Depressive symptoms in older male Italian immigrants in Australia: the Concord Health and Ageing in Men Project

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ABSTRACT

Objective: To describe the prevalence of depressive symptoms in older male Italian-born Australian immigrants.

Design, participants and setting: Cross-sectional study of 335 Italian-born and 849 Australian-born men aged 70 years and over who completed written questionnaires and were interviewed in the baseline phase of the Concord Health and Ageing in Men Project (CHAMP).

Main outcome measures: Depressive symptoms assessed by the short (15-item) form of the Geriatric Depression Scale; associations between depressive symptoms and country of birth.

Results: The prevalence of depressive symptoms in Italian-born men was 18%, almost twice the prevalence of 10% in Australian-born men (odds ratio [OR], 1.9; 95% CI, 1.2–3.0). After adjusting for socioeconomic and health factors, the relationship between country of birth and depressive symptoms was attenuated and no longer statistically significant (OR, 1.7; 95% CI, 0.9–3.0). The strongest confounders of the relationship between country of birth and depressive symptoms were source of income and satisfaction with social support.

Conclusion: Male Italian-born immigrants aged over 70 years report more depressive symptoms than their Australian-born counterparts. This association appears to be explained by increased reliance on a government pension as the sole source of income and lower satisfaction with social support among Italian-born men. However, these findings need to be confirmed longitudinally.

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Depression is an important cause of global disease burden,[1] poor health and increased mortality.[2,3] Despite a low prevalence of major depression meeting the criteria of the *Diagnostic and statistical manual of mental disorders*, fourth edition, almost 25% of older people report using medication for their mental wellbeing, and suicide rates are high among those aged 75 years and over, particularly men.[4]

Italian-born immigrants represent the largest group of older Australians from a culturally and linguistically diverse background,[5] and nearly 40% of Italian-born immigrants are aged 70 years and over.[6] There is a higher proportion of men among the Italian-born, with 114 men to 100 women in those aged 65 years and over, compared with 72 men to 100 women in the Australian-born population in that age group.[5] Evidence indicates that immigrants from non-English-speaking backgrounds have worse mental health at older ages,[7] and Italian-speaking older immigrants have particularly high levels of psychological morbidity.[8] Male Italian immigrants have higher suicide rates after age 65 than the Australian-born population.[9]

There has been little research on depression in older male Italian immigrants in Australia. Our aim in this study was to describe the prevalence of depressive symptoms in a representative sample of older male Italian-born immigrants compared with Australian-born men, and to determine factors associated with differences in prevalence between the two groups.

METHODS

The Concord Health and Ageing in Men Project (CHAMP) is an epidemiological study of men aged 70 years and over. We used the electoral roll to recruit participants from the Sydney local government areas of Canada Bay, Burwood and Strathfield. Men were recruited sequentially across the study area, with invitation letters being sent out each week during the recruitment period from 28 January 2005 to 4 June 2007. Further details about recruitment have been described previously.[10] The only exclusion criterion was living in a residential aged-care facility. CHAMP was approved by the Concord Hospital Human Research Ethics Committee, and all participants gave informed consent.

Measures

Participants completed a questionnaire at home before attending the study clinic at Concord Hospital. Depressive symptoms were measured using the short (15-item) version of the Geriatric Depression Scale [GDS][11]). GDS scores were dichotomised in line with how GDS results are commonly reported in the literature.[12] A cut-off of five or more symptoms defined clinically significant depressive symptoms. The GDS questionnaire was provided to all men in English only. An Italian version was also given to 61 consecutive Italian-born men when they attended the clinic, to measure agreement between versions. Agreement for a diagnosis of depressive symptoms was 87%, with a κ coefficient of 0.4. The diagnosis differed between versions of the GDS questionnaire in eight men. Six of these men were diagnosed as having depressive symptoms by the Italian version and not the English version (ie, the Italian GDS questionnaire was more likely to detect depressive symptoms in Italian-born men). We used only the results from the English questionnaire in the main analysis.

The CHAMP questionnaire included questions about country of birth, marital status, living arrangements, self-reported comorbid conditions, chronic pain, self-rated health, and alcohol consumption status. Social support was measured using the shortened (11-item) Duke Social Support Index.[13] Physical activity was measured using the Physical Activity Scale for the Elderly (PASE) questionnaire.[14] Self-reported disability was measured using the Katz Index of Activities of Daily Living (ADL) scale[15] and Older Americans Resource Scale for Instrumental Activities of Daily Living (IADL).[16] Socioeconomic status measures included education, occupation, source of income, and house ownership. All participants were screened for cognitive impairment, and those who tested positive

1 Characteristics of the participants, by country of birth*

Variable	Country of birth: Italy	Country of birth: Australia
Age group (years)		
70–74	138 (45%)	294 (36%)
75–79	109 (36%)	252 (31%)
⩾ 80	59 (19%)	266 (33%)
Level of education		
No schooling	13 (4%)	0
Left school aged ⩽ 12 years	150 (49%)	10 (1%)
Left school aged 13–16 years	122 (40%)	644 (79%)
Left school aged > 16 years	20 (7%)	157 (19%)
Occupation history		
Managers or professionals	29 (10%)	329 (41%)
Tradespersons	113 (37%)	158 (19%)
Labourers	71 (24%)	37 (5%)
Plant and machine operators	36 (12%)	59 (7%)
Other	53 (18%)	228 (28%)
Source of income		
Pension only (age or repatriation)	207 (69%)	277 (34%)
Other	95 (31%)	533 (66%)
Marital status		
Married	261 (85%)	557 (69%)
Widowed	26 (9%)	127 (16%)
Other	19 (6%)	128 (16%)
Living arrangements		
Lives alone	31 (10%)	195 (24%)
Lives with others	274 (90%)	617 (76%)
Satisfaction with social support		
High (score ⩾ 19)	217 (73%)	668 (83%)
Low (score < 19)	79 (27%)	138 (17%)
Number of comorbid conditions		
⩽3	278 (91%)	699 (86%)
> 3	28 (9%)	111 (14%)
Self-rated health		
Fair, poor or very poor	100 (33%)	211 (26%)
Good or excellent	202 (67%)	598 (74%)
Diabetes		
Yes	72 (24%)	128 (16%)
No	234 (76%)	683 (84%)
Stroke		
Yes	20 (7%)	73 (9%)
No	286 (93%)	734 (91%)
Chronic pain		
Yes	107 (35%)	235 (29%)
No	198 (65%)	575 (71%)
Disability (ADL)		
Yes	24 (8%)	55 (7%)
No	280 (92%)	756 (93%)
Disability (IADL)		
Yes	118 (40%)	292 (37%)
No	177 (60%)	498 (63%)
Years in Australia		
0–39	20 (7%)	—
40–49	88 (30%)	—
⩾ 50	183 (63%)	—
Language spoken at home		
Italian	251 (82%)	—
English	53 (17%)	—
Slovenian	2 (1%)	—

ADL = Katz Index of Activities of Daily Living.[15] IADL = Older Americans Resource Scale for Instrumental Activities of Daily Living.[16]
* Percentages do not add up to 100% in all instances because of rounding. ◆

were assessed further by a geriatrician. Dementia was diagnosed by consensus among a panel of geriatricians.

Statistical analysis

Data were analysed using SAS version 9.1 (SAS Institute Inc, Cary, NC, USA). Relative risks were estimated for variables associated with depression in older people, as odds ratios overestimate the relative risk for common outcomes. A crude odds ratio was calculated for country of birth for comparison with adjusted odds ratios from multiple logistic regression. Backward elimination was used to eliminate non-significant variables from the multivariate analysis; however, country of birth and important confounders remained in the model regardless of statistical significance.

RESULTS

Of the 2815 eligible men contacted, 1511 (54%) participated in the study. An additional 194 men volunteered independently of the invitation letter, giving a final sample of 1705. In the CHAMP study area, only 39% of older men were Australian-born and 18% were Italian-born.[17] In our study sample, 50% of men were Australian-born and 20% were Italian-born. Other non-English-speaking countries of birth were slightly underrepresented in the sample (eg, Greece, 4% in our sample v 5% in the study area; China, 3% in our sample v 5% in the study area). In this study, we used data from the 1184 men who were either born in Australia (849) or Italy (335). Men with dementia were excluded, leaving a final sample of 1118 men (812 Australian-born and 306 Italian-born).

Box 1 shows the distribution of age and demographic factors of the participants. Italian-born men were slightly younger than Australian-born men, with a mean age of 75.6 years compared with 77.4 years. Italian-born men were more likely to be married and less likely to live alone, but reported lower satisfaction with social support. Italian-born men were more likely to have left school before age 12, and to be relying solely on a government pension (age or repatriation pension). Italian-born men

2 Univariate analysis of variables associated with depressive symptoms*

Variable	Depressive symptoms	No depressive symptoms	Unadjusted relative risk (95% CI)
Country of birth			
Australia	83 (10%)	728 (90%)	1
Italy	54 (18%)	251 (82%)	1.7 (1.3–2.4)
Age group (years)			
70–79	81 (10%)	710 (90%)	1
⩾ 80	56 (17%)	269 (83%)	1.7 (1.2–2.3)
Education level			
High (left school aged ⩾ 15)	57 (8%)	618 (92%)	1
Low (left school aged < 15)	79 (18%)	361 (82%)	2.1 (1.5–2.9)
Occupation history			
Managers or professionals	25 (7%)	333 (93%)	1
Other	111 (15%)	642 (85%)	2.1 (1.4–3.2)
Source of income			
Other	43 (7%)	585 (93%)	1
Pension only	92 (19%)	391 (81%)	2.8 (2.0–3.9)
Living arrangements			
Lives with others	100 (11%)	790 (89%)	1
Lives alone	36 (16%)	189 (84%)	1.4 (1.0–2.0)
Satisfaction with social support			
Low (score < 19)	77 (35%)	140 (65%)	1
High (score ⩾ 19)	58 (7%)	827 (93%)	0.2 (0.1–0.3)
Social interactions			
Low (score < 9)	81 (21%)	297 (79%)	1
High (score ⩾ 9)	51 (7%)	660 (93%)	0.3 (0.2–0.5)
Number of comorbid conditions			
⩽ 3	64 (8%)	737 (92%)	1
> 3	72 (23%)	242 (77%)	2.9 (2.1–3.9)
Self-rated health			
Fair, poor or very poor	79 (27%)	217 (73%)	1
Good or excellent	43 (5%)	757 (95%)	0.2 (0.1–0.3)
Diabetes			
Absent	88 (10%)	827 (90%)	1
Present	48 (24%)	152 (76%)	2.5 (1.8–3.4)
Stroke			
Absent	109 (11%)	910 (89%)	1
Present	27 (29%)	66 (71%)	2.7 (1.9–3.9)
Myocardial infarction			
Absent	93 (10%)	801 (90%)	1
Present	40 (19%)	167 (81%)	1.9 (1.3–2.6)
Angina			
Absent	98 (11%)	806 (89%)	1
Present	36 (19%)	156 (81%)	1.7 (1.2–2.5)
Drinking status			
Non-drinker	48 (21%)	186 (79%)	1
Drinker	88 (10%)	770 (90%)	0.5 (0.4–0.7)
Physical activity			
Low (PASE score < 85)	56 (23%)	191 (77%)	1
High (PASE score ⩾ 85)	78 (9%)	774 (91%)	0.4 (0.3–0.6)
Chronic pain			
Absent	68 (9%)	704 (91%)	1
Present	68 (20%)	273 (80%)	2.3 (1.7–3.1)
Disability (ADL)			
Absent	107 (10%)	929 (90%)	1
Present	28 (36%)	49 (64%)	3.5 (2.5–5.0)
Disability (IADL)			
Present	34 (5%)	641 (95%)	1
Absent	95 (23%)	315 (77%)	4.6 (3.2–6.7)

PASE = Physical Activity Scale for the Elderly.[14] ADL = Katz Index of Activities of Daily Living.[15] IADL = Older Americans Resource Scale for Instrumental Activities of Daily Living.[16] * Percentages do not add up to 100% in all instances because of rounding. ◆

had fewer comorbid conditions, but were less likely to rate their health as good or excellent. There was no significant difference between the two groups in the prevalence of self-reported diagnosed depression or in the use of antidepressants (data not shown). The Italian immigrants in our sample had lived in Australia for a mean of 50 years, and most spoke Italian at home.

Depressive symptoms

The prevalence of depressive symptoms (GDS score > 5) in Italian-born men was 18% compared with 10% in Australian-born men, resulting in an unadjusted relative risk of 1.7 (95% CI, 1.3–2.4; $P < 0.001$). Box 2 shows the results of univariate analyses of risk factors for depressive symptoms. Factors associated with depressive symptoms included being aged 80 or older, having a low education level, relying on a government (age or repatriation) pension, chronic pain, a non-professional occupation history, and disability as measured by the Katz ADL and IADL scales. Having more comorbid conditions (excluding cardiovascular disease and its risk factors) was associated with depressive symptoms, as was self-reported diabetes, stroke, myocardial infarction, and angina. In contrast, men with higher physical activity scores, better self-rated health, better satisfaction with social support, more social support interactions, and who consumed alcohol had fewer depressive symptoms.

There was no evidence of interactions between any of the variables and country of birth. In the final adjusted model, there was no longer any significant association between country of birth and depressive

3 Effect of adjusting for confounders on the odds ratio for country of birth*

Model	Covariates in model	Odds ratio (95% CI)
1	Country of birth	1.9 (1.2–3.0)
2	Country of birth plus age	2.2 (1.4–3.5)
3	Country of birth plus source of income	1.4 (0.9–2.3)
4	Country of birth plus satisfaction with social support	1.6 (1.0–2.6)
5	Full model†	1.7 (0.9–3.0)

*Multivariate analyses included only participants with no missing variables, giving a sample size of 916 men (683 Australian-born and 233 Italian-born). † Contains the variables: country of birth, age, pension, satisfaction with social support, social interactions, Older Americans Resource Scale for Instrumental Activities of Daily Living score, self-rated health, diabetes, stroke, and alcohol consumption. ◆

symptoms, with the odds ratio being reduced from 1.9 to 1.7. Source of income and age were not significantly associated with depressive symptoms in the multivariate analysis, but remained in the model because they were important confounders. The other main confounder, satisfaction with social support, was significantly associated with depressive symptoms. The effects of these confounders on the odds ratio for country of birth are shown in Box 3. Adjusting for age increased the odds ratio for country of birth. Adjusting for either source of income or satisfaction with social support reduced the odds ratio and made the association with depressive symptoms statistically non-significant.

DISCUSSION

The prevalence of depressive symptoms in our sample of Italian-born men (18%) was nearly twice that of Australian-born men (10%), supporting previous findings of higher rates of psychological morbidity in Italian-speaking older immigrants.[8] Adjusting for the younger age of Italian-born men increased the odds ratio for country of birth from 1.9 to 2.2, indicating that the prevalence of depressive symptoms in Italian-born men may further increase as the cohort ages. As evidence suggests that immigrants from non-English speaking backgrounds have less access to mental health services,[18] this finding has potential public health significance.

There are several possible reasons that Italian-born men reported more depressive symptoms than Australian men. Italian immigrants are more likely to have had less education and to have worked in non-professional occupations. Older immigrants from non-English speaking countries are less likely to have superannuation, and are more likely to rely on a government pension.[19] Adjusting for the pension reduced the odds ratio for country of birth, and made it statistically non-significant, indicating that increased reliance on the pension could explain the higher prevalence of depressive symptoms in Italian-born men. This agrees with previous longitudinal findings that low income is a risk factor for depression in older people.[20]

We found that despite higher rates of marriage and lower rates of living alone, Italian-born men reported lower satisfaction with social support. It is possible that lower satisfaction with social support is caused by a conflict in expectations between older Italian immigrants (who have traditional Italian cultural values) and their children (who have adopted mainstream Australian values). Limited ability to speak English would also contribute to social isolation and reliance on family members. However, as our study was cross-sectional, it is also possible that the lower satisfaction with social support expressed by Italian-born men is the result of their higher prevalence of depressive symptoms.

Specific cultural factors could also be responsible for the higher prevalence of reported depressive symptoms. Nationally representative surveys using the same instrument (the Composite International Diagnostic Interview) show that the overall prevalence of affective disorders, including major depression, is lower in Italy than in Australia.[2,21] However, the prevalence of affective disorders in those aged 65 years and over is higher in Italy than in Australia. The Italian Longitudinal Study on Ageing, using the GDS, found a prevalence of 30% for depressive symptoms in men aged over 65 years;[22] this is even higher than that found in our study. Variations in prevalence of depression between cultures could reflect a true difference in prevalence, but could also result from differences in the threshold at which symptoms are reported or felt to be important.

There has been little research on depression in older Italian immigrants who constitute an important growing part of Australia's older population. The major strength of our study was the large number of older male Italian immigrants within our study area who participated.

Our study has several limitations. Participants were not diagnosed with major depression by a clinician. Instead, we measured self-reported depressive symptoms using a validated tool. However, as depressive symptoms themselves are associated with reduced functioning and mortality,[3] and have a chronic and relapsing course,[23] these findings are still important.

The low participation rate in CHAMP is a further limitation; however, it is similar to that of other studies of older men that include a clinic visit.[24,25] As non-responders are more likely to have depression, it is possible that the prevalence of depressive symptoms among older men is even higher. It is also possible that reasons for refusing to participate may differ between Australian-born and Italian-born men, which would reduce the validity of the between-group comparison. As the proportion of Italian-born men in our sample was similar to that in the study area from which our sample was drawn, it is likely that our sample of Italian-born men was representative. The proportion of Australian-born men in our sample (50%) was slightly higher than that in the study area (39%), mainly as a result of underrepresentation of other non-English speaking migrants. Finally, an important limitation of our study was the use of English in all assessments. The agreement between the English and Italian versions of the GDS was only moderate (87%; $\kappa = 0.4$). As the Italian version was more likely to find depressive symptoms in Italian-born men, use of the English version in this subgroup may have underestimated depressive symptoms.

In conclusion, we found a high prevalence of depressive symptoms in Italian-born men aged 70 years and over compared with Australian-born men. This higher rate of depressive symptoms appears to be associated with increased reliance on the pension and lower satisfaction with social support among Italian-born men. This finding is important in light of the growing size of the older Italian-born population. It highlights the need for increased awareness of the mental health needs of this community and the need to provide appropriate services.

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COMPETING INTERESTS

None identified.

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