

Depression in older Chinese migrants to Auckland

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Objective: This study was conducted to identify risk factors for depressive symptomatology among older Chinese migrants.

Method: One hundred and sixty-two Chinese migrants aged 55 years or older, living in the community and recruited via Chinese community organizations and general practitioners, were interviewed using a Chinese version of the Geriatric Depression Scale and measures of stressful life events, morbid conditions, self-rated health, acculturation, social support and service utilization.

Result: Twenty-six percent of participants met the criteria for depressive symptomatology. No recent migrants showed symptoms of depression. Multiple logistic regression analysis showed that lower emotional support, greater number of visits to a doctor, difficulties in accessing health services and low New Zealand cultural orientation increased the risk of showing symptoms of depression.

Conclusion: Significant numbers of older Chinese migrants appear to be depressed or at risk for depression and, while participants with depressive symptoms consulted general practitioners more than their counterparts without such symptoms, they reported greater difficulty in accessing health services. The findings point to the need for further epidemiological study of this growing sector of the population and investigation of the nature of its engagement with health services. Social support and aspects of acculturation may play a significant role in preventing depression. This also requires further investigation.

Key words: ageing, depression, migrants, older Chinese people.

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Approximately one-in-five New Zealanders are foreign-born, a high proportion by international standards [1]. During the past decade Asians have been the most rapidly growing migrant group [1,2]. Chinese are the largest Asian group resident in New Zealand and

comprise approximately 45% of recent Asian migrants [3]. Similar rapid increases in ethnic Chinese populations have recently taken place in a number of other countries including Australia, Canada and the United States.

Migrant adjustment to life in host countries and relationships between migration, adaptation and health has been examined from a variety of theoretical and disciplinary perspectives. Within this context, considerable attention has been given to mental health. While migration is not a unitary phenomenon and migrants per se do not necessarily have high rates of mental disorder, some subgroups are at particularly high risk [4]. People who migrate at an advanced age constitute one of these high-risk groups.

Migrant adaptation has been studied in terms of cultural orientation and the different strategies that people

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adopt in coming to terms with and living in a new culture [5]. People who maintain aspects of their original cultural identity and way of life while also acquiring significant aspects of their adoptive culture are generally considered to experience a more positive adaptation than those who adopt other modes.

Although the ethnic diversity of New Zealand has increased, there are large knowledge gaps with respect to the adaptation and health of recent migrant groups [4]. This is especially so for older migrants. Concerns about a lack of empirical research on older migrant and minority groups have also been expressed in the United States and other countries [6].

Depression is the major psychological problem that affects older people and is the risk factor most often associated with suicide [7]. In the United States, older foreign-born Chinese have much higher suicide rates than their United States-born counterparts and other older Americans [8]. This suggests that older Chinese immigrants have elevated rates of depression. Research with older people generally has shown that they are more likely to be depressed if they are female, have poor self-rated health, live alone and have low social support [9].

Depression among older people is often unrecognized and untreated. This is important because depression is less likely to remit spontaneously in older people, generates considerable distress for sufferers and their families and greatly elevates the probability of suicide [10]. Despite apparently having rates of mental disorder that are similar to those of European New Zealanders, Chinese adults under-utilize mental health services [11,12]. In the case of older people generally, depression is often difficult to diagnose because a number of symptoms, for example poor appetite and sleep disturbance, may be part of the normal ageing process or may arise for other reasons. The expression of depressive symptoms is also influenced by cultural factors and in some studies Chinese people have been shown to differ from Europeans in this regard. Somatic features have been considered more important among Chinese, although some recent studies have challenged this [13,14]. These considerations are important in the study of depression among older Chinese. They may also result in low detection rates by health professionals who are not familiar with older Chinese patients.

Only a relatively small number of studies of depression or depressive symptoms have been conducted with older Chinese people. Findings from research undertaken in China and Singapore are generally consistent with results from studies conducted in Western countries [15–20]. With the exception of Kua's Singapore survey [18], high rates of depression were found and risk factors included low socioeconomic status, poor physical health,

functional disability, strained social relationships and isolation. Female gender and advanced age were additional risk factors in some studies. Family and social support may be particularly important in reducing the risk for depression among older Chinese. Kua considered that an emphasis on filial piety and family support for older parents may have been important contributors to the low rate of depression found in his Singapore study [18].

Little research has focused on depression or mental health more generally in Chinese migrant or ethnic minority populations. Given that older migrants confront stresses of immigration and acculturation, in addition to having a high prevalence of risk factors including family disruption, it is likely that they will experience elevated rates of depression. Consistent with studies of older majority Chinese samples, Mui found that respondents who rated their health as good, lived with others and were satisfied with help received from family members were least likely to be depressed [21]. There is no New Zealand research on this topic and only a few studies on the mental health of Chinese adults [11,12].

The present study was conducted to examine relationships between depression and sociodemographic factors, stressful life events, morbid conditions and self-rated health, acculturation, social support, and service utilization among older Chinese migrants living in New Zealand. The major objective was to identify correlates of depressive symptomatology.

Method

In September 1999, leaders of a number of older Chinese community organizations and general practitioners based in Auckland were consulted about a proposed study of older Chinese persons. A sample list of the names of 214 Chinese persons aged 55 years or more was generated through these contacts. Forty-seven could not be contacted or were unavailable for interview during the period when interviews were conducted. Five people contacted declined an interview. Interviewers who spoke Cantonese and Mandarin were trained by a senior researcher. Face-to-face interviews were conducted in Cantonese or Mandarin with 162 people. Formal screening for dementia was not conducted and all participants were able to follow instructions. All interviews were conducted between November 1999 and January 2000. Both the Auckland University of Technology Ethics Committee and the Auckland Chinese Medical Association granted approval for the study. Written informed consent was given by each participant.

The questions pertinent to the present study included:

Demographic information

This section requested information about the respondent's gender, date of birth, marital status, educational achievements, religion, place of birth, country of origin, number of returns to country of origin in previous year, migrant status, length of residence in New Zealand, household composition, employment status, and sources of income.

Social relationships

Questions ascertaining emotional and tangible social support and satisfaction with support were included in the questionnaire. Satisfaction with social support was ascertained by responses to the question: 'Overall, how satisfied are you with the level of support that you have received during the last year?' and respondents were classified as 'Satisfied' or 'Less than satisfied'.

Health and health service utilization

Items included in this section asked about use of traditional Chinese doctors, 'Western' doctors, and medications in the previous 3 months. Respondents were asked to nominate the morbid conditions they had suffered in the previous 2 years, and were also asked to rate their own health, with possible responses from very good to very poor. Questions concerning access to transport were also included.

The 15-item version of the Geriatric Depression Scale (GDS) developed by Yesavage and Brink, adapted and validated for use with Chinese persons, was included in the questionnaire [22,23]. Depressive symptomatology was defined when a respondent gave five or more answers indicative of depression.

Cultural orientation

Twenty-one questions concerning Chinese culture and 21 complementary New Zealand questions were included. Example questions were: 'I was raised in the Chinese way' and: 'How much do you speak English with friends?' Five point response scales were used for all questions. Chinese and New Zealand cultural orientation variables were derived by summing the responses to the questions and dichotomising the resulting scores based on a median split.

These questions were based on Berry's conceptualization of acculturation [24] and piloted by Huang [25] with 27 older Chinese migrants.

Stressors

Respondents were asked to nominate stressful life events they had experienced in the 12 months prior to interview. Twenty-three stressful life events were included, ranging from having an illness through to the death of spouse.

The questionnaire schedule was translated from English to Chinese by a bilingual expert. The accuracy of the translated version was checked through back-translation to English by a second bilingual expert, and comparison between the original and back-translated questionnaires showed the translation was very accurate.

Statistical analysis

The associations between GDS symptomatology and a range of variables covering sociodemographic, social relationships, health, health service utilization, and stressors were assessed using χ^2 tests of association (or Fisher's exact test when the expected value in any contingency table cell was less than 5). Those variables that showed significant associations with depressive symptomatology were subsequently entered as predictor variables in a multiple logistic regression, with symptomatology used as the response. Age group and gender were

included in all analyses. Odds ratios, and their corresponding 95% confidence intervals, were used to aid interpretation of the results. SPSS for Windows version 10.0 was used in all analyses [26].

Results

Table 1 summarizes the sociodemographic data for the respondents.

Of the 152 participants for whom a GDS score was calculable, 40 participants (26%; 95% CI = 19–33%) exhibited depressive symptomatology. Of the 40 with depressive symptoms, 14 had GDS scores of 5; 8 of 6 or 7; 14 of 8 or 9 and 4 of 10 or more. Shorter length of residence was the only sociodemographic variable associated with depressive symptoms (Fisher's exact test statistic = 8.82, $df = 3$, $p = 0.029$). None of the 17 participants who were resident less than 12 months showed symptoms of depression. There were no significant differences between subgroups resident for 1 year or more.

Table 2 summarizes the measures of health and health service utilization considered in the present study according to GDS symptomatology.

There was a significant association between depressive symptomatology and higher doctor visitation ($p = 0.045$). Of the morbid conditions, only cardiovascular disease was significantly associated with depressive symptoms ($p = 0.015$). A marked difference in self-rated health between participants with and without symptoms of depression was evident ($p = 0.002$). Participants with symptoms were more likely to rate their health as poor or very poor than the participants without symptoms.

Differences between people with and without depressive symptoms were also apparent in getting around outside of home. There was a marginal association between not driving oneself around and depressive symptoms ($p = 0.057$) and a significant association between public transport use and depressive symptoms ($p = 0.020$).

The emotional and tangible support received by participants varied, with total scores ranging from 7 (the minimum possible score) to 35 (the maximum possible) for both types of support. The negative association between tangible support and depressive symptoms was significant ($p = 0.019$), as was the association between emotional support and depressive symptoms ($p < 0.001$). There was a significant negative association between satisfaction with social support and depressive symptoms ($p = 0.003$). Higher social support, and greater satisfaction with that support, was more common amongst the participants who did not exhibit depressive symptomatology.

There was no association between Chinese cultural orientation and depressive symptoms ($p = 0.891$). However, there was a significant association between lower NZ cultural orientation and depressive symptoms ($p = 0.011$).

Table 3 summarizes responses to the stress checklist included in the questionnaire for participants categorized according to depressive symptoms. Difficulties of language ($p = 0.005$), difficulties of acculturation ($p = 0.042$), difficulties with access to health services ($p < 0.001$) and having an illness in the year prior to interview ($p = 0.013$) were all associated with depressive symptoms.

The results of the multiple logistic regression analysis are presented in Table 4. Age and gender were included as control variables.

Discussion

The sampling procedure used in this study generated an adequately sized sample of older Chinese migrants

Table 1. Demographic characteristics of respondents

	n	%
Gender		
male	79	49.7
female	80	50.3
missing	3	
Age group		
less than 65	86	54.5
65–69	43	27.2
70–74	15	9.5
80–84	6	3.8
missing	4	
Marital status		
married	133	83.6
widowed	24	15.1
other	2	1.2
missing	3	
Current living arrangement [†]		
alone (own/rental dwelling)	5	3.1
with spouse	120	74.1
with married child	70	43.2
with unmarried child	17	10.5
with single children	3	1.9
with other relatives	8	4.9
other (specify)	6	3.7
Education		
no education	11	7.0
primary school	16	10.1
incomplete high school	21	13.3
high school/ secondary school	20	12.7
university or other tertiary	88	55.7
other	2	1.3
missing	4	
Country of origin		
China	120	74.1
Hong Kong	34	21.0
Taiwan	6	3.7
other	2	1.2
missing	0	
Number of times returned to country of origin in past year		
none	110	69.2
1	42	26.4
2	6	3.8
3–4	1	0.6
missing	3	
Immigration status		
independent	48	30.0
family reunion	106	66.3
refugee	1	0.6
other	5	3.1
missing	2	
Years of stay in NZ		
less than a year	20	12.3
1–2 years	66	40.7
3–5 years	35	21.6
6–10 years	26	16.0
over 10 years	15	9.3
missing	0	
Employment		
retired	151	95.0
self-employed (< 5 employees)	2	1.3
other	6	3.8
missing	3	
Source of income [†]		
savings/assets/investments	34	21.0
salary/business income	1	0.6
pensions/public assistance	95	58.6
spouse support	1	0.6
children support	41	25.3
other	2	1.2

[†]multiple responses possible for these questions.

for an exploratory examination of relationships between migration-related and other factors associated with depressive symptoms. However, it is not known how representative the sample is of the older Chinese migrant population. Given the difficulty involved in clearly defining the population of older Chinese migrants, locating a representative sample and obtaining the agreement of members to be interviewed, this is a deficiency that will be difficult if not impossible to remedy in future studies.

Although the representativeness of the sample cannot be determined, the response rate was satisfactory and the sample broadly reflected the proportions coming from major source countries. There was sufficient variation in scores on most measures to allow correlates and predictors of depression to be identified. Comparison with findings from previous and future studies is important in determining the consistency and relative importance of these various factors in this regard.

In the present study, just over a quarter of participants were identified as showing symptoms of depression. This is identical to the prevalence estimate obtained by Liu and colleagues using the same instrument and cut-off score with a rural Chinese population [16]. This study also included psychiatric assessment of depression according to DSM-III-R criteria. Consistent with most epidemiological surveys that use both symptom questionnaires and clinical interviews, the prevalence estimate for depressive disorder (13%) was substantially lower than that for depressive symptoms.

Further research is required to determine how Chinese migrant performance on the GDS relates to the clinical assessment of depression. However if, as in Liu *et al.*'s study, a half of those assessed as symptomatic are clinically depressed, older Chinese migrants are likely to have an elevated risk for depressive disorders relative to older New Zealanders generally. American research suggests that older Chinese immigrants constitute a high-risk group in that country [27]. Examination of this hypothesis will require a larger migrant sample than was attained in the present study and a broadening of the research to include other sectors of the older adult population.

Further research is also required to establish whether older Chinese migrants to New Zealand have elevated rates of depression and depressive symptoms relative to rates for older people resident in China and other major source countries. Accepting that there may have been sampling bias in the present study, we note that the prevalence of depressive symptoms was comparable to rates from recent studies in China, Taiwan and Hong Kong [16–20,31].

We cannot determine whether the participants in the present study had depressive symptoms prior to their migration to New Zealand. However, the finding of

Table 2. Health and health service utilization and depressive symptoms

		GDS \geq 5 (total = 40)		GDS < 5 (total = 112)	
		n	%	n	%
Number of times visited doctor [†] *	<i>none</i>	15	37.5	63	56.3
	<i>once or more</i>	25	62.5	49	43.8
Number of times visited Chinese healer [†]	<i>none</i>	33	84.6	104	92.9
	<i>once or more</i>	6	15.4	8	7.1
Number of medicines taken [†]	<i>none</i>	9	22.5	31	27.7
	<i>one or more</i>	31	77.5	81	72.4
Number of hospital admissions past year	<i>none</i>	36	90.0	104	93.7
	<i>one or more</i>	4	10.0	7	6.3
Cardiovascular disease [‡] *	<i>no</i>	17	42.5	73	65.2
	<i>yes</i>	23	57.5	39	34.8
Respiratory disease	<i>no</i>	36	90.0	101	90.2
	<i>yes</i>	4	10.0	11	9.8
Infectious disease	<i>no</i>	40	100.0	111	99.1
	<i>yes</i>	0	0.0	1	0.9
Gastrointestinal disease	<i>no</i>	32	80.0	101	90.2
	<i>yes</i>	8	20.0	11	9.8
Bone & joint disease	<i>no</i>	28	70.0	82	73.2
	<i>yes</i>	12	30.0	30	26.8
Urological/gynaecological disease	<i>no</i>	34	85.0	106	94.6
	<i>yes</i>	6	15.0	6	5.4
Immunological disease	<i>no</i>	39	97.5	111	99.1
	<i>yes</i>	1	2.5	1	0.9
Blood disorder	<i>no</i>	40	100.0	110	98.2
	<i>yes</i>	0	0.0	2	1.8
Neurological disease	<i>no</i>	36	90.0	108	3.6
	<i>yes</i>	4	10.0	4	3.6
Endocrine disease	<i>no</i>	38	95.0	107	95.5
	<i>yes</i>	2	5.0	5	4.5
Self rated health *	<i>v. good/good</i>	9	22.5	46	41.4
	<i>satisfactory</i>	22	55.0	60	54.1
	<i>poor/v. poor</i>	9	22.5	5	4.5
Drive by self	<i>no</i>	36	90.0	85	75.9
	<i>yes</i>	4	10.0	27	24.1
Use public transport *	<i>no</i>	23	57.5	86	76.8
	<i>yes</i>	17	42.5	26	23.2
Transport by others	<i>no</i>	18	45.0	42	37.5
	<i>yes</i>	22	55.0	70	62.5

[†] in past three months; [‡] in past 2 years, suffered from [disease]; *p < 0.05.

no cases of depressive symptoms among participants resident less than 12 months suggests that pre-migration rates of depressive symptoms may be low and that post-migration factors are more likely responsible for symptoms of depression. Longitudinal research involving assessment prior to migration, and at various times post-migration, is required to determine the extent to which this is the case and to identify risk factors for the onset and persistence of depression. Research of this type has yet to be conducted with older Chinese migrants. Factors found to be associated with symptoms of depression in the present study are among those that could profitably be examined in this regard.

It was not possible to examine the full spectrum of cultural adaptation modes in the present study, in part because the great majority of respondents had a very

strong Chinese cultural orientation and few if any had adopted an 'assimilationist' mode. With respect to Chinese cultural orientation, there was no significant difference in rates of depressive symptomatology between those with higher and lower scores. In contrast, there was a strong association between higher New Zealand orientation and lower rates of depressive symptoms. This finding suggests that the acquisition of English language and some other New Zealand cultural competencies is important in fostering adaptation and mental health. However, this is a complex area that requires more focused investigation.

The presence of illness and disability are additional risk factors for depression [27]. In the present study, having an illness in the past year, self-rated poor health and number of visits to general medical practitioners were associated with depressive symptoms. Only the latter was retained in

Table 3. Stressful life events and depressive symptoms

	GDS \geq 5 (total = 40)		GDS < 5 (total = 112)	
	n	%	n	%
Had an illness*	21	52.5	33	30.0
Close relative had serious illness	2	5.3	12	10.7
Spouse died	1	2.5	3	2.7
Child died	1	2.6	1	0.9
Close family member died	5	12.5	12	10.7
Close friend/relative died	9	22.5	23	20.5
Serious argument with spouse	1	2.6	4	3.6
Separated from spouse	0	0.0	3	2.7
Divorced	0	0.0	1	0.9
Child married	5	12.5	12	10.7
Child left home for reasons other than marriage	3	7.9	5	4.5
Separated from someone important	4	10.5	12	10.8
Serious problems with friend or relatives	1	2.5	3	2.8
Retired	7	17.9	21	18.8
Moved to NZ	16	41.0	31	27.7
Lived alone	1	2.5	4	3.6
Had difficulties of language*	37	92.5	78	69.6
Had difficulties of acculturation*	27	67.5	53	47.3
Have been discriminated against by others	10	25.0	17	15.5
Had financial difficulties	10	25.0	16	14.3
Legal difficulties	6	15.0	8	7.2
Victim of crime	2	5.0	5	4.5
Difficulties with access to health services*	23	57.5	24	21.4

*p < 0.05.

Table 4. Summary of multiple logistic regression

	AOR [†]	95% CI [‡]
Emotional support lower 50%	4.05	1.53–10.78
Doctor visits in past 3 months \geq 1	2.82	1.10–7.24
Difficulties with access to health services: <i>yes</i>	2.81	1.13–7.00
NZ cultural orientation: <i>low</i>	2.49	0.94–6.58

[†]Adjusted odds ratio: Age and gender included in model and ORs are adjusted for other effects shown; [‡]95% confidence interval; -2 log likelihood 125.86; model χ^2 29.43; df = 7; p < 0.001, n = 130.

the multiple logistic regression. These measures are likely to reflect worse physical health. However, they may also reflect the presence of depression and other mental disorders. Further research is required to examine connections between physical health, mental health and help-seeking.

Non-depressed people were found to be more likely to be driving, whereas taking public transport was more commonly associated with being depressed. Whether lack of access to a car was a factor, or whether depression may have caused people to cease driving, was not determined in this study.

Although very few of the respondents reported serious arguments with a spouse or problems with relatives or friends, considerable variation was apparent with respect to receipt of tangible support from others, emotional

support and satisfaction with social support. All three of these social support measures had a statistically significant relationship with depressive symptoms in univariate analyses. Low emotional support was retained in the multiple logistic regression as a significant risk factor for depressive symptoms, suggesting emotional support may be a more important determinant of depression in older migrants than tangible support or satisfaction with support. While the cross sectional nature of the study precludes full understanding of the nature of these relationships, a large body of research is consistent with the view that these dimensions of social support can have direct positive influences on psychological well-being, buffer the effects of stressors, and prevent the onset of mental disorder [29–31].

Over a third of respondents reported having difficulty accessing health services and this group had significantly higher rates of depressive symptoms. A recent survey of the healthcare needs of Asian people in Auckland has highlighted concerns in this area [32]. Common complaints noted were the high cost of general practitioner and private health care, a lack of information and understanding of the health care system, and language and cultural barriers. Very few of the respondents appeared to have contacted mental health services and their knowledge of them was rudimentary.

Given the 26% prevalence of depressive symptoms among older people in the present study, it is of particular concern that a disproportionate number had experienced difficulty in obtaining health care. The study did not address the extent to which depression was diagnosed by general practitioners or other health professionals or the efficacy of treatment received. This is one of a number of topics that require further examination. The various risk factors identified suggest intervention points for health promotion and prevention programs but also raise questions that can only be addressed by more extensive investigation.

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