公務出國或赴大陸地區報告提要

出國或赴大陸地區報告名稱：第 7 屆亞太地區國際自殺防治學會 含附件：☑是□否	
出國計畫主辦機關：臺北市立聯合醫院 聯絡人：吳殷廷　　電話：2709-3600#3854	
出國人員姓名/服務機關/單位/職稱/電話 陳映燁/臺北市立聯合醫院/松德院區一般精神科/主治醫師/ (02)27263141#1224	
出國類別：☑1出席國際會議 □2表演 □3比賽 □4競技 □5洽展 □6海外檢測 □其他	
出國期間： 105/05/17~105/05/21 報告日期： 105/09/06	出國地區：日本

內容摘要：

一、 出國目的：

受邀於第7屆亞太地區國際自殺防治學會年會（The 7th Asia Pacific Regional Conference of the International Association for Suicide Prevention）演講。

二、 過程：

過去職在自殺防治研究已經有一定的成果，在國際上也有知名度，此回亞太地區的國際自殺防治學會年會在日本東京舉行，受邀為科學審查委員（Scientific Committee），負責審查投稿的口頭報告、海報，並受邀專題演講以及在1個專題討論提供1個報告。我的專題演講題目是「限制致命性自殺方法之可得性：燒炭自殺」，專題討論則報告「預測臺北市老人自殺」。除了演講以外，還擔任大會壁報比賽的評審工作。

三、 心得及建議：

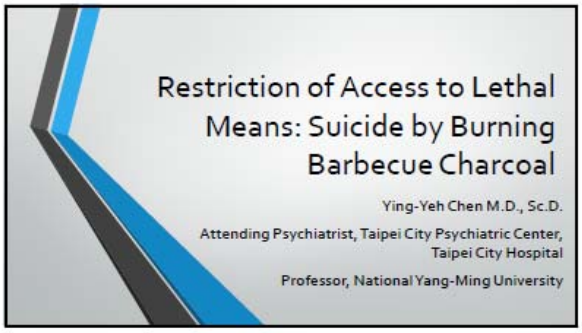
臺灣在國際的舞臺經常被壓縮，希望從學術讓臺灣可以有發聲的機會，我積極參與國際自殺防治學會的業務，擔任國家代表，積極提供臺灣的防治經驗，也同時藉由這個國際研討會的機會，與各國學者積極交流，這次參與的國家眾多，雖然是亞洲的地區會議，但也來了許多美國、英國、澳洲、東歐等地的學者。基本上亞洲有特殊的自殺議題，西方研究的危險因子不見得可以套用在東方，例如日本有一位學者就提出在日本社會結合度過度緊密的社區自殺率反而升高，表示東方國家人與人之間的距離雖然比較近，但太過近反倒讓人沒有自我的空間，自殺率會增加。因此自殺防治一定要考慮文化現況。

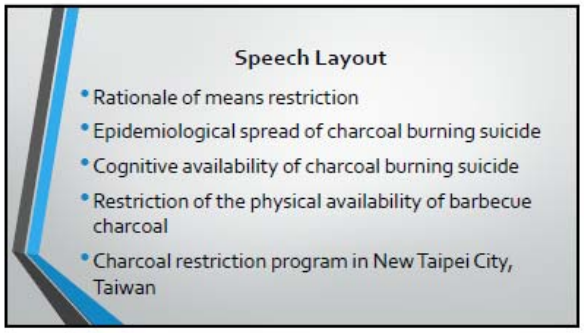
附件一、報告發表相關照片(請加圖說)：

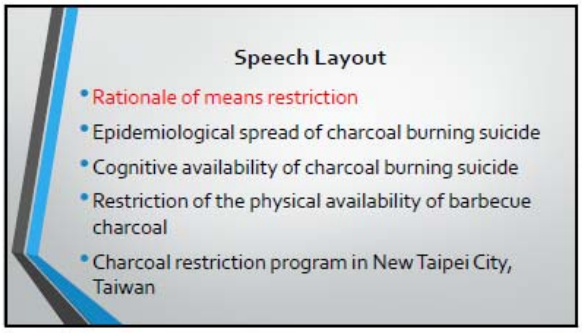
照片一：專題演講

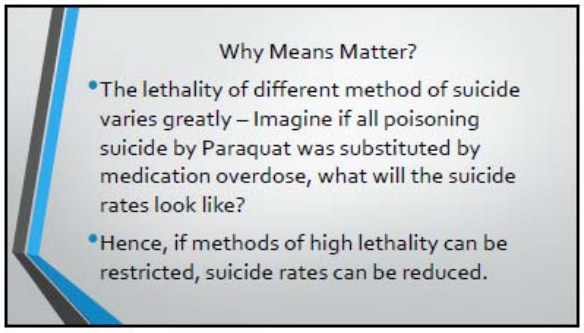
照片二：專題討論

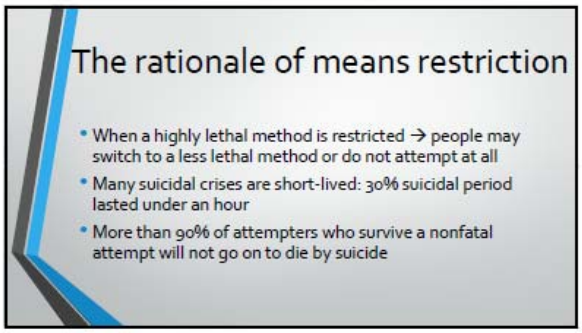
附件二：發表內容(口頭：繳交投影片內容，壁報：繳交壁報內容)
(1)專題演講投影片：

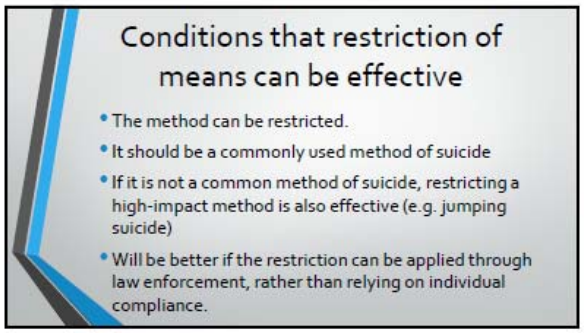








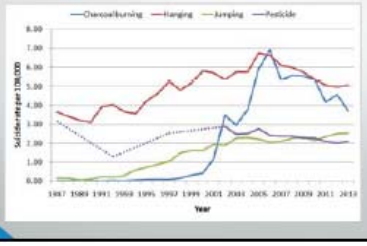




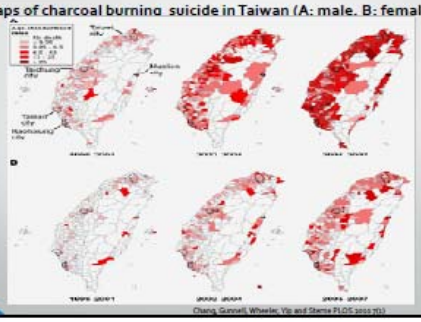
Speech Layout

- Rationale of means restriction
- Epidemiological spread of charcoal burning suicide
- Cognitive availability of charcoal burning suicide
- Restriction of the physical availability of barbecue charcoal
- Charcoal restriction program in New Taipei City, Taiwan

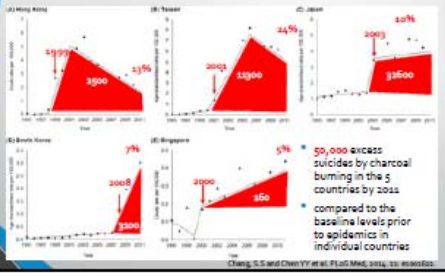
Method-specific suicide rate trends in Taiwan



Maps of charcoal burning suicide in Taiwan (A: male. B: female)



Spread in East Asia



- 50,000 excess suicides by charcoal burning in the 5 countries by 2011
- compared to the baseline levels prior to epidemics in individual countries

Chang, S.S and Chen YY et al. PLoS Med, 2014, 11: e1001601

Speech Layout

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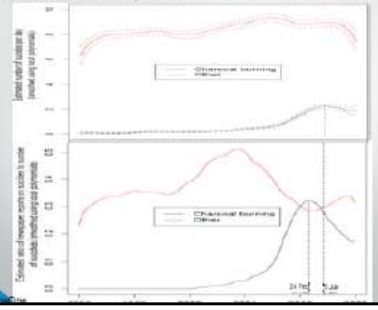
The spread of Charcoal burning suicide in Taiwan is related to media reporting, 1998-2002



Google search and charcoal burning suicide

Variable	Coefficient	(95% CI)	p value
Charcoal-burning suicide			
Google search (the same week)	1.043	(1.011 , 1.076)	0.008
Google search (the previous week)	1.038	(1.004 , 1.072)	0.027
Non-charcoal-burning suicide			
Google search (the same week)	0.983	(0.957 , 1.011)	0.23
Google search (the previous week)	1.004	(0.978 , 1.030)	0.76

Every 10% increase in Google search volume in the same week and in the previous week was associated with a 4% increase in the incidence of charcoal-burning suicide

Chen YY et al 2015 SPPE

Speech Layout

- Rationale of means restriction
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Can we restrict physical availability of barbecue charcoal?

Limiting access to charcoal – a pilot program in Tuen Mum, Hong Kong

- Limiting access to charcoal by relocating the charcoal pack from over-the-counter to closed shelf
- A joint project with 7 Eleven, Circle K, China Resource Vanguard, ParkNShop and Wellcome
- Preliminary evidence showing its efficacy

What's happened since the program launched in Hong Kong?

Charcoal burning suicides

District	Period Jan,05-June,06	Period Jul,06-Dec,07	18-month period change (%)	Whole period
Tuen Mun	26	12	-53.8	38
Yuen Long	23	25	+8.7	48
Other districts	249	140	-43.8	389
Overall	298	177	-40.6	475

P-value=0.056

Speech Layout

- Rationale of means restriction
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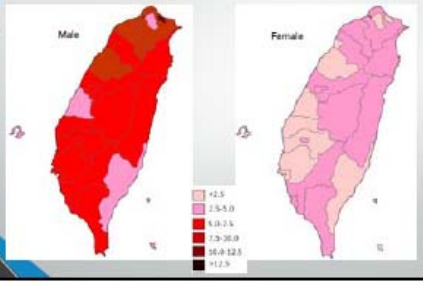
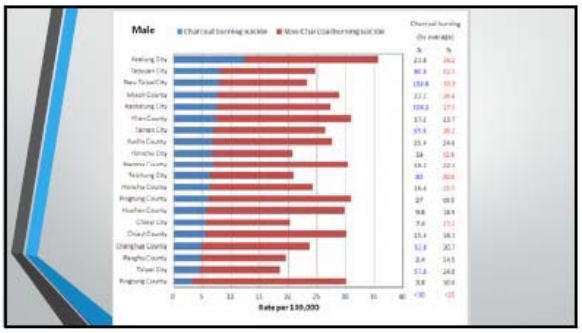
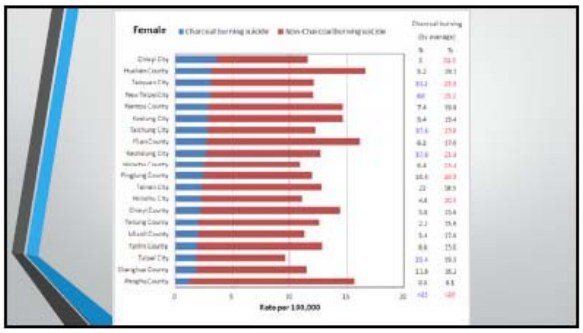
Charcoal Burning Suicide Rates in Taiwan, 2009-2013







Charcoal Restriction Program

Warm reminders on packaging of charcoal (Including phone number of help line)

Research Aim

To assess whether removing charcoal from open shelves to locked storage in major retail stores in New Taipei City was associated with a decrease in charcoal-burning suicides and overall suicides.

Method

- Design : Quasi-experimental design
- Intervention Site: New Taipei City
- Control Sites: Taipei City, and Kaohsiung City

Method

We compared the changes in method-specific suicide rates in the intervention period (May 1st 2012- Dec 31st 2013) and pre-intervention period (Jan 1st 2009-April 30th 2012).

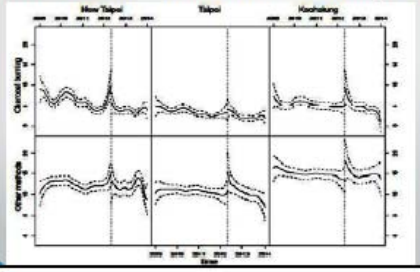
Number and rate of suicides during the pre-intervention and post-intervention period

Suicide methods	Period	Intervention site		Control sites			
		New Taipei City		Taipei City		Kaohsiung City	
		N	Rate	N	Rate	N	Rate
Charcoal burning	Pre-intervention	808	6.2	305	3.5	490	5.3
	Post-Intervention	256	3.9	111	2.5	219	4.7
Non-charcoal burning	Pre-intervention	1598	12.3	945	10.8	1381	14.9
	Post-Intervention	783	11.9	471	10.6	684	14.8
All methods	Pre-intervention	2406	18.6	1250	14.3	1871	20.2
	Post-Intervention	1039	15.8	582	13.1	903	19.5

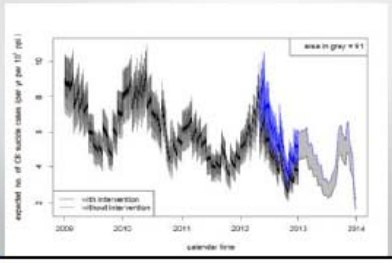
Relative changes in method specific suicide rates after the intervention

Method of suicide	City	Estimates	S.E.	P value
Charcoal burning	New Taipei City	-0.36	0.11	0.001***
	Taipei City	-0.23	0.14	0.10
	Kaohsiung City*	0.05	0.27	0.85
Non-charcoal burning	New Taipei City	-0.03	0.06	0.68
	Taipei City	-0.01	0.07	0.85
	Kaohsiung City	-0.21	0.18	0.25
All methods	New Taipei City	-0.13	0.06	0.02*
	Taipei City	-0.06	0.06	0.39
	Kaohsiung City	-0.16	0.15	0.30

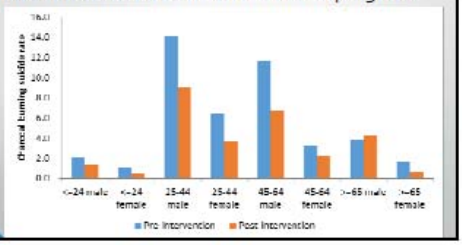
Restriction access to charcoal in New Taipei City



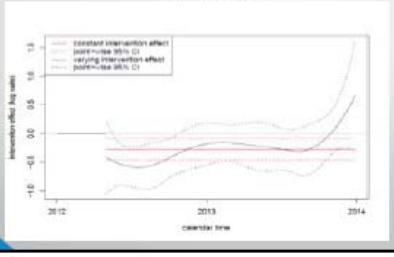
Projected and actual suicide rate trend for charcoal burning suicide in New Taipei City



Changes in rates of charcoal burning suicide in different socio-demographic groups in New Taipei City before and after the charcoal restriction program



The effect of charcoal restriction decreases over time



Discussion and Conclusion

- Our findings provide strong empirical evidence to indicate the efficacy of reducing charcoal-burning suicides through restricting access to charcoal.
- This program did not completely eliminate suicide means (i.e., charcoal) but made the purchase of charcoal more time consuming to creating a barrier.
- Customers would be forced to make contact with shop attendants and would have to wait for their assistance in order to get a pack of charcoal.
- These barriers may have precluded potential victims especially the impulsive ones from purchasing charcoal; they may have deferred their decision or switched to a less-lethal method (such as medication overdose).

Discussion and Conclusion

- Implementation of this charcoal-restriction program requires a high level of cooperation from retail stores and the community.
- Community members might not like the inconvenience and might be skeptical of the efficacy of the intervention.
- The effect of restriction decreases over time.

Assessing the Efficacy of Restricting Access to Barbecue Charcoal for Suicide Prevention in Taiwan: A Community-Based Intervention Trial

Thank you

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(2)專題討論投影片：

Predicting Suicide in Older Adults --A Community-Based Cohort Study in Taipei City, Taiwan

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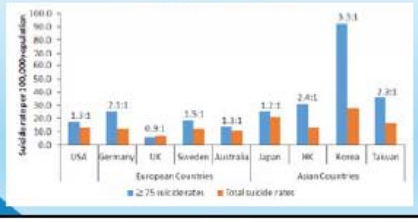
Attending Psychiatrist, Taipei City Psychiatric Center, Taipei City Hospital, Taipei City, Taiwan
Professor, National Yang-Ming University, Taipei City, Taiwan

Why suicide rates in older adults are higher

- They are more determined to die
- They tend to use more lethal method
- Their physical conditions put them at greater risk of death from self-injury

Suicide Rates in Older Adults in Developed Countries in 2012



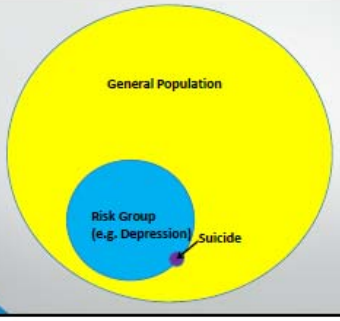
Why older adults suicide rates are higher in Asian countries?

- Rapid modernization
- Unprepared aging
- Mismatch of expectation

Risk factors of suicide in older adults

- Depression
- Insomnia
- Disadvantaged socioeconomic conditions
- Physical illness

Existing results are from retrospective case-control psychological autopsy studies



Aim

To prospectively explore risk factors and their utility in predicting suicide in older adults using a health examination cohort from Taipei City, Taiwan.

Taipei City Health Examination Program

- The Taipei City Government began providing free annual health examinations for the elderly population of Taipei City beginning in 2001.
- Each year, around 40,000-46,000 people participate in this program.
- The Taipei City Government has systematically registered the data from 2005 onwards, with the information being linked to death records for the years 2005-2010

Contents of Taipei City Health Examination

- Health counseling
- Physical and neurological examination; Dental examination
- Biochemistry profile, a complete blood count, and a chest x-ray.
- Self-report questionnaires were administered to elicit past disease history, life-style behaviors, psychiatric symptoms and cognitive function.

Methods--Study Population

- Our study sample was derived from the participants of the Taipei City Elder Health Examination Program between 2005 and 2009 (N=102,454)

Methods– Outcome variable

- The unique National Identity (ID) number was used to link the health examination database with death records in Taiwan's National Death Certification System for deaths occurring between Jan. 2005 and Dec. 2010
- Suicides were identified using the codes X60-X84.

Methods- Predictors

- Psychological distress: Measured by Brief Symptoms Rating Scale (Anxiety, Hostility, Depressed symptoms, Insomnia, Inferiority)
- Physical disorders: based on a self-report question
- Live alone: based on a self-report question(Yes/No)
- Cognitive function: Measured by Short Portable Mental Status Questionnaire (SPMSQ)

Methods – Control variables

Age, Sex, Marital Status, Educational level, low income status (qualification for government subsidy)

Analytic Strategy

- Chi-squared tests were performed to compare socio-demographic, psychological and cognitive characteristics between the elders who completed suicide and those who survived.
- Cox proportional hazards regression analysis was used to determine whether these factors were independent predictors of suicide after controlling for covariates.
- Receiver Operating Characteristic (ROC) curve was used to estimate prediction accuracy

Results-Sample characteristics (1)

	Total (N=101,764) N(%)	Suicide (N=93) N(%)
Age (years)		
65-74	61116 (60.1)	44 (47.3)
75-84	34171 (33.6)	40 (43.0)
>=85	6355 (6.2)	9 (9.7)
Sex		
Male	51786 (50.9)	69 (74.2)
Female	49962 (49.1)	24 (25.8)
Marital Status		
Married	72708 (72.6)	64 (68.8)
Others	27378 (26.9)	26 (28.0)
Educational attainment (years)		
<12	46349 (45.5)	45 (48.4)
>=12	40969 (40.3)	14 (15.1)
Lower Income		
No	95793 (94.1)	75 (80.6)
Yes	5971 (5.9)	18 (19.4)

Results-Sample characteristics (2)

	Total (N=101,764) N(%)	Suicide (N=93) N(%)
Psychological stress		
Anxiety	2025 (2.0)	4 (4.3)
Hostility	1772 (1.7)	6 (6.5)
Depressed mood	1684 (1.7)	4 (4.3)
Inferiority	788 (0.8)	3 (3.3)
Insomnia	6028 (5.9)	10 (10.9)
Lived alone	5397 (5.3)	7 (7.5)
Physical disorders	70632 (69.4)	74 (79.6)
Cognitive function		
No impairment	97130 (95.4)	85 (91.4)
Mild impairment	2102 (2.1)	4 (4.3)
Moderate impairment	1037 (1.0)	1 (1.1)
Severe impairment	1253 (1.2)	2 (2.2)

Results--Cox regression model in predicting suicide

	Adjusted model hazard ratio
Age	
65-74	1
75-84	1.01 (0.57-1.77)
≥85	1.65 (0.67-4.07)
Sex	
Male	3.41 (1.84-6.34)***
Female	1
Marital Status	
Married	1
Not currently married	1.47 (0.83-2.60)
Educational attainment	
<12 (0,1,2)	3.31 (1.77-6.18)***
≥12 (3,4,5)	1
Lower Income	
Governmental income subsidy	2.52 (1.29-4.92)**
Not qualified for subsidy	1

*p < .05; **p < .01; ***p < .001

Results--Cox regression model in predicting suicide

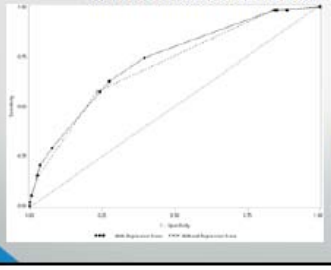
	Adjusted model hazard ratio
Psychological stress	
Anxiety	1.31 (0.55-1.80)
Hostility	1.17 (0.84-1.64)
Depressed mood	1.44 (1.07-1.94)*
Inferiority	1.23 (0.80-1.88)
Insomnia	1.30 (1.02-1.65)*
Live alone	1.22 (0.49-3.02)
Physical disorders	1.83 (0.94-3.54)
Cognitive function	
Intact cognitive function	1
Mild impairment	1.53 (0.37-6.35)
Moderate impairment	1.44 (0.20-10.67)
Severe impairment	0 (0-0)

*p < .05; **p < .01; ***p < .001

Results– using multi-variate Cox regression model to estimate risk weight

Variables	Risk Weight
Male	3
Low Education	3
Low income status	3
Depressed mood	1

ROC curve examining the joint predictability of risk factors of suicide



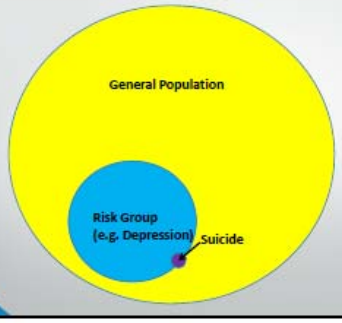
Cutoff point: 5
Sensitivity: 0.63
Specificity 0.73

Main Findings

- male gender, lower educational attainment, lower income and psychological distress, including depressed mood and insomnia, were associated with suicide
- when we used these predictors of suicide to construct a prediction score, the performance was not satisfactory, with limited sensitivity (0.63) and specificity (0.73).

Conclusions

- Gender, education, income and psychological factors (depressed mood, insomnia) were associated with an increased risk of suicide.
- The strongest predictors being represented by non-modifiable demographics as opposed to modifiable psychopathology.
- Although depression is pivotal in suicide prevention among elders, further understanding of how the socioeconomic condition of seniors contributes to suicide may provide valuable insights for intervening in this growing population-at-risk.




Journal of Affective Disorders

Predicting suicide in older adults – a community-based cohort study in Taipei City, Taiwan


Thank you
Ying-Yah Chen email: ychen@tpech.gov.tw