Research report

Lifetime risk of suicide ideation and attempts in an Australian community: Prevalence, suicidal process, and help-seeking behaviour

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Abstract

Background: The World Health Organisation SUicide PREvention-Multisite Intervention Study on Suicide (WHO/SUPREMISS) investigates suicidal behaviours in a number of nations. The feasibility of the different branches of the study was piloted in Queensland, Australia. This paper reports on the community survey component.

Method: Randomised telephone interviews (n=11,572) were conducted to determine the lifetime prevalence of suicidal ideation and attempts, and corresponding socio-demographic and cultural characteristics. A subsequent postal survey sent to consenting individuals reporting lifetime suicide ideation/attempt (n=1311) was meant to ascertain the possible development of that behaviour along a continuum, psychiatric and psychological factors, suicidal transmission, help-seeking, and service utilisation.

Results: Suicide ideation and attempts prevailed in individuals aged 25–44 years, and declined with increasing age. In most cases, suicidal experience/s did not develop over time with progressively increasing severity. Knowledge of someone else’s suicidal behaviour significantly increased the risk of similar acts. Almost half of the subjects contended with their suicidal crisis by over-drinking alcohol, and 1/3 through other forms of reckless behaviour. The ratio completed/attempted suicide was 1 to 23. Less than 30% of subjects went to the hospital after their suicidal behaviour, and treatment received and staff attitudes were rated less favourably than that of General Practitioners.

Conclusions: This survey provides a reliable picture of suicide ideation and behaviour in the general population. Information on the development of suicidal process, recklessness, and help-seeking attitudes may be valuable for future prevention strategies.

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Keywords: Suicidal ideation; Suicide attempts; Prevalence; Community; Help-seeking; Health services; Australia

1. Introduction

Many individuals who become suicidal and/or attempt suicide never come into contact with health facilities (CDC, 1991; Diekstra et al., 1978; Kjoller...
and Helweg-Larsen, 2000; Sayer et al., 1996; Schweitzer et al., 1995). One possible way of knowing about their existence/characteristics is through community surveys, which may provide a realistic profile of suicidal behaviour within the broader population.

Paykel and colleagues conducted the first of these surveys in 1969 (Paykel et al., 1974). Since then, the majority of surveys have been conducted predominantly among adolescent populations (e.g. Andrews and Lewinsohn, 1992; CDC, 1991; De Leo and Heller, 2004; Goldney et al., 2000; Kessler et al., 1999; Rodham et al., 2004). In addition, previous community investigations have differed substantially in terms of the definitions, measures, and sampling techniques employed (Burless and De Leo, 2001). Consequently, it has not been possible to determine whether differences in the obtained results reflect actual diversity in the magnitude and characteristics of suicidal behaviour, or are brought about through methodological heterogeneity.

The community survey here presented constituted part of the feasibility study of the WHO/SUPREMISS, a project currently being conducted in 10 nations (WHO, 2000). In this study we examined:

1. The lifetime prevalence of suicidal ideation and behaviour in an Australian community;
2. Differences in socio-demographic characteristics and suicidal behaviour between responders and non-responders to a postal survey;
3. How frequently suicidal ideation/behaviour develops as a sequence of events of progressively ascending severity and factors associated with it;
4. The relationship between one’s own and others’ suicidal behaviour;
5. Factors associated with recurrent suicidal ideation and behaviour;
6. Reckless behaviour as a way of coping with a suicidal crisis;
7. Motives for suicide attempt;
8. Mental status at the time of the suicide attempt;
9. Help-seeking behaviour, service utilisation, and satisfaction with treatment;
10. Characteristics of those participants who did not present to the emergency department following a suicide attempt;
11. Compliance to prescribed medication.

2. Methods

2.1. Sample and catchment areas

The sample comprised 11,572 subjects who consented to participate in a telephone survey (response rate: 68.0%). There were 5460 males and 6110 females (2 cases with unspecified gender). The sample was drawn from the population of people aged 18 and over resident in the Brisbane and Gold Coast metropolitan areas. At the time of the study (2000–2002), the catchment area had an estimated resident population of 2,020,570 inhabitants (approximately 1,528,000 aged 18 years and over) and contained approximately 739,000 households (ABS, 2001). As identified by the latest census (ABS, 2001), the catchment areas had a median age of 35 years, an average household size of 2.5 persons, an unemployment rate of 8.3%, and an overseas-born population of 21.5%. These characteristics may be considered representative of Australia.

2.2. Instruments and procedures

The study involved two main phases, a telephone interview and a postal survey.

The telephone interview was conducted using a computer aided telephone interview (CATI) system, allowing for data to be recorded directly into a database. Two sets of (gender-stratified) telephone numbers were randomly selected from an electronic version of the directories for the Brisbane and Gold Coast Districts. The first list contained 15,980 numbers and the second 21,796. One usual resident aged 18 years or older was requested to identify other people aged 18 years or older living in the household. The individual whose birth date was closest at the time of contact was then selected for the survey, and informed consent obtained. Disconnected or business numbers and no answer (after 5 attempts) were the mean reasons to bring the finalised numbers of completed telephone interviews to 5144 in Brisbane and 6428 at the Gold Coast (a detailed report on the CATI selection process can be provided on request).

The telephone interview allowed the recruitment of individuals with a previous history of suicidality (suicide ideation and/or attempt) for participation in the postal survey, and in the meantime provided an
estimate of the prevalence of these phenomena in the general community.

The assessment of previous suicidal behaviour was conducted through De Leo et al.’s (2004) modification of WHO/EURO’s (1986) definition of parasuicide. Although this last does not discriminate behaviours (attempts) on the basis of the intention to die, it has worked well in the context of the WHO/EURO study (Kerkhof et al., 1994).

Two versions of the postal survey were used, one of which was longer and asked the participants to provide more detailed information about their suicidal behaviour than the other. As expected, the response rate to this version was remarkably lower than that to the shorter one: 57.8% vs. 81.4%. Demographic information and mental health status were included, as well as matter regarding general health and well-being (WHO, 1996). Items pertaining to lifetime history of suicidality (i.e. ideation, plans and acts) were adapted from Paykel et al. (1974). For participants with previous suicidal behaviour, lethality of method used and nature of the intent were examined using predetermined items (Kessler et al., 1999). Motivations for, as well as circumstances preceding suicide attempt, were examined by questions devised from the WHO/EURO EPSIS Interview (Kerkhof et al., 1993). Impulsivity was investigated through Plutchik et al.’s scale (1989). Perceived lethality of the method used, as well as premeditation/impulsivity of the act was also determined. In addition, participants were requested to state whether their suicidal feelings fluctuated across time or, rather, progressively increased in severity. Respondents were also investigated in relation to having personally known somebody who had attempted or completed suicide and the extent to which this affected them. Utilisation of medical/health services, satisfaction with them, and compliance with prescribed treatment completed the questionnaire.

A postage-paid envelope was provided. Participants who had not returned the postal survey within 4 weeks were sent a reminder letter and a second questionnaire.

2.3. Ethical issues

Confidentiality and anonymity of data were maintained, and identification numbers allocated to each participant.

The study was advertised in the local media. Telephone interviewers were professionally trained and the interview was conducted using standardised instructions. On-call psychiatrists were available throughout the entire duration of the investigation. Participants were informed of available help-lines and support services.

2.4. Data analyses

The prevalence of suicidal behaviour was adjusted for sample non-representativeness using direct standardisation method (Gordis, 1996). When appropriate, descriptive statistics, cross-tabulations, chi-square, t tests for proportions and continuous variables, bivariate correlations, analysis of variance, and binary logistic regressions were applied. A probability level of .05 was employed for all statistical tests unless otherwise noted.

To account for missing values obtained in the postal survey, a sensitivity analysis was conducted. This method produced non-significant changes, and the original data were retained for analysis.

3. Results

3.1. Prevalence of suicide ideation/attempt (telephone survey)

Lifetime prevalence of suicide ideation/attempt decreased as its severity increased, as shown in Table 1. Fewer males than females had negative thoughts about life, seriously considered suicide, and ever presented suicide attempts ($p < .001$).

Approximately 0.4% of participants attempted suicide within the past 12 months, with no significant gender differences. In contrast, individuals aged 18–39 were more likely to report suicide attempts in the past year than older individuals (OR=2.3; 95% CI 2.0–2.6; $p = .029$).

3.2. Differences between responders and non-responders (telephone and postal surveys)

The dual modalities utilised in this study provided a unique opportunity for collecting data on participants who did not respond to the postal surveys.
Three hundred and thirty-three participants completed the more detailed survey, while 978 completed the standard survey. The sample of non-responders included a significantly greater number of males (OR=1.5; 95% CI 1.2–1.9; \( p = .002 \)), and younger people (< 35 years old) (OR=1.6; 95% CI 1.3–1.9; \( p < .001 \)). Importantly, more non-responders than responders reported previous suicide attempts (OR=1.3; 95% CI 1.1–1.6; \( p = .004 \)).

Knowing the rates of suicide for the areas under investigation, and averaging them for the years 2000–2001 to 17/100,000 (ABS, 2002), it was possible to provide a reliable estimate of the ratio fatal/non-fatal suicidal behaviour, which resulted around 1 to 23.

3.3. Does suicidal behaviour develop along a continuum of progressively ascending severity? (extended postal survey)

The longer version of the postal survey (\( n = 333 \)) featured a visual image depicting two possible scenarios detailing the development of suicidal thoughts and behaviours over time. Only 20.0% (\( n = 67 \)) of suicide planners and attempters reported that the development of their suicidal process progressively increased in severity over an extended time period. In contrast, 57.1% (\( n = 190 \)) of participants declared that their suicidal process was not continuous, but fluctuated irregularly before they attempted suicide or were close to attempting suicide. No significant predictors of the respondents’ declarations (continuous vs. fluctuating) were found. Only 0.8% (i.e., 3 respondents) of suicide attempters reported no previous suicidal ideation or plan.

Data from the same postal survey showed that only 53.1% of participants presented all levels of suicidal ideation preceding the highest experienced in severity. To determine the factors that differentiated subjects who did and did not experience all levels of suicidal ideation, a logistic regression model was tested. Gender, age at the time of the most recent episode of suicidal behaviour, impulsiveness of the act, and (self-reported) presence of mental problems (depression, anxiety, schizophrenia, personality disorder, and substance abuse) were entered as predictors. Results showed that individuals who had a diagnosis of depression prior to their suicidal behaviour (OR=3.0; 95% CI 2.6–3.5; \( p < .001 \)), and reported that their act was not an impulsive one (OR=2.2; 95% CI 1.6–2.9; \( p = .026 \)), were five times more likely to have experienced all the hypothetical stages of the suicidal process than their counterparts.

3.4. Relationship between somebody else’s and one’s own suicidal behaviour (telephone and postal surveys)

Data from the telephone survey (\( n = 11,572 \)) showed that, when controlling for sex and age, personally knowing somebody who completed or

### Table 1

<table>
<thead>
<tr>
<th></th>
<th>( n )</th>
<th>Life not worth living</th>
<th>Seriously considered suicide</th>
<th>Planned suicide</th>
<th>Attempted suicide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole sample</td>
<td>11,572</td>
<td>21.1 (20.8–21.4)</td>
<td>10.4 (10.2–10.6)</td>
<td>4.4 (3.8–4.9)</td>
<td>4.2 (4.1–4.3)</td>
</tr>
<tr>
<td>By gender(^a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>5460</td>
<td>18.1 (17.7–18.5)(^*)</td>
<td>9.4 (9.1–9.7)</td>
<td>4.2 (3.4–5.0)(^*)</td>
<td>3.3 (3.2–3.4)(^*)</td>
</tr>
<tr>
<td>Female</td>
<td>6110</td>
<td>23.1 (22.6–23.5)</td>
<td>11.5 (11.1–11.8)</td>
<td>4.5 (3.7–5.3)</td>
<td>5.0 (4.9–5.1)</td>
</tr>
<tr>
<td>By age(^b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18–24</td>
<td>1061</td>
<td>21.3 (20.3–22.3)(^*)</td>
<td>10.6 (9.7–11.5)(^*)</td>
<td>5.4 (4.9–5.9)(^*)</td>
<td>4.4 (4.1–4.7)(^*)</td>
</tr>
<tr>
<td>25–34</td>
<td>2113</td>
<td>22.8 (22.0–23.6)</td>
<td>12.7 (12.0–13.4)</td>
<td>6.1 (5.7–6.5)</td>
<td>5.4 (5.2–5.6)</td>
</tr>
<tr>
<td>35–44</td>
<td>2420</td>
<td>24.6 (23.8–25.4)</td>
<td>12.4 (11.8–12.0)</td>
<td>6.1 (5.8–6.4)</td>
<td>5.0 (4.8–5.2)</td>
</tr>
<tr>
<td>45–54</td>
<td>2148</td>
<td>23.7 (22.9–24.5)</td>
<td>11.5 (10.9–12.1)</td>
<td>5.5 (5.2–5.8)</td>
<td>4.4 (4.2–4.6)</td>
</tr>
<tr>
<td>55–64</td>
<td>1544</td>
<td>18.4 (17.6–19.2)</td>
<td>9.1 (8.5–9.7)</td>
<td>5.0 (4.6–5.4)</td>
<td>3.8 (3.6–4.0)</td>
</tr>
<tr>
<td>65–74</td>
<td>1237</td>
<td>15.9 (15.1–16.7)</td>
<td>6.1 (5.7–6.5)</td>
<td>2.4 (2.2–2.6)</td>
<td>2.3 (2.2–2.4)</td>
</tr>
<tr>
<td>75+</td>
<td>761</td>
<td>14.5 (13.6–15.4)</td>
<td>6.9 (6.3–7.5)</td>
<td>0.3 (0.3–0.3)</td>
<td>1.6 (1.5–1.7)</td>
</tr>
</tbody>
</table>

Missing: \(^a\) 2 cases; \(^b\) 288 cases.

\(^\ast\) Significant differences between genders and age groups (all \( p < .001 \)).
attempted suicide were associated with a higher likelihood of having experienced suicidal ideation (OR=1.7; 95% CI 1.5–1.9; \(p<.001\)) and suicide attempt (OR=2.7; 95% CI 2.0–3.6; \(p<.001\)). Data from the postal surveys (\(n=1311\)) showed that more suicide attempters than ideators reported having known someone who died by suicide (OR=1.2; 95% CI 1.0–1.5; \(p=.006\)), and having been very much affected by it (OR=1.3; 95% CI 1.1–1.6; \(p=.001\)). Similarly, those with suicidal behaviour knew someone who attempted suicide more frequently than suicide ideators (OR=1.6; 95% CI 1.3–2.0; \(p<.001\)). Only in one tenth of cases modelling of suicidal behaviour (fatal and non-fatal) was reported to be deriving from family members.

3.5. Correlates of recurrent suicidal ideation and behaviour (postal surveys)

Approximately 58% out of 502 suicide planners reported having made plans and arrangements for suicide more than once in the past. These were rated significantly higher on impulsivity (35.85, S.D.=6.09) than individuals who reported having only ever made plans once (30.45; S.D.=5.47) (\(F_{2,87}=7.07; p=.001\)). Approximately 42% of subjects with suicidal behaviour reported more than one suicide attempt during their lifetime. Repeaters were more likely to suffer from a mental illness (OR=2.6; 95% CI 1.5–4.5; \(p<.001\)), addiction (OR=2.7; 95% CI 1.5–4.7; \(p=.001\)), legal (OR=2.7; 95% CI 1.3–5.7; \(p=.007\)) and financial problems (OR=2.0; 95% CI 1.2–3.2; \(p=.010\)) as contributing factors to their suicidal behaviour. More repeaters than single-event subjects reported seeking the professional help (OR=3.5; 95% CI 1.7–7.2; \(p<.001\)), being prescribed medication, especially antidepressants (OR=2.0; 95% CI 1.3–3.2; \(p=.003\)), and being unconscious as a result of their suicidal act (OR=2.9; 95% CI 1.3–6.5; \(p=.006\)).

3.6. Reckless behaviour as a way of coping with a suicidal crisis (postal surveys)

Drinking alcohol was the most frequently cited reckless behaviour (Table 2). Gender differences were observed in the specific types of reckless behaviour engaged in.

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>%</th>
<th>Gender differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drink alcohol</td>
<td>39.9</td>
<td>0.7*</td>
</tr>
<tr>
<td>Misuse and overuse of drugs</td>
<td>15.1</td>
<td>0.4**</td>
</tr>
<tr>
<td>Behave recklessly (dangerous driving, unsafe sex, etc.)</td>
<td>19.7</td>
<td>0.5</td>
</tr>
<tr>
<td>Other</td>
<td>8.1</td>
<td>1.0</td>
</tr>
<tr>
<td>None</td>
<td>44.6</td>
<td>2.0**</td>
</tr>
</tbody>
</table>

Males=reference category. 215 males; 216 females.
* \(p<.05\).
** \(p<.01\).

3.7. Motives for suicidal behaviour (postal surveys)

40.7% of suicide planners and attempters indicated that a problem with their partner was a major factor in their suicidal behaviour, followed by financial difficulties (24.1%), problems with parents (22.8%), and troubles in making/maintaining social relationships (21.7%).

Males reported more frequently than females physical illness or disability (OR=2.2; 95% CI 1.3–3.8; \(p=.005\)), unemployment (OR=2.2; 95% CI 1.3–3.5; \(p=.003\)), addiction (OR=2.1; 95% CI 1.3–3.4; \(p=.003\)), and legal problems (OR=3.8; 95% CI 2.0–7.1; \(p<.001\)) as contributing factors. In contrast, females reported more often a history of sexual abuse (OR=2.1; 95% CI 1.2–3.6; \(p=.010\)).

3.8. Mental status at the time of the suicide attempt (postal surveys)

Based on self-reported presence of a psychiatric diagnosis (from psychiatrists or GPs), at the time of their most recent suicide attempt (\(n=399\)), 46.1% of subjects were experiencing depression as principal diagnosis, 26.8% had been suffering from anxiety and panic attacks, 17.2% from alcohol or drug abuse, 3.3% from schizophrenia or psychosis and 3.3% from personality disorders. No mental problem was reported by 33% of subjects.

A majority of respondents (63%) stated they had never been a patient of any mental health service or professional, while 7.7% of participants had been a mental health inpatient, 8.3% an outpatient, 19.9% a
client of a private psychiatrist or psychologists, and 17.9% a client of a GP.

3.9. Help-seeking behaviour and experience with health services (postal surveys)

3.9.1. Suicide planners (n = 502)

The majority of these respondents did not seek formal help (52.5% vs. 36.7%). Of those who sought help, 11.1% initially phoned a help-line (LifeLine), 58.9% visited a GP, and 30.0% a counsellor or a psychiatrist. Further help was obtained from psychiatrists (35.6%), counsellors (22.2%), GPs (22.2%), help-lines (1.1%), or other sources (8.9%).

Of suicide planners who did not seek any help, 21.1% did not do so because they did not feel the need, 14.1% did not want to trouble others, 11.7% were not confident in the help available, 12.5% were concerned about what others would think, 9.4% did not know where to go, 6.3% were concerned about the costs, and 14.1% reported other reasons. More females than males were concerned about what others would think (OR = 3.1; 95% CI 1.6–2.1; \( p < .001 \)), whereas more males than females tended not to feel the need (OR = 2.9; 95% CI 1.8–4.9; \( p < .001 \)).

3.9.2. Suicide attempters (n = 399)

In all, 42.1% of suicide attempters sought formal help. 28.4% first received treatment at hospital, 19.2% visited a GP, 13.9% received counselling, and 4.8% used other sources of help. After the first contact, 39.4% of individuals did not receive any subsequent assistance, while 29.9% consulted a counsellor or psychiatrist, 18.2% visited a hospital, 6.6% went to a GP, and 5.8% used other sources. On average, help-seekers were significantly older (\( M = 31.3; \text{S.D.} = 11.3 \)) than subjects who did not seek professional help (\( M = 26.3; \text{S.D.} = 12.3 \)) \( t(194) = -2.79; p = .006 \).

3.9.3. Hospital treatment

Females were more likely than males to go to hospital following a suicidal act (OR = 1.6; 95% CI 1.0–2.4; \( p = .014 \)). The majority (81.0%) reported that the reason for attending hospital was based on someone thinking that their condition required it.

---

Table 3

<table>
<thead>
<tr>
<th>Subject of rating</th>
<th>Treatment</th>
<th>Very good</th>
<th>Good</th>
<th>Mixed</th>
<th>Poor</th>
<th>Very poor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hospital</td>
<td>161</td>
<td>24.2</td>
<td>21.1</td>
<td>33.5</td>
<td>11.8</td>
</tr>
<tr>
<td></td>
<td>GP</td>
<td>115</td>
<td>45.2</td>
<td>27.0</td>
<td>7.8</td>
<td>7.0</td>
</tr>
<tr>
<td></td>
<td>Counselling</td>
<td>159</td>
<td>35.3</td>
<td>11.8</td>
<td>29.4</td>
<td>5.9</td>
</tr>
</tbody>
</table>

Attitude

<table>
<thead>
<tr>
<th>Subject of rating</th>
<th>Treatment</th>
<th>Very good</th>
<th>Good</th>
<th>Mixed</th>
<th>Poor</th>
<th>Very poor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hospital</td>
<td>161</td>
<td>13.7</td>
<td>21.1</td>
<td>28.0</td>
<td>18.0</td>
</tr>
<tr>
<td></td>
<td>GP</td>
<td>115</td>
<td>47.0</td>
<td>25.2</td>
<td>8.7</td>
<td>8.7</td>
</tr>
<tr>
<td></td>
<td>Counselling</td>
<td>159</td>
<td>35.3</td>
<td>23.5</td>
<td>17.6</td>
<td>11.8</td>
</tr>
</tbody>
</table>

Some participants received multiple treatments.

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Table 4

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Wald test</th>
<th>Odds ratio</th>
<th>95% confidence interval for OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>0.83</td>
<td>8.78**</td>
<td>2.30</td>
<td>1.33</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Method used</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-violent</td>
<td>-0.59</td>
<td>6.33*</td>
<td>0.55</td>
<td>0.32</td>
</tr>
<tr>
<td>Violent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental illness—psychiatric symptoms</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absent</td>
<td>0.71</td>
<td>6.33*</td>
<td>2.03</td>
<td>1.17</td>
</tr>
<tr>
<td>Present</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suicidal intent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cry for help</td>
<td>0.09</td>
<td>23.83**</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Serious but knew that method was not foolproof</td>
<td>1.10</td>
<td>0.07</td>
<td>1.10</td>
<td>0.57</td>
</tr>
<tr>
<td>Serious attempt—did not die by chance</td>
<td>1.35</td>
<td>21.50**</td>
<td>3.89</td>
<td>2.19</td>
</tr>
<tr>
<td>(Constant)</td>
<td>-1.61</td>
<td>18.69**</td>
<td>0.20</td>
<td></td>
</tr>
</tbody>
</table>

* \( p < .05 \).
** \( p < .01 \).
while the minority (10.7%) went of their own accord. Most individuals did not go to hospital because their condition did not require treatment (59.8%). Other main reasons were the concern that hospital staff would not understand (6.1%), and the preoccupation with what others would think (13.1%).

General Practitioners received a better rating in regard to treatment provided and attitude than did hospital staff, and counsellors (Table 3).

3.10. Prediction of visits to hospital (postal surveys)

Presence of mental illness or psychiatric symptoms, lethality of suicide method, suicidal intent, and gender were examined as predictors of receiving treatment at hospital \[\chi^2(5)=40.63; p < .001; \text{Nagelkerke } R^2 = .164\] (Table 4). The statistical model predicted 42.3% of hospital goers and 82.3% of non-hospital goers, for an overall prediction success rate of 64.7%. Those who were female, had a high suicidal intent, a mental illness or psychiatric symptoms, and who had used a non-violent suicide method were more likely to attend hospital compared to their counterparts.

3.11. Compliance to prescribed medication (extended postal survey)

Of those who attempted suicide, 35.4% were prescribed some type of medication. The majority received a prescription from a psychiatrist (47.7%) or a GP (38.6%). The remainder (13.9%) were prescribed medications in hospital. Most of the individuals took all the medications as prescribed (72.3%), 19.1% took the medications in part, whereas 6.4% did not take the medication at all. Due to the small numbers involved, variables such as gender, employment status, and level of education could not be sensibly tested against compliance to treatment.

4. Discussion

The overall tendency for the lifetime prevalence of suicidality to decrease with the corresponding increase in severity of behaviour has been observed in former community surveys (Kessler et al., 1999; Kjoller and Helweg-Larsen, 2000; Moscicki et al., 1988; Paykel et al., 1974; Rancans et al., 2003; Schwab et al., 1972).

While restricted for ethical reasons to individuals aged 18 and over, this investigation has shown that all levels of suicidal ideation and behaviour prevail among subjects between the ages of 25 and 44 years, but decline in successively older age groups. Such marked age distinctions for suicidal behaviour have been observed also in other countries (Dickstra and Gulbinat, 1993; Kessler et al., 1999; Skoog et al., 1998; Wunderlich et al., 2001), in other regions of Australia (Jorm et al., 1995; Goldney et al., 2000), and in the medically treated suicide attempters from the WHO/EURO study (Schmidtke et al., 1996).

Whether suicidal behaviour may develop gradually, from death wishes to (eventually) completed suicide, has been investigated in only a limited number of other studies (Paykel et al., 1974; Sakinofsky, 2000; Scocco and De Leo, 2002). Based on the current findings, in the majority of cases the severity of suicidal tendencies fluctuated over time, and only rarely (20%) was the development of suicidal thoughts and behaviours reported to continuously and progressively increase. Depression increased up to three times the probability of experiencing all levels of suicidal ideation and attempted suicide. As shown, the fact that a remarkable number of individuals have experienced all previous levels of suicidal ideation does not imply that this happened in a progressive crescendo of severity. Thus, with the possible exception of a number of depressed subjects, the opportunity for suicide prevention strategies to intercept suicidal "careers" appears rather limited.

Having personally known somebody who completed suicide significantly increased the prevalence of suicidal behaviour, a finding also obtained in recent investigations (Crosby and Sacks, 2002; De Leo and Heller, 2004). This survey demonstrates that the personal knowledge of somebody who attempted suicide carries a similarly significant increase in suicide risk. It is arguable that facts relating to an individual’s suicide attempt (e.g. detail of how the method was used, injuries sustained, events that took place following the attempt) may be transmitted to others, who then can model behaviours and observe how the person was perceived and ‘talked about’ in the aftermath of his/her suicide attempt. From this experience it seems plausible to suggest that in clinical interviews...
more attention should be paid to this issue. In addition, since only one subject out of ten was influenced by previous suicidal behaviours in family members, the possible inheritance of the phenomenon appears as less important than modelling from external sources.

Particularly in males, reckless behaviour seems to be a common way of coping with a suicidal crisis. The inclination for males to drink alcohol and/or misuse drugs in dealing with serious suicide ideation constitutes a dramatic situation in itself. In fact, a reliance on substances to cope with problems may lead to the eventual development of substance-induced disorders, consequently increasing the risk of completed suicide (Murphy et al., 1992).

Psychiatric disorders are known to increase the likelihood of suicidal behaviour. This investigation confirms the frequency of depressive disorders in suicidal subjects. Impulsiveness should also deserve more clinical attention, both for its frequency (2/3 of subjects defined their act as impulsive), and for its strong association with reckless behaviour.

The present findings highlight the need for primary health providers to be well aware of non-clinical factors that may elevate the risk of suicidal behaviour, such as unemployment, legal problems and financial difficulties (De Leo et al., 2002). The importance of these factors is substantiated by the fact that the evidence derives from a community sample.

Presentation to a hospital in the aftermath of a suicidal act is significantly low, with less than 30% of subjects referring to it. Compared to females, males were 2.3 times less likely to attend hospital after a suicidal act. This may be due to a number of factors, including the lesser tendency for men to verbalise feelings of depression, hopelessness and suicidal ideation, and particularly the perception of help-seeking as an act of weakness (Murphy, 1998), and a declaration of incompetence (Tannen, 1990).

General Practitioners are more likely to be perceived positively than the staff and treatment provided in hospitals. Possibly, the hectic nature of emergency wards, coupled with the often-recurrent presentation of subjects with suicide attempts may render staff attitudes toward such patients quite insensitive, whereas on the other hand, the potential for GPs to offer greater time and attention in a one-on-one encounter may enhance the perception of the experience for the patient. Familiarity with own GP may also be an important factor.

A number of individuals may be inadequately treated. Low prescription levels of pharmacological medications, particularly by hospital physicians and GPs may, in part, reflect the difficulty encountered in determining the severity of suicidal intention experienced, and the possible role of underlying psychopathological factors. It has been suggested that some suicide attempts may be preventable if the problem of under-treatment (and under-diagnosis) can be overcome by psycho-education for health professionals and the public (Oquendo et al., 1999).

Interestingly, 72% of subjects who received a pharmacological treatment fully adhered to it. It is implicit that those not (entirely) compliant with the treatment regime may incur not only in poorer control of their clinical condition, but also have less probability of accessing additional and more specialised sources of help.

4.1. Limitations of the study

Due to the fact that data obtained in community surveys are collected retrospectively, their reliability may be affected by recall biases. Although surveys administered by mail are considered to be advantageous in that they may provide anonymity and the ability for respondents to provide frank responses, possible incomprehension of questions on the survey may reduce the reliability of the data obtained (e.g., see Burless and De Leo, 2001).

Another major methodological problem associated with community survey studies relates to response rates (e.g. Crosby et al., 1999; Goldney et al., 2000; Kjoller and Helweg-Larsen, 2000; Moscicki et al., 1988). A response rate of 68% obtained for the telephone survey was considered to be within the range of rates obtained in other telephone interview surveys concerning suicidal behaviour, namely 56.1% obtained by Crosby et al. (1999) and 74% obtained by Goldney et al. (2000). Of the total number of individuals who were mailed a postal survey, approximately 74% returned the questionnaire. This rate is substantially higher than that obtained in the only other mail survey that has been conducted on suicidal behaviour (64%) (Nederhof, 1985).
Moreover, it has been suggested that individuals who choose not to participate in such studies may in fact be those who demonstrate a greater severity of suicidal behaviour (Kessler et al., 1999). In fact, in this study, subjects who verbally expressed having previously experienced suicidal behaviour but choose not to answer questions of the postal survey were significantly more likely to have been male, younger, and to have history of suicidal behaviour in the past.

5. Conclusions

Inherent difficulty exists in obtaining information from individuals within the community who may be at greater risk of suicidal behaviour. As well as this, the fact that most subjects treated in the hospital do not intend to end their own life suggests that future investigations should particularly consider those suicidal acts that are deemed to be serious, as this is likely to reflect a higher risk of subsequent suicide completions. The propensity for only a small percentage of subjects to ever present to a hospital also suggests that studies based on hospital records of “suicide attempters” might provide a rather misleading picture of individuals at risk. In fact, the epidemiological profile of suicide victims (in terms of sex distribution, intent to die, choice of method) is closer to the one of those subjects not going to the hospital than vice versa.

Much needs to be done to counteract reckless behaviour in males and to promote a change in their help-seeking attitudes. Education and cultural shifts seem to be necessary to achieve some appreciable modifications, which require competences that may go beyond the mere public health domain. However, these goals are achievable. They necessarily imply a greater level of integration and multidisciplinary work than that provided within present prevention strategies. In addition, future anti-suicide initiatives should be tailored in a more age and gender specific way.

General practitioners are very favourably positioned to successfully deal with suicidal subjects. At least in Australia, their popularity among patients demands for their being better equipped in diagnosing and treating subjects at risk of suicidal behaviour. This could be particularly true with depressed patients, in whom the development of a suicidal process often contemplates stages of increasing severity, thus offering – at least theoretically – more opportunities for detection and intervention.

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