Unit for suicide research
Prof. Dr. C. van Heeringen
Universitair Ziekenhuis – K12F
De Pintelaan 185
9000 Gent
Tel. 09/240.43.73
Fax 09/240.49.89

Deliberate Self- harm in Gent
2004

S. De Munck
G. Portzky
Prof. Dr. C. van Heeringen

Table of Contents

Introduction p 3

Methodology p 3 - 4

Results p 5 - 13

- **Attempted Suicide in Gent** p 5 - 7
- **Suicide rate in Gent** p 7
- **Marital status** p 8
- **Living situation** p 8 - 9
- **Level of education** p 9
- **Economic status** p 10
- **Method used for suicide attempt** p 10
- **History of suicidal behaviour** p 10- 11
- **Timing factors** p 11-12
- **Aftercare** p 12

Summary p 12 - 13

References p 13

Introduction

Notwithstanding the large number of preventive efforts in different countries worldwide, it is a tragedy that approximately 1 million people die annually because of suicide. According to the World Health Organisation this can be attributed to the stigmatisation of suicide in many countries resulting in the non-adaptive attitude that suicide is not a problem belonging to public health. Epidemiological findings show that the suicide rate increased with 60%[1] during the last 45 years in many countries.

Suicide and suicidal behaviour have an effect on the entire public health and demand a broad approach. Continuous efforts have to be made when developing suicide prevention programmes, which not only requires health care preventive actions but also political, governmental and community efforts. Primary prevention strategies directed to the community include improvement of quality of life, health promotion and preventive efforts targeting socio-economic difficulties. The development and implementation of these strategies require recent and reliable epidemiologic data regarding suicidal behaviour. The WHO/ Euro Study of Suicidal Behaviour provides epidemiological results regarding attempted suicide in Europe, which can be used for the development and evaluation of integrated and multi-dimensional suicide prevention policies.

Methodology

Since 1989 epidemiologic data concerning suicide attempts are collected as part of the WHO/ EURO Multicentre Study of Suicidal Behaviour in well-defined catchment areas all over Europe. Gent was added in 1996 to the study as one of the the 21 European catchment areas in which annual epidemiologic information is collected.

Suicide attempts of all inhabitants of 15 years and older in the catchment area Gent (193.221 inhabitants on January 1, 2004)[2] are registered in five general hospitals (UZ Gent, AZ Jan Palfijn, AZ Sint-Lucas, AZ Maria Middelares and Sint-Jozefskliniek in Gentbrugge), two psychiatric hospitals (Neuropsychiatry clinic Sint-Camillus in St.-Denijs Westrem, PC Caritas in Melle) and fifty GP practices. All participating hospitals receive registration forms which have to be completed when a patient is admitted after a suicide attempt. Socio-demographic background, applied method(s), previous suicide attempts and other variables related to the

[1] http://www.who.int/mental_health/prevention/suicide/supresuicideprevent/en/
[2] Nationaal Instituut voor Statistiek, http://statbel.fgov.be

attempt are monitored. Every year the participating health services are visited for a control of the quality of monitoring by checking the admission files.

In the study a suicide attempt is identified according to following definition: *'an act with nonfatal outcome, in which an individual initiates a deliberate, well-considered and unusual behaviour, that without intervention of an other will lead to self harm or destruction, or when an individual deliberately takes a substance in a higher quantity then subscribed or generally suitable doses, with the intention by means of actual or expected physical consequences to initiate desired changes.'* (Bille-Brahe et al, 1994).

Within the WHO/ EURO study the incidence of suicide attempts is presented in 'rates' (per 100.000 inhabitants in the catchment area Gent) and divided in person-based rates en event-based rates. 'Event-based rates' imply the total amount of suicide attempts per 100.000 inhabitants while 'person-based rates ' refer to the amount of persons per 100.000 inhabitants with one or more suicide attempts in one registration year. The rates are calculated by means of estimation factors which are calculated by dividing the number of suicide attempts determined by means of the quality controls by the number of suicide attempts for which a monitoring form was obtained.

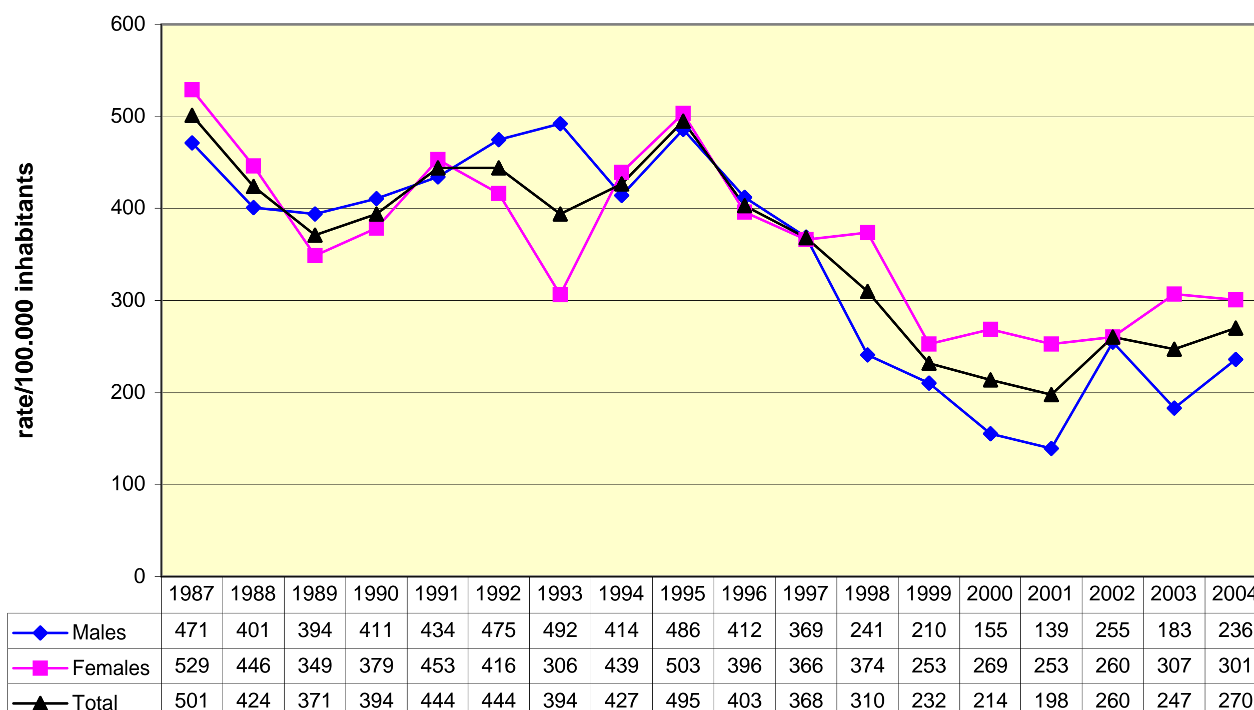
Results

Attempted suicide in Gent

In 2004, 521 suicide attempts were monitored after quality control in the catchment area of Gent involving 511 persons. These figures indicated an event/person ratio of 1,02.

The annual incidence per 100.000 inhabitants (15 years and older) was 270 (event-based) with a person based rate of 264. The evolution of event based rates (Figure 1) shows a modest increase (23 attempts per 100.000; + 9.3%) compared to 2003. A strong increase is observed in men (53 attempts per 100.000; + 29%) contrary to women where a small decrease (6 attempts per 100.000; - 1.9%) is noticed.

Figure 1: Suicide attempts in catchment's area Gent 1987-2004, event based rates



	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Males	471	401	394	411	434	475	492	414	486	412	369	241	210	155	139	255	183	236
Females	529	446	349	379	453	416	306	439	503	396	366	374	253	269	253	260	307	301
Total	501	424	371	394	444	444	394	427	495	403	368	310	232	214	198	260	247	270

The person- based rate (264/100.000) increased substantially in contrast to 2003 (213/100.000; 23.9%; 51 persons per 100.000). This was due to the large increase of male suicide attempters (81 persons per 100.000; + 52.6%). In contrast to males, female attempters showed a minor increase of 9.4% (25 persons per 100.000).

The male/female ratio decreased from 1:1.7 in 2003 to 1:1,2 in 2004.

The mean age was 35,8; 35 years for males and 36.4 years for females. There was no significant relation between age and gender.

Figure 2: Suicide attempts in catchment area Gent in 2004: person-based rates by gender and age

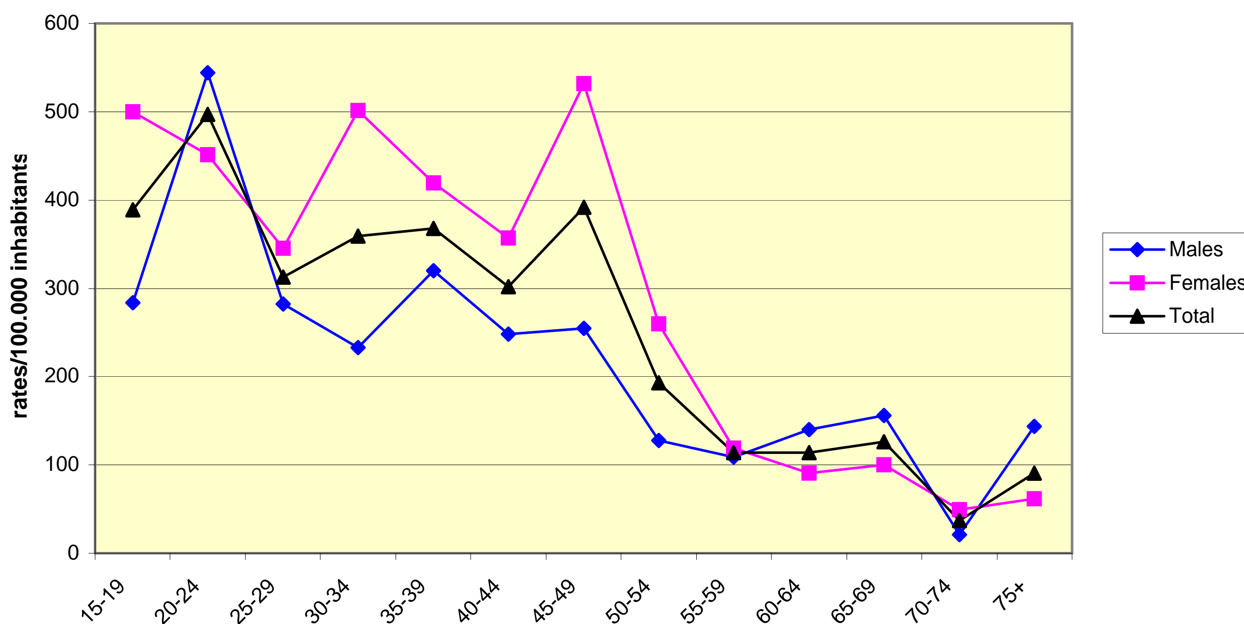
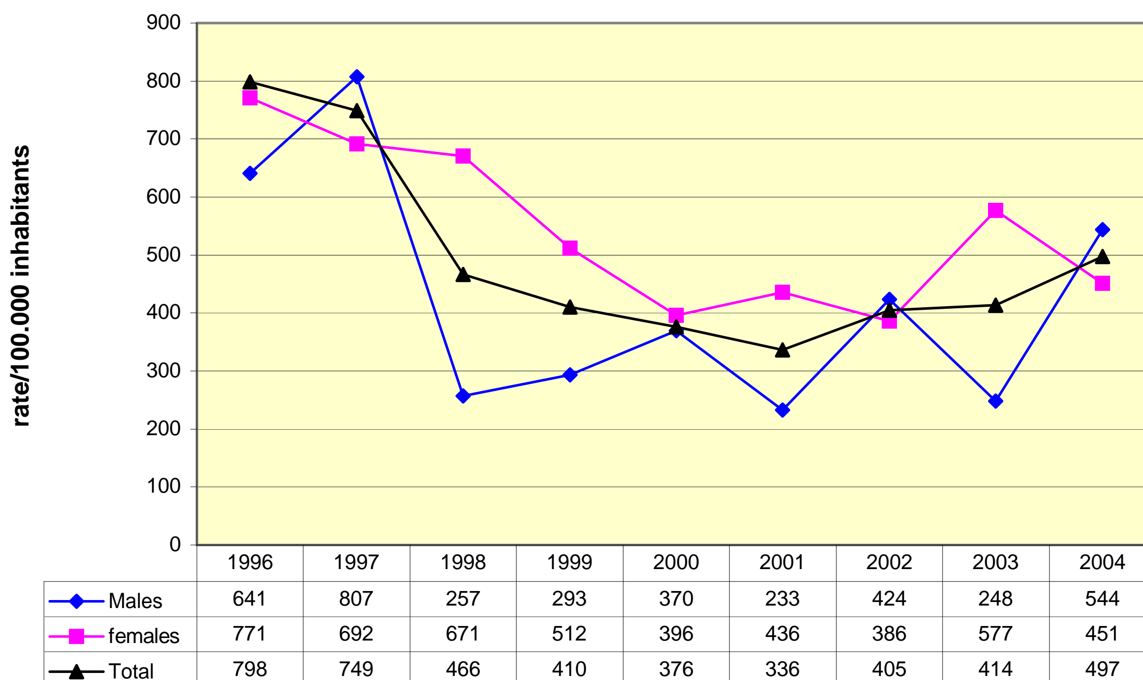


Figure 2 shows the person- based rates by gender and age. This figure clearly shows a higher incidence among 20 to 24 year old male suicide attempters (544 attempters per 100.000). Female attempters showed several high rates between 15 to 19 years (500 per 100.000), 30 to 34 years (501 per 100.000) and 45 and 49 years (532 per 100.000). The highest rate was observed in 20 to 24 year olds (497 per 100.000). Due to this high rate in young adults we focused on to the evolution of suicide attempts in this vulnerable age-group. Figure 3 shows the person-based rates from 1996 until 2004 according to gender. The total rates in this age-group has increased in the past 4 years. The most recent male rate is the highest in 7 years with the 2004 rate being twice as high as last year (from 248 to 544 per 100.000). There was however a strong decrease in female attempters compared to 2003 (126 persons per 100.000; -21.8%).

Figure 3: Suicide attempts in catchment's area Gent 1996-2004: person-based rates for the age group 20 to 24 years



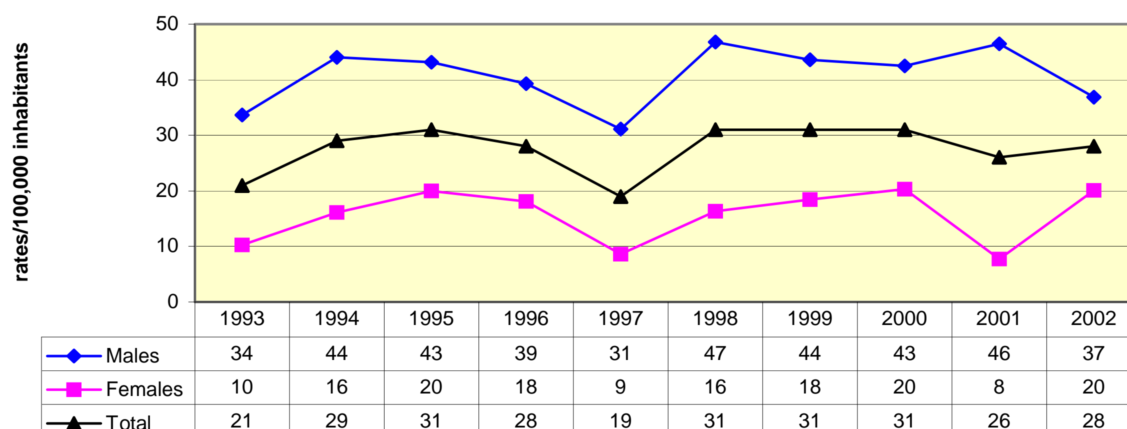
	1996	1997	1998	1999	2000	2001	2002	2003	2004
Males	641	807	257	293	370	233	424	248	544
females	771	692	671	512	396	436	386	577	451
Total	798	749	466	410	376	336	405	414	497

Suicide rate in Gent

Figure 4 shows the suicide rates in the catchment area Gent between 1993 and 2002. There is a marked difference between male suicides rates compared to female suicides, with males rates being much higher than female rates.

From 1996 until 2002 we observe opposite rates for both sexes when comparing suicides with attempted suicides, except for 1996 where the female suicides follow the same trend as the female attempted suicides.

Figure 4: Suicide in catchment area Gent 1993-2002: rates according to gender



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Males	34	44	43	39	31	47	44	43	46	37
Females	10	16	20	18	9	16	18	20	8	20
Total	21	29	31	28	19	31	31	31	26	28

Marital Status[3]

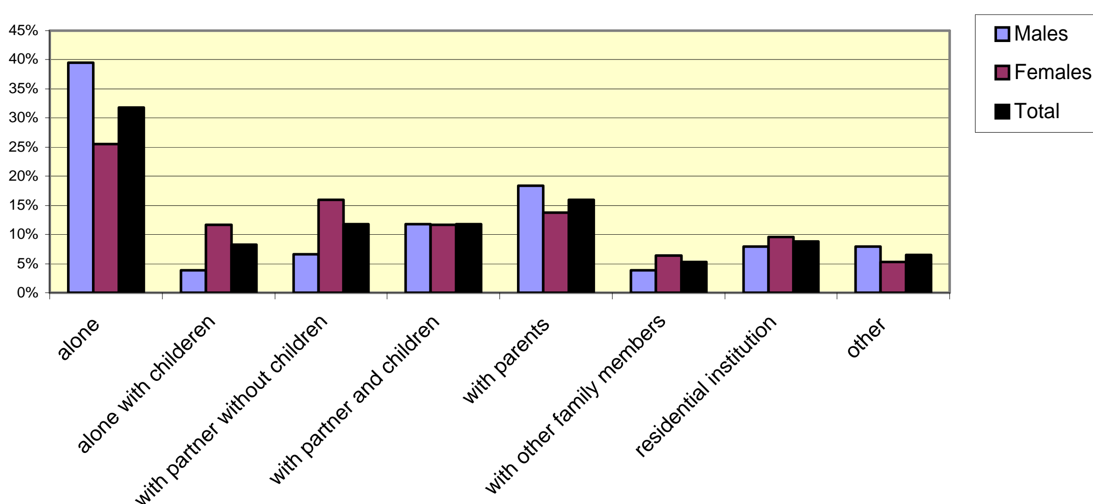
The majority of the suicide attempters were unmarried (43%). The percentage of divorced persons (26,7%) was slightly higher than the percentage of married persons (24,2%). Statistical analysis showed a significant association between gender and marital status (χ^2 = 8,175; df = 3; p = 0,033) with a higher incidence of divorced women compared to men (33% against 17,6%) while more males were never married (55,9%) in contrast to women (34%).
There was also a significant effect of gender on living together with a partner (χ^2 = 6,390; df = 2, p = 0,041). Females who attempted suicide more often lived together with a partner of the opposite sex (40%) than male attempted suicides (21,7%). There were also considerably more males (76,8%) than females who lived alone (57,9%).

Living situation

The most common living situation for both genders was 'living alone', both temporary and usual (resp. 31,8% and 27,6%).

Concerning the temporary living situation[4] 'living with the parents' was the second most common living situation (15,9%). More males (18,4%) lived temporary with a parent than females (13,8%) although this was not significant. Figure 4 shows the temporary living situation for both males and females.

Figure 4: Temporary living situation according to gender

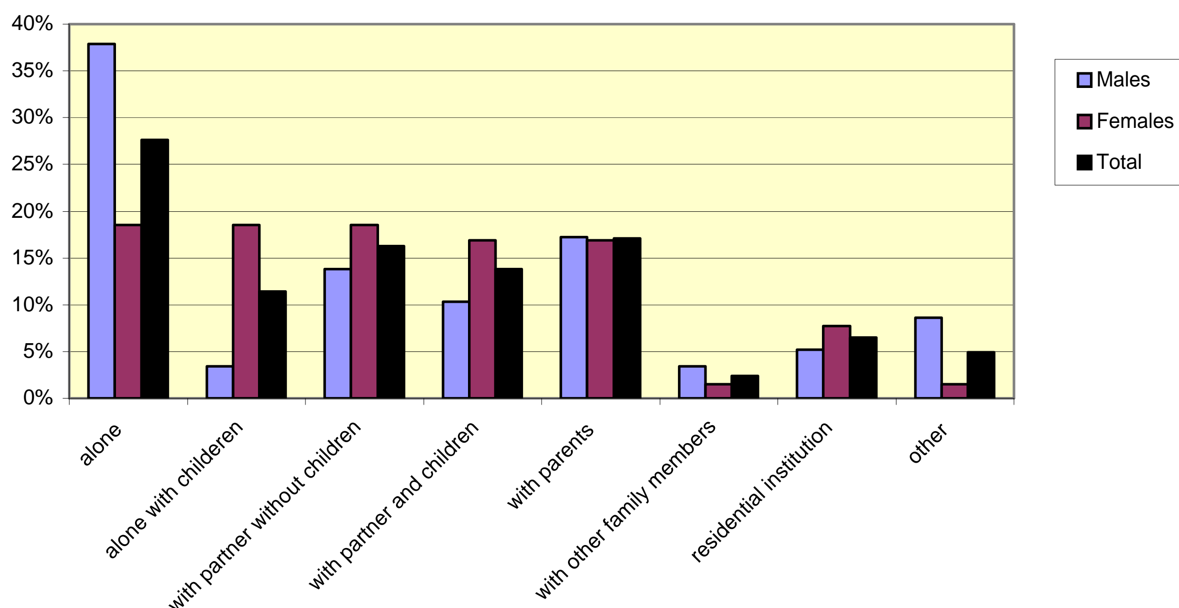


[3] Data known in 165 of the 269 registered persons (61,3%)
[4] Data known in 170 of the 269 registered persons (63,2%)

Living with parents was also the second most common usual living situation for both genders (17,1%). For male suicide attempters, this was also the second most common form of living (17,2%), in contrast to female attempters in whom living alone with one or more children (18,5%) or living with a partner without children (18,5%)took second place. There was no significant relation between gender and the customary living situation.

Figure 5 shows the usual way of living[5] according to gender.

Figure 5: Usual living situation according to gender



Level of education[6]

The majority of the suicide attempters had finished secondary school (58%). The figures also indicate a higher percentage of suicide attempters who finished high school or university (23%) compared to primary education (19%). The percentages for males and females are comparable with a maximum difference of 6,7% for 'higher education', with females showing higher figures. Consequently there was no significant difference between males and females for level of education.

[5] Data known in 123 of the 269 registered persons (45,7%)
[6] Data known in 100 of the 269 registered persons (37,2%)

Economic status[7]

40,7% of the group was economically inactive (i.e. students, housewives, invalids, pensioners) at the time of the suicide attempt. The group of economically active persons can be divided in 36,3% 'working people' and 23% 'unemployed people'. Analysis show a near-significant result for economic status and gender ($\chi^2 = 5{,}462$; df = 2, p = 0,065) with more working men (46,7% vs. 28%) and more inactive women (48%vs. 31,7%).

Method used for suicide attempt

The most frequently used method in attempting suicide was self-poisoning (74,1%). Barbiturates, sedatives or hypnotics were used in 56,5% of the cases. This was the most common used method for both males (60,2%) and females (53,9%). Self- injury with a sharp or blend object (10,1%) and hanging (5,4%) were the second and third most common used method.

More than one method was applied in 50,2% (n = 141) of the cases. Alcohol was most commonly used as the second method (n = 82; 58,2%). In 7,8% (n = 22) there was a third method used in attempting suicide, with again alcohol being used third method (n = 17; 77,3%). There was no relation between method and gender.

History of suicidal behaviour[8]

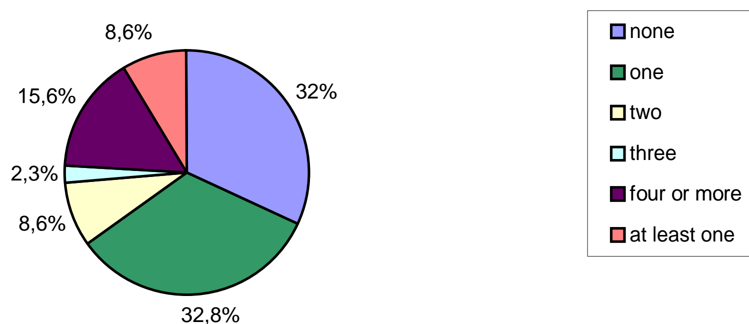
The current suicide attempt was the first attempt in 32% of the group. Women most frequently attempted before the current attempt (37,3%), as opposed to males where no former attempt in the past most often occurred (35,8%). Statistical analysis showed no significant differences between gender and previous suicide attempts. Figure 6 presents the number of former attempts.

---

[7] Data known in 135 of the 269 registered persons (50,2%)

[8] Data known in 128 of the 269 registered persons (47,6%)

Figure 6: Classification according to the number of previous attempts

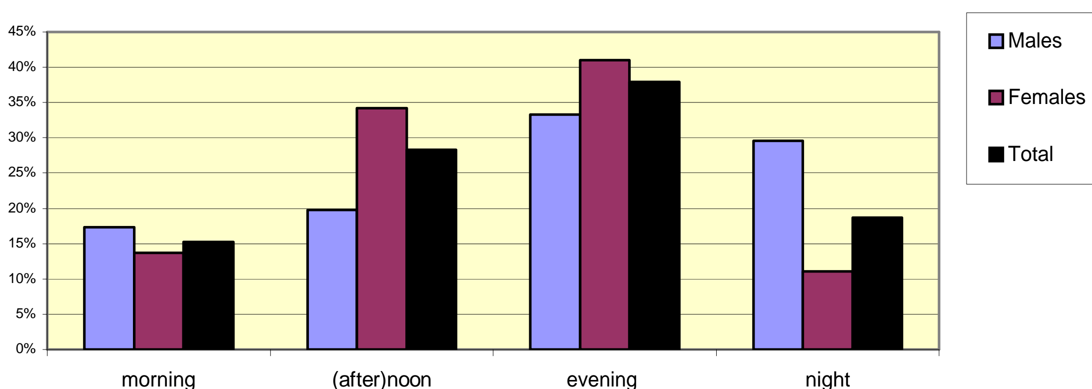


Information regarding the time between the current attempt and the previous attempt was available for only 69 persons (25,7%). 50% had attempted within less than 12 months.

Timing factors

Results regarding month of suicide attempt showed that attempts most frequently occurred in August (10,7%). The lowest incidence was observed in December (5,3%). Analyses regarding time of the suicide attempt (Figure 7), indicate that most attempts were made between 6 and 11 p.m. in the evening (37,9%)[9].

Figure 7: Classification according to the timing of the attempt and gender



Analyses show a significant relation between timing of the attempt and gender ($\chi^2 = 13,469$; df = 3; p = 0,004). Female attempters more often attempted suicide in the (after)noon, between 12 and 5 p.m. (34,2% vs. 19,8% males) or in the evening between 6 and 11 p.m. (41%

[9] Data known in 198 of the 281 registered attempts (70,5%)

vs. 33,3% males), while male attempters more often attempted between midnight and 5 a.m. (29,6% vs. 11.1% women).

Aftercare[10]

Suicide attempters were commonly referred to a residential (67,7%) or an ambulatory treatment setting (17,7%); 14,6% of the attempters were not referred. Analysis showed a near-significant effect of gender on referral ($\chi^2 = 5,552$; df = 2; p = 0,062): females were more commonly referred to an ambulatory setting (21,8% vs. 11,8% males) compared to males who were more frequently not referred (19,4% vs. 11,3 % females).

Summary

- Comparison with previous registration years, show an increase of the total number of suicide attempts in the catchment area of Gent. This increase in 2004 can be explained by an increase in male suicide attempts. The event-based rate among females decreased slightly. Nevertheless, a majority of attempts are made by women (ratio male/female 1:1.2).

- International figures point out that in one third of all countries[11] young people are at strongly increased risk of suicide. The results of 2004 in Gent also confirm this trend for attempted suicide. The male age-group between 20 and 24 years is at highest risk, while female attempters have high person-based rates in several age-groups, among which the 15 to 19 year age group. The total person-based rate in the age group 20-24 is the highest in 7 years of registration. This increase is due to the spectacular increase in young male suicide attempts.

- Socio-demographic data indicate that, similar to previous registration years, the majority of the suicide attempters have never been married, live alone, are economically inactive and have a secondary school degree. Furthermore significant relations between gender and marital status and gender and temporary living situation are found. There is a large proportion of divorced women, while men are more frequently never married. Female suicide attempters live more often together

[10] Data known in 226 of the 281 registered attempts (80,4%)
[11] http://www.who.int/mental_health/management/en/

with a partner of the opposite sex while men more often live alone. Statistics also show a near-significant effect of gender on economic status, with more working males and more inactive females.

- Similar to previous years, the most frequently used method of attempting suicide is self-poisoning by means of barbiturates, sedatives of hypnotics, indicating that less violent methods are more often used than violent methods. Cutting with a sharp or blend object is the most commonly used in the category of violent methods. When a second method was used in attempting suicide, this is most frequently done by use of alcohol before or during the attempt. In this study 75% has a history of repeated attempts.

- Concerning the timing of the suicide attempts, a significant effect of gender is noted. Males attempt more often at night while females more frequently attempt suicide at noon (and afternoon) and in the evening.

- Of the registered attempts one seventh is not referred for further ambulatory or residential treatment. More than two thirds of the suicide attempts are referred to a residential setting. There was a trend for women to be referred more commonly to ambulatory treatment, while males were more commonly not referred.

References

Bille-Brahe, U., Schmidtke, A., Kerkhof, A.J.F.M., De Leo, D., Lönnqvist, J., Platt, S. (1994). Background and introduction to the study. In: A.J.F.M. Kerkhof, A. Schmidtke, U. Bille-Brahe, D. De Leo, J. Lönnqvist (Eds.). *Attempted suicide in Europe: Findings from the Multicentre study on Parasuicide by the WHO Regional Office for* Europe(pp 3-15). Leiden: DSWO Press.