

# Suicide and attempted suicide in France: results of a general practice sentinel network, 1999–2001

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## SUMMARY

*The continuous surveillance of suicide and attempted suicide cases was added to the tasks of the French Sentinel Network of General Practitioners (GPs) in 1999. In 2001, 9700 suicides were estimated to have occurred and an estimated 61 500 attempted suicide cases were diagnosed by GPs, representing approximately 40% of cases nationwide. The majority of suicide and attempted suicide cases involved women (67%) and 43% of all cases involved patients aged 25–44 years. The fatality rate increased with age. About 80% of GPs complied with the current recommendation to refer patients who had attempted suicide to hospital.*

**Keywords:** family practice; sentinel surveillance; suicide; suicide, attempted.

## Introduction

FRANCE has a high suicide incidence rate (20.0 per 100 000 inhabitants in 1998), a value 2.2 times higher than that for the United Kingdom.<sup>1</sup> However, as in other countries, few data on the incidence or management of attempted suicide are available, especially in the primary care setting.<sup>2</sup> Continuous surveillance of suicide was therefore introduced through the French Sentinel Network of General Practitioners (GPs) in 1999.<sup>3</sup> This network, created in 1984, is made up of about 1200 unpaid volunteer GPs distributed throughout metropolitan France. About 500 of these GPs participate on a weekly basis in the surveillance of 12 health indicators. Every week, GPs report on the number of cases using an online system. Computerised alert routines, which check for missing or discordant data, include phone calls to the GPs concerned. A detailed description of the network can be found on the Sentinel Network website (<http://rhone.b3e.jussieu.fr/senti>).<sup>4</sup>

We defined suicide and attempted suicide as any fatal or non-fatal act in which an individual deliberately causes self-injury (for example, self-mutilation, poisoning, jumping from high places, hanging, gunshots, asphyxiation) or ingests a medicinal product in excess of the generally recognised therapeutic dose.

## Method

In cases of suicide or attempted suicide, physicians reported on the patient's age, sex, history of previous attempts, method used, vital outcome (whether the patient survived or died), hospital referral, and subsequent ambulatory follow-up. To obtain national incidence rates, we multiplied the mean number of cases per GP (standardised according to GP participation and geographical distribution) by the total number of GPs in France, and then divided the result by the French population. Calculation of the 95% confidence interval was based on the assumption that the number of reported cases follows Poisson's distribution. Fatality rate was calculated as the number of fatal suicides divided by the combined total of suicides and attempted suicides with known vital outcome. Statistical comparisons were performed using the  $\chi^2$  test.

## Results

### *Suicide and attempted suicide*

Between 1999 and 2001, 474 cases of suicide and attempted suicide were recorded (75 suicides, 328 attempted suicides, and 71 cases with unknown vital outcome). Cases with unknown vital outcome were either

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## HOW THIS FITS IN

*What do we know?*

Statistics on suicide acts are available through mortality death certificates in France. However, data on suicide attempts are lacking, especially in a primary care setting.

*What does this paper add?*

Data collected through the French Sentinel Network on suicide and attempted suicide cases provide information on incidences, patients' characteristics, and the management of suicide attempts.



hospitalised (69%) or had unknown hospitalisation status (31%) and were not followed up by the GPs; they were excluded from the analysis when studying attempted suicides and suicides separately. Assuming that all unknown vital outcome cases were attempted suicide, the number of cases of attempted suicide diagnosed in 2001 by French GPs was estimated to be 61 500 (95% confidence interval [CI]= 50 300 to 72 700), yielding a yearly incidence of 105 per 100 000 inhabitants. We estimate the number of cases of suicide to be 9700 (95% CI = 8000 to 11 500). Only 20% of patients were younger than 25 years of age, 43% were aged 25–44 years, and 37% were older than 44 years. Women represented 67% of patients overall, 19% of those who committed suicide and 75% of those who attempted suicide.

*Attempted suicide*

In twenty-three per cent of attempted suicide cases, patients were under 25 years old, whereas 43% were aged 25–44 years, 23% aged 45–59 years, and 11% were older than 59 years. The age distribution of attempted suicide patients did not vary with sex. Medication overdose was the most frequently recorded method (Table 1). Hospitalisation and ambulatory follow-up data were available in 93% of attempted suicide cases; 80% of patients were referred to a general hospital (with subsequent ambulatory follow-up in 14%, and without in 66%), 19% had ambulatory follow-up only, and 1% had no follow-up.

*Suicide*

In six per cent of suicide cases, patients were under 25 years of age, whereas 37% were aged 25–44 years, 20% were 45–59 years, and 37% were older than 59 years. Hanging was the most frequently recorded method (36%), followed by firearm use (21%). The fatality rate was much higher among men than women (43% versus 5%, respectively,  $P < 0.001$ ) and increased with age (3% at 15–24 years, 16% at 25–44 years, 17% at 45–59 years, and 44% at over 59 years;  $P < 0.001$ ). The choice of method was not the only explanatory factor, as the age effect persisted in the subset of patients using highly lethal methods (hanging, firearms). The case fatality rate for the highly lethal methods subgroup was still higher among patients over 44 years (76%)

Table 1: Methods of attempted suicide and suicide among men and women (1999–2001).<sup>a</sup>

Suicide methods	Attempted suicide in men ( $n = 81$ ) %	Attempted suicide in women ( $n = 247$ ) %	Suicide in men ( $n = 61$ ) %
Drug overdose	77	82	5
Other toxic substance	7	3	0
Hanging	5	1	39
Drowning	0	0	8
Firearms	1	1	23
Jumping from a high place	3	2	10
Self-mutilation	5	8	2
Other <sup>b</sup>	2	3	13

<sup>a</sup>Data are not presented for suicide in women owing to the small sample size ( $n = 14$ ). <sup>b</sup>Subjects who used multiple methods are classified in the 'other' category.

than among those under 45 years (42%) ( $P = 0.002$ ). The fatality rate of medication overdose was 3%. The absence of previous suicide attempts (67% of suicide cases) was associated with higher fatality than in cases in which suicide had been attempted previously, both overall (22% versus 10%, respectively,  $P < 0.05$ ) and in the subgroup of patients older than 44 years (38% versus 14%,  $P < 0.05$ ).

## Discussion

The estimate of 9700 cases of suicide is in accordance with the 11 000 cases obtained from death certificates.<sup>1</sup> In keeping with French national mortality data, hanging and firearms were respectively the first and second most common methods used for suicide.<sup>5</sup> The age and sex distributions were generally in keeping with surveys conducted in other countries: patients who unsuccessfully attempt suicide are more frequently younger and female compared to those who successfully commit suicide.<sup>2,3</sup> However, several differences were observed in terms of the methods used and the history of previous attempts. In France, as in Belgium (33%),<sup>2</sup> hanging was the most frequently reported method, and firearm use in France was less common than in the United States (54%)<sup>6</sup> but more common than in Belgium (10%).<sup>2</sup> The rate of previous attempted suicide was found to be much higher than in Belgium (55% for France versus 30% for Belgium).<sup>2</sup>

With an annual estimate of 155 000 attempted suicides that lead to health care demand,<sup>7</sup> our data suggest that, in France, GPs are the first health professionals involved in 40% of cases. Most GPs followed recommendations to refer patients attempting suicide to hospital for psychiatric evaluation and multidisciplinary care.<sup>8</sup>

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