

Contacts with mental health services before suicide: a comparison of Indigenous with non-Indigenous Australians

Jerneja Sveticic, Allison Milner, Diego De Leo

Australian Institute for Suicide Research and Prevention, Mt Gravatt Campus, Griffith University, Mt Gravatt QLD 4122, Australia

Abstract:

Objective: Most people who die by suicide never seek help, particularly members of ethnic minorities. This study compared the prevalence of contacts with mental health services, types of services accessed and factors related to help-seeking behaviors by Indigenous and non-Indigenous Australians.

Method: All suicides by Indigenous and non-Indigenous persons from Queensland, Australia, during the period 1994–2007 were analyzed using descriptive statistics and logistic regression models.

Results: Non-Indigenous suicide cases were almost two times more likely than Indigenous counterparts to have ever received help for mental health problems (43.3% vs. 23.8%). The most common source of help for Indigenous persons was inpatient care, while for non-Indigenous persons, it was general practitioners. Factors increasing the likelihood of service utilization by Indigenous persons were suicide attempt in last year, living in metropolitan area and not being married. Among non-Indigenous persons, these factors were recent communication of suicidal intent or suicide attempt, recent treatment for physical illness and problematic consumption of alcohol.

Conclusions: Indigenous Australians die by suicide at a rate twice higher than the non-Indigenous population, yet they are significantly less likely to seek professional help for mental health concerns. Help-seeking behavior among Indigenous Australians at risk of suicide should be promoted through provision of culturally appropriate services.

1. Background

There is abundant evidence about the increased risks for fatal and nonfatal suicidal behaviors in persons with mental disorders [1,2], and promoting provision of adequate mental health services and timely treatment of psychiatric disorders is a central component of many suicide prevention strategies [3]. Yet, research suggests that the majority of persons with mental disorders never seek help or receive adequate treatment. For example, Australian general population surveys reported that only 35% of people with a mental disorder had contacted mental health services in the last 12 months [4], while about two thirds of suicide attempters sought help after engaging in nonfatal suicidal acts [5]. Among persons who died by suicide, just over half (53%) have had contact with mental health care professionals during their lifetime, approximately one third in the year prior to death and about one fifth within the last month [6].

Individual factors impeding help-seeking behavior by people experiencing mental distress include early age of onset of mental illness, male gender, belonging to an older cohort or ethnic minority, poor education [6,7] and levels of perceived public stigma regarding mental health service use [8]. At the community level, the main obstacle to seeking help comes from unavailability of mental health resources and inequities in their distribution [9], which can have particularly unfavorable outcomes for ethnic minority groups [10].

In Australia, Indigenous populations are composed of Aboriginal and Torres Strait Islander people, which currently account for 2.5% of the national population (3.6% in the State of Queensland) [11]. The historical marginalization of Indigenous Australians has resulted in their disconnection from land and cultural traditions; still today, they appear grossly disadvantaged in terms of health, education and employment [12–14]. Their suicide rates have been found to be at least twice as high as in non-Indigenous populations, with particularly alarming levels recorded among young males [15]. The Australian National Aboriginal and Torres Strait Islander Health Survey 2004/2005 showed that, among the Indigenous people who reported experiencing psychological distress, only 12% saw a doctor or other health professional [16]. An earlier survey in South Australia found that only 14% of the Indigenous people who had a diagnosable mental illness at the time of suicide had sought mental health treatment [17].

Westerman (2004) narrowed barriers hindering engagement of Indigenous people in mental health services to two constructs: “(a) the cultural appropriateness of the processes used by practitioners

and (b) qualities intrinsic to the practitioner–client relationship” [18, p.2]. Many Indigenous people feel that Western models of treatment do not take account of their holistic beliefs about health and mental illness [19,20]. In addition, Indigenous people experience many practical obstacles when attempting to contact the services, such as lack of transport, long waiting hours, problems with health insurance and difficulties with understanding the language used by service providers [17].

There is a great scarcity of empirical research on the prevalence of mental illnesses in Indigenous Australians and help-seeking behaviors among those who died by suicide [21]. However, in light of the fact that Indigenous Australians suicide about twice as often than Australians of other ethnicities [15], these questions are of paramount relevance in developing culturally relevant suicide prevention programs. The present study aims to fill gaps in current knowledge by addressing three questions:

1. How many Indigenous and non-Indigenous people that died by suicide have been in contact with health services for mental health problems during lifetime and in the last 3 months?
2. What were the main sources of help for Indigenous and non-Indigenous suicides?
3. Which individual-level characteristics of Indigenous and non-Indigenous persons predict utilization of mental health services in the last 3 months before suicide?

2. Methods

2.1. Data source and sample

Data used in this study were obtained from the Queensland Suicide Register (QSR), a mortality database that collates sociodemographic, medical, psychiatric and behavioral information on all suicides by Queensland residents since 1990 [22]. Sources of information include police forms, coroner's findings, and postmortem and toxicology reports. The majority of information included in this study was derived through psychological autopsy questionnaires, which were added to police forms in 1994. Items included in the psychological questionnaire include description of the circumstances surrounding the death and discovery of the body, deceased's history of physical and mental illness, received treatment and sources of help, past suicide attempts and expressions of suicidal intent, preceding life events and possible triggers for suicide. These questionnaires are filled in by police officers using information obtained through interviews with deceased's next-of-kin (or a relevant informant who knew the deceased well) during investigation of a death by suicide.

In the QSR, recording of ethnicity does not differentiate between Aboriginal or Torres Strait Island people; therefore, the term “Indigenous” is used for people of one or both these origins. Prior to 1994, almost half of the cases had no record of the deceased's ethnicity; thus, suicides prior to 1994 were excluded from the analysis. Between 1994 and 2007, there were 471 recorded suicides by Indigenous persons (86 females and 385 males) and 6655 by non- Indigenous populations (1402 females and 5253 males). The latter group comprises Caucasian, Asian and Other ethnicities, such as Maori or African. Cases of suicide with unknown ethnicity were also excluded (546 cases or 7.1% of the sample).

2.2. Statistical analysis

Comparisons of prevalence of contacts with mental health services between Indigenous and non-Indigenous suicide cases were performed by calculating odds ratios, with and without adjustment for diagnosis of mental illness.

Logistic regression models were used to estimate the independent contribution of characteristics predicting contact with mental health services before death. Variables entered into main effects regression analysis were those identified as significant in bivariate analyses (χ^2 ; results not included in the article) and included remoteness (metropolitan/regional or remote area of living, as defined in the Australian Standard Geographical Classification), marital status (married/de facto relationship or any other marital status), treatment for physical illness in the last 3 months (yes or no/unknown), communication of suicide intent in last 12 months (yes or no/unknown), suicide attempt in last 12 months (yes or no/unknown) and problematic consumptions of alcohol (yes or no/unknown). Models were adjusted for age, gender and diagnosis of mental disorder, and run separately for Indigenous and non-Indigenous suicides. All statistical analyses were performed using SPSS, Version 17.

3. Results

On average, 43.3% of non-Indigenous suicide cases were in contact with health professionals for mental health problems during their lifetime (Table 1). This was 2.5 times higher than in Indigenous cases (3.5 times for females and 2.2 times for males), with this difference being more pronounced in females than males (3.5 and 2.2 times, respectively). An even larger discrepancy between the two groups was observed in frequency of contacts in the 3 months before death, as only 9.8% of

Indigenous persons had such contacts compared to 25.8% of non-Indigenous persons. Non-Indigenous females had 6.6 times greater odds of being in recent contacts with these services before suicide than their Indigenous counterparts, while in males, this difference was 2.6-fold.

- *Please, insert Table 1 about here* –

Significant gender differences were observed among non-Indigenous cases, where females were significantly more likely to have received help from mental health professionals than males during their lifetime [odds ratio (OR)=2.41, 95% confidence interval (CI) 2.14–2.72] and in the last 3 months (OR=1.96, 95% CI 1.73–2.23). In Indigenous cases, gender differences were not statistically significant, even though results also showed more frequent service utilization among females.

Among Indigenous suicide cases, 20.4% had a diagnosis of a mental disorder (as reported by their informants), with this percentage almost twice higher in the non-Indigenous group (41.3%). The most common diagnoses recorded were unipolar depression (28.7% of non-Indigenous and 7.4% of Indigenous cases), psychotic disorders (5.7% of non-Indigenous and 5.9% of Indigenous cases) and substance use disorder (3.1% of non-Indigenous and 5.1% of Indigenous cases). When the frequency of contacts with mental health service providers was adjusted for the prevalence of diagnosed mental disorders, the differences between the two ethnicity groups became statistically nonsignificant in the likelihood of ever receiving treatment for mental health problems (Table 1). However, differences between the two groups remained significant for utilization of services in the last 3 months prior to death for persons (1.8 times higher odds among non-Indigenous) and for females (four times higher odds among non-Indigenous), but not for males.

- *Please, insert Table 2 about here* –

Analysis of the types of mental health services contacted was conducted on a subsample of suicide cases identified as ever receiving treatment for a mental health problem (112 or 23.8% of Indigenous and 2883 or 43.3% of non-Indigenous suicide cases). As seen in Table 2, the most frequent source of mental health care for Indigenous suicide cases was hospitalization in a psychiatric ward (i.e., inpatient care), which was reported significantly more often than in non-Indigenous cases (44.6% vs. 30.1%, respectively). In contrast, non-Indigenous suicide cases were more likely than Indigenous cases to have received treatment for mental health problems from a general practitioner (GP) (54.8% vs. 33%, respectively). Interestingly, similar proportions of Indigenous and non-Indigenous

cases received treatment as outpatients in a mental health facility (on average about 34%) or from other services, such as support groups or telephone help lines (about 22%).

- Please, insert Table 3 about here -

-

Multivariate analyses were undertaken to examine factors predicting contacts with mental health services in the last 3 months before death (Table 3). After adjustment for age, gender and diagnosis of mental illness, several independent predictors were identified. Having attempted suicide in the year prior was an independent predictor of contacts with services in Indigenous (OR=5.10, 95% CI 1.81–14.40) and non-Indigenous suicides (OR=1.43; 95% CI 1.19–1.71). Additional factors that increased the likelihood of recent utilization of mental health services in the Indigenous group were not being in a relationship at the time of death (OR=4.55, 95% CI 1.28–16.67) and living in a metropolitan area (OR=2.78, 95% CI 1.01–7.69). Among non-Indigenous cases, communication of suicide intent in the year prior to death (OR=1.50, 95% CI 1.27–1.76), recent contacts with health services for physical illness (OR=1.42, 95% CI 1.19–1.70) and problematic consumption of alcohol (OR=1.43, 95% CI 1.17–1.74) increased the odds of contacts with health professionals for mental health-related problems in the last 3 months.

4. Discussion

4.1. Prevalence of contacts with health services for mental illness

The findings of this study align with international evidence reporting poor health service utilization among ethnic and racial minorities [23,24], in particular with regards to specialized mental health care [25]. In our study, non-Indigenous suicide cases were about twice as likely to see a mental health professional in their lifetime or in the last 3 months before death as their Indigenous counterparts. After controlling for presence of mental illness, only contacts in the last 3 months significantly differed between the two groups. The greatest difference between the two ethnicity groups was observed when looking at females' recent contacts, with non-Indigenous females receiving help for mental health problems almost seven times more often than Indigenous females. The lower frequency of contacts with mental health services in males experiencing mental distress, compared to females, is consistent with previous studies conducted on general populations [26], suicide attempters [5] and completed suicides [6], and has commonly been attributed to 'traditional masculine roles' [27,28]. However, our study found no gender differences in help-seeking patterns

in the Indigenous suicide cases, which might be due to varying patterns of help-seeking behaviors in males and females across different cultural and ethnic contexts [29].

4.2. Sources of help

In our study, the two groups received help for mental ill health from different sources: Indigenous persons most frequently through in-patient psychiatric care, while for non-Indigenous people, the most common source of help was the GP. The latter observation is a likely outcome of psychiatric de-institutionalization which has in recent decades led to greater use of primary healthcare services [30], making GPs the first contact for all health problems, including mental-health-related issues [31]. However, available studies have not differentiated between different ethnic groups, and considering the proportionally low percentage that Indigenous people represent within the whole population, we can assume that such patterns of help-seeking predominantly apply to dominant societies. An Australian national survey found that, in 2008/2009, Indigenous people were almost twice as likely to be hospitalized for mental and behavioral disorders, most commonly substance use and psychotic disorders, as other Australians [32]. In addition, Westerman [18] has shown that many Indigenous people are likely to engage with mental health services only after their mental illness has progressed to more severe or chronic levels, prompting more specialized treatment.

A somewhat surprising result was that a similar proportion of Indigenous and non-Indigenous persons received help from outpatient mental health services or other sources of help, such as support groups or telephone crisis centers. Australian national data on mental health services provided to patients in community-based and hospital-based ambulatory care settings show that, in 2007/2008, the rate of Indigenous persons receiving help through these avenues was significantly higher than that for non-Indigenous [32]. Discrepancy between these reports and the results of our study might be due to the fact that our data were obtained on suicide cases, which represent a specific segment of the general population with unique help-seeking patterns. It is also possible that the data gathered in the QSR relied on different definitions of what constitutes an outpatient service, particularly in rural and regional areas of Australia and in Indigenous communities. In regards to seeking help from other/alternative sources, it should be noted that police/coronial investigations are unlikely to correctly record some sources of help present in many Aboriginal and Torres Strait Islander communities, such as traditional healers or other spiritual counselors [33,34]. Similarly, it was not possible to gauge the support Indigenous people may have gained from other informal sources of help, such as members of their community. Close-knit and collective networks

are well-recognized characteristics of Indigenous communities [35], which may to a certain extent alleviate suicide risk arising from frequent internal and external stressors and the lack of professional health services.

4.3. Factors associated with contacts with health services

Indigenous persons living in metropolitan areas had about three times greater odds to have received help than residents of regional or remote areas. This is likely to be a result of scarcity of treatment resources in remote areas, as it has been estimated that 80% of Indigenous people living in rural areas in Australia do not have mental health services located within 25 km of their dwelling and only 35% have access to a permanent doctor [36].

We also found that the nonmarried Indigenous suicide cases were significantly more likely to utilize mental health service than their counterparts that were in a relationship at the time of death. Some past studies have demonstrated that unmarried persons may more readily seek professional help for mental ill health because they lack informal support married individuals receive from their partners [37,38]. However, these studies were conducted on community samples rather than postmortem evaluations of suicide deaths and failed to account for possible differences between ethnicity groups.

Alcohol abuse warranted more contacts with mental health professionals before death among non-Indigenous cases than in the Indigenous group. This is a particularly disconcerting finding of our study considering the wide- spread consumption of alcohol in Indigenous communities [16] and the fact that alcohol is a known catalysts for suicidal acts, estimated to be implicated in up to 77% of Indigenous suicide deaths [39]. Suicide prevention pro- grams need to intensively target and encourage help-seeking of Indigenous persons recognized to consume excessive quantities of alcohol.

Past communication of intent to suicide increased the odds of having seen a health professional before death, but only in the non-Indigenous group. While not all people that die by suicide communicate their plans of doing so prior to the act [40], verbal or written communications of suicide intent offer a valuable opportunity for early interventions in such a high-risk population and should invariably prompt timely referrals to appropriate health services. Among Indigenous

Australians, this might be of even greater significance following suggestions that Indigenous suicides are often more impulsive and have fewer warning signs [21,41,42].

In our study, having attempted suicide in the last 12 months significantly increased the odds of utilizations of mental health services among both Indigenous and non-Indigenous cases. A closer examination of these data showed that while comparable percentages of Indigenous and non-Indigenous suicide cases attempted suicide in the year prior to death, among those, 24.7% of Indigenous and 47.1% of non-Indigenous persons had contacts with health professionals in the 3 months before death. Given that past suicide attempt is the most powerful predictor of completed suicide [43], intensified aftercare management would be required for a much larger number of Indigenous persons following their suicide attempt.

Lastly, being in contact with health services for physical illnesses in the last 3 months also meant an increased likelihood of receiving help for mental-health-related problems, though only in the non-Indigenous group. Since it has been shown that a greater portion of individuals who die of suicide have contacts with primary care providers than with mental health specialists [6], help-seeking behaviors for mental health problems through contacts with GPs should also be vigorously promoted among Indigenous populations. However, this can be achieved only through the adequate involvement of Indigenous mental health workers in the management of Indigenous people experiencing mental distress in a culturally safe atmosphere [19,44], while at the same time strengthening the non-Indigenous clinicians' knowledge of culturally specific manifestations of mental distress by Indigenous people [45].

4.4. Limitations

Globally, determining the nature of specific mental disorders and their prevalence in Indigenous Australians is problematic due to methodological difficulties regarding their etiology and epidemiology [13]. In our study, this problem may have been further exacerbated by the fact that the reliability of analyzed data relied heavily on the comprehensiveness of information collected by investigation police officers and the strength of the relationship between the deceased and the informants, as well as their willingness to disclose such information. As such, this study carries the risk of an under evaluation of all health-related risk factors, including a history of received professional help for mental health issues. At the present time, it is not possible to gauge whether this has affected Indigenous and non-Indigenous subjects in different ways and how these issues

impacted on the validity of the utilized data source (QSR) for investigations of these phenomena in two such distinct populations. The authors recognize this as the central limitation of the presented study, highlighting the need for future improvement in current police investigations of the specific culturally relevant factors associated with suicide deaths by Indigenous.

Secondly, we recognize that any investigation of suicide and mental health in Indigenous Australians is incomplete without the acknowledgement of the detrimental effects the history of oppression has had on their communal sense of trauma and grief and how that links to their suicidality [46]. Our study could not incorporate these aspects into its methodological design as it relied on data contained in mainly coronial-based register. Thirdly, the sample of non- Indigenous cases included a rather heterogeneous spectrum of ethnicities, which may differ significantly in help-seeking patterns for mental-health-related problems [47]. The considerable number of cases with “unknown” ethnicity eliminated from analysis might have also had an impact on the magnitude of measured differences between the two samples. Lastly, the time period included in the study has seen a trend of psychiatric de-institutionalizations and substantial changes in utilization of health services for mental health problems [48]. Future analysis of temporal trends of service use by Australians that die by suicide would therefore be of great interest.

5. Conclusions

To date, there are still many uncertainties about the role mental health plays in the development of suicidal behaviors in Indigenous people [42], suggesting that there may be phenomenologically distinct links between these phenomena in Aboriginal and Torres Strait Islander populations. Following this argument, prevention of suicides in Indigenous people might not be best approached through Western-based biomedical models that commonly focus on treating people with mental illnesses without taking into account their community-level experiences of hopelessness, cultural disconnectedness and grief [21,41]. Nevertheless, improvement in the accessibility of culturally relevant health services represents a crucial stepping stone towards timely identification and provision of adequate treatment for Indigenous persons at risk for suicide. The results of our study identified some unique characteristics of help- seeking behaviors among members of different ethnicity groups that die of suicide and, as such, provide various opportunities for implementation of evidence-based suicide prevention programs.

References

- [1] Bertolote JM, Fleischmann A, De Leo D, Wasserman D. Psychiatric diagnoses and suicide: revisiting the evidence. *Crisis* 2004;25:147–55.
- [2] Harris EC, Barraclough B. Suicide as an outcome for mental disorders. A meta-analysis. *Br J Psychiatry* 1997;170:205–28.
- [3] Mann JJ, Apter A, Bertolote J, Beautrais A, Currier D, Haas A, et al. Suicide prevention strategies: a systematic review. *JAMA* 2005; 294:2064–74.
- [4] Henderson S, Andrews G, Hall W. Australia's mental health: an overview of the general population survey. *Aust N Z J Psychiatry* 2000;34:197–205.
- [5] Milner A, De Leo D. Who seeks treatment where? Suicidal behaviours and health care: evidence from a community survey. *J Nerv Ment Dis* 2010;198:412–9.
- [6] Luoma JB, Martin CE, Pearson JL. Contact with mental health and primary care providers before suicide: a review of the evidence. *Am J Psychiatry* 2002;159:909–16.
- [7] Wang PS, Berglund P, Olfson M, Pincus HA, Wells KB, Kessler RC. Failure and delay in initial treatment contact after first onset of mental disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry* 2005;6:603–13.
- [8] Golberstein E, Eisenberg D, Gollust SE. Perceived stigma and mental health care seeking. *Psychiatr Serv* 2008;59:392–9.
- [9] Saxena S, Thornicroft G, Knapp M, Whiteford H. Resources for mental health: scarcity, inequity, and inefficiency. *Lancet* 2007;370:878–89.
- [10] Atdjian S, Vega WA. Disparities in mental health treatment in U.S. racial and ethnic minority groups: implications for psychiatrists. *Psychiatr Serv* 2005;56:1600–2.
- [11] Australian Bureau of Statistics. Population characteristics, Aboriginal and Torres Strait Islander Australians, 2006. Cat. no. 4713.0. Canberra: ABS; 2008.
- [12] Cox L. Queensland Aborigines, multiple realities and the social sources of suffering. Part 2: suicide, spirits and symbolism. *Oceania* 2010;80:241–62.
- [13] Hunter E, Milroy H. Aboriginal and Torres Strait Islander suicide in context. *Arch Suicide Res* 2006;10:141–57.
- [14] Pink B, Allbon P. The health and welfare of Aboriginal and Torres Strait Islander peoples 2008. Cat. no. 4704.0. Canberra: ABS; 2008.
- [15] De Leo D, Svetlicic J, Milner A. Suicide in Indigenous people in Queensland, Australia: trends and methods, 1994–2007. *Aust N Z J Psychiatry* 2011;45:532–8.
- [16] Trewin D. National Aboriginal and Torres Strait Islander Health Survey, 2004–05. Cat. no. 4715.0. Canberra: ABS; 2006.

- [17] Isaacs AN, Pyett P, Oakley-Browne MA, Gruis H, Waples-Crowe P. Barriers and facilitators to the utilization of adult mental health services by Australia's Indigenous people: seeking a way forward. *Int J Ment Health Nurs* 2010;19:75–82.
- [18] Westerman T. Engagement of Indigenous clients in mental health services: what role do cultural differences play? *AeJAMH* 2004. Available from http://www.ausinet.com/journal/vol3iss3/westerman_editorial.pdf. Accessed 10 December 2010.
- [19] Parker R. Australia's Aboriginal population and mental health. *J Nerv Ment Dis* 2010;198:3–7.
- [20] Vicary DA, Westerman TG. That's just the way he is: some implications of aboriginal mental health beliefs. *AeJAMH*. 2004. Available from: <http://www.auseinet.com/journal/vol3iss3/vicarywesterman>.
- [21] Tatz C. *Aboriginal suicide is different*. Canberra: Aboriginal Studies Press; 2004.
- [22] De Leo D, Klieve H, Milner A. *Suicide in Queensland 2002–2004: mortality rates and related data*. Brisbane: Australian Institute for Suicide Research and Prevention, Griffith University; 2006.
- [23] Fiscella K, Franks P, Doescher MP, Saver BG. Disparities in health care by race, ethnicity, and language among the insured: findings from a national sample. *Med Care* 2002;40:52–9.
- [24] Haas JS, Phillips KA, Sonneborn D, McCulloch CE, Baker LC, Kaplan CP, et al. Variation in access to healthcare for different racial/ethnic groups by the racial/ethnic composition of an individual's county of residence. *Med Care* 2004;42:707–14.
- [25] Bhui K, Stansfeld S, Hull S, Priebe S, Mole F, Feder G. Ethnic variations in pathways to and use of specialist mental health services in the UK. *Br J Psychiatry* 2003;182:105–16.
- [26] Quan H, Fong A, De Coster C, Wang J, Musto R, Noseworthy TW, et al. Variation in health services utilization among ethnic populations. *CMAJ* 2006;174:787–91.
- [27] Addis ME, Mahalik JR. Men, masculinity, and the contexts of help seeking. *Am Psychol* 2003;58:5–14.
- [28] O'Brien R, Hunt K, Hart G. 'It's caveman stuff, but that is to a certain extent how guys still operate': men's accounts of masculinity and help seeking. *Soc Sci Med* 2005;61:503–16.
- [29] Galdas PM, Cheater F, Marshall P. Men and health helpseeking behaviour: literature review. *J Adv Nurs* 2005;49:616–23.
- [30] Doessel DP, Scheurer RW, Chant DC, Whiteford HA. Australia's national mental health strategy and deinstitutionalization: some empirical results. *Aust N Z J Psychiatry* 2005;39:989–94.
- [31] Verhaak PFM, Bensing JM, Brink-Muinen A. GP mental health care in 10 European countries: patients' demands and GPs' responses. *Eur J Psychiatry* 2007;21:7–16.
- [32] Australian Institute for Health and Welfare. *Mental health services in Australia 2007–2008*. Cat No HSE 88. Canberra: AIHW; 2010.

- [33] Brown R. Australian Indigenous mental health. *Aust N Z J Ment Health* 2001;10:33–41.
- [34] Tse S, Lloyd C, Petchkovsky L, Manaia W. Exploration of Australian and New Zealand indigenous people's spirituality and mental health. *Aust Occup Ther J* 2005;52:181–7.
- [35] Farrelly T. The Aboriginal suicide and self-harm help-seeking quandary. *Aborig Isl Health Work J* 2008;32:115.
- [36] Sawyer MG, Kosky RJ, Greatz BW, Arney F, Zubrick SR, Baghurst P. The National Survey of the Mental Health and Wellbeing: the child and adolescent component. *Aust N Z J Psychiatry* 2000;34:214–20.
- [37] Leaf PJ, Brude ML, Tischler GL, Freeman DH, Weissman MM, Myers JK. Factors affecting the utilization of specialty and general medical mental health services. *Med Care* 1988;26:9–26.
- [38] Rabinowitz J, Gross R, Feldman D. Correlates of a perceived need for mental health assistance and differences between those who do and do not seek help. *Soc Psychiatry Psychiatr Epidemiol* 1999; 34:141–6.
- [39] Hanssens L. Indigenous dreaming: how suicide in the context of substance abuse has impacted on and shattered the dreams and reality of Indigenous communities in Northern Territory, Australia. *Aborig Isl Health Work J* 2007;31:26–34.
- [40] Isometsä ET, Heikkinen ME, Marttunen MJ, Henriksson MM, Aro HM, Lonnqvist JK. The last appointment before suicide: is suicide intent communicated? *Am J Psychiatry* 1995;152:919–22.
- [41] Hunter E, Reser J, Baird M, Reser P. An analysis of suicide in Indigenous communities of North Queensland: the historical, cultural and symbolic landscape. Canberra: Commonwealth Government Department of Health and Aged Care; 2001.
- [42] Reser JP. Aboriginal mental health: conflicting cultural perspectives. In: Reid J, & Trompf P, editors. *The health of Aboriginal Australia*. Marrickville. Australia: Harcourt Brace & Company; 1991, pp. 218–91.
- [43] Suominen K, Isometsä E, Suokas J, Haukka J, Achte K, Lönnqvist J. Completed suicide after a suicide attempt: a 37-year follow-up study. *Am J Psychiatry* 2004;161:562–3.
- [44] Harris A, Robinson G. The Aboriginal Mental Health Worker Program: the challenge of supporting Aboriginal involvement in mental health care in the remote community context. *AeJAMH* 2007;6:1–11.
- [45] Kosky RJ, Dundas P. Death by hanging: implications for prevention of an important method of youth suicide. *Aust N Z J Psychiatry* 2000;34:836–41.
- [46] Whiteford H, Buckingham B, Manderscheid R. Australia's national mental health strategy. *Br J Psychiatry* 2002;180:210–5.

[47] Swan P, Raphael B. Ways forward: National Aboriginal and Torres Strait Islander Mental Health Policy National Consultancy Report. Canberra: Commonwealth of Australia; 1995.

[48] Sheikh S, Furnham A. A cross-cultural study of mental health beliefs and attitudes towards seeking professional help. *Soc Psychiatry Psychiatr Epidemiol* 2000;35:326–34.

TABLES:

Table1: Contacts with mental health services – lifetime and in last three months, Indigenous and non-Indigenous suicide cases, Queensland, 1994-2207

Contact:	Indigenous % (N=471)	Non-Indigenous % (N=6,655)	OR (95% CI)	OR (95% CI) adjusted †
Lifetime				
Males	22.3	38.9	2.21 (1.72-2.83)**	0.69 (0.40-1.20)
Females	30.2	60.0	3.46 (2.16-5.55)**	1.29 (0.47-3.51)
Persons	23.8	43.3	2.45 (1.97-3.05)**	0.80 (0.49-1.30)
Last three months				
Males	10.1	22.9	2.63 (1.88-3.69)**	1.44 (0.93-2.30)
Females	8.1	36.8	6.57 (3.01-14.35)**	3.99 (1.68-9.45)*
Persons	9.8	25.8	3.21 (2.36-4.38)**	1.82 (1.24-2.67)*

Note: † model adjusted for a diagnosis of mental illness. *p<0.05, ** p <0.01

Table 2: Sources of help for mental health problems, Indigenous and non-Indigenous suicide cases, Queensland, 1994-2007

Source of help	Indigenous % (N=112)	Non-Indigenous % (N=2,883)	OR (95% CI)
General practitioner	33.0	54.8	2.45 (1.64-3.67)*
Outpatient	33.0	34.8	1.08 (0.72-1.61)
Inpatient	44.6	30.1	0.53 (0.36-0.78)*
Other sources of help	23.2	21.4	0.90 (0.57-1.46)

Note: *p<0.001

Table 3: Multivariate analysis predicting lifetime contact with mental health services, Indigenous and non-Indigenous suicide cases, Queensland 1994-2007

		Indigenous (N=471)				Non-Indigenous (N=6,655)			
		Contact (%)	OR	95 % CI		Contact (%)	OR	95% CI	
				Low	High			Low	High
Remoteness	Metropolitan	20.6	2.78*	1.01	7.69	26.5	1.01	0.86	1.19
	Regional/Remote	8.2				25.5			
Marital status	Married/De-facto	3.9	0.22*	0.06	0.78	26.6	0.95	0.80	1.12
	Other statuses	13.9				27.5			
Recent treatment for physical illness	Yes	15.1	1.54	0.47	5.04	33.1	1.42***	1.19	1.70
	No/Unknown	8.8				23.3			
Communicated suicidal intent	Yes	14.2	0.85	0.33	2.19	36.4	1.50***	1.27	1.76
	No/Unknown	6.8				19.4			
Suicide attempt	Yes	24.7	5.10**	1.81	14.40	47.1	1.43***	1.19	1.71
	No/Unknown	6.9				20.7			
Problematic use of alcohol	Yes	9.7	0.71	0.29	1.73	29.2	1.43***	1.17	1.74
	No/Unknown	9.8				25.1			
		Hosmer and Lemeshow test: $\chi^2= 8.77$, $df=8$, $p=.361$. Nagelkerke R Square = 0.538				Hosmer and Lemeshow test: $\chi^2= 9.08$, $df=8$, $p=.336$. Nagelkerke R Square = 0.581.			

Note: Models have been adjusted for age, gender and diagnosed mental illness. * $p<0.05$, ** $p<0.01$, *** $p<0.001$