Suicidal thoughts and behaviours in older adults in rural China: a preliminary study

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Abstract

Objectives—1. To examine the feasibility of conducting epidemiological survey on suicidal thoughts and behaviours (hereafter "suicidal thoughts/behaviours"; i.e., any suicidal ideation, serious ideation, planning, and attempts) among older adults in rural China. 2. To investigate among older people in rural China the prevalence of suicidal thoughts/behaviours, as well as their socio-demographic and clinical correlates.

Methods—A randomly selected sample of 263 subjects, aged 50 years or above, was recruited in a remote rural area of Southwestern China (Mianyang Region, Sichuan Province), and interviewed using structured instruments. Basic socio-demographic and clinical data were collected.

Results—There was no refusal among approached subjects, and subjects were willing to answer questions on suicidal thoughts/behaviours. The lifetime prevalence of suicidal ideation, serious ideation, planning, and attempt was 28.9% (23.4-34.4)%, 19.7% (14.9-24.6)%, 11.4% (7.5-15.3)% and 5.3% (2.6-8.1)% respectively. The corresponding 12-month prevalence was 8.8% (5.3-12.2)%, 5.3% (2.6-8.1)%, 2.7% (0.7-4.6)% and 0% respectively. The 2-week prevalence was 3.4% (1.2-5.6)%, 2.3% (0.5-4.1)%, 2.3% (0.5-4.1)% and 0% respectively. Correlates of suicidal thoughts/behaviours of this group are similar to findings from other community studies, such as female gender, unmarried status, major medical conditions, insomnia, financial difficulties and lower education, depressive symptoms, recent stressful life events, greater life dissatisfaction.

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Conflict of Interest: None declared.

Conclusions—Our findings suggest that larger scale epidemiological survey of suicidal thoughts/behaviours on older adults in rural China would be feasible. Suicidal thoughts/behaviours are common among older people in rural China, as seen in this preliminary study, which points to the need for further larger scale investigations.

Introduction

Suicide is a major public health challenge worldwide and in China. The annual suicide rate was estimated to be 23 per 100,000 and there were 287,000 suicide deaths per year in China during the period of 1995-1999 (Phillips et al., 2002). The burden of suicide is particularly heavy in the elders (Chiu et al., 2001) and rural areas in China. Remarkably, the mean annual suicide rate was 82.8 and 16.7 per 100,000 in the rural and urban elders aged 60-84 years, respectively (Phillips et al., 2002). This translates to a 5-fold difference between rural and urban elderly suicide rates. There was approximately 130 million people aged 60 years and above in China in 2000 (10.8% of the whole population), and it was estimated that the figure will increase to 230 million in 2010, and to 435 million in 2050 (Wu et al, 2004; Liu 2006). The very high suicide rate of Chinese rural elders, coupled with the rapid aging of the population, underscores the importance of suicide prevention in this group, as well as large-scale epidemiological studies on the correlates of suicidal behaviours as a public health priority.

There is evidence indicating that suicidal thoughts/behaviours are predictors of suicide (Beck et al., 1985; Hawley et al., 1991). In particular, history of suicide attempt is strongly associated with later suicide (Chiu et al, 2004, Conwell et al, 2010,). Therefore, research into the factors associated with suicidal thoughts/behaviours is necessary and could provide useful information for the formulation of strategies to prevent suicide.

Despite the growing literature on the issue in older people in western countries, very little is known about the pattern of suicidal thoughts/behaviours in Chinese rural elders. There are concerns of difficulties which might be encountered in epidemiological surveys on suicidal thoughts/behaviours in rural elderly Chinese, because older people are frequently less willing to communicate their suicidal intent compared with younger people (Scocco & De Leo, 2002), and Chinese tend to somatize their depressive feelings (Lim et al, 2011).

The present study aimed to examine (1) the feasibility of conducting a large-scale epidemiological survey on suicidal thoughts/behaviours among older adults in rural China assessing whether they would cooperate sufficiently and answer potentially sensitive questions; (2) the prevalence of suicidal idea, plan and attempt (thereafter suicidal thoughts/ behaviours) in rural-dwelling Chinese adults aged 50 years and above; and (3) their socio-demographic and clinical correlates.

Methods

Sampling and Recruitment

This study was an adjunct to a large scale epidemiological survey on the prevalence of suicidal thoughts/behaviours and sleep problems among young rural Chinese (Dai et al, 2010). This paper reports on a pilot study among a sample of older adults, in collaboration with the Mianyang Center for Disease Control and Prevention (CDC) and its regional CDCs to assess the acceptability of such a study in this older aged group. The study was conducted in February 2006 in a remote rural area of Southwestern China (Mianyang Region, Sichuan Province). It was based on a multistage cluster stratified random sampling of communities, as previously described (Dai et al, 2010), with a subsample of residents aged 50 and above. The exclusion criteria is that the subject was mentally or physically impaired, and could not communicate with the raters to finish the protocol, as confirmed either by village doctors or village leaders.

Local village doctors and community leaders, as well as the local CDCs, played a significant role in the recruitment of subjects. They formed a community network that addressed the various recruitment challenges, including the harsh and rugged terrain of the mountainous villages, low population density, lack of precise address and mismatches of *hukou* (the Chinese Household Registration System). Mianyang was chosen as the study site as it was typical of the rural areas in China, in terms of financial and living conditions as well as the large number of outgoing migrant workers.

In China's three-tier administrative system, the country is divided into provinces, cities/counties (i.e., large cities can include multiple counties, many of which can be very rural in nature) and towns with villages in hierarchical order. A town consists of a number of villages (rural) and a small township area (urban). In this study, 24 towns were selected randomly from Mianyang's potential pool of 277. Of the 266 villages in these 24 towns, 11 were selected randomly, scattered among ten towns. One of these 11 villages was chosen randomly for pilot testing and as a training site for interviewers. Subjects in the remaining 10 villages were the target population in this study. A comprehensive list of potential subjects from *hukou* of the 10 villages was obtained. The *hukou* lists were reorganized by www.random.org into random lists based on villages. We sought to interview a total of 266 randomly selected subjects, which represented 10% of the total older population of the 10 villages. Each unapproachable or excluded subject was replaced by interviewing the next subject in a random list of the same village. Unapproachable subjects were residents who were away from the village on the interview day. Subjects who could not communicate with the raters to complete the interview or who were identified to be cognitively impaired by the village doctors and leaders were excluded.

Interviewer training and interview setting

A total of 20 interviewers were selected from experienced CDC field staff and they received a one-week manual-based training in the summer of 2005 and a booster training in early 2006. These interviewers were selected based on their training performance and results of inter-rater reliability exercises prior to the initiation of the interview. The interview was

conducted in a site that was most convenient for respondents, including their home, village offices or clinics. As this was a pilot study, we only conducted single visit to approach the subjects. Several strategies were adopted to increase the acceptability of the interview to the subjects. These included confidential setting for individual interviews, assigning same-sex interviewer to subjects if possible, asking questions in a friendly manner, and using careful wording of questions to maximize subjects' comprehension in view of the low education level of many subjects. In addition, interviewers were fluent in the local dialect as well as Mandarin. Due to the concerns regarding any local differences in dialects, and the potential for illiteracy or low reading abilities among rural participants, we developed beforehand a set of "standard explanations and examples" for items that might be prone to misinterpretation. We had used these for an earlier study involving younger individuals (Dai et al., 2010) and found them to be especially helpful for older participants and their interviewers.

Assessment tools

Basic socio-demographic data were collected with a questionnaire designed for the study that inquired about suicidal thoughts/behaviours, history of major medical conditions and psychiatric disorders, depressive symptoms, and other potential correlates. Measurement details were described in earlier manuscripts (Dai et al, 2010). All subjects were asked about suicidal thoughts/behaviours using dichotomous (yes/no) items, including suicide ideation ("Have you ever thought about committing suicide?"), serious suicide ideation ("Have you ever seriously thought about committing suicide?"), suicide plan ("Have you ever made a plan for committing suicide, *or even taken steps to prepare for this plan?*") and suicide attempt ("Have you ever attempted suicide?"). These items on suicidal behaviours were also used in recent studies (Kessler et al., 2005; Ma et al., 2009).

Data on sleep problems was collected in this study to examine if there is any correlation with suicidal thoughts and behavior in this group of subjects. In this study, insomnia was defined as "having sleep disturbance with daytime consequences". Subjects were asked about sleep disturbance in the past month: difficulties initiating sleep ("do you have difficulties in falling asleep?"); difficulties maintaining sleep ("do you have difficulties in staying asleep and wake up often in the night?"); and early morning awakening ("do you wake up very early in the morning and have difficulties in going back to sleep?"). If a subject answered "often" to at least one of the three questions, he or she was classified as "having sleep disturbance". Daytime consequences of sleep disturbance in the past month were inquired using two questions: "did you feel distressed by the sleep disturbance?" and "did the sleep disturbance affect your daily life, work, or study?" If a subject had any sleep disturbance and answered "moderate" or "severe" to either of the above two questions, he or she was identified as having insomnia.

The Chinese version of Center for Epidemiologic Studies - Depression Scale (CESD) (Liu, 1993; Radloff, 1977) was used to measure depressive symptoms. Life satisfaction was evaluated by the Life Satisfaction Scale (LSS), a self-reported scale with four items (Allardt, 1973). The total score of LSS ranged from 4 to 20, with increasing scores indicating a decrease in life satisfaction. Social Support Scale (SSS; Li et al., 1994) was used to measure

social support in this study. A 24-item Life Event Checklist (LEC) was developed with reference to Paykel's life event profile (LEP; Elliott et al., 1997) that consists of seven categories (1) love and marital issues; (2) children issues; (3) other family issues; (4) issues about work; (5) financial issues; (6) bereavement; and (7) other issues. The questions were phrased in dichotomous (yes/no) form. The study protocol was approved by the Survey and Behavioral Ethics Committee of Chinese University of Hong Kong and the Human Research and Ethics Committee of local participating institutions. Written consent by giving signature or fingerprint, as many of them were illiterate, was obtained from all subjects.

Statistical analysis

Multiple logistic regression analyses were employed to calculate the adjusted odds ratios for the socio-demographic and clinical variables as potentially independent correlates of each type of suicidal thoughts/behaviours, after controlling for the effects of other variables. Variables including age, gender, marital status, education level, living arrangement, financial perception, major medical condition(s), psychiatric disorder, depressive symptoms, life satisfaction, social support, insomnia and recent life events were entered as potential correlates of suicidal thoughts/behaviours. The level of significance was set at 0.05 (two-tailed).

Results

A total of 466 names were generated from the hukou list, 57 were excluded because they were dead/non-existent, identified to be cognitively impaired by village doctors or leaders, or could not communicate with raters to finish the interview. Of the remaining 409 potential subjects, 143 were unapproachable. Finally, 266 subjects were approached, resulting in an acquisition rate of 57% out of 466. No person who was approached for consent refused to participate, but three individuals failed to answer one or more questions; thus only 263 participants were included in the statistical analysis; so the response rate was 98.8% of 266. Table 1 shows the basic socio-demographic and clinical characteristics of the participants. Table 2 presents the estimated lifetime, one-year, and two-week prevalence rates of suicidal ideation, serious ideation, planning, and attempts, bifurcated for subjects aged 50-64 years and those aged 65 years and above.

Table 3 summarizes the adjusted odds ratios for the relationship between socio-demographic and clinical variables and lifetime suicidal thoughts/behaviours for the whole sample. Female gender, unmarried status (single/widowed/ divorced), having poor financial perception, having major medical conditions, insomnia or greater life dissatisfaction were independently associated with one or more types of lifetime suicidal thoughts/behaviours. More number of life events in the past year were associated with one-year suicidal ideations (OR=1.7; 95% CI=1.3-2.3) and one-year serious ideation (OR=1.6; 95% CI=1.0-2.3). Education of primary school 4-6 years (OR=21.2; 95% CI=1.4-327) and more severe depressive symptoms (OR=1.3; 95% CI=1.0-1.6) were associated with two-week suicidal ideation. Only more severe depressive symptoms (OR=1.3; 95% CI=1.0-1.6) were associated with two-week serious ideation.

Discussion

In this pilot study, 143 subjects were unapproachable. Of note, we visited each home only once, in contrast to our previous efforts to access younger participants. As we observed with our previous efforts, multiple visits would have resulted in a higher rate of acquisition (Dai et al, 2010). Of note, sample selection and documentation of the impact of unavailable subjects presents a major challenge for community surveys in rural China; we have described specific strategies to increase study feasibility among younger subjects in rural China (Dai et al, in press), and several of these also may be pertinent to recruiting older participants. These include: using more than 1 wave of fieldwork and multiple visits, substantial pre-study planning and local visiting, as well as building good network with the local officials and village leaders who can facilitate participant recruitment.

Two findings of this study provide important data for future larger scale studies involving older subjects in rural areas. Older participants were extraordinarily willing to participate; we had no refusals among those with sufficient capability to provide informed consent. Moreover, participants were very open to our queries; only three omitted part of the information. Thus, we are optimistic that future larger scale epidemiological surveys or community-level studies in rural China on older residents involving consideration of suicide and suicide prevention efforts would be feasible.

Given the relatively small sample size of this study, we must be cautious regarding definitive conclusions. In that context we would suggest several preliminary observations about older adults in rural China.

Compared with the findings of previous studies using similar definitions of suicidal thoughts/behaviours, the lifetime prevalence estimates in our study were considerably higher. For example, in a study conducted in several countries in Europe, Bernal et al (2007) reported that the prevalence of lifetime suicidal ideation and attempts in older adults (aged 65 years and above) was 6.1% and 0.98%, respectively. In Hong Kong, a metropolitan city with very good medical and social services, the lifetime prevalence for suicidal ideas in Chinese elderly was reported to be 5.5% (Yip et al, 2003), and in Beijing, the lifetime prevalence of suicidal ideation, plan and attempt among its rural elders, aged 65 years and above, was 4.8%, 2.5% and 1.9%, respectively (Ma et al, 2009). This result was substantially lower than our findings (34.5%, 10.3% and 6.9%, respectively). The two may be quite consistent with what we know about suicidal thinking and its relationship to economic and social factors. Beijing is one of the most developed and affluent cities in China, and its "rural" regions, which supply agricultural goods to the central city, are very atypical of distant rural areas in China, such as our study sites. Differences include socio-economic conditions, literacy levels, access to health care and social services. Perhaps an even more important difference: Ma et al. (2009) sampled exclusively among older people living with their families, which is especially atypical of elders residing in regions that send their young adults to industrial zones and urban centers. It was highly likely that older participants in Ma et al's study had much better social support than the subjects in our study.

As well, the hardship of daily life in the typical rural areas like Mianyang is ever present, and vastly different from more urbanized (or sub-urban) areas of China; indeed, the gulf has widened in recent decades. Residents of rural areas of Mianyang live in distant, mountainous, and disconnected communities; have low income, difficult transportation; and rely on "village doctors" with a high school education and few available social services. While this is beginning to change rapidly in more affluent provinces (e.g., with improved rural health insurance and new primary care clinics), the extent of such changes remains very variable. Added to the structural and resource issues, older adults are 'locked' into poorer regions of the country, and have none of the marketable skills enjoyed by younger generation—their children. Thus, they are "left behind," often to raise their grandchildren while their own children seek jobs in major cities or industrial zones. Of note, those who were most 'suicidal,' older unmarried women, may include those who were least attached – i.e., without children to send payments home or grandchildren to tend.

Another preliminary finding is that many correlates of suicidal thoughts/behaviours of this group are similar to findings from other community studies, such as female gender, unmarried status, major medical conditions, insomnia, financial difficulties and lower education, depressive symptoms, recent stressful life events, greater life dissatisfaction (Awata et al., 2005; Barnow & Linden, 2000; Skoog et al., 1996; Forsell et al., 1997; Jorm et al., 1995; Scocco et al., 2001, Chiu et al., 2001; Conwell et al, 2010; Liu et al., 2004; Agargun et al., 1997; Yip et al., 2003; Wiktorsson et al., 2010; Jorm et al., 1995; Rao et al., 1997; Scocco & De Leo, 2002; Skoog et al., 1996; Zhou et al., 2004).

Although this is a pilot study, it shows that suicidal thoughts/behaviours are common in this sample of older people and is consistent with the very high suicide rates among older people in rural China. Our findings underscore the importance of further large-scale studies to examine the factors associated with suicidal thoughts/behaviours and completed suicide in older people in rural China.

The findings of this study should be interpreted in the context of the following shortcomings. First, the sample size is very small. Second, this study was done based on self-reported data and might have been influenced by recall bias, particularly for lifetime suicidal thoughts/behaviours. Third, the cognitive function of the subjects was not formally assessed and hence, a certain proportion of subjects might have undetected mild dementia.

Acknowledgments

References

Agargun MY, Kara H, Solmaz M. Sleep disturbances and suicidal behavior in patients with major depression. J Clin Psychiat. 1997; 58:249–251.

Awata S, Seki T, Koizumi Y, et al. Factors associated with suicidal ideation in an elderly urban Japanese population: a community-based, cross-sectional study. Psychiat Clin Neuros. 2005; 59:327–336.

Barnow S, Linden M. Epidemiology and psychiatric morbidity of suicidal ideation among the elderly. Crisis. 2000; 21:171–180. [PubMed: 11419528]

Beck AT, Steer RA, Kovacs M, Garrison B. Hopelessness and eventual suicide: a 10-year prospective study of patients hospitalized with suicidal ideation. Am J Psychiat. 1985; 142:559–563. [PubMed: 3985195]

Chiu HF, Leung T, Lam LC, et al. Sleep problems in Chinese elderly in Hong Kong. Sleep. 1999; 22:717–726. [PubMed: 10505817]

Chiu HFK, Chan SSM, Lam LCW. Suicide in the elderly. Curr Opin Psychiat. 2001; 14:395–399.

Chiu HFK, Yip PSF, Chi I, et al. Elderly suicide in Hong Kong – a case in controlled psychological autopsy study. Acta Psychiat Scand. 2004; 109:299–305. [PubMed: 15008804]

Conwell Y, Duberstein PR, Cox C, et al. Relationships of age and axis I diagnoses in victims of completed suicide: a psychological autopsy study. Am J Psychiat. 1996; 153:1001–1008. [PubMed: 8678167]

Conwell Y, Duberstein PR, Hirsch JK, et al. Health status and suicide in the second half of life. Int J Geriatr Psych. 2010; 25:371–379.

Dai J, Chiu HFK, Conner KR, Chan SSM, et al. Suicidal ideation and attempts among rural Chinese aged 16-34 years – Socio-demographic correlates in the context of a transforming China. J Affect Disorders. 201010.1016/j/jad.2010.10.042

Dai J, Chiu HFK, Hou ZJ, Caine ED. Conducting community research in rural China in addressing the methodological challenges of recruiting participants in rapidly changing social environments. Asia Pacific Journal of Psychiatry. In press.

Elliott R, Baker SC, Rogers RD, et al. Prefrontal dysfunction in depressed patients performing a complex planning task: a study using positron emission tomography. Psychol Med. 1997; 27:931–942. [PubMed: 9234470]

Foley D, Ancoli-Israel S, Britz P, Walsh J. Sleep disturbances and chronic disease in older adults: results of the 2003 National Sleep Foundation Sleep in America Survey. J Psychosom Res. 2004; 56:497–502. [PubMed: 15172205]

Forsell Y, Jorm AF, Winblad B. Suicidal thoughts and associated factors in an elderly population. Acta Psychiat Scan. 1997; 95:108–111.

Hawley CJ, James DV, Birkett PL, et al. Suicidal ideation as a presenting complaint. Associated diagnoses and characteristics in a casualty population. Br J Psychiat. 1991; 159:232–238.

Jorm AF, Henderson AS, Scott R, et al. Factors associated with the wish to die in elderly people. Age Ageing. 1995; 24:389–392. [PubMed: 8669340]

Kessler RC, Berglund P, Borges G, Nock M, Wang PS. Trends in suicide ideation, plans, gestures, and attempts in the United States, 1990-1992 to 2001-2003. JAMA. 2005; 293:2487–2495. [PubMed: 15914749]

Li LJ, Xiao SY, Yang DS, et al. The gender differences and related factors in drinking and smoking behaviors among general population of two communities in Hunan province (in Chinese). J Clin Psychol Med. 1994; 2:90–94.

Lim LL, Cheng W, Yu X, et al. Depression in Chinese elderly population. Asian Pacific Journal of Psychiatry. 2011; 3:46–53.

Liu, P. Rating Scales for Mental Health (ed Wang XD). Beijing: Chinese Mental Health Journal; 1993. Beck Depression Inventory (in Chinese).

Liu PF. China Entered the Aging of the Population Economics (in Chinese). Northwest Population. 2006; 112:24–26.

Liu X. Sleep and adolescent suicidal behavior. Sleep. 2004; 27:1351–1358. [PubMed: 15586788]

Liu X, Zhou H. Sleep duration, insomnia and behavioral problems among Chinese adolescents. Psychiat Res. 2002; 111:75–85.

Ma X, Xiang YT, Cai ZJ, et al. Lifetime prevalence of suicidal ideation, suicide plans and attempts in rural and urban regions of Beijing, China. Aust NZ J Psychiat. 2009; 43:158–166.

Xiang YQ, Guo HL, Hou YZ, et al. Prevalence and sociodemographic correlates of depression in an elderly population living with family members in Beijing, China. Psychol Med. 2008; 38:1723–1730. [PubMed: 18366820]

Ohayon MM. Epidemiology of insomnia: what we know and what we still need to learn. Sleep Med Rev. 2002; 6:97–111. [PubMed: 12531146]

Phillips MR, Li X, Zhang Y. Suicide rates in China, 1995-99. Lancet. 2002; 359:835–840. [PubMed: 11897283]

Radloff LS. The CES-D Scale: a self-report depression scale for research in general population. Appl Psych Meas. 1977; 1:385–401.

Rao R, Dening T, Brayne C, Huppert FA. Suicidal thinking in community residents over eighty. Intl J Geriatr Psych. 1997; 12:337–343.

Schwab JJ, Warheit GJ, Holzer CE 3rd. Suicidal ideation and behavior in a general population. Diseases of the Nervous System. 1972; 33:745–748. [PubMed: 4655064]

Scocco P, De Leo D. One-year prevalence of death thoughts, suicide ideation and behaviours in an elderly population. Int J Geriatr Psychiat. 2002; 17:842–846.

Scocco P, Meneghel G, Caon F, Dello Buono M, De Leo D. Death ideation and its correlates: survey of an over-65-year-old population. J Nerv Ment Dis. 2001; 189:210–218. [PubMed: 11339316]

Singh GK, Siahpush M. Increasing rural-urban gradients in US suicide mortality, 1970-1997. Am Jf Public Health. 2002; 92:1161–67.

Skoog I, Aevarsson O, Beskow J, et al. Suicidal feelings in a population sample of nondemented 85-year-olds. Am J Psychiat. 1996; 153:1015–1020. [PubMed: 8678169]

Stack S, Wasserman IM. Marital status, alcohol abuse and attempted suicide: a logit model. J Addict Dis. 1995; 14:43–51. [PubMed: 8541359]

Wiktorsson S, Runeson B, Skoog I, Ostling S, Waern M. Attempted suicide in the elderly: characteristics of suicide attempters 70 years and older and a general population comparison group. Am J Geriatr Psych. 2010; 18:57–67.

Wu CP, Wang L, Miao RF. Population aging in China: process, future development and strategies (in Chinese). Population Research. 2004; 28:8–15.

Yip PS, Chi I, Chiu H, et al. A prevalence study of suicide ideation among older adults in Hong Kong SAR. Int J Geriatr Psych. 2003; 18:1056–1062.

Zhou MG, Zhang YP, Wang LJ, et al. Analysis of negative life events among 304 elderly suicide victims (in Chinese). Chinese Journal of Epidemiology. 2004; 25:292–295. [PubMed: 15231194]

Key points

- Findings of this pilot study suggest that large scale epidemiological or community-level research in rural elderly Chinese regarding suicide and suicide prevention is feasible.

- Suicidal thoughts/behaviours in older adults in rural China are common.

- Correlates of suicidal thoughts/behaviours in this sample are similar to findings in earlier studies.

Table 1

Socio-demographic and clinical characteristics of the participants

	Statistics	
	n	**%**
Men	137	52.1
Married	236	89.7
Educational level		
Illiterate or primary school 1-3 years	218	82.9
Primary school 4-6 years	27	10.3
Junior high school or above	18	6.8
Financial Perception		
Poor	97	36.9
Moderate	148	56.3
Good	18	6.8
Living alone	26	9.9
Psychiatric disorders	3	1.1
Major medical disorder(s)	167	63.5
Insomnia	20	7.6
	Mean	**SD**
Age (years)	60.7	8.5
CESD total score	20.5	9.9
LSS total score	10.1	3.4
SSS total score	36.9	8.0
No. of life event in the past year	1.6	1.8

CESD=Center for Epidemiologic Studies Depression Scale; LSS=Life Satisfaction Scale; SSS=Social Support Scale

Table 2

Lifetime, one-year and two-week prevalence of suicidal thoughts/behaviours

	Ideation			Serious ideation			Plan			Attempt		
	Lifetime % (95% CI)	One-year % (95% CI)	2-week % (95% CI)	Lifetime % (95% CI)	One-year % (95% CI)	2-week % (95% CI)	Lifetime % (95% CI)	One-year % (95% CI)	2-week % (95% CI)	Lifetime % (95% CI)	One-year % (95% CI)	2-week % (95% CI)
Subjects aged 50 years and above (n=263)	28.9 (23.4-34.4)	8.8 (5.3-12.2)	3.4 (1.2-5.6)	19.7 (14.9-24.6)	5.3 (2.6-8.1)	2.3 (0.5-4.1)	11.4 (7.5-15.3)	2.7 (0.7-4.6)	2.3 (0.5-4.1)	5.3 (2.6-8.1)	0	0
Subjects aged 65 years and above (n=87)	34.5 (24.3-44.7)	10.3 (3.8-16.9)	4.6 (0.1-9.1)	23.0 (14.0-32.0)	6.9 (1.5-12.3)	2.3 (0-5.5)	10.3 (3.8-16.9)	2.3 (0-5.5)	2.3 (0-5.5)	6.9 (1.5-12.3)	0	0

Table 3

Socio-demographic correlates for lifetime suicidal thoughts/behaviours (logistic regression analysis)[*]

	Ideation	Serious ideation	Plan	Attempt
	Adjust OR (95% CI)	Adjust OR (95% CI)	Adjust OR (95% CI)	Adjust OR (95% CI)
Lifetime suicidal behaviours				
Men	0.5 (0.2-0.99)	---	---	---
Married	---	---	0.2 (0.1-0.7)	0.2 (0.04-0.9)
Financial Perception				
Poor	1.0	1.0	1.0	1.0
Moderate	---	0.4 (0.2-0.9)	0.2 (0.1-0.7)	0.2 (0.03-0.9)
Good	---		---	---
Major medical disorder(s)	2.6 (1.2-5.7)	3.5 (1.4-9.0)	4.3 (1.3-14.5)	---
Insomnia	---	4.2 (1.4-13.1)	---	---
LSS total score	1.3 (1.1-1.5)	1.2 (1.02-1.4)	---	---

[*] Only significant correlates for onset of suicidal behaviours are indicated. Variables including age, gender, marital status, education level, living arrangement, financial perception, major medical condition(s), psychiatric disorder, depressive symptoms, life satisfaction, social support, insomnia and recent life events were entered as potential correlates of suicidal thoughts/behaviours.

LSS=Life Satisfaction Scale; CESD= Center for Epidemiologic Studies Depression Scale; Insomnia = Sleep disturbance + daytime consequences