midst of Taiwan**	Chai-Yuan Lee
6.	**Evaluating the Contamination of Respiratory Therapy Equipment from MechanicallyVentilated Patient Infected by Legionella**	Yia-Ting Li, Yao-Chen Wang Ho-Kuei Chng, Su-Fang Yu, Chi-Hua Yen, Mauo-Ying Bien and Min-Chi Lu
7.	**Long term determinants of functional decline of mobility: An 11-year follow-up of 5,464 adults of late middle aged and elderly**	Chhian Hūi Lêng, Jung-Der Wang
8.	**Long term determinants of mortality: An 11-year follow-up of 4,413 adults of late middle aged and elderly**	Chhian Hūi Lêng
9.	**Aspergillus Infection of the Orbital Apex Masquerading as retrobulbar optic neuritis**	Mei-Ling Peng
10.	**Social Support and Living Arrangement of the elderly in Taiwan**	Miao-yu Liao
11.	**Difference of the ten leading diagnosis for elder ambulatory visits between year 2000 and 2009**	Min-Sho Ku
12.	**Estimation of needs for long-term care after stroke**	Mei-Chuan Hung
13.	**Effect of dynamic experience of social support on changes of instrumental activities of daily living in older adults in Taiwan: Results of a national longitudinal study**	Wen-Chun Liao, Chi-Rong Li, Chiu-Yueh Hsiao, Hua-shan Wu and Joy Chiao
14.	**The impact of socioeconomic status on tuberculosis**	Wei-Sheng Chung

2nd Conference Hall : **正心樓一樓0221教室, Cheng-Hsin Building, Room 0221**		
2nd Day – Saturday May 26th		
Afternoon Sessions (Taiwanese Society of Geriatric Psychiatry meeting**)**		
13:30-15:00	**Depression, physical illness, and traumatic experience among the elderly in Taiwan** **Chair: Te-Jen Lai, Co-Chair: Wen-Chen Ouyang**	
13:30-14:10	Cerebrovascular comorbidity in late-life depression	SH Lee, MD (李淑花)
14:10-14:15	Q & A	
14:15-14:55	Plasma Dehydroepiandrosterone Sulfate (DHEA-S) levels is associated with depression in patients with chronic kidney disease	CF Tsai, MD(蔡佳芬)
14:55-15:00	Q & A	
15:00-15:30	Posters &Coffee Break	
15:30-16:10	One-year follow-up study of PTSD and depression in elderly aboriginal people in Taiwan after Typhoon Morakot	YL Chen, MS/CS Chen, MD, PhD (陳儀龍/陳正生)
16:10-16:15	Q & A	
16:15-17:00	Discussion and Summary for this symposium	

Oral Presentation

Trends in disability-free life expectancy in the European Union, 2005-2010

Jean-Marie Robine for the EHLEIS Group

Abstract

An Analysis of Trends in Healthy Life Expectancy:

Evidence from the Russian Federation

Yuka Minagawa[1] and Yasuhiko Saito[2]

1. **University of Texas at Austin, Population Research Center, USA**
2. **Nihon University, Japan**

Abstract

The health status of the Russians has drastically declined since the collapse of the Soviet Union in 1991. Adult mortality sharply increased particularly in the male population during the first half of the 1990s. While studies investigating the factors responsible for the rise in mortality abound, little is known about the health status of the "survivors" of the post-Soviet demographic crisis. Using data from the Russian Longitudinal Monitoring Survey-Higher School of Economic (RLMS-HSE), the present study examines the healthy life expectancy of the Russians for the period of 1994, 2000, and 2006, to determine how their health status has changed over time and how these changes differ by gender. The analyses from the prevalence-based Sullivan method lead to the following conclusions. First, the health status of the Russian people has improved over time. Years lived in good or average health has increased, while those in poor health conditions have gradually declined for both gender and at most ages. For instance, between 1994 and 2006, life expectancy at birth of the 15 year-old Russians increased by 2.2 years among men and 1.5 years among women. Moreover, the proportion of the life expectancy lived in poor health has declined over time for both gender (Table 1). Second, we find gender differences in physical health conditions. While men face greater disadvantages in terms of longevity, it is women who spend more years in poor health conditions. In 2006, the proportion of life expectancy spent in poor health remains 10% among men, but it reaches 18% among women. These findings suggest large gender differentials among Russians not only in quantity of life, but also in quality of life. While much attention has been directed toward the premature mortality crisis among Russian men, the present findings highlight the importance of investigating the determinants of women's health as well. Overall, the concept of healthy life expectancy provides a useful framework for better understanding the health status of people in contemporary Russia.

Table 1: Life Expectancy and Healthy Life Expectancy of the Russian Population, 1994-2006

Male				Female			
Year	Life expectancy	Poor health		Year	Life expectancy	Poor health	
		Years	Proportion			Years	Proportion
Age 15				Age 15			
1994	44.2	6.2	0.14	1994	57.7	13.9	0.24
2000	45.6	5.8	0.13	2000	58.7	12.4	0.21
2006	46.4	4.7	0.10	2006	59.2	10.9	0.18

Estimating Health-Adjusted Life Expectancy by Medical Care Utilization Data in Taiwan: A Log Transformation Study

Statistics Study Group, Department of Health Taiwan, Taiwan

Abstract

Objective: To assess disability severity using Taiwan's medical care utilization and expenditure data ; then calculate the Health-Adjusted Life Expectancy (HALE) in Taiwan.
Materials and Methods: Sullivan's method is used to calculate the Disability-Adjusted Life Expectancy (DALE). For this study, "disability" is classified into three types: "catastrophic disease", "inpatient disease", and "chronic disease". These types can be combined in four ways, resulting in a total of seven combinations: each of the three types alone, "catastrophic-inpatient –chronic", "catastrophic-chronic", "inpatient-chronic", and "catastrophic-inpatient". Data are derived from two sources: the File of Mortality Registry and the National Health Insurance utilization data in 2010. All claim data consist of demographic characteristics including ID number, gender, and indicators of medical care services including ICD-9-CM diagnosis, and Medical Care Expenditure (MCE). We measure the total numbers and per capita MCE of patients with 7 combinations by gender and age. And the data were log transformed.We followed Sullivan's method to compute Health-Adjusted Life Expectancy (HALE). This method also separates life expectancy into equivalent years of good health and years of lost good health, thus gets the equivalent years of lost healthy life by each age. We applied per capita MCE of these 7 combinations as the disease severity of 7 combinations and the data underwent a log transformation in order to produce a normal distribution, then we calculated the "equivalent" years of good health based on these disease severity.
Results: The life expectancy for male and female at age 0 (60) is 76.3(21.5) and 82.3 (24.9), respectively. The HALE for males and female at age 0 (60) were 71.5 (18.3) and 77.5(21.6), respectively. The proportion of HALE to total life years for male and female at age 0 (60) were 6.3% (14.7%) and 5.9% (13.2%), respectively.
Discussions: This is original research using per capita MCE to assess disease severity. The per capita MCE is a good proxy for disease severity but needed a log transformation. More "MCE as disease severity" research using time-series analysis is needed.

Gender difference in healthy life expectancy in India

Sreerupa and S. Irudaya Rajan

Abstract

How have inequalities in DFLE changed for local areas in England and Wales between 1991 and 2001?

Pia Wohland
Newcastle University, Institute for Ageing and Health, UK

Abstract

Life expectancy (LE) and disability free life expectancy (DFLE) varies widely between districts across England & Wales (E&W). For example, average LE at birth for men in E&W was 73.4 in 1991, with the highest LE of 77.4 observed in East Dorset and the lowest of 69.4 in Manchester. DFLE in 1991 displayed an even wider inequality gap of about 10 years for both men and women across E&W. Even though LE at birth increased across all parts of E&W between 1991 and 2001 and men gained on average 2.6 years and women 1.7 years over the decade, the variation between local area districts (LADs) remained. As part of the InHALE (Inequalities in Healthy Active Life Expectancy) project we investigate whether DFLE across LADs between 1991 and 2001 show the same patterns of change as for LE at different ages: at birth, age 65, the current age of retirement in the UK and age 85+, the oldest old.

In the first part of this work we measure ranges and dispersion to see whether inequality between areas has changed and specifically whether a convergence, divergence or a status quo has occurred. In the second part we analyse the extent to which changes over time can be explained by changes in area level social economic factors.

Educational inequalities in healthy life years in Belgium: Are there regional variation?

Nicolas Berger
Belgian Scientific Institute for Public Health (WIV-ISP), Belgian

Abstract

Background : Inequalities in Health Expectancy by Socio-economic Status (SES) are widely documented at country level. This study goes one step further by analyzing socio-economic differences in Healthy Life Years (HLY) at the regional level in Belgium. Decomposition analysis is used to assess the contributions of mortality and disability to socio-economic differences.

Data and Methods : In previous HLY studies in Belgium, mortality rates by SES were estimated using follow-up mortality from a national census. However, as there has been no census planned since the 2001, another approach was identified in order to make such estimations, namely the use of follow-up mortality from a representative survey.

In this study, the 10,758 adult participants in Belgian Health Interview Survey (HIS) 2001 were followed-up until the end of 2010 in order to verify their vital (and migration) status. Health status measured by the Global Activity Limitation Indicator (GALI) as well as SES were extracted from the HIS 2001. SES was measured by the highest educational level achieved within the household (recoded as low and high educated).

The HLY at age 25 were calculated by the Sullivan method. The partitioning of the SES differences in HLY into a part due to mortality and a part due to disability was performed with a decomposition tool developed by Nusselder and Looman.

Results : In men and women, SES inequalities in HLY are observed in the three regions of Belgium. In Wallonia and Flanders, HLY differences are about 7 years in men and 9 years in women; whereas in Brussels, differences are about 10 years in men and 7 years in women. These inequalities in the HLY are, in both men and women, due to higher disability prevalence in the low SES population. The higher disability prevalence accounts for 2/3 to 4/5 of the SES inequality in HLY. The exception is men in Flanders where mortality and disability inequality equally contribute to the HLY inequality.

Conclusion : SES inequalities in HLY are substantial in the three regions of Belgium. Efficient diminution of inequalities should concentrate efforts on the reduction of disability in low educated men and women.

Health expectancy by sex and region in Vietnam

Liem Nguyen

Abstract

Could IMaCh treat irreversible deterioration of Health?

Nicolas Brouard
INED, France

Abstract

IMaCh is a statistical computer program which aims is to solve a realistic process where incidence of disability estimated from two interviews of a longitudinal studies on health is usually compensated by a recovery which can also be observed and estimated.

But for some disability states, it is sometimes hard to observe recovery cases. Sometimes also, we would like to use IMaCh for estimating an incidence to a state which by definition is not reversible, like having “had a stroke”.

We will explore the different possibilities offered by current version of IMaCh as well as with a prototype version which has been built in order to treat the case of Dementia in a French longitudinal study.

ALE by sex and SES in Singapore

Yasuhiko Saito, Angelique Chan, Rahul Malhotra and David Matchar

Abstract

Childhood socio-economic status and obesity in later life: Findings from the Singapore Social Isolation, Health and Lifestyles Survey

Rahul Malhotra, Chetna Malhotra, Angelique Chan, Truls Ostbye
Health Services and Systems Research, Duke-NUS Graduate Medical School, Singapore

Abstract

Background: Socio-economic status (SES) is a well-documented distal determinant of obesity. Most studies assessing the SES/adult obesity association utilize only adult SES indicators. The few studies that assess this association utilizing childhood SES indicators pertain mostly to Caucasians from the United States/Europe and to middle-aged individuals. Very few pertain to Asian populations or to older adults.
Aim: To determine the association of childhood SES with obesity among older Singaporeans.
Methods: Data from the Social Isolation, Health and Lifestyles Survey 2009, a representative survey of community-dwelling older Singaporeans (aged 60+) was utilized. Obesity (Body Mass Index > 27.5kg/m2; Asian classification) was assessed for 4193 of the survey participants. Childhood SES was classified as low (poor) or high (pretty well off/average) based on the response to "Now think about your family when you were growing up, from birth to age 16. Would you say your family during that time was pretty well off financially, about average, or poor?" Association of childhood SES with older adult obesity was assessed using unadjusted and adjusted (for age, gender and adult SES indicators [highest education achieved and type of housing]) logistic regression models.
Results: Most study participants reported a low childhood SES (57.1%). Weighted prevalence of obesity among those reporting low and high childhood SES was 16.5% and 22.1%, respectively. Those reporting a low, versus high, childhood SES had significantly lower odds (0.64 [0.54, 0.75]) of obesity, even after adjusting for adult SES.
Conclusion: Our finding was contrary to most previous studies which report higher odds of obesity in adulthood among those with low childhood SES. Thus, an inverse association of childhood SES with adult obesity is not universal, rather is context (setting and age cohort) specific.

Cumulative Childhood Adversity and Active Life Expectancy among U.S. Adults

Jennifer Karas Montez, Mark D. Hayward, Chi-Tsun Chiu
Harvard University, Population Research Center, University of Texas at Austin, USA

Abstract

Studies of the early-life origins of adult physical functioning and mortality risk find that childhood health and socioeconomic context are particularly important predictors, often irrespective of adult experiences. However, these studies generally assess functioning and mortality as distinct processes and rely on cross-sectional prevalence estimates that neglect the interplay of disability incidence, recovery, and mortality. We hypothesized that early-life disadvantages both shorten lives and increase the number of years lived with functional problems. We also examined the extent to which educational attainment could overcome early life disadvantages. Drawing on the 1998-2008 Health and Retirement Study, these issues were assessed for non-Hispanic white and black adults 50 to 100 years of age using multistate life tables. Regardless of one's educational attainment, adults from disadvantaged childhoods lived fewer total years of life, fewer years of active life, and spent a greater percent of life functionally impaired compared with adults from advantaged childhoods. While more years of educational attainment did not overcome the health-related consequences of childhood disadvantage, very low levels of education could erase the health-related benefits of childhood advantage. The findings suggest that policies to improve population health should target early life and adolescence, particularly through universal access to quality education.

To what extent is the French sex gap in health expectancies a social issue?

Emmanuelle Cambois
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Abstract

Context: There are evidences of an expansion of disability within life expectancy at age 50 in France in recent years, due to a decrease disability-free life expectancy in the 50-65 age group. It is more pronounced for women leading to an increase in the sex differentials, reinforcing the need for identifying explanatory factors. In complement to health factors, gender studies assume a possible detrimental effect of various situations related to "social roles" commonly assigned to men and women. Specific combinations of work and family loads might induce gender-specific exhaustion of mental and physical resources and impact functioning. A first step of the research is to describe gender-specific family/work situations and their impact on health.

Methods: The Gender and Generation Survey is a repeated household survey (2005-2008) devoted to family and work arrangements and conciliation (N=6,235 men and women aged 50-79). Analyses are based on two health indicators: activity limitations to reflect disability and wellbeing to include the mediating effect of mental resources exhaustion on functioning. Various family and work situations are explored to identify potential vulnerabilities: household composition; number of union dissolutions; isolation; caregiving; unsatisfying share of domestic tasks; work status; work/family conciliation. Age-adjusted bivariate models measure the significance of family/work situations on health for women (w_OR) and men (m_OR). Multivariate models assess the contribution of these situations to the health disadvantage of women (ORsex).

Results: In 2005, 33% of men and 42% of women aged 50-79 report poor wellbeing and/or disability. Except for working part time, the selected family characteristics and work/family loads are associated with a significant higher risk of poor health: one union dissolution (w_OR=1.4) and two or more (w_OR=1.8; m_OR=1.7) vs none; living alone (w_OR=1.4; m_OR=1.2) or single parents (w_OR=1.7; m_OR=1.3) vs couples with children; feeling isolated (w_OR=7.0; m_OR=4.4) vs not; not working (w_OR=1.6; m_OR=3.2) vs working; caregiving (w_OR=1.7) vs not; over-spilling of family loads on work (w_OR=4.2; m_OR=2.3) vs not; unsatisfied with the share of chore activities (w_OR=1.7; m_OR=11,0) vs satisfied. The age-adjusted higher risk of poor health for women (ORsex=1.42) is lowering when adjusting for family characteristics (ORsex=1.27), for family/work load (ORsex=1.24) or for all

of them (ORsex=1.21). In the 50-65 age group, the ORsex is not significant anymore when adjusting for the family/work load.

Conclusion: This exploratory study used detailed family and work characteristics to identify situations of vulnerability. Poor health is associated with a combination of family/work loads, such as single parents, loneliness or caregiving. Detrimental for both men and women, these situations are more frequent for women and therefore contribute to the gender gap in DFLE. This first approach encourages further refining situations of work/family loads and measuring their relationship with current and future health status.

Gender Differences in ALE in Singapore 2009.

Soon Hock Kang, Vanessa Yong and Angelique Chan

Abstract

Health inequality by gender and wealth status: A special focus on the length of life without diabetes in Kerala, India

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Abstract

Kerala has highest life expectancy, better health care infrastructure facilities, high level of literacy rate, better women empowerment and less social inequality compared to other states of India. These social achievements were happened in a low economic condition of the state. However, the state has high level of morbidity rate. Previous studies found that high morbidity in the state is real and not due to perception factors. Now, the state is in the fourth stage of epidemiological transition and studies have pointed out that life style diseases are mounting in the state. The age pattern of morbidity seems to have changed as of its relation with the socio-economic conditions. The impact of disease on the healthy life expectancy might be changed during the course of health transition. However, there are no scientific studies which looked these aspects from a socio-economic and demographic perspective in India.

In these contexts, we try to study the inequality in health by socio-economic conditions and gender in Kerala. In order to understand the changes in life style diseases, we have selected diabetes since it is one of the most prominent life style diseases in the state among the adults irrespective of the socio-economic conditions. Now the state is considered as diabetic hub in the south Asia. We also try to compute the diabetes free life expectancy for both males and females in order to understand the impact of diabetes in Kerala on average.

Specifically, the study has three objectives: first, To discuss the levels and patterns of morbidity in Kerala by socio-economic status and gender, second, To examine the prevalence rate of diabetic across socio-economic status from a demographic perspective and third, To compute the diabetes-free life expectancy for both males and females in Kerala using the Sulivan method.

This study is based on a cross sectional community survey titled “Health Status of Kerala: A life course Perspective” conducted in Kerala in the year 2004. The survey covered 17071 individuals in all age groups from 3320 households. Principle component analysis was

employed to construct the wealth index. Life table technique (Sullivan Method) was used to compute diabetes free life expectancy (DFLE). Proportion of diabetic persons was taken from the community survey, while Age Specific Death Rates (ASDR) was collected from Sample Registration System (Registrar General 2004).

One in every four person in Kerala has any morbidity during reference period of study. Wealth status is an important determinant in the level of morbidity, and particularly for the life style disease-diabetes. In general, around 32 persons in every 1000 population has diabetes in the state. Chance of being diabetes is increased as age increase. Prevalence of diabetes varies between males and females across ages. In general, poor people are more vulnerable to morbidity than the rich. However, the prevalence of diabetic is more among the rich than the poor people. Inequality in health in the state is more disease specific. However, government interventions are not based on the diseases and class specific and thus go on ineffective. This study also put forward a few policy suggestions.

Income Inequality and Life expectancy in Taiwan.

Statistics Study Group, Department of Health Taiwan, Taiwan

Abstract

Objective: This study intends to assess life expectancy at the individual level among five income quintiles.

Materials and Methods:This study linked the survey of family income and expenditure data (year 2009) from the Directorate-General of Budget Accounting and the File of Mortality Registry (year 2009) by identification number to predict the relationship between income quintile and life expectancy.

Results and Discussions:The life expectancy at age 0 from the richest to poorest five quintile for male and female is 70.1, 73.3, 75.1, 79.7, 76.3 and 73.9, 79.5, 85.8, 81.1, 82.0, respectively.

The life expectancy at age 70 from the richest to poorest five quintile for male and female is 14.1, 16.9, 11.6, 12.2, 15.5 and 15.4, 14.0, 19.2, 13.3, 18.3, respectively.

We use the richest quintile as base, the ratio of life expectancy before age 60 is stable but after age 60, the ratio becomes fluctuant for both genders. The ratio of male life expectancy at age 60 from the poorest to richest is 0.83 0.94, 0.83, 0.93 and1.0, but at age 90 the ratio becomes 1.08 1.85, 1.16, 0.42 and 1.0.

The ratio of female life expectancy at age 60 from the poorest to richest ratio is 0.97, 0.86, 1.06, 0.87, and 1.0 but at age 90 the ratio becomes 0.58, 0.89, 0.95, 1.02.

The relationship between income quintiles and life expectancy is non-liner.

Twenty-five year trend of retiring CERN employees' health status by professional categories

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2. CERN Medical Service

Abstract

Aim: To describe, over time and across professional categories, the trends of selected cardio-vascular risk factors and related biological parameters in a population who benefited from long term working contract and shared the same access to health care (same medical follow-up and health care insurance).

Method: Data collected routinely over 25 years were anonymously merged from 2 sources: the health medical service and the human resources of a large international organization. Using ANOVA, linear and logistic regression we quantify the effect of age, 5 years time period and 4 professional categories (pc1. manual work, crafts, trades; pc2. office and administrative; pc3. technical; pc4. scientific & engineering). Inclusion criteria were: male aged between 60 and 70.0 years, employed as staff. Only the last medical exam before retiring was considered for analysis.

Results: 2040 employees meet the inclusion criteria (pc1: 22.7%, pc2: 4.7%, pc3: 42.1% and pc4: 30.5%). The evolution at the time of retirement of anthropometric variables (weight, height and body mass index), smoking status and blood pressure parameters will be presented.

Discussion: Despite work stability and an equivalent access to health care, a health gradient was observed with scientists having the lowest prevalence in most cardio-vascular risk factors.

Application of Health Expectancy Research on DHS data:

A Case of Bangladesh

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Abstract

The increase in life expectancy in Bangladesh during the 20th century has been a remarkable achievement. However we do not know whether the increase in life expectancy is keeping pace with the health problems or injury free life expectancy in Bangladesh. Thus using the national representative data- 2004 and 2007 Bangladesh Demographic and Health Survey (BDHS) male data and period life tables, we computed health problems or injury free life expectancy for year 2004 and 2007, using Sullivan method. The results shows that mean number of unable days as well as proportion of life unable to work due to specific seven illnesses (Viz, tuberculosis, asthma, diabetes, high blood pressure, heart problem, malaria/fever and jaundice/hepatitis) for 2007 are getting better compared with 2004. But in both time points among the seven illnesses, malaria/fever was found to be the main cause to prevent Bangladeshi male from working their regular work. This study recommends to initiate some programs to remove malaria/fever so that people can enjoy regular working without health problems or illness and also suggests to collect the same data for female, the same groups of male, keeping consistent questions and orders over time.

Religious involvement, total and active life expectancy in Taiwan

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1. First two authors listed take equal credit for first authorship

Abstract

Background: While research has implicated religious involvement as a determinant of health outcomes, questions remain unanswered. These include whether associations in places where Judeo-Christian religions dominate persist across national and cultural boundaries; whether public versus private expressions of religiousness have equivalent impacts, and; the precise advantage of greater religious involvement expressed as years of life and healthy life. The current paper addresses these issues in Taiwan.
Methods: A longitudinal panel of 3,739 Taiwanese 53 and older was surveyed in 1999, 2003 and 2007. Mortality and disability was recorded in each year. Involvement in public and private religious practice was recorded at baseline. A multistate life table technique using IMaCh software produced estimates of life and active life expectancy for those who report being often, sometimes, rarely and never engaged in religious activity as well as those with no religious affiliation. Active life is measured using Activity of Daily Living limitations.
Results: There is a positive gradient between life and active life expectancy and religious involvement. At age 55 those who practice privately and publicly often live 3 to 4 years longer than those who practice never. Those with no affiliation are in between.
Conclusions: Results support decades of evidence in the West, and a smaller body of research in the East, while providing specific estimates of years spend in active states of health. The mechanisms that intervene between religion and health may be similar in Eastern religions despite differences in the ways in which the main religions are practiced.

Social Participation and Life Expectancy -

The Case of Older Adults in Taiwan from 1996 to 2003

Chia-Yi Chiao, Shu-Hsin Lee , Wen-Chun Liao, Chi-Hua Yen, Yen-Ju Lin, Chi-Rong Li, Te-Jen Lai, Hui-Sheng Lin, Maw-Sheng Lee, Meng-Chih Lee

Chung-Shan Medical University, Taiwan

Abstract

Background: In 2009, 10.71% of the total population in Taiwan was aged 65 or older. As societies develop, people, especially the elderly, seek both a longer duration of life and, a better quality of life. Life expectancy is an indicator of quality of life. The purpose of this secondary analysis was to examine the effect of depressive symptoms on LE in the late life and to estimate the average number of years that elderly Taiwanese individuals can expect to live, with and without social participation.

Method: This research applied a study design that used a longitudinal national survey with a multi-stage national probability sampling method. The Interpolation Markov Chain (IMaCh) was used for data analysis.

Results: Non-depressed elderly Taiwanese respondents had a longer life expectancy than depressed respondents. Furthermore, elderly individuals who had regular social participation were found to have an additional 0.7-1.3 years of life expectancy, an additional 1.2-2.4 years of healthy life expectancy, and 0.5-1.1 fewer years of unhealthy life expectancy.

Conclusion: The results of this research suggest that the public should be encouraged to attend social activities regularly. This study also provides references for policy makers to address this issue.

Health transition before and after 1995 health reform in Taiwan

Chi-Tsun Chiu and Meng-Fan Li

Abstract

The predictive factors of successful aging

Chu Pei-Ti

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Abstract

Objective: The purpose of this paper was to explore the predictors of successful aging and to analyze the explanatory factors for successful aging among a panel of community residents in Taiwan.

Methods: Nine hundred elder community residents aged 65 to 74 were recruited from 4 townships with diverse characteristics of Cha-Yi County by using multi-level random sampling in 2001. We then followed up of their survival, depressive symptoms, cognitive function, and quality of life until 2011. Successful aging was defined as aging with fair physical, emotional, cognitive, and social function respectively. Linear regression was applied to predict successful aging in 2011 by possible predictors noted in 2001.

Results: During the 10-year follow-up, 299 participants died or could not be traced; 216 participants refused further interview; 376 participants completed evaluation in 2011. As a consequence, 6 indicators for successful aging indicated by physical health were gender, stroke, educational level, diabetes and occupational status. On the other hand, 4 significant predictors for successful emotional aging were gender, diabetes, heart disease and other diseases. Five significant predictors for successful cognitive aging were gender, educational level, stroke, thyroid disease and religiosity. Three significant predictors for successful aging indicated by mental health were gender, diabetes and occupational status. Six significant predictors for successful social aging were gender, educational level, stroke, diabetes, occupational status and religiosity. The only significant predictor for successful aging indicated by Neighborhood Quality Index was thyroid disease.

Discussion: Different dimensions have different predictive factors in successful aging. Some of them are modifiable and can be used to improve specific aspects of successful aging.

Keep on Walking: Correlations among Life Styles and Successful Aging in Taiwanese Older Women.

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Abstract

Objective: Previous study had found Taiwanese older women were less successful aged than men did (13.7% vs 23.0%), and education might be part of the reason. Education level were related with life styles(e.g. smoking, drinking, exercising etc.), and some studies had reported that these health behaviors were related with successful aging. Thus, in order to explore the phenomena, the current study aimed to explore the correlations among health behaviors and successful aging in Taiwanese older women.

Methods: The data of 2009 National Health Interview Survey(NHIS) in Taiwan were used. A total of 1474 women, who were aged 65 years or older at the time of survey, were included in the study. Successful aging were defined by qualifying all following 5 criteria: (a) no major disease, (b) no disability on activities of daily living, (c) no more than one difficulty with eight measures of physical functioning, (d) obtaining a median or higher score on test of cognitive functioning, and (e) being actively engaged. Demographic variables and 5 life styles variables (smoking, drinking, betel chewing, exercising, and physical labor) were included in the logistic regression model to exam if these health behaviors were related with successful aging.

Results: The results showed that after controlling for age and education level, exercise was significant correlated with successful aging. Those 709 women who reported that they had exercised at least once in past 2 weeks were 2.2 times higher in probability of being a successful ager than who did not exercise. Among those had exercised, 60.3% reported their choice of exercise were “taking a walk”. Further explorations had also found that even for those who did not exercise, if they did walk continuously for at least 10 minutes for more than 7 days in past 2 weeks, they were 2.6 times higher in probability of being a successful ager than their counterparts that did not walk at all.

Conclusion: Exercise, especially walking, were found significant correlated with successful aging in Taiwanese older women. Though the cross sectional nature of the data couldn’t clarify if it’s 1) exercising (walking) that raised the probability to age successfully, or 2) the ability to exercise (walk) might be a good index for successful aging, we could still suggest that “walking” is an important component of the aging process.

George Myers Memorial Talk

Healthy Life Expectancy in East Asia: Research and Policy Implications

Dr. Jersey Liang
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Abstract

The pace of economic growth and structural change in East Asian countries (e.g., Japan, Taiwan, and China) ranks as one of the most outstanding features of world economic development. East Asia has become a key driver of global economy and politics. Yet, most research on healthy life expectancy (HLE) is based on data derived from western developed nations. East Asian nations differ significantly from western developed nations in terms of economic, demographic, and epidemiological transitions. Hence, they provide an ideal setting for further research on HLE, particularly in contrast with developed nations in Europe and North America. Research on HLE in East Asian nations is increasing but remains limited. To advance our knowledge on HLE in East Asian nations, studies focused on linkages between HLE and social determinants at the individual, community, and societal levels are required. To accomplish this, a major investment must be made for the collection and analysis of high-quality longitudinal data on morbidity, disability, and mortality. In addition, HLE research needs to be better aligned with public policies, for which effective political strategies are required.

Education differences in health in Taiwan

Chi-Pang Wen

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Abstract

Background: Education, an important social determinant of health, has long been emphasized among Asians, and yet, factors behind its role in health disparity received little attention. We attempted to quantify and compare such disparities from a large cohort during two time periods, when universal health insurance was in effect. We also sought to identify the role of risk factors and ranked diseases most contributory to the education related health disparity

Methods: The cohort consisted of 399,819 subjects aged 20 years and older who participated in a health examination program since 1994 in Taiwan. A total of 10,054 deaths as of 2007 were identified. Education related health disparity was calculated using logistic regression [odds ratios (ORs) for risk factors], Cox proportional hazards model [hazard ratios (HRs) for mortality] and life table method [for life expectancy]

Findings: The all-cause mortality gap (HR) between the lowest and the highest educated males increased from 1.72 to 2.71 in a period of ten years A strong relationship between educational levels and life expectancy was observed: men with 3 years, 6 years and 7 years of additional education beyond middle school had 3.1, 6.4, and 6.9 years longer life expectancy, respectively at age 20. Lower educational levels were associated with higher prevalence of unhealthy lifestyles (smoking, betel quid chewing) or risk factors for cardiovascular disease (CVD) [hypertension, diabetes or hypertriglyceridemia], or liver cancer (hepatitis B and C carriers) and obesity. Among causes of deaths that accounted for the educational gap, cancer was responsible for 40%, substantially greater than the next three causes, accidents (13%), respiratory diseases (9%), and CVD (7%), combined. Differences in smoking behavior (both smoking rates and smoking intensity considered) contributed 38.3% to the education-related cancer gap. Smoking shortened the life expectancy of the lowest educated by 3.2 years.

Interpretation: In this Asian population, the size of education-related health disparity was large and has been increasing, despite the implementation of universal health insurance. Each additional year in education was associated with one year gain in life expectancy. Contrary to observations in most countries where CVD was largely responsible for the educational gap, cancer gap was the leading cause in Taiwan, due mainly to higher rates of smoking and hepatitis C carrier status among the lowest educated subjects.

Multiple dimentions of health among Filipino older persons: Results from the 2007 Philipine longitudinal study on aging (PLSOA)

Grace Cruz

Abstract

Mind the gap: Different strategies to reach the EU goal of increasing disability-free life expectancy in Europe

Carol Jagger for the EHLEIS Group

Abstract

Prediction of life expectancy and health life years in Sweden 2010-2040 using microsimulation

Marten Lagergren

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Abstract

Microsimulation is a technique for forecasting and analysing the development of a population from different aspects by simulating individual life trajectories for a large number of individuals. As basis for the simulation is used the estimated incidence of different life events – e.g. chronic disease, disability, death – given determining factors like gender, age, socio-economic group, previous state of health etc.

Using the microsimulation model SESIM, developed by the Ministry of Health and Social Affairs in Sweden, healthy life expectancy from 65, 75 and 85 years of age has been calculated for the period 2010 - 2040 according to different measures of health – ADL-dependency, dementia, severe ill-health. Life expectancy was calibrated to conform with the official Swedish forecast, which implies an increase in LE65 by 1,8 years for women and 2,5 years for men in the period. The underlying estimations were made using data from the ULF/SILC-study, the SNAC-study and its predecessor, the Kungsholmen study.

The results show continued postponement of ill-health but combined with some increase of years with ill-health for men. Thus for women almost all of the added life-years in the period from 65 years of age are calculated to be years with health, for men 85%.

SES, aging and health expectancies in a middle-income country

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Abstract

Inequalities in health expectancy will remain as long as SES differences persist. Achieving equity in health is as difficult as it is complex to close socio-economic gaps. The characteristics and complexity of disparities in health related to SES change according to each country's socio-economic context, and are inherent to inequality within each nation. Health differences are not static, but move along changes in social, economic and public health conditions. Its study, diagnosis, and possible solutions require focused concepts and methods under constant review. Prospective approaches seeking sustainability are also required in the design and planning of programs and health care systems. In Mexico, an intermediate income country, challenges arising from disparities in SES and health expectancies have a major determinant in the rapid ageing of the population and its epidemiological implications. Population projections are the main methodological framework in the construction of future epidemiological scenarios. All current scenarios foresee health burdens jeopardizing the well-being of the population, family structures, and health systems, with severe implications for economic and social sustainability of the country. The main objective of this study is to define and estimate SES and its impact on morbidity and health expectancies. Intervening variables are sex, education, occupation, and income. In addition, urbanization, size of locality, ethnicity, and regional differences are of utmost relevance. Poverty is also a key issue affecting aging and health expectancies with clear impacts on morbidity, disability, depression, and mortality. Data comes from the Mexican Health and Aging Study, (MHAS) 2001, 2003 and the National Health and Nutrition Survey (ENSANUT) 2006. Preliminary findings suggest that health inequalities depend on the variables that are considered. It appears that disparities are more evident in urban areas and that they respond more to educational attainment than to income. In addition, results suggest that among the poorest and those with lower educational disparities in health status are large than those found among individuals with high educational and higher income. Apart from migration, the population 65+ for the coming 65 years period is already born. Thus, projections of the population 65+ are obtained by just applying survival rates to the current population age structure. This approach enables an analysis of cohorts that allows for the identification of relevant socio-economic indicators of SES that are defined early in life such as education and occupation. Surveys also allow a history of past health conditions. These cohort studies and scenarios analyses are most appropriate inputs for the designing of public policies and health programmes.

Aggregate Morbidity-based Mortality Modelling

James P Thompson, Robert Eberlein

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Abstract

Health care interventions target specific morbidities and, when successful, have a significant impact on the resulting prevalence and mortality. This impact is not, however, limited to the targeted morbidities but extends to all conditions as a consequence of the changed life histories that result. Modelling this is important, and doing so at the level of the individual and aggregating to the population level is one approach that is conceptually straightforward: one can assign probabilities of dying from each morbidity that affects a person until eventually one of them causes death. In practice, this approach is complex and, in the absence of large volumes of detailed individual level data, may be intractable.

Given that aggregate data are more readily available and the goal is to achieve population-level inferences, modelling at the population level from the outset is an attractive alternative. To achieve the policy goal of evaluating the impact of different health interventions on aggregate outcomes, it is still important to account for the presence of multiple morbidities. A significant challenge in doing this is to assure that death is not attributed to more than one cause per individual as this would misestimate the impact of the intervention. Our proposed solution to this problem is to use a measure we term the co-prevalence index to adjust overall mortality based on the average extent of multiple conditions. This same measure is then used to attribute condition mortality to overall population mortality. Thus, one death can result in the reduction of the number of people in multiple morbidity pools.

The approach, which we call aggregate morbidity-based mortality, allows changes in the prevalence or mortality of one condition to impact other conditions. This feedback is important to systemic investigation of interventions. By linking the outcomes of targeted interventions with other chronic and acute conditions, it is possible to determine effects on population health and mortality.

Aggregate morbidity-based mortality is applied in the context of a simulation model of population by gender and age group. The value of the proposed approach should be especially useful in countries with ageing populations for which the number of concurrent chronic conditions is likely to increase substantially in the coming decades. Understanding how to deal effectively with these increasing needs is one of the most important and urgent problems facing many developed, and some developing, countries. We will present a prototype morbidity-based mortality model with results to date for the country of Singapore.

Midlife Trends in Activities and Disability

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2. **Uniformed Services University of the Health Sciences, and Walter Reed National Military Medical Center, Bethesda, Maryland, USA**

Abstract

Objective: The analysis compares trends in activities and disabilities for midlife Americans. We hypothesize that activities (hours spent) change over time more than disabilities (prevalence). We then consider how time spent in activities is related to disability for individuals. We hypothesize that people with disability spend more time on obligatory activities, and less time on committed and leisure activities.

Methods: Data are from the Health and Retirement Study, a large-scale longitudinal survey with a nationally representative sample of community-dwelling U.S. adults midlife and older. Disability is measured in the main interview by health-related difficulty or help in ADLs and IADLs (biennial, 2000-2008; 5 time points). Activities information is in a supplemental mail questionnaire (biennial, 2001-2009; 5 time points). Hours spent on 33 activities in the past week/month were recorded; we pool the items into 13 domains based on a time-use classification. Three age groups (55-59, 60-64, 65-69) are studied. The trends analysis is aggregate, examining how activities and disabilities change over time for age groups. Mixed models are estimated with time, age, and time x age interactions; gender and education are controls. Analysis of links between activities and disability is individual-level and cross-sectional, using regressions and correlations.

Results. Trends: Despite the short time span, some significant changes in time use occurred for midlife age groups. Leisure hours increased for all age groups (55-59, 60-64, 65-69), and Sports also showed increase; there were no significant age differences in hours spent on these activities. Strong age differences occur for Paid Work (hours decline with age) and Entertainment (increase with age). (Several other significant time and age effects will be discussed.) Still, time and age have less impact on hours in activities than gender and education do. For disability, IADL prevalence increases over time, and ADL prevalence is stable. Disability prevalence increases slightly with age, but those age differences are nonsignificant. Gender and education have no effects on disability prevalence. Overall, time x age interactions are negligible in the activity and disability models. Our hypothesis about trends is supported.

Links between hours and disability: Disability is positively associated to personal care hours, and negatively to sleeping, paid work, entertainment, sports, and house/yard repairs hours. Our hypothesis about linkages is partly supported; significant links are sometimes in the postulated direction, sometimes opposite.

Conclusion. Activities are more dynamic than disability, showing more trends over years. Time use is associated with disability. Together, these results recommend studying a broader scope of activities than those in standard disability measures, and they suggest that analyses of health-related changes in time use will offer expanded knowledge of the disability experience.

Patterns of Aged-People Life Expectancy in Three Chinese Cities

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2. Hong Kong University of Science and Technology, HKSAR

Abstract

It is observable that three Chinese cities (Hong Kong, Shanghai and Taipei) with different level of socioeconomic development and different socioeconomic and health system experience a similar level of life expectancy at aged 65 today. The purpose of this paper aims to understand this phenomenon. Despite similar level of life expectancy and unprecedented increase in life expectancy, the contributions of changes in major causes of death to the improvements of life expectancy among the elderly are different in these three cities. There are several reasons behind the different patterns and trends in these three cities, including health service delivery systems, classification of causes of death, socioeconomic development, and competing risks from CVD and other diseases. But the effect of equity of health service delivery has become more important."

Impacts of National Health Insurance and Recession on Medical Care Disparity in Taiwan: Lessons from the Natural Experiment Study (1992-2002)

Statistics Study Group, Department of Health Taiwan, Taiwan

Abstract

Background: Health care delivery system and income are two factors that affect equity in medical care utilization. How deep is the impact of these two factors? We utilize two related proxies
(1). the implementation of a compulsory National Health Insurance (NHI) program in 1995 and (2). the recession in 2001 on equity in health care finance and utilization in Taiwan.
Objective: We used the 1992- 2002 data to examine the following hypotheses at the individual level:
Hypothesis 1: Equity in HCE improves after having the NHI program.
Hypothesis 2: Equity in BHP and HCE deteriorates with recession.
Materials and Methods: We defined the Health Care Expenditure (HCE) and the Burden of Health Payment (BHP) to assess the equity in health care finance and utilization, respectively. We use the disparity ratio and expansion rate to assess the equity in HCE. All data were categorized by quintiles.
Results: This study confirms the two hypotheses. NHI can narrow the disparity in medical care equity, but recession can widen it. The HCE disparity ratios are 1.11, 0.87 and 0.92 during different periods and the HCE expansion rate of the poorest and the richest are 118:117 and 117:138 during the adjustment NHI and the recession, respectively. We found that the BHP was regressive (from 4.9% to 2.6%), while HCE for the poorest (US$569.2) is significantly higher than that for the others (US$ 478.3).
Discussions: NHI reform is still an unfinished job. The resource allocations need to be rearranged whenever a recession occurs.

Cerebrovascular comorbidity in late-life depression

Shwu-Hua Lee

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Abstract

Late-life depression (LLD) produces significant morbidity and mortality, making it an important public health issue given the growing number of elderly persons. The heterogeneity of LLD has been well described, including the large degree of medical comorbidity, especially vascular risk factors.

Vascular disease may contribute to LLD by affecting subcortical structures involved in mood regulation and the white matter pathways that connect these structures to frontal cortex. Vascular depression has been characterized clinically as a "depression-executive dysfunction syndrome of late life". MRI-defined vascular depression is defined by the presence and severity of white matter hyperintensities (WMHs), which are thought to be produced by small, silent cerebral infarctions. Increased WMH severity is a well-replicated finding in elderly subject groups with depression.

More research on vascular depression is needed, including vascular preventive interventions, antidepressant and psychoeducation therapy and can probably improve outcome.

Plasma Dehydroepiandrosterone Sulfate (DHEA-S) levels is associated with depression in patients with chronic kidney disease

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Abstract

Depression is common in hemodialysis patients. Reduced DHEA-S levels have been shown to be associated with depression in general population. Metabolic abnormalities in hormone are noted in hemodialysis patients. However, the association between DHEA-S levels and depression in patients with chronic kidney disease has not been established. Based on a nationally representative sample of older persons in Taiwan, we used crosssectional models to demonstrate the relationship between DHEA-S levels and depression in elderly with chronic kidney disease, as reported by participants in the Social Environment and Biomarkers of Aging Study in Taiwan (SEBAS). The findings suggest that low plasma DHEA-S level is associated with depression in older adult with chronic kidney disease.

One-year follow-up study of PTSD and depression in elderly aboriginal people in Taiwan after Typhoon Morakot

Yi-Lung Chen, Cheng Sheng Chen

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Abstract

Objective: This study describes a 1-year follow-up study of post-traumatic stress disorder (PTSD) symptomatology and depression in an elderly minority population who experienced Typhoon Morakot in Taiwan.

Methods: The PTSD Symptom Scale - Interview (PSS-I) and the 10-item short form Center for Epidemiological Studies Depression Scale (CES-D) were used to examine PTSD symptomatology and depression to 120 victims at 3-6 months, and 88 victims (73.3% reinterview rate) at 11-12 months later. Further, we looked for the association among stress, prognoses, and development of PTSD symptomatology and depression.

Results: The prevalence of PTSD symptomatology decreased from 29.2% (35/120) at 3-6 months to 15.9% (14/88) at 11-12 months. However, the prevalence of depression increased from 43.3% (52/120) to 46.6% (41/88). No factor was associated with follow-up PTSD symptomatology, but only educational factor related to follow-up depression. Symptoms of PTSD were different among people with delayed-onset PTSD, chronic PTSD, and remitted PTSD at baseline. Many stressors were associated with depression and PTSD symptomatology, but only at the onset of diseases.

Conclusion: Although PTSD and depression were separate consequences of trauma, they emerged and deteriorated people's mental health together. Such differences between both should be clarified. Delayed-onset depression is more common than delayed-onset PTSD symptomatology. Chronic and delayed-onset PTSD symptomatology were more easily developed with depression. Traumatic experiences and demographic were little associated with follow-up PTSD and depression. However, live stress could substantially explain the change in PTSD symptoms and depression, affecting them in different way.

Poster Presentation

Estimating Tooth Life Expectancy by Teeth Extraction Data in Taiwan

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Abstract

Objective: This paper describes a simple method of estimating Tooth Life Expectancy (TLE) in Taiwan.

Materials and Methods: We applied the Life Table method by using teeth extraction data to calculate Tooth Life Expectancy (TLE).Data are derived from the National Health Insurance dental care utilization data in 2004.

The teeth were classified into 4 quarters, with 28 teeth as the measure unit. Right maxillary side, (11,12,13,14,15,16,17); left maxillary side (21,22,23,24,25,26,27); right mandible side (31,32,33,34,35,36,37); left mandible side, (41,42,43,44,45,46,47). The second digits ranging from 1 to7 denote central incisor, latter incisor, canine, first premolar, second premolar, first molar and second molar, respectively.

This is a retrospective study: we use these 28 teeth as the measure unit to trace back one year.

We calculate the number of persons who utilized dental care by age and gender, as the mid-year-population number in the life table. And we also calculate the number of persons whose teeth were extracted by age and gender, as the death number in the life table.

Results: In the year 2004, 37% and 41% of the beneficiaries (males and females, respectively) used dental services.

The total numbers of extracted permanent teeth were 893,586 and 847,642, from 4,109,377 and 4,576,513 male and female patients, respectively.

The maximum and minimum Tooth Life Expectancy (TLE) at age 15 and 65 for both genders are as follows: At age 15, the maximum TLE for both genders is 71 years (right mandible canine). The minimum TLE for males is 52.4 years (right maxillary first molar); for females, the minimum TLE is 48.8 years (left mandible first molar).

At age 65, the maximum TLE for males is 25.5 years (right mandible canine), for females, 25.8 years (right mandible first molar).

The minimum TLE for both genders is 21.4 and 21.5 in left mandible first incisor.

Discussions: This is an original research which applies dental care utilization and teeth extraction data to calculate Tooth Life Expectancy (TLE). We need more researches in time-series analysis.

Linking universal coverage to good health

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Abstract

With the immense attention drawn towards universal health coverage since the 58th session of the World Health Assembly in 2005, the momentum to align countries' health systems with this ideology has been continuously growing. Practical issues remain, however, as to how to appropriately define universal health coverage, and the type of interventions implicated that are to be made accessible.

We assessed the effect of universal coverage on health using data from the 2011 World Health Statistics for WHO Member states at all income levels. Using life expectancy at birth as our health indicator, we examined the effect of universal coverage rate using variables broadly categorized under three domains of interest, namely health financing (health expenditure as a share of gross domestic product, government expenditure on health as a share of total health expenditure), public health provision (proportion of population using improved drinking-water sources, skilled birth attendance coverage and measles immunization coverage) and primary care (physician-to-hospital bed ratio). We derived physician-to-hospital bed ratio as a proxy for primary care stressing its importance relative to tertiary care.

Preliminary results indicate that economic development has a crude positive effect on life expectancy. After adjusting for the influence of economic development (as represented by gross national income per capita based on purchasing power parity) and under-five mortality in multiple regression models, delivery of public health services and primary care showed beneficial impact on life expectancy particularly in low- and middle-income countries. In high income countries, public share of health expenditure was the strongest predicator for improved outcome among all variables. Total health expenditure, on the other hand, does not appear to have exerted a positive effect on longer life expectancy.

The results suggest that the implementation of public health services should become topmost priority on the list of what-to-do's, followed by primary care, in the path towards a comprehensive and sustainable health system. It is not so much about the magnitude of expenditure invested in health care as it is about making public health and primary care services available and be used by everyone – 'for everyone but not for everything'.

Differences in the top 10 causes of outpatient visits among age 45-64—Taiwan, 2000 and 2009

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Abstract

Objective: We intend to compare the difference of outpatient visits of nationwide-based at age group 45-64 yrs between year 2000 and 2009.

Method: Applying to the National Health Insurance Research Database for the Year 2000 and 2009, five percent of outpatient visit data were collected in each year. The ten leading diagnoses and it's visit rate divided in gender were evaluated for both years. The differences of the rates between 2000 and 2009 were evaluated by incidence rate ratios (IRR).

Results: In this study, we found that acute upper respiratory infection (URI) and essential hypertension were the first two most common diagnoses in male in year 2000 and in female in 2009. The orders for these two diagnoses were reversed in male in year 2009. They were also noted as the first and third most common diagnoses in female in year 2000, the second one of this year was flushing postmenopausal menopausal syndrome but this diagnosis was not seen in year 2009. The rate and the rank order of infectious disease, such as acute URI (IRR -1.34, 95% CI-2.40~-0.30) decreased in male, acute bronchitis (IRR 0.29, 95% CI -0.09~0.68) and acute nasopharyngitis (IRR 0.09,95% CI-1.78~1.92), decreased in both sex in 2009. The other infectious disease, such as acute sinusitis and acute tonsillitis were ranked as the eighth and ninth respectively in both gender in year 2009 but only acute tonsillitis was ranked as tenth in male in 2000. On the contrary, chronic disease such as diabetes mellitus (DM), type II (IRR 1.72, 95% CI-4.41~8.01) and essential hypertension (IRR 2.34, 95% CI-4.96~9.81), increased in both rate and rank order in both gender in year 2009. In male, dental caries kept the same rank order and increased rate in year 2009, periodontosis increased both rank order and rate in 2009, contact dermatitis and other eczema decreased rank order increased rate in 2009. In female, the rate and rank order of dental caries and headache were increased in year 2009, periodontosis upheld the last rank in both year and increased rate in year 2009. Low back pain were only noted and ranked as eighth for both gender in year 2000.

Conclusion: The results of this study revealed that the rate and rank order of the acute infectious disease decreased, the rate and rank order of the chronic disease increased, in comparison year 2009 to 2000, and with statistical significance.

Telecare in long-term ventilator dependent patients

Shao-Ping Yuan, Yao-Chen Wang, Chung-Yu Lai, Tsat-Ling Liu, Chin-Pyng Wu,

Yi-Chen Lu, Kun-Shan Ji, Feng-Huei Lin, Tsung-Po Tsai

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Abstract

Background: A high proportion of survived critically ill patients (pts) were ventilator dependent. Those stable ventilator dependent pts can be transferred to a long-term home or institution care to reduce the cost of health care. Telecare can provide the immediate online expert medical consultations to help health caregivers to prevent and handle some unexpected events.

Methods and results: A cross industry alliance was assembled including internet service, software providers and the respiratory intensive care unit (RICU) of CSMU Hospital. Strong family support in both economic and caregiver manpower was also necessary. A 18-month telecare plan included 123 prolonged ventilator dependent pts (75 male, 48 female; mean age 70.6) was started from Oct 2008 to Mar 2010. Causes of respiratory failure were 1. CNS induced (29 pts, 23.6%) (CVA, head injury and hypoxic encephalopathy) 2. Medical problems (79 pts, 64.2%) (sepsis, pneumonia, AMI & heart failure) 3. Surgical complications (8 pts, 6.5%) 4. Chronic lung disease (7 pts, 5.7%) (COPD, asthma & pneumoconiosis). Among them, pts could be weaned from ventilator was 58 pts (47.2%), failed to weaning was 38 pts (30.9%) and against advice discharge was 27 pts (21.9%). The home or institution care arrangement for long-term ventilator dependent pts was safe and worthwhile with positive feed back and gratitudes from both pts and their family. It also decrease the medical cost and conserve medical resource.

Conclusion: Through a network plateform, tele-care team (multi-disciplinary medical professionals) could promote proactive intervention, including “real-time trended alerts” and could see the subtleties in ventilator-dependent pts’ status, often providing the immediate online consultations for an unexpected events. Tele-care for long-term ventilator-dependent pts is well accepted, safe and cost-effective.

Nurse's Attitudes towards and Willingness the elderly Care of Medical Center in The midst of Taiwan

Chai-Yuan Lee, Yu-Ju Chen

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Abstract

Introduction: As the number of the elderly has been growing, the elderly care will become one of the major concerns about health care in 21st century. To investigate the attitudes towards and willingness the elderly care of nursing in the midst of Taiwan.

Materials and Methods: The study was adopted purposive sampling including criteria of eligible subjects is clinical nurses from Medical Center in The midst of Taiwan. Sending out 200 questionnaires totally, the valid questionnaire recovery rate is 76%. The effective sample size involved 152 clinical nurses. Using structured questionnaires-"Old People Scale" to gather data on April, 2011. The result was analyzed with such independent t-test, Chi-square by SPSS 12.0 for Windows.

Results: Nurses' demographic data, had participated education, elderly care frequency in attitudes towards the elderly have not significant correlation. Nurses' age, level of education, working in different units, elderly care frequency, attitudes towards the elderly showed that there is significant difference in willingness of elderly care. The average score of attitude towards the elderly was 4.13, which has more positive attitude to those population. 69.1% of the nurses have willingness of elderly care. Higher level of education, the higher the willingness of elderly care. Nurse had participated related to the education of elderly, have higher the willingness of elderly care.

Discussion: The research results could provide clinical nursing staff the prediction of attitudes towards and willingness the elderly care, expanding clinical teaching for the importance of elderly education, enhancing nursing staff to the elderly attitudes and willingness to care and thus improve the quality of care for the elderly.

Evaluating the contamination of respiratory therapy equipment from mechanically ventilated patient infected by Legionella

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Abstract

Background：Legionnaire's disease is an infectious disease caused by Legionella pneumophilia. The bacilli are mainly existed in warm water and the optimal temperature of growth is ranging from 35-45°C. The disease is transmitted by inhaling or aspirating contaminated aerosol. Elders and immunocompromised patients are most vulnerable individuals to be infected. Patients may develop lung infiltrative consolidation and could cause respiratory failure. The disease progresses rapidly with a mortality rate that could reach as high as 15-50%.

Methods and Findings：In this study, we will discuss 1) patients with Legionnaire's disease who are intubated and under mechanical ventilation support, whether the heated humidifiers can be a reservoir for these bacilli? 2) Can the exhalation filters be effective to block these bacilli from contaminating the environment or the ventilator pe se ?
Previous studies have shown that respiratory equipments including the heating humidifiers and nebulizers may be colonized by Legionella Pneumophilia bacilli. According to the data collected from our lab in the past four years, the positive culture rate of Legionella pneumophilia from the environmental specimen was 5.3%. However, in our study, no Legionella Pneumophilia bacilli were isolated from all the respiratory equipments used by the infected patient.

Conclusions：The possible reasons included: 1) the amount of sputum produced in these patients is usually small and may be contaminated by other flora from the respiratory tract. 2) Bacteriocins produced by the heterotropic bacteria may created a competitive exclusion effect and thus inhibit the growth of Legionella pneumophilia. Furthermore, the sequestrating function of the exhalation filter may be very effective to prevent environmental contamination and residuals in the respiratory equipment. This is a single case study, and we look forward to recruit more cases to acquire more precise results.

Long term determinants of functional decline of mobility:

An 11-year follow-up of 5,464 adults of late middle aged and elderly

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Abstract

Background/Objectives: To investigate the long term determinants of mobility limitation among late middle aged and elderly.

Design: A 11-year longitudinal cohort study with four interviews.

Setting: The Taiwan Longitudinal Study on Aging.

Participants: Five thousand four hundred and sixty four participants aged 50 to 97 at 1996's interview.

Measurements: Mobility limitation was enquired level of difficulty in eight mobility tasks, including lifting 11kg weight, squatting, running 20-30m, standing for 15 minutes, walking 200-300m, climbing up two to three floors, raising arms up and grasping with fingers. The determinants and potential confounders were based on the interviewed scales.

Results: According to the models with repeated measurements, gardening, exercise, and alcohol consumption predicted subsequent mobility function ($p<0.05$) in Taiwanese elderly while controlling demographics and current comorbidities. Besides, the depression-related somatic complaints might be predictive to future mobility limitation ($p<0.05$) among those without limitation at baseline.

Conclusion: Long term determinants including gardening, exercise, and alcohol consumption yield protective effect on subsequent mobility limitations. It shall be worthy to explore the dosage as well as the mechanism. Additionally, efforts should be made to understand the relationship between depression-related somatic complaints and mobility decline and so as the relevant interventions.

Long term determinants of mortality:

An 11-year follow-up of 4,413 adults of late middle aged and elderly

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2. **School of Medical Sociology and Social Work, Chung Shan Medical University, Taichung, Taiwan**

Abstract

Background/Objectives: To investigate the long term determinants of mortality among late middle aged and elderly.
Design: An 11-year longitudinal cohort study with four interviews.
Setting: The Taiwan Longitudinal Study on Aging.
Participants and Measurements: Four thousand four hundred and thirteen participants aged 50 to 97 at 1996's interview. All-cause mortality was based on death registration between 1996-2007 by Department of Health, Taiwan. Demographic data and other determinants were collected in the four interviews.
Results: According to the survival models, body-mass-index (BMI, adjusted hazard ratio (HR), 0.59; 95% CI, 0.45 to 0.78) and number of cigarettes smoked per day reported in 1996 (HR, 1.05 ; 95% CI, 1.00 to 1.09) were significantly associated with mortality among those who had no mobility limitation in 1996. For those who had mobility limitation in 1996, serverity of mobility limitation in 1996 (HR, 1.10 ; 95% CI, 1.01 to 1.19) and the highest satisfation with the current financial condition among the four interviews (HR, 0.33 ; 95% CI, 0.20 to 0.57) predicted mortality while taken confounders into consideration. For those who both reported mobility limitation in 1996 and were satisfied with their current financial condition, no determinants including severity of limitation were related to mortality in the present survival models.
Conclusion: Once mobility impairs, satisfaction with finance appears to be protective to individual's survival. The protective effect is more significant than that of some physical illness, demographic factors, and social relationships. Among those who without mobility limitation at baseline, BMI and number of cigarettes smoked accounts for mortality. It is worthy to further explore the effect of income to shed light on practical intervention.

Aspergillus Infection of the Orbital Apex Masquerading as retrobulbar optic neuritis

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Abstract

We report a case of a 71-year-old male DM patient who presented painful eye and impaired vision with intractable headache on the left side for 6 months. Under the initial impression of left acute angle closure glaucoma and bilateral proliferative diabetic retinopathy, he had received left laser peripheral iridectomy and complete bilateral panretinal photocoagulation after fluorescin angiography. Sudden lost of left vision developed with the impression of optic neuritis after various exams including MRI. Systemic prednisolone had produced transient relief of the pain, but the symptoms had recurred when prednisone was tapered. Later left orbital apex syndrome was impressed with proptosis, ptosis, chemosis and ophthalmoplegia. Repeated MRI revealed cloudy orbital apex and ethmoid sinus. Sinus biopsy showed aspergillosis. He was then admitted to our infection ward for anti-fungal treatment.

Social Support and Living Arrangement of the elderly in Taiwan

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Abstract

Purpose: The research on the advantages and disadvantages of different living arrangements of the elderly has not been available for many countries, we try to check the relationship of social support and living arrangement of the elderly in Taiwan.

Method: Study population was from the source of Health and living status in Taiwan. Panel Study Of Longitudinal Design. Random samples from the year 1996 ,2003 and 2007,We use SAS 9.2 ,Descriptive statistics Chi-square, test and Anova.

Results: There are 1304 Male and 1267 Female. Emotional support will affect living arrangement. (OR:1.14 , P＜0.001) ; especially those Live alone and live with spouse . Instrument support , age, disease numbers also will affect live alone and live with spouse .

Conclusion: Social support has significant relationship with living arrangement, the trend of living arrangement for the elderly in Taiwan is changing now. The higher the social support, the more rate living with family.

Difference of the ten leading diagnosis for elder ambulatory visits between year 2000 and 2009

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Abstract

Background: In elders aged more than 64 years, we compare the difference of ambulatory visits between year 2000 and 2009.

Methods: Five percent of ambulatory visit data were collected from the National Health Insurance Research Database in 2000 and 2009 in Taiwan. The ten leading diagnoses and it's visit rate in different genders were evaluated for both years. The differences of the rates between 2000 and 2009 were evaluated by incidence rate ratios (IRR).

Results: In year 2000, the the first two most common diagnosis in our study were acute upper respiratory infection (URI) and essential hypertension in both sex. The third was hyperplasia of prostate in male and diabetes mellitus (DM) in female. In year 2009, the the first three most common diagnosis were essential hypertension, DM and acute URI in both sex. The rate and the rank order of infetious disease, such as acute URI (IRR 0.46, 95% CI 0.44~0.47, compared with year 2009) and acute bronchitis (IRR 0.71, 95% CI 0.68~0.77), decreased in 2009 in both sex. Other infectious such as acute nasopharyngitis was not seen in year 2009. Conversely, chronic disease such as hypertension (IRR 1.34, 95% CI 1.29~1.39) and DM (IRR 1.61, 95% CI 1.53~1.69), increased in both rate and rank order in both sex. Chronic kidney disease was noted in year 2009 in both sex, but not noted in year 2000 in both sex. In male, the rate and rank order of contact dermatitis/czema and Dizziness/giddiness increased in 2009, but prostate hypertrophy decreased. In female, dental caries was noted in 2009 but not in 2000; chronic conjunctivitis was noted in 2000, but not in 2009.

Conclusion: In comparison with year 2000, the rate and rank order of the acute infectious disease decreased in year 2009, and with statistical significance. Conversely, the rate and rank order of the chronic disease increased in year 2009, and with statistical significance.

Estimation of needs for long-term care after stroke

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Abstract

Purpose: The aim of this study was to estimate the proportions of different functional states for quantification of the needs of long-term care for patients with stroke.

Methods: The hospital-based cohort consists of 13,194 patients with first-ever stroke during 1995-2007. After linking with the National Mortality Registry 1995-2007, survival function were determined and extrapolated over a 600-month period based on the survival ratio between the patient's and age- and sex- matched reference group's survival as estimated by a semi-parametric method through Monte Carlo simulation and hazard functions taken from the vital statistics of Taiwan. EQ-5D questionnaire and modified Rankin Scale (MRS) were administered on a cross-sectional and consecutive sample of 720 patients to estimate the functional disability levels (free, mild, and severe). The proportions of three levels of disability were calculated for every cluster of 30 patients along the duration-to-dates. Spearman correlation coefficients and Kappa analyses were conducted to explore the correlation between EQ-5D and MRS for three levels of disability. The survival functions were then multiplied with different proportions of disability to obtain the HALE (health-adjusted life year) for each functional levels to obtain the years of disability-free, partial-disability, and severe-disability for patients with ischemic stroke.

Results: The 2 measures of functional disability were highly correlated with Spearman correlation coefficients 0.70-0.96 and Kappa 0.66-0.96. For an average patient with stroke, he/she would have 6.78 (0.27), 3.84 (0.20) and 1.06 (0.08) years in disability-free, partial disability and severe disability measured by EQ-5D, respectively.

Conclusion: Integration of survival function and functional states measured by EQ-5D questionnaire may be used to project the long term care needs among patients with stroke and possibly other chronic illnesses with functional disability.

Effect of dynamic experience of social support on changes of instrumental activities of daily living in older adults in Taiwan: Results of a national longitudinal study

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Abstract

Background: As the prolongation of life, quality of life becomes an important issue with aging. Function of instrumental activities of daily living (IADL) is one of the vital aspects in aging well. Cross-sectional studies have shown that social support and social engagement are predictors of disability among the elderly. However, prospective evidence is less conclusive. The purposes of this study are to (1) investigate the progress of instrumental functional disability through year 1996 to 2007 in Taiwan's elderly, and to (2) examine the effects of dynamic experience of social support and social engagement on the changes of IADL function in community dwelling elderly in Taiwan over a 10 year period.

Methods: This is a prospective cohort study by using data of the Taiwan Longitudinal Study in Aging (TLSA) from 1996, 1999, 2003, and 2007. Instrumental functional disability was defined as difficulties in either grocery shopping or using telephone. A national sample of 997(55.1%) men and 745(44.9%) women aged 60-70 years without instrumental functional disability at baseline were included. Perceived social support including instrumental (1 item) and emotional (2 items) and social engagement including being a member of any association, or providing instrumental and emotional support to others were assess at each waves. Generalised estimating equations (GEE) was used to examine the associations between dynamic experiences of social support and social engagement and changes of instrumental functional disability alone with physical performance (vision, hearing, and mobility), and mental health (depression) over a 10 year period.

Results: Among these older adults in 1996, 84.7% received instrumental social support, 85% received emotional social support, and 10.8% providing instrumental social support. Otherwise, 5% engaged in volunteering, and 44.9% being a member of association. The GEE model showed providing instrumental (OR=0.599, p=.003) and emotional social support

(OR=0.281, p=.007), being a member of an association (OR=0.666, p=.001), and engaging in volunteering (OR=0.462, p=.008) were associated with low probability of instrumental functional disability; received more emotional social support had high risk of instrumental functional disability.

Conclusions: Instrumental functional disability is associated with less engagement in volunteering or providing support to others.

The impact of socioeconomic status on tuberculosis

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Abstract

Background：Eastern Taiwan is the highest TB incidence area in Taiwan. Despite the long-standing observation that TB case rates are higher among aborigines than non-aborigines Taiwan residents, the proportion of the increased risk attributable to socioeconomic status has not been determined. The aim of this study is to evaluate the impact of socioeconomic status on TB.

Materials and Methods：A population-based case control study was conducted in TB patients and non-TB persons matched by gender, age, and ethnicity from community health screening residing in eastern Taiwan. The interviewee received face-to-face interview after approval of institutional review board and informed consent. Chi-square tests were used to evaluate the differences in proportion of dichotomous and categorical variables. We then performed multiple logistic regression analyses on the potential predictors with $p \leqq 0.1$ obtained from Chi-square tests. Odds ratio (OR) and 95% confidence interval of it were estimated the effects of independent variables on TB.

Results：130 TB patients and 119 non-TB persons matched by gender, age, and ethnicity agreed to receive interview from March 1 to July 31, 2007. More than half of these patients and referents were male (71.5% and 66.4%, respectively) and their average ages were 51.6 and 48.9 years, respectively. About 60% of patients and referents were aboriginal Taiwanese (58.5% and 60.9%, respectively). There was more proportion of low education levels, no job or part-time job, low monthly income at TB patients. Meanwhile, there was more proportion of co-morbidities, diabetes, and alcoholism detected at TB patients (Table 1). There were no AIDS patients in our study subjects. The most common co-morbidity in our study subjects is diabetes (18.5%), liver disease (4.4%),cancer (2.4%), and post gastrectomy (2.0%). After adjusting diabetes, jobs and monthly income, we found low education levels and alcoholism remained significantly relative risk to develop TB (Table 2).

Conclusion：Low education levels and alcoholism still remained significant risk factors to develop TB after adjusting gender, age, ethnicity, and co-morbidities in eastern Taiwan. We suggested the government to reinforce education in the low socioeconomic status group.

Participants List

Participants List

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