

ATTEMPTED SUICIDE IN VIETNAM

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**Karolinska
Institutet**

Stockholm 2006

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Published and printed by Karolinska University Press
Box 200, SE-171 77 Stockholm, Sweden
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ISBN 91-7140-924-6

ABSTRACT

Suicide and attempted suicide is currently a major public health problem in rapidly developing countries but there are limited studies on this field in Asian countries. These are the first studies on suicidal behavior in Vietnam.

The aim of the studies was to: 1) investigate the prevalence of suicide attempts, plans, ideation and medical attention following a suicide attempt in Vietnam and in nine other countries, 2) investigate the relation between lifetime suicidal thoughts and psychological factors, lifestyles and depression 3) investigate the characteristics of suicide attempters and describe similarities and differences of risk factors between suicide attempts in Vietnam and in the West 4) identify suicidal processes, suicidal communication and family relationships among young suicide attempters

For this purpose, one component of the WHO SUPRE-MISS (Multisite Intervention Study on Suicidal Behaviors within the SUicide PREvention initiative) was performed in 2280 randomly selected residents of an urban community (DongDa district) (*Study I and II*) and in 2321 residents of a rural suburb of Hanoi (SocSon district) (*Study IV*). A retrospective study on medical records of 509 suicide attempters in Bachmai hospital, the biggest general hospital in Vietnam, was investigated (*Study III*). In study V, 19 young suicide attempters admitted to Socson district hospital were interviewed in depth.

Suicide attempts (0.4-4.2%), plans (1.1-15.6%) and ideation (2.6-25.4%) varied by a factor of 10-14 across sites. Depending on the site, the ratios between attempts, plans, and thoughts of suicide differed substantially (*Study I*). In Vietnam, prevalence rates for lifetime suicidal thoughts, suicide plans and suicide attempts were 8.9%, 1.1% and 0.4%, respectively. Suicidal thoughts are associated with multiple characteristics, such as female gender, single/widowed/separated/divorced marital status, low income, lifestyle (use of alcohol, sedatives and pain relief medication), but not with low education or employment status (*Study II*). The large number of people who had suicidal thoughts is at the range score of mild, moderate or severe depression within the Beck Depression Inventory and at the range score of poor well being according to WHO Well Being Index (*Study IV*). Despite some differences between suicide attempters in Vietnam and the West, such as rural Vietnamese frequently using pesticides and rat poison for attempting suicide and only a small proportion of patients were diagnosed as psychiatrically ill in Vietnam, there are substantial similarities. Both in Vietnam and in the West, suicide attempters are young, and more females than males attempt suicide. In urban areas, suicide attempters are similar to the suicide attempters in the West: patients employ analgesics and antipyretics (e.g. paracetamol) more often as the method to attempted suicide than other methods. The causes are also similar to the results obtained in studies from Western countries: acute life stressors due to unsolved conflicts with parents, partners and others. Among young suicide attempters, suicidal thoughts are fluctuating and quickly passing but distress was present a long time before the suicide attempts. Thirteen of 19 young suicide attempters expressed suicidal communication to other people, but only in 3 cases in direct verbal form (*Study III and V*).

Some suicide-preventive strategies used in the West may be applicable in Vietnam. Reducing access to pesticide and rat poison is comparable to Western efforts to make paracetamol or firearms less freely available. In addition to classical suicide preventive strategies it seems that psychosocial interventions in the form of programs targeting school drop-outs, domestic violence, and communication and coping abilities should be developed.

Keywords: attempted suicide, suicidal thoughts, suicidal communication, community, Vietnam.

ISBN: 91-7140-924-6

PAPERS

- I. **Jose M Bertolote, Alexandra Fleischmann, Diego De Leo, Jafar Bolhari, Neury Botega, Damani De Silva, Huong Tran Thi Thanh, Michael Philips, Lourebs Schlebusch, Airi Varnik, Lakshmi Vijayakumar, Danuta Wasserman.** Suicide attempts, plans, and ideation in culturally diverse sites, the WHO SUPRE-MISS community survey. *Psychological Medicine*, 2005,35:1457-1465.
- II. **Huong Tran Thi Thanh, Trung Nam Tran, Guo-Xin Jiang, Antoon Leenaars, Danuta Wasserman.** Lifetime suicidal thoughts in an urban community in Hanoi, Vietnam. *BMC of Public Health*:2006, March 6:76
- III. **Huong Tran Thi Thanh, Guo-Xin Jiang, Tuong Nguyen Van, Duc Pham Thi Minh, Hans Rosling, Danuta Wasserman.** Attempted suicide in Hanoi, Vietnam. *Soc Psychiatry Psychiatr Epidemiol*, 2005, 40: 64-71.
- IV. **Huong Tran Thi Thanh, Tuan Nguyen Van, Tuong Nguyen Van, Danuta Wasserman.** Internal validation of the Beck Depression Inventory, the WHO 5 Well Being Index and the relation of these scales to suicidal thoughts in the general population of a rural community in Hanoi, Vietnam. *Submitted*.
- V. **Danuta Wasserman, Huong Tran Thi Thanh, Duc Pham Thi Minh, Ana Nordenskiöld, Max Goldstein, Camilla Wasserman.** A case study of suicidal behaviour among young suicide attempters in a rural Vietnamese community: When there is no one to talk to. *Accepted for publication in World Psychiatry*

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ABBREVIATIONS

AFSP	American Foundation for Suicide Prevention
BDI	Beck Depression Inventory
GDP	Gross Domestic Product
GPs	General Practitioners
WHO	World Health Organization
WBI	World Health Organization Well being (5-item Version)

1. INTRODUCTION

In 2003, approximately one million people committed suicide in the world. This represents a global mortality rate of 16 per 100,000 or one death every 40 seconds.

Self-inflicted injuries represent 1.4% of the global burden of disease in 2002, and this figure is expected to rise to 2.4% in 2020 (Bertolote and Fleischmann, 2005).

The suicide rate among young people has been rising, and they are currently the group at highest risk in both developed and developing countries (Bertolote and Fleischmann, 2002; King and Apter, 2003; Rutz EM and Wasserman, 2004). In particular, countries in transition, such as Asia are showing an alarming rise in youth suicide (Wasserman et al., 2005). Suicide is currently a major public health problem in rapidly developing countries.

Socioeconomic development requires a healthy population, but rapid social change with high psychological stress can cause several mental illnesses and, in some cases, lead to suicide.

WHO heads the SUPRE-MISS study (Multisite Intervention Study on Suicidal Behaviors within SUicide PREvention initiative) in the five continents, in which NASP (Swedish National Centre for Suicide Research and Prevention of Mental-Ill Health) is a scientific advisor. The Asian countries included in the project are China, India, Iran, Sri Lanka and Vietnam (Bertolote and Fleischmann, 2005).

This is the first project on suicidal behavior in Vietnam where the registration of causes of death does not exist.

2. VIETNAMESE HISTORY, CULTURE AND SOCIETY

2.1. Geography



Vietnam is the largest and most populous of the 3 Indochinese countries and is located in the southeastern part of the Indochinese peninsula. It is bound by the South China Sea and the Pacific Ocean to the east, Laos and Cambodia to the west and China to the north. Northern Vietnam consists of provinces which are situated in the Red River Delta. Provinces in Central Vietnam are located between the central coast and the 1,600 km long Truong Son mountain range. Southern Vietnam includes Hochiminh city and a few provinces east of the city (such as Cantho) and the rice-rich provinces of the Mekong River Delta.

2.2. History

Legend says that Vietnam began with a mountain fairy, Au Co, and the dragon king, Lac Long Quan. Mother Au Co had 100 eggs, all of which hatched and were sons. After the King died in 2879 B.C., his eldest son, Hung Vuong established the Hung dynasty, and is regarded as the real founder of the Vietnamese nation and the first Vietnamese dynasty (Vien,1993).

Virtually from the outset, the Vietnamese were ruled by the Chinese, and they would continue to be so until 938 A.D (Vien,1993).

Of the more than a dozen dynasties that have ruled independent Vietnam, three are considered "great." The first was the Ly (1009-1225), whose rulers established Hanoi as their capital in the year 1010, naming it Thang Long, the City of the Soaring Dragon. (It was not until 1831 that the name Hanoi - City in a Bend of the River -

came into use.) The Ly dynasty built new roads, dikes, and canals, and they vigorously promoted agriculture. The Ly dynasty ended in an overthrow by the Tran, who established the second great dynasty (1225-1400). In 1407, the Chinese reconquered Vietnam, but this time their rule lasted only two decades. In 1428, they were driven out by the Vietnamese hero who established the third great dynasty, Le Loi. The Le dynasty, which held power until 1524, introduced a series of remarkable reforms. Arts, literature, and education were promoted. Large landowners were forced to distribute their holdings to the land-less. Legal reforms gave women nearly equal rights to men (Vien,1993).

In the 17th and 18th centuries, Vietnam was split by warring factions. Northern Vietnam was ruled by the powerful Trinh Lords, the south controlled by lords of the Nguyen line. In 1786, three brothers, the Tay Son, briefly reunited the country, but even as they fought to depose the Trinh and Nguyen lords, their empire began fragmenting.

In 1802, one of the Nguyen lords defeated the Tay Son and proclaimed himself Emperor Gia Long, establishing the last of Vietnam's dynasties. The Nguyen made Hue their imperial capital, and they ruled from there until the last Vietnamese emperor, Bao Dai, abdicated to a delegation representing Ho Chi Minh in 1945.

Vietnam's contacts with the West began as early as 166 A.D., when Roman travellers passed through the Red River Delta. From about the 1850s on, the French abandoned diplomatic overtures and settled on a policy of conquest. It would take them several decades, but by 1893 they had carved out an Indochinese empire that included Vietnam, Laos, and Cambodia. There were many resistance movements against the French colonisation but most of the resistance efforts were successfully put down. In 1925 a new movement was established by a man named Nguyen Ai Quoc, who in

later years would take the name Ho Chi Minh, the bringer of light. He became the nucleus of the Vietnamese Communist Party, constituted in the year 1945 (Vien, 1993).

The American support of the Viet Minh led Ho to believe that the United States would back his bid for an independent Vietnam. But after the war, the Allies allowed France to reoccupy Indochina, setting the stage for the protracted guerrilla campaign that resulted in France's ouster in 1954 and split Vietnam into North and South. The recognition and support of South Vietnam by the United States and of the North of Vietnam by the Former Soviet Union would lead to the big conflict that ended in 1975 when the Communists overran Saigon, proclaiming an independent Socialist Republic of Vietnam. (Vien, 1993)

2.3. Demography

Vietnam's population according to the 1999 census was 76.3 million and it had around 84 million people in 2005 (General Statistics Office of Vietnam, 2005). The majority of the population lives in the countryside with 26.3% of the population living in urban areas. The sex ratio at birth is 1.03 females/males and the population growth rate is 1.5%. The life expectancy at birth was 69.0 for males and 74.0 for females according to the Health Statistics Office of the Ministry of Health from 2003 (Ministry of Health of Vietnam, 2003).

2.4. Ethnic Groups

The Vietnamese government recognizes 54 distinct ethnic groups. The majority ethnic Vietnamese, also called Viet or Kinh, make up about 86 percent of the nation's population. They are concentrated largely in the alluvial deltas and in the coastal plains and have little in common with the minority peoples of the highlands, whom they

historically have regarded as hostile and barbaric. The Viet group has a great influence on national life through their control of political and economic affairs and their role as purveyors of the dominant culture. The ethnic minorities are found mostly in the highlands that cover two-thirds of the Vietnam territory.

2.5. Culture and life styles

2.5.1. Language

In its early history, Vietnamese writing used Chinese characters. In the 16th century, the Vietnamese developed their own set of characters called Chu Nom. During the French colonial period, Quốc Ngữ, the romanized Vietnamese alphabet representation of spoken Vietnamese and it adapted to be the national and official language of Vietnam.

2.5.2. Culture

Due to Vietnam's long association with China, Vietnamese culture remains strongly Confucian with its emphasis on familial duty and harmony. Education is highly prized. Historically, passing the imperial Mandarin exams was the only means for ambitious Vietnamese to advance socially. In the modern era, Vietnamese are trying to reconcile traditional culture with Western ideas of individual freedom, distrust of authority, and consumer culture.

The majority of Vietnamese are adherents to Mahayana Buddhism, influenced by Confucianism and Daoism, and with a strong emphasis on ancestor worship. Some critics say that the Vietnamese' second religion is superstition and fatalism, brought on by the decades of war.

2.5.3. Role of women in society today

The status of women in the country is improving. The proportions of males and females in schools and universities are almost equal. In the rural agricultural areas, there is a

distribution of work between men and women. Men usually undertake heavy work such as ploughing the earth while women perform easier work such as sowing seeds. In other areas, women usually choose professions such as teachers, physicians, nurses, midwives, etc. while men choose professions such as teachers, electricians, etc. The country's legal frame is developed for gender equality. In principle this is true but in reality women lag far behind men. By the early 20th century, women were not allowed to go to school, pass degree examinations, hold administrative positions, etc. According to the feudal concept, women are inferior to men. This concept states that "one man is something while ten women are nothing". Such concepts are still common among people. In addition, women had a more difficult time than men in seeking work during the transition towards market socialism. A preference for boys remains common for many parents, particularly in the rural community. Violence against women is observed in some places. Some theories focus on the low status of rural females in developing countries and an emphasis on domestic violence is mentioned (WHO, 2002a).

2.5.4. Family construction

Vietnam has a patriarchy status. First, the family name of a child should be the family name of the father. Second, the father is the head of the family. Third, the paternal side is closer to a child than the maternal side. Fourth, a woman should obey her father when she stays at home, she should obey her husband when she gets married, and she should obey her son if her husband dies. Major decisions in a family should come from the father.

2.5.5. The dependent age group

The dependent age group includes the young age group and the old age group. The dependent young age group consists of people below 20 years old: before a young man or woman can have a job. The dependent old age group consists of people above the

age of 60 years old; when a man or woman is no longer able to work and to earn a living for him or herself.

The family organization pattern in Hanoi like in any other province of Vietnam is neither nuclear nor extended. It could be an oriented pattern. Usually many generations live together; frequently three generations live together. A family is defined to be a unit in which each member contributes his or her share for all expenditures in the family.

2.6. School system

Children in Vietnam attend school from the age of seven. Children have to pass through each level of education: from primary school, which takes five years, to secondary school which takes four years. Compulsory education is nine years. Students have to take an examination to attend high school. Around 70% of all students are admitted to a high school. Students who fail the examination have to be at home, find a job or study to become a worker. Following a three year high school program, students can go to the university or college, if they pass a large examination. Most parents want their children to take the examination because they hope that their children will have more opportunities to find a good job after studying at the university. The literacy rate was 4.2% for males and 7.7% for women in 2003. The rate of not completed primary, primary, secondary and above secondary school is 16%, 31.8%, 30.0% and 18.4%, respectively (Ministry of Education and Training of Vietnam, 2004). The Survey Assessment of Vietnamese Youth (SAVY) which performed in 7584 young people at age group 15-24 in the whole country indicated 96.2% of respondents had attended school at some time in their lives. Nearly 4% of young people have never been to school (UNICEF, 2005).

2.7. Economy

In 1986, the Sixth Party Congress of the Communist Party of Vietnam formally abandoned Marxist economic planning and began to introduce market elements as part of a broad economic reform package called “doi moi” (“renovation”).

Vietnam achieved around 8% annual GDP growth from 1990 to 1997 and continued at 7.2% in 2003 and 7.5% in 2004 (World Bank, 2006), making it the world’s second-fastest growing economy. Simultaneously, investment grew three-fold and domestic savings quintupled. At the same time, urban unemployment has been rising steadily in recent years due to high numbers of migration from the countryside to cities. Rural unemployment, estimated to be up to 35% during non-harvest periods, is already at critical levels. Vietnam is attempting to become a member of the World Trade Organization. Vietnam, however, is still a relatively poor country with a GDP of USD 39.157 million in 2003 (World Bank, 2006). According to workforce survey results by the Ministry of Labour, War-Invalids and Social Affairs (MOLISA), the unemployment rate in 2005 is 5.3% (Ministry of Labour, Invalids and Social Affairs, Vietnam, 2005).

2.8. Mental ill health, suicide and alcohol problems in Vietnam

In the 64 provinces, there are 30 psychiatric hospitals and 21 psychiatric departments that belong to general provincial hospitals with 5,000 inpatient beds. In the whole country, there are about 1500 mental health professionals at a university level or higher, and 2200 psychiatric nurses. There are no mental health services on the community level. Since 1998, a national program for mental health has been developed and implemented at community levels. The program is concentrated on treatment and management of schizophrenia. Mental problems as well as suicide are sensitive and a stigmatized issue in Vietnam. Family and psychiatric patients neglect visit a hospital for diagnosis and treatment. In many cases, families first transfer patients to different specialized departments and lastly they turn to the psychiatric department as they do

not believe that a relative can suffer from mental problems. A system for monitoring causes of death does not exist in Vietnam. The exact number of suicides is still hidden. According to the Ministry of Health, suicide is one of the tenth leading causes of death based on data from hospitals in 2001 (Ministry of Health of Vietnam, 2002).

A community based study in a rural area in Vietnam indicated that the prevalence of mental distress is 5.4% (Giang et al., 2006a). The prevalence is lower compared to other developing countries but it is consistent with previous studies in Hanoi and some other provinces in Vietnam (Patel and Kleinman, 2003; Binh, 2004; Nghi et al., 2004). The rate of mental distress is higher among women than men. Giang et al. indicated that mental distress among men is not associated with poor economy but correlates with sociodemographic factors (Giang et al., 2006a).

There is a saying in Vietnamese culture: "A man who does not drink wine is like a flag without wind". Drinking has become a symbol of strength among Vietnamese men.

Drinking behavior differs between urban and rural areas, as well as between highland, lowland and mountainous areas. In rural areas it is common for people to drink home made wine while in urban areas people consume imported wine. People living in the highlands normally drink more than those living in the lowlands or mountainous areas.

The results from the National Health Survey in 2001-2002 showed that 46% of men and 1.9% of women consumed alcohol weekly (Ministry of Health and General Statistic Office, 2003). The proportion of inpatients that had psychoses related to alcohol problems increased rapidly from 0.31% in 1986 to 9.6% in 1995 (Thiem, 2004). In previous studies, the prevalence of alcohol problems varies from 2% to 20% in different areas (Thiem, 2004; Giang et al., 2006b). Giang et al. found that the prevalence of alcohol use and alcohol problems in Vietnam among men was many times higher than among women (Giang et al., 2006b). The results from their study also

reported that alcohol problems is not associated with marital status nor occupation, but has a strong correlation to smoking (Giang et al., 2006b).

In young people within the age group 15-24 years old, the population study showed that 3.4 % of respondents had ever thought about suicide and 0.5% of participants have had attempted suicide. The study also found that while drinking is a behaviour of the majority of young men (69%), it is less so for young women (28.1%) (UNICEF, 2005).

3. ATTITUDES TOWARDS SUICIDE

Attitudes towards suicide vary between cultures and over time. It is influenced by different religious and cultural beliefs.

3.1. Christian religion

Throughout history the Christian attitude towards suicide has become less restrictive, being more open in Protestantism than in Catholicism. However, suicide is generally considered a sin within Christianity for which one is sent to hell. This is most often based on the commandment not to kill.

In the 19th century, suicide and attempted suicide were punished in various ways by the Church as well as by the authorities. Today, suicide is no longer a crime in European countries.

3.2. Chinese religion / Confucianism

The act of suicide itself is not condemned in China as it is in the West. Instead it is viewed in relation to the events that lead to the suicide, and can therefore be seen as something honorable or dishonorable depending on the circumstances. (Fei, 2006) In China suicide can be seen as “spirited resistance against something bad and a passionate protection of one’s honor or integrity.” (Fei, 2006) In the Chinese cultural tradition suicide can sometimes be justified if it is for a noble purpose, but in general it is seen as something negative. Fei’ notes that Confucius would see suicide as an option for protecting one’s virtue and integrity, but that more can be gained by doing good in life instead of killing oneself. This theme follows throughout Chinese culture.

However, there are two historical examples of when it is more likely that suicide is expected. One of the cases is when loyal intellectuals to a court are expected to take their life when their ruler loses power as they should not be loyal to someone else.

Also, women that had been raped were expected to commit suicide. Monuments were even erected for these women. Women who were not chaste were also expected to commit suicide if they were not good wives. (Fei, 2006)

The reasoning behind intellectual and female suicide can both be seen as a passionate behavior to protect one's integrity and honor. As such these suicides become highly praised because they aim at virtue. Fei argues that other suicides often adhere to the same psychodynamics. Even though the context forces society to condemn the acts as good or bad, suicide is still seen as expressing pride, anger and spiritedness. A person may commit suicide when done wrong, shamed or criticized and becomes too angry to endure these situations. In the cases in which suicides are not praised it is usually because the suicide victims have chosen the wrong outlet for their anger or resistance. (Fei, 2006)

3.3. Buddhism

According to Buddhist religion, the common belief is that "life" is only a "visiting trip on earth" while "death" would be "returning home", that "life" is a "temporary dwelling" while "death" would be "a long lasting existence". This means that the next life depends on how one live this life and no one can avoid what should happen.

Running away from this life by "death" cannot rid one of the anxiety of the next life.

Such concepts and beliefs are close to the humanistic/existential model of thinking:

seeking the meaning of life while life is almost nothingness. The fact is that the first

emperor of the Ly dynasty (by the 10th century AC) had been trained and promoted to

become emperor by the pagoda; and Buddhism was the national religion for many

centuries from the 10th to the 15th century AC in Vietnam (for two dynasties: Ly and

Tran).

3.4. Current attitudes towards suicide among Vietnamese people

Values and orientation depend on personal consideration, tradition and social control.

There has been a cultural change in recent generations among Vietnamese people. The

elderly people are strongly influenced by Buddhism even though they are not

Buddhists, while the young people does not much influenced from Buddhism. In

general, suicide is condemned. People who are surrounding suicidal persons can

express different attitudes to suicide, from sympathy to condemnation and to criticism.

In Vietnam there is no procedure to ascertain suicide.

4. SUICIDAL BEHAVIORS IN ASIAN COUNTRIES

4.1. Suicide

According to a WHO report based on suicide from different countries, the highest rate of suicide is found in Eastern Europe while Asia has the highest number of suicides, accounted for up to 60% of all suicide. The suicide rate in Asia has been calculated as 12.6/100000. Following are the rates of suicide in Asian countries (per 100 000 inhabitants):

Country	Year	Males	Females
China (Hong Kong)	1995	14.3	9.2
China (mainland)	1994	14.3	17.9
India	1995	11.4	8.0
Japan	1996	24.3	11.5
Republic of Korea	1995	14.5	6.7
Singapore	1997	14.3	8.0
Sri Lanka	1995	44.6	16.8
Thailand	1994	5.6	2.4

Source: World Health Organization, the latest available data

The database shows that in Asia, 19 countries do not report suicide rates to the WHO. The reason for countries do not report suicide data to WHO may be due to legal, religious or social prohibitions against suicide (Beautrais, 2006). There are differences in suicide in Asian and Western countries. Firstly, in Asia the highest suicide rates are often found in the ages below 30 (Adityanjee, 1986; Vijayakumar et al., 1999) while in Western countries the highest suicide rate is among the elderly. Secondly, the ratio between male and female suicides in Asian countries is often smaller than in Western countries. The ratio in China and India is 1:1.3 and 1.4:1, respectively while the ratio in

Western countries is often more than 3:1 (Philips, 2002; Vijayakumar et al., 1999).

Similar to Western countries, suicide rates among males is higher than females in Asian countries, with the exception of China.

World wide, among adolescents in the 15-19 age group, suicide was the fourth leading cause of death among young males and the third for young female according to the latest World Health Organization Mortality database (Wasserman et al, 2005). The suicide rate of young people in the 15-19 age group (per 100,000) in Asian countries is presented in the following table:

Country	Year	Males	Females
China (Hong Kong)	1999	5.1	5.3
China (selected rural and urban areas)	1999	3.2	4.8
Japan	2000	8.8	3.8
Republic Korea	2001	5.9	4.9
Singapore	2001	9.2	7.8
Sri Lanka	1986	43.9	49.3
Thailand	1994	6.1	5.1

Source: World Health Organization, the latest available data

The database shows that suicide rates for young people in the 15-19 age group, as for other groups, is higher among males than among females. In Asian countries, the exceptions are found in Sri Lanka and China. Reports from Sri Lanka showed that it is the country with the highest suicide rate among young people.

In India and China suicide is more frequent among married women while separated/divorced marital status is a risk factor for suicide in Western countries.

Means of suicide in Western countries are firearms and car exhaust fumes while large numbers of suicide in Asia, especially in rural areas, are committed by using pesticide

or insecticide. Self-immolation is common in India while charcoal burning is a common method of suicide in Hong Kong.

4.2. Attempted suicide/parasuicide/deliberate self-harm

There are no figures on the exact number of attempted suicides in the world as many countries lack a system for monitoring attempted suicide. Studies on attempted suicide are most often conducted in hospitals or in epidemiological catchments areas. The prevalence of attempted suicide in Asian countries is smaller than in Western countries. The crude annual attempted suicide rate in India is 49-81/100 000 (Adityanjee, 1986). Tsoi reported the attempted suicide rate in Singapore in 1974 as 55/100 000 and 92/100000 in 1986 (Tsoi, 1974). In a study with the same methodology, Weissman indicated the lifetime prevalence of suicide attempts as 0.75/100 in Taiwan and 3.2/100 in Korea (Weissman, 1999). Similar to Western countries, attempted suicide is much more likely to occur in the 15-34 age group and most common among those of divorced, widowed or single marital status (Adityanjee, 1986; Chiu, 1989). The ratio of suicide attempts between male and females is 1:2.6 in Hongkong, 1:1.5 in Singapore; 1:2.8 in Taiwan, 1:1.2 in Korea (Chiu, 1989; Pan and Mak, 1989; Wai and Heok, 1998; Weissman, 1999). Studies in Hong Kong, Singapore and China found that the main causes of attempted suicide are interpersonal conflicts (Adityanjee, 1986; Chiu, 1989). While ingestion of psychotropic drugs is the most common method of attempted suicide in Western countries, the use of pesticides and sedatives is the most common form of attempted suicide in Asian countries.

4.3. Suicidal thoughts/suicidal ideation

There are limited studies on suicidal thoughts/suicidal ideation in Asian countries. Weissmann et al. performed a study in nine countries with the same methodology and

found that the lifetime rate of suicide ideation in Taiwan is 5.28/100 and 16.22/100 in Korea (Weissman, 1999). The results from this study also indicated that the rates of suicidal ideation are slightly higher among females than males in all sites. The exception is Taiwan where the rate of suicidal ideation among females (7.1/100) is two times higher than among males (3.3/100). Divorced, separated or never married persons had the higher rates of suicide ideation in every site.

Studies on suicidal ideation in Asian countries are focused on adolescent groups. The rate of suicidal ideation among adolescents is higher than other age groups. The prevalence of suicidal ideation among Chinese people in Hong Kong is 6.7% (Cheung et al., 2006) and among Malaysians students age 12 to 19 years is 7% (Chen et al., 2005). The predictors for suicidal ideation among adolescents are depression, smoking, low life satisfaction, conflicts with family members (Cheung et al., 2006; Lee et al. 2006; Liu et al. 2005; Chen et al. 2005).

5. THEORETICAL CONCEPT OF THE THESIS

The theoretical concept of the study is based on the development of the suicidal process according to the stress-vulnerability model (Wasserman, 2001; Mann, 1998).

In the frame of the thesis, we combined quantitative and qualitative methods to investigate characteristics of suicidal thoughts, suicide attempts in Vietnam and explanations were considered within the context of Vietnamese culture.

6. DEFINITIONS OF SUICIDAL THOUGHTS, SUICIDE ATTEMPTS AND SUICIDE

6.1. Suicidal thoughts or suicidal ideation

The term suicidal ideation or suicidal thoughts refers to the occurrence of any thoughts about self-destructive behavior, whether or not death is intended (WHO, 1986). Such thoughts may range from vague ideas about the possibility of ending one's life at some point of time in the future to very concrete plans of committing suicide.

6.2. Attempted suicide

There are some ways to indicate attempted suicide such as deliberate self-poisoning, deliberate self-harm, parasuicide or non fatal suicidal behavior (Kessel, 1966; Norman Kreitman et al., 1969; Stengel, 1952.; Canetto and Sakinovski, 1998). Although theories of attempted suicide are results from theories of suicide, the phenomenon is different.

From the 1960's to the 1980's, it was popular to believe that attempted suicide is a form of communication (Fabrow & Shneidman, 1961; Stengel, 1962; Kreitman, 1977). Attempted suicide was viewed as a conscious or subconscious act of communication addressed to others (Stengel, 1975). It can be conceived of as an alarm signal, showing

distress and appealing for help. The term attempted suicide is defined in several different ways. It depends on intention, lethality, knowledge of lethality and different varying traditions such as those between Europe and America. In this thesis, the term attempted suicide used for the purpose of the study is from the WHO/EURO and reads as follows:

“An act with a non-fatal outcome in which an individual deliberately initiates a non-habitual behavior that, without intervention from others, will cause self-harm, or deliberately ingest a substance in excess of the prescribed or generally recognized therapeutic dosage, and which is aimed at realizing changes which the subject desired, via the actual or expected physical consequences”. (WHO/EURO, 1986)

6.3. Suicide

Based on the different theoretical approaches, there are several definitions of suicide. Under the sociological perspective, Durkheim considered suicide as “all cases of death resulting directly or indirectly from a positive or negative act of the victim himself, which he knows will produce this result” (Durkheim, 1897). From the psychological perspective, Shneidman defined suicide as "a conscious act of self-induced annihilation, best understood as a multidimensional malaise in a needful individual who define an issue for which suicide is perceived as the best solution” (Shneidman, 1985). However, the definition can not be based on theory; it must be a description of the concept rather than an explanation (Maris et al, 2000). In addition, the definition needs to be consistent in relating to different cultures as well as giving a sufficient description. The adopted definition of suicide from the WHO is as follows:

“ Suicide is an act with a fatal outcome which the deceased, knowing or expecting a fatal outcome, had initiated and carried out with the purpose of provoking the changes he desired” (WHO/EURO,1986).

6.4. Suicidal process

Any suicidal act is preceded by a process that might start with fleeting suicidal thoughts, then progresses through more concrete plans to subsequent suicide attempts and finally to completed suicide (Van Heeringen, 2001). The development of the suicidal process depends upon an interaction between environmental factors and diathesis. The suicidal process is affected by numerous factors on an individual, interpersonal and societal level. It also depends on culture and physical environments. (Wasserman, 2001) The suicidal process can be interrupted due to treatment but it may also abate spontaneously.

6.5. Suicidal communication

Suicidal communication can occur at any point in the suicidal process. The manner in which other people respond to a person's suicidal communication may afford some protection against suicidal behaviour (Farberow and Shneidman, 1961).

According to Shneidman, the directness of communication in a self-destructive situation may range from no communication to quite direct communication. Shneidman notes that it is very unusual for a person to give no indication of his intention to kill him or herself. At times, intense feelings of conflict or desperation may be expressed, and this behavior indicates a plea for help. At other times, feelings of hopelessness and helplessness may appear. Sometimes a suicide note explains the action. At times the content of suicidal communication includes pessimistic reflections on the state of the world and philosophic ideas about the meaning of life in general. The content of communication varies depending on each individual. Sometimes the communication is very explicit and sometimes it is more subtle (Farberow and Shneidman, 1961).

6.6. Types of suicidal communication

Suicidal communication can be divided into direct and indirect verbal, direct and indirect non-verbal communication.

Direct verbal suicidal communication refers to clear and directly expressed suicidal intentions. This form of expression is found among those whose intention it is to take their own lives.

Indirect verbal suicidal communication is the expression, in various ways, of the feeling that one's situation is hopeless, that life has no meaning and that there is no solution to current problems.

Direct non-verbal suicidal communication includes various kinds of preparations for suicide. Examples of direct non-verbal suicidal communication may be the collection of drug prescriptions or medicines, buying ratocides, writing a farewell letter etc.

Indirect non-verbal suicidal communication comprises withdrawal, deliberate self-isolation, rupturing ties with family and friends, or taking concrete steps to put personal affairs in order (Wasserman, 2001.).

6.7. The Stress-Vulnerability Model

In the stress-vulnerability model, the outcome is affected by risk and protective factors in interaction with diathesis. A diathesis for suicidal behavior is held to be the crucial determinant of whether suicidality is manifested under the influence of stress as result of, for example, acute psychiatric or social problems, or a family crisis. From this perspective, individuals at risk for suicide are hypothesized to have various bio-psycho-social vulnerabilities which render them unprepared or ill equipped to handle environmental and social demands or psychological problems. According to Mann et al, genetic make-up as well as acquired susceptibility contributes to a person's constitutional predisposition for suicidality or diathesis (Mann, 1998).

6.7.1. Risk factors

Acquired susceptibility depends on the presence of risk factors during childhood as well as during adult life. Suicide completers and attempters have been found to experience significantly more negative life events than the general population or other clinical control groups (Hagnell & Rorsman, 1980; Rich et al, 1988; Wasserman, 2001). Family trauma, poor parenting environment, and physical and sexual abuse have all been cited as risk factors for suicide (Lester, 2001). Interpersonal loss and conflict is a common trigger for suicide among youths (Rich et al, 1988; Wasserman, 2001). Poor somatic and psychiatric health is other important risk factors.

6.7.2. Protective factors

Protective factors (Wasserman, 2001; Horesh et al., 1996; Rubenstein et al., 1998) are a positive cognitive style and personality, characterized by the ability to communicate with other people, to seek help and advice when difficulties arise in life or with family relationships and a willingness to receive economical or psychosocial support from family, friends or society.

7. AIMS OF THE THESIS

* General objective:

To prepare basic quantitative and qualitative data about attempted suicide in order to develop a national program for suicide prevention in Vietnam

* Specific objectives

(1) To investigate the prevalence of suicide attempts, plans, ideation and medical attention following a suicide attempt in Vietnam and in nine other countries

(Paper I)

(2) To investigate frequencies and characteristics of people with suicidal behaviour in an urban community in Vietnam (Paper II)

(3) To investigate the characteristics of suicide attempters and to describe similarities and differences of risk factors between suicide attempts in Vietnam and in the West (Paper III)

(4) To define the relationship between suicidal thoughts and BDI and WBI scales in a rural community in Vietnam and to test the internal validity of these two scales (Paper IV)

(5) To identify suicidal processes among young persons who attempted suicide in a rural community in Vietnam (Paper V)

8. MATERIALS AND METHODS OF STUDY

8.1. Study areas

8.1.1. HaNoi – the capital of Vietnam

HaNoi is the capital of the Socialist Republic of Vietnam. It is located in the Red River delta (the Northern plain region of the country). Hanoi extends to an area of 92.1 ha; of which 11.7 ha is residential land, 20.5 ha is specially used land, 43.6 ha is agricultural land, and 6.1 ha is forest land; some 10.2 ha is unused land. The physical environment of Hanoi is much diversified. There are residential areas, forest, agricultural land, etc. Located in the centre of the HongHa (Red River) delta at 5-20m above sea level, Hanoi has only a small mountainous area in the Soc Son district. This mountainous area is part of the TamDao chain, with the peak Chan Chim at the height of 462m above sea level. There are seven urban districts divided into 102 quarters with an area of 82.78km² (8.9% of the whole city area) and five rural districts divided into 118 communes and townships with an area of 844.61 km² (91.1% of the whole city area). The urban population is greater than the rural population even though the rural population occupies a greater area.

8.1.2. DongDa urban district

DongDa is a one of seven urban districts of Hanoi with a population of around 350 000. It is the largest and most populated district of Hanoi. This is a South-West expanded part of the city. The district includes 21 communes with 90 health care units.

8.1.3. SocSon rural district

SocSon is one of five rural districts of Hanoi with a population of 350 000. It is situated in the North of Hanoi, composed of mainland and mountainous area. It is far from the centre of Hanoi, around 50 km away, and it has specific characteristics of a rural area of Vietnam. The district is organized into 26 communes with 28 health care units. There is

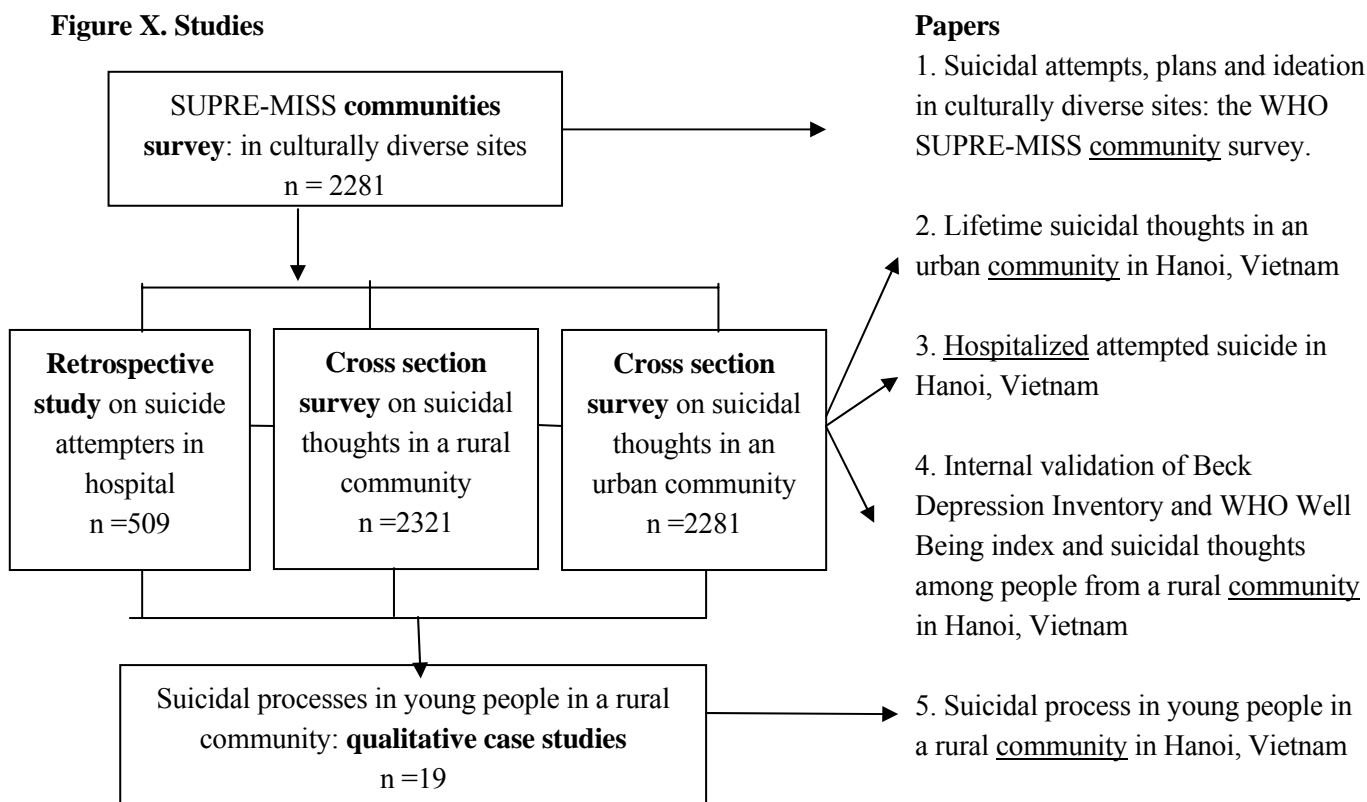
one district hospital which called Socson district hospital. The hospital has 50 beds and is responsible for emergency care, diagnosis and treatment at the district level. Suicidal patients who live in Socson district come here for treatment. Severe cases are transferred to Bachmai hospital.

8.1.4. Bachmai hospital

Bachmai is the biggest general hospital in Vietnam, with 1,500 beds. It is a hospital at Central level. Many severe patients from the North of Vietnam come here for diagnosis and treatment. Suicidal patients are diagnosed and treated at the Poison Control Centre (it was split from the Intensive Care Department in 1998) and at the National Institute of Mental health (previously, it was a department of psychiatry belonging to Bachmai hospital).

8.2. Study design

Four studies are population based and were performed in urban and rural communities. One study is based on hospital material. Both quantitative and qualitative methods are used.



8.2.1. Community surveys (Study I, II, IV)

Community surveys were performed in 2280 randomly selected residents of an urban community (Dongda district) and in 2321 residents of a rural suburb of Hanoi (Socson district).

8.2.2. Retrospective study in Bachmai hospital (Study III)

Retrospective analysis was performed on all hospital records of attempted suicide patients admitted to Bachmai Referral Hospital in Hanoi, from January 1999 to April 2001. The records of all 3027 patients admitted to the Poison Control Centre and the Department of Psychiatry were scrutinized using the instrument set by the research criteria. A total of 509 patients were found to fulfill the criteria for attempted suicide.

8.2.3. Qualitative study (Study V)

In the catchment area, with a population of 350000, all suicide attempters who were hospitalized in the Intensive Care Unit at the Socson district hospital of Hanoi were investigated. All young patients from the rural area in the age group 15-24 were selected for an in-depth interview.

8.3. Study subjects, sample size and sampling

Study I, II, IV:

Using simple random sampling, a total of 2,500 subjects were selected from the list of district residents (numbering 350,000). The sampling frame was compiled from the lists of all the municipalities in the SocSon and DongDa districts and was provided by the respective municipals' People's Committees. The only exclusion criterion applied to subjects younger than 14 years. A total of 2,321 subjects in SocSon district and 2,280 subjects in DongDa district agreed to take part, resulting in a participation rate of more than 90%.

Study III:

All hospital records of attempted suicide patients admitted to Bachmai hospital in Hanoi, from January 1999 to April 2001 were included.

Study V:

All suicide attempters that were hospitalized from August 2001 to August 2003 in the Intensive Care Unit at the Socson district hospital in Hanoi were investigated.

8.4. Data collection

8.4.1. Community surveys (Study I, II, IV)

The selected subjects were contacted by the staff of the municipals' People's Committee, which also made appointments for the interviewers' visits. During a visit to a subject's home, the interviewer approached the potential participant, briefly described the study and requested their participation. A group of eight students in the final year of studying public health at Hanoi Medical University were carefully trained in the use of the questionnaire and interview techniques.

The interview process was monitored, checked and retested. Approximately 10% of the total subjects were selected randomly for reliability tests. Interviews were performed by telephone and sometimes repeated (test/retest).

8.4.2. Retrospective study (Study III)

All individual case records at Bachmai hospital are stored separately for each department and unit, as well as for each year of admission. The records of all 3,027 patients admitted to the Poison Control Centre and the Department of Psychiatry were reviewed. The validity of the clinical diagnoses of attempted suicide was assessed in the light of notes in the medical records about the patients and family members' verbal statements and farewell notes or letters if such were available.

8.4.3. Qualitative study (Study V)

All 29 young suicide attempters aged 15-29 from rural areas that were selected for in-depth interviews. Four respondents had moved from the catchment area at the time of the study, three gave incorrect addresses and three patients refused to participate, which led to total of 19 interviews.

8.5. Instruments

8.5.1. SUPRE-MISS community questionnaire (Study I, II, IV)

The questionnaire is based on the European Parasuicide Study Interview Schedule (EPSIS) which has been applied in the WHO/EURO multi-centre study on suicidal behavior. In a meeting of experts in Geneva, the SUPRE-MISS instrument was discussed and refined. The final instrument (<http://www.who.int>) covered socio-demographic information, the history of suicidal behavior, family data, physical health, contact with health services, mental health, questions related to substance use, community stress and problems. The SUPRE-MISS questionnaire is presented in Annex 2.

The questionnaire was translated into Vietnamese and adapted by a group composed of psychiatrists, psychologists and professionals in public health sciences at Hanoi Medical University and the National Institute for Mental Health in Vietnam.

The following questions concerning the respondent's life time and the past twelve months' suicidality were used in the SUPRE-MISS instrument:

- “Have you ever seriously thought of committing suicide?”
- “Have you ever made a plan to commit suicide?”
- “Have you ever attempted suicide?”

8.5.2. Monitoring check-list for suicidal behaviors (Study III)

The check-list developed in the WHO Multi-centre study of attempted suicide was used.

A check-list was used to record data on gender, age, residence (rural or urban area), occupation, date of the event, causes and attempted-suicide method used. The check-list is presented in Annex 1.

8.5.3. Beck Depression Inventory Scale and WHO well-being index (Study IV)

In the rural areas both the Beck Depression Inventory and the WHO well-being index were used.

Beck Depression Inventory (BDI): The BDI consists of 21 items assessing symptoms of depression experienced during the two weeks prior to the assessment. Each of the 21 items contains four statements (each marked by a number ranging from 0 to 3) reflecting varying degrees of symptom severity. The final ratings are calculated by the summing of the total BDI score, which can range from 0 to 63. A total score below 10 indicates normal mode, between 10-18 mild depression and equal to or greater than 19 indicates moderate or severe depression. (Beck et al., 1996)

WHO Well Being Index (WBI): The WBI consists of five items assessing positive moods and well being during the two weeks prior to the assessment. The sum of the scores ranges from 0 to 25. A score below 13 indicates poor well-being and represents an indicator for testing depression (WHO, 1998)

8.5.4. Guidelines for in-depth interview (Study V)

Research questions in the present study cover the following areas:

Area I. Questions concerning family relationships and psychosocial situation

Theme 1. Motives for suicide attempt

- Describe the motives that led you to attempt suicide.

Theme 2. Ability to seek help

- Did you try to get help and advice, and to communicate your needs, if and when you had difficulties in your everyday life?

Theme 3. Mental-health, alcohol problems, attempted suicide or suicide among family members

- Is there anyone in your family with a mental-health problem?
- Is there anyone in your family with an alcohol problem?
- Has anyone in your family made a suicide attempt?
- Has anyone in your family committed suicide?

Theme 4. Violence

- Have you ever suffered physical abuse from your family or a partner?
- Have you ever suffered psychological abuse from your family or a partner?

Theme 5. Support from family and partners

- Describe your family situation.
- Describe your relationships with your family members.
- Have you ever been in need of financial support from your family or a partner?
- Have you ever been in need of psychosocial support from your family or a partner?
- Have you ever received any financial support from your family or a partner?
- Have you ever received any psychosocial support from your family or a partner?

Area II. Questions related to various types of suicidal communication

- Did you tell your family members, friends and/or neighbours explicitly that you had the intention of taking your life? *[direct verbal communication]*
- Did you tell your family members, friends and/or neighbours implicitly that you thought life was not worth living, or that you wanted to disappear from this life, or take a break from this life, that you saw death as a solution etc? *[indirect verbal communication]*

- Did you prepare for the suicide attempt in any way (e.g. by saving pills or buying pesticides or raticides, or writing a farewell letter)? [*direct non-verbal communication*]
- Did you do anything like paying bills, saying goodbye, writing your will, disrupting ties with your family, deliberately self-isolating yourself or withdrawing once you had decided to take your own life? [*indirect non-verbal communication*]

Area III. Questions concerning the suicidal process

Theme 1. Previous suicide attempts and suicidal thoughts

- Had you ever attempted suicide before?
- When did you first think about suicide?
- When did you first experience weak suicidal thoughts, quickly passing and fluctuating suicidal thoughts, strong distinct suicidal thoughts, and constant suicidal thoughts?

Theme 2. Suicide plan and probability of detection after suicide attempt

- Did you have a plan before attempting suicide?
- What was your plan?
- How long before the attempt did you make the plan?
- Did you do anything to prevent someone from finding you?
- Was anyone near you at the time of the suicide attempt?

Theme 3. Method

- What method did you use to attempt suicide?
- Why?
- How did you get hold of what you needed? From neighbours, at home, purchased?

Theme 4. Retrospective feelings after the suicide attempts

- How did you feel after the suicide attempt(s)?

8.6. Interview methods

8.6.1. Community survey (Study I, II, IV)

The WHO SUPRE-MISS community survey questionnaires were completed by means of face-to-face interviews. The interviewers had regular training before and throughout the study. Regular debriefing meetings took place throughout the study. Approximately 10% of the interview subjects were selected randomly for reliability tests which consisted of interviews performed by telephone and in person on repeated occasions (test/retest). All the variables were tested and results were the same on all occasions, indicating good reliability.

8.6.2. Qualitative study (Study V)

The interviews lasted up to two hours and were performed by one of the authors. The location was chosen by the participants. In 14 cases it was their home, in three cases at community health offices and in two cases in local rice fields. Semi-structured interviews were used to permit participants to describe the course of events freely. However, in each case the structured questions were posed covering the above described domains. Interpretations were performed by a team of researchers according to an in advance decided upon scheme. Interviews were performed using a uniform procedure and method. The time interval between the suicide attempt and the interview was 5-6 months (range 1-11 months).

8.7. Ethical considerations

Studies within this thesis were approved by the Ethical Committees of the Karolinska Institute and Hanoi Medical University. All participants were informed about the objectives of the studies and participation was voluntary.

8.8. Statistical analysis

8.8.1. Descriptive and multivariate logistic regression analysis (Study I-V)

Data was registered using EPI INFO software or SPSS 10.0 (SPSS Inc., Chicago,IL)

and analyzed using SPSS 10.0 or Stata version 8 (Stata Corp, College Station,TX).

General characteristics of the study sample were analyzed by descriptive analyses. The statistical significance for differences between groups was assessed using chi-square and Fisher's exact tests where appropriate. Students' tests were used for continuous variables and simultaneously for potential confounders. Multivariate logistic regression was used to examine the associations of independent variables with suicidal thoughts.

8.8.2. Factor analysis (Study IV)

The statistical analyses were performed using SPSS for Windows (version 10.0). The scale totals were calculated excluding all cases with any missing values. The missing values in the factor analysis were deleted pair-wise and deletion was justified. In order to evaluate the internal consistency and item homogeneity of the scales, Cronbach's alpha coefficient and the mean item-correlation coefficient were calculated.

In order to analyze the internal structure of the scales, factor analyses were performed employing the principle component analysis method of extraction. The theoretical assumption was that factors were correlated, so oblique rotation was used for interpretation of the divided factors.

8.8.3. Qualitative analysis (Study V)

In-depth interview records were translated into English and then interpreted by five independent persons. After careful revision of the interview records, coding according to the in advanced decided upon scheme was used, based on the theoretical concept of the development of the suicidal process and on the types of suicidal communication. A group of qualitative researchers from NASP discussed both coding scheme and coding

decisions. Analysis was both thematic according to three domains and narratives describing the cases. Results concerning themes were identified in each interview and interpreted on both an individual and collective basis.

9. RESULTS

9.1. Study I: Suicide attempts, plans, and ideation in culturally diverse sites: the WHO SUPRE-MISS community

The objectives of the study was to assess thoughts about suicide, plans to commit suicide and suicide attempts in the community, as well as to investigate the use of health services following a suicide attempt. The SUPRE-MISS questionnaire was used in face-to-face interviews.

Suicide attempts (0.4–4.2%), plans (1.1–15.6%), and ideation (2.6–25.4%) varied by a factor of 10–14 across sites, but remained mostly within the ranges of previously published data. The highest rates of lifetime suicidal thoughts and suicide plans in the community were found in Durban (25.4% and 15.6%), where Karaj and Brisbane had the highest rate of lifetime suicide attempts (4.2% in both cases). The lowest rate of suicide attempts was found among respondents in the site of Hanoi (0.4%).

Depending on the site, the ratios between attempts, plans, and thoughts of suicide differed substantially. In Hanoi, suicidal thinking could be up to 22 times more frequent than suicide attempts while in Chennai suicidal thoughts was less than twice as frequent and plans almost as frequent as attempts.

Medical attention following a suicide attempt varied between 22.2% and 87.5% of the attempts. In the site of Hanoi, 22.2% of respondents who reported one or more suicide attempts required medical attention or hospital admission. However, in Chennai 87.5% of participants reported medical attention following an attempt.

9.2. Study II: Lifetime suicidal thoughts in an urban community in Hanoi, Vietnam

The purpose of the study was to investigate the frequency and characteristics of persons with lifetime suicidal thoughts and to identify the factors that may have a critical

bearing on risk prediction among suicide ideators in the general population in an urban community in Vietnam. The SUPRE-MISS questionnaire was used in face-to-face interviews with 2280 people in an urban community.

Prevalence rates for life time suicidal thoughts, suicide plans and suicide attempts were 8.9%, 1.1% and 0.4% respectively.

The respondents who suffered from cancer and asthma had suicidal thoughts statistically significantly more often ($p < 0.05$) than people who did not have such kinds of diseases.

In the group that had suicidal thoughts, the proportion of people who had feelings of anxiety, depression and fear for at least one year was 6.5%, 6.0% and 3.0%, respectively. The proportion of these kinds of feelings in the respondent group with non-suicidal thoughts was 1.0%, 0.8% and 0.1% respectively. The difference between two groups with respect to each kind of feeling is statistically significant ($p < 0.01$).

Being female (OR=2.5;95%CI 1.7-3.7), unmarried (OR=3.3; 95%CI 2.1-5.4), having a low income (OR=1.7;95%CI 1.1-2.6), having taken at one time or another sedatives (OR=2.7;95%CI 1.7-4.3), analgesics (OR=2.6; 95%CI 1.6-4.1) or using alcohol (OR= 1.6; 95%CI 1.1-2.2) are factors independently associated with having suicidal thoughts. Although not statistically significant at the 0.05 level, followers of Islam, Judaism, Protestantism and Greek Orthodox Christianity were more likely to have had suicidal thoughts than those who acknowledge a lack of religious belief (OR=2.7; 95%CI 0.9-7.3). Low education and the occupations of homemaker and student were not found to be associated with suicidal thoughts.

9.3. Study III: Attempted suicide in Hanoi, Vietnam

The purpose of the study was to investigate the characteristics of suicide attempters and describe similarities and differences between risk factors for suicide attempt in Vietnam

and in the West. Retrospective analysis was performed on 515 hospital records of suicide attempters.

The suicide attempters' mean age was 28.3 ± 12.9 years, with no significant difference between the men (27.6 ± 11) and the women (28.6 ± 13.6).

The female to male ratio of patients from urban areas (2.1:1) was higher than that of patients from the rural areas (1.2:1). The highest proportion of patients, in both rural and urban areas, was found in the 15-24 age group (48.7% of all patients). More than half of the patients from both urban and rural areas under the age of 25 were students (53.8%).

The most frequent causes of attempted suicide were conflicts in the family (73.8%), mainly with partners and parents. Conflicts in the family were more common among females (80.3%) than males (62.7%). This difference is statistically significant with $p < 0.001$.

The proportion of patients with somatic and/or mental diseases in rural areas was almost twice that of the urban areas ($p < 0.01$). Only 0.9% of attempted suicide events were associated with alcoholism.

In more than half (55.6%) of the suicide attempts in the urban areas, non-opioid analgesics, antipyretics and anti-rheumatics had been used as a mean of attempted suicide, while pesticides were used by 57.1% of the suicide attempters in rural areas. Persons who attempted suicide by using pesticides or raticides showed higher medical lethality scores and needed emergency treatment more often than persons who used prescription drugs as their mean of attempted suicide.

9.4. Study IV: Internal validation of the Beck Depression Inventory (BDI), the WHO 5 Well Being (WBI) Index and the relation of these scales to suicidal thoughts in the general population of a rural community in Hanoi, Vietnam

The aim of the study was to test the BDI and the WBI scales in the Vietnamese population and to provide internal validation in a sample of a Vietnamese rural population. The relation between suicidal thoughts and the two scales was also investigated by face-to-face interviews with 2321 persons.

BDI

The BDI has a high level of internal consistency (0.87). All the items influenced scale consistency positively, except those measuring “self-criticism” and “loss of sexual interest”.

All the item-total correlations of the BDI were significant ($p < 0.01$), ranging from 0.324 (self-criticism) to 0.735 (tiredness).

Three factors were extracted: “somatic, cognitive-affective and guilt“. The factors accounted for 39.6% of the total variance. The correlation between the somatic and cognitive-affective factors was 0.5, the correlation between the cognitive-affective and the guilt factors was 0.41 and the correlation between the somatic and guilt factor was 0.22.

The mean BDI score of respondents who had suicidal thoughts in their lifetime was 9.7, and was significantly higher than the mean BDI score of respondents without suicidal thoughts (4.5) ($p < 0.01$). 42.7% of the respondents who had life-time suicidal thoughts scored within the range of mild to severe depression. Suicidal thoughts were related significantly to depression compared to people who had non-suicidal thoughts.

WBI

The Cronbach’s alpha coefficient for the WBI was 0.93, indicating a high level of internal consistency. All items of the WBI index contribute to scale reliability.

All the item-total correlations were significant as well ($p < 0.01$), ranging from 0.84 for the item “life filled with interest”, to 0.91 for the item “feel fresh and rested”.

Persons with suicidal thoughts related to poor well-being (OR = 2.7; 95%CI 2.1-3.5) to a significantly greater extent than respondents without suicidal thoughts.

9.5. Study V: A case study of suicidal behaviour among young suicide attempters in a rural Vietnamese community: When there is no one to talk to

The aims of the study were to explore the suicidal process, from the onset of suicidal ideation to the appearance of suicide plans and attempted suicide. Suicidal communication and the psychosocial situation of young suicide attempters in a rural community in Hanoi have been investigated through in-depth interviews.

Suicidal communication

Three of 19 respondents used direct verbal suicidal communication. Seven of the 19 respondents communicated with their friends or peers about their distress and their wish to disappear from life. Two had written fare-well letters and ten youngsters had time (up to one day or more) to buy pesticides or raticides

Altogether 13 were involved in some kind of suicidal communication.

Suicidal process

In 12 of 19 cases, the first very strong, distinct and constant suicidal thoughts appeared less than one day and in five cases between one and three days before the suicide attempt in question. However, distress and weak and quickly passing suicidal thoughts had been present up to six months before the suicide attempt in 16 of 19 cases. Five respondents had a suicide plan one to three days before attempting suicide

None of the young interviewees considered it likely that the suicide attempt could have been stopped by external intervention, although in 14 cases there were family members in the suicide attempter's vicinity. Eighteen of the respondents used pesticide or raticide as a mean of attempting suicide. None sought advice or consultation in the community

despite longstanding psychosocial problems. Fifteen of 19 subjects were drop-outs from primary or secondary school.

Table 1: Characteristics of young suicide attempters in Socson district

<i>Id</i>	<i>Case number</i>	<i>Gender</i>	<i>Age</i>	<i>Marital status</i>	<i>Education</i>	<i>Suicidal communication</i>	<i>Time s.thought-attempt</i>	<i>Suicidal plan</i>	<i>Distress</i>	<i>Means of attempted suicide</i>
1	Nguyen Thi A.	Female	15	Single	secondary/ drop-out	no	< 1 day	No	No	raticide
2	Nguyen Van D.	Male	17	Single	high school	indirect verbal	< 1 day	No	Yes	raticide
3	Nguyen Thi T.	Female	18	Single	secondary/ drop-out	indirect verbal direct non-verbal	1 day	Yes	Yes	raticide
4	Nguyen Van S.	Male	18	Single	secondary/ drop-out	indirect verbal	1 year	Yes	Yes	pesticide
5	Nguyen Van T.	Male	18	Single	high school	direct non-verbal	< 1 day	No	Yes	raticide
6	Nguyen Van H.	Male	18	Single	high school	no	< 1 day	No	Yes	medicine
7	Nguyen Van D.	Male	19	Single	secondary/ drop-out	direct verbal direct non-verbal indirect verbal	< 1 day	No	Yes	raticide
8	Nguyen Van T.	Male	19	Single	primary/ drop-out	direct verbal direct non-verbal indirect verbal	< 1 day	No	Yes	raticide
9	Ngo Thi V.	Female	19	Single	primary/ drop-out	no	< 1 day	No	Yes	raticide
10	Duong Van D.	Male	19	Single	primary/ drop-out	no	unclear	No	No	pesticide
11	Nguyen Thi T.	Female	20	Single	secondary/ drop-out	no	1 day	No	Yes	raticide
12	Dong Thi H.	Female	20	Married	secondary/ drop-out	direct non-verbal	< 1 day	No	Yes	pesticide
13	Nguyen Thi M.	Female	20	Single	secondary/ drop-out	indirect verbal	3 day	Yes	Yes	pesticide
14	Nguyen Van T.	Male	21	Single	secondary/ drop-out	direct verbal direct non-verbal indirect verbal	< 1 day	No	Yes	raticide
15	Nguyen Thi T.	Female	21	Married	secondary/ drop-out	direct non-verbal	1 day	Yes	Yes	raticide
16	Nguyen Thi N.	Female	21	Single	high school	direct non-verbal	< 1 day	No	Yes	raticide
17	Nguyen Thi T.	Female	21	Married	secondary/ drop-out	direct non-verbal	2 days	Yes	No	raticide
18	Nguyen Van L.	Male	23	Married	secondary/ drop-out	direct non-verbal	< 1 day	Yes	Yes	pesticide
19	Tran Thi T.	Female	24	Married	primary/ drop-out	no	< 1 day	No	Yes	pesticide

10. DISCUSSION

10.1. Methodology

10.1.1. Epidemiological studies on suicidal behaviour

The true rates of suicide and attempted suicide in Vietnam are unknown because those reported by the Ministry of Health are based on hospital data alone. There is no national system to monitor causes of death, including suicide and attempted suicide. Information on mental health, especially suicidal behaviour, is lacking in Vietnam and this is the first study to combine quantitative and qualitative methods among the general Vietnamese population.

There are two approaches to studying the prevalence of suicidal thoughts, suicide plans and attempted suicide: first, using hospitals' medical records and register systems; and secondly, conducting surveys of the general population. Studies in this thesis combine these two methods and are performed in both urban and rural areas.

This study, performed in Hanoi, cannot be generalised to the whole country. In different geographical regions, perceptions of risk factors for suicidal behaviour may vary from one area and socioeconomic group to another.

Since the study design is a cross-sectional survey, no conclusions on the causality of suicidal behaviour in Vietnam may be drawn. Nonetheless, the study helps to indicate a direction for further longitudinal studies.

Hospital studies based on medical records

Studies based on hospital registers and medical records cover only the most medically serious cases. The records contain insufficient information on whether intoxication was a deliberate means of attempting suicide. Moreover, psychiatric diagnoses are absent. Emergency departments of hospitals do not collect standardised information on rates of

attempted suicide. To avoid stigma, patients and family members intentionally misreport reasons for attempting suicide or absconding from emergency departments at the earliest opportunity (Wasserman, 2001; Fleischmann et al., 2005), causing further misclassification. Finally, clinicians fail to collect essential information from suicide attempters.

Sources of bias in population studies

There are thus many sources of bias in studies performed in general population on self-reported suicidal thoughts, suicide plans and suicide attempts on a lifetime basis. The true prevalence of suicide attempters may be higher, since some suicide attempters do not seek hospital treatment. Cultural aspects of diagnostics can also influence estimates of the prevalence of attempted suicide. People cannot always remember suicidal thoughts throughout their lives. Beside recall bias, retrospective self-reports can be influenced by shame, reinterpretation and lack of candour. Misunderstanding of questions on suicidal thoughts may also reduce the reliability of the results obtained. Participants, reluctant to be reminded of the negative circumstances that prompted their suicide attempts, may therefore evade emotionally challenging questions.

Cultural aspects also affect people's willingness to inform others that they have had suicidal thoughts or attempted suicide in the course of their lives. This factor is assumed to be prevalent in Asian countries (Etzersdorfer et al., 1988, Weissman et al, 1999).

Results from various studies on recent suicidal ideation (Hintikka et al., 1998; Renberg, 2001; Crosby et al., 2002) are more reliable than the findings of studies on lifetime prevalence of suicidal thoughts (Renberg, 2001; Ramberg et al., 2000).

As in previous studies, suicidal thoughts, suicide plans and suicide attempts are assessed by means of self-reports in this dissertation. The SUPRE-MISS questionnaire,

based on the European Parasuicide Study Interview Schedule (EPSIS) of the WHO/EURO Multicentre Study on Suicidal Behaviour, has been translated, pilot-tested and adapted to Vietnamese culture, as well as to the cultures of other countries involved in the studies. International comparisons are thus feasible.

10.1.2. Interview techniques

Reliability of quantitative studies is assured by training interviewers, performing pilot studies and retesting. Quantitative studies yield estimates of the prevalence of suicidal thoughts, suicide plans and/or suicide attempts, and of risk factors. However, quantitative studies do not afford sufficient understanding of suicidal communication, the suicidal process or obstacles to suicide prevention.

The disadvantages of self-reporting in quantitative studies can be overcome by in-depth interviews, i.e. qualitative studies. The interview method is appropriate for investigating reasons for suicidal behaviour, the process from the first suicidal thought to suicide plans and attempted suicide. It is also appropriate for studying suicidal communication, which is not identifiable in quantitative studies.

Qualitative, face-to-face interviews were performed one to 12 months after the suicide attempters' treatment, in non-institutional settings, confidentially and in an empathic atmosphere. These conditions helped respondents to freely relate their experiences, which included both positive and negative aspects of their hospital stay, and to identify emotions and thoughts that are difficult to cover in the quantitative surveys.

However, some difficulties are entailed by the qualitative type of interview. First, it is not easy to perform an interview lasting up to two hours without interruption by family members. The interviewee may perceive the interviewers as representing the community, and fear of stigma may prevent interviewees from answering all the questions. In addition, young suicide attempters who live in rural areas, with limited

education and communication skills, are difficult to interview and such interviews are time-consuming owing to the need for reformulation and explanation of the questions.

10.2. The findings

10.2.1. Epidemiological findings

a. Suicidal thoughts

Lifetime prevalence of suicidal thoughts varies markedly among countries, and ranges from 2.1% to 18.5% (Weissman et al, 1999). In our study, rates of suicidal ideation in a lifetime perspective and/or during the past twelve months are lower than most of countries within this study, exclude Lebanon and Taiwan. This may be due to cultural differences but also, in part, to the methodology used. In the nine-country study (Weissman et al., 1999), for example, the Diagnostic Interview Schedule (Version III) and DSM III were used and suicidal thoughts were assessed by means of the question ‘Did you ever feel so low that you thought of committing suicide?’ This differs from the question about suicidal thoughts (‘Have you ever seriously thought about committing suicide?’) used in our study.

Lifetime prevalence of suicidal thoughts was found to be higher in females (11.9%) than in males (5.6%). This difference was statistically significant ($p < 0.01$). In our urban Vietnam sample, female gender is more strongly associated with suicidal thoughts than male gender. This result is consistent with most previous studies (Renberg, 2001). In contrast, the Finnish study reported a higher prevalence of suicidal thoughts in men than in women (Hintikka et al., 2001), but the latter study is an exception.

b. Suicide plans

Lifetime prevalence of suicide plans was 1.1% in Vietnam. This figure is very close to the figures for prevalence in Sri Lanka (1.5%) and India (2.0%), but much lower than those for other Asian countries, such as China (7.4%), and for European countries such

as Estonia (5.4%) and Sweden (15.5%). Suicidal behaviour in the absence of a suicide plan has been reported in Tallinn (Bertolote et al., 2005) and in studies from China (Phillips et al., 2002b), while in our questionnaire study from Vietnam, suicidal behaviour followed a suicide plan in every case. In young suicide attempters who were investigated by means of qualitative interviews, suicide plans were found in five of the 19 respondents.

c. Suicide attempts

The prevalence of suicide attempts in the general population in Vietnam was the lowest (0.4%) among countries participating in the SUPRE-MISS project. However, Vietnam reported more serious suicide attempts than other countries when self-evaluated seriousness of attempts was measured.

Based on hospital registers and medical records, the female-to-male ratio in Vietnam for suicide attempters from the urban and rural areas combined was 1.7:1. This figure is similar to that in many European, western and other Asian countries (Fleischmann et al., 2005; Schmidtke et al., 2004). However, the ratio was much lower in rural areas of Vietnam, where almost equal numbers of male and female suicide attempters were found (1.1:1). This result is similar to that reported from a study from Helsinki, Finland, where the female-to-male attempted-suicide ratio was 0.91:1 (Ostamo et al., 2001).

d. How suicidal thoughts, suicide plans and suicide attempts are related

In general, thoughts of suicide are more frequent than plans, which are more frequent than attempts. The ratio of suicidal thoughts to suicide plans and suicide attempts in an urban area of Vietnam was 22.3:2.8:1 on a lifetime basis. The ratio between suicidal thoughts and suicide attempts in an urban area of Vietnam is 22.3:1, which differs from western and other Asian countries, where the ratio between suicidal thoughts and

suicide attempts is smaller. This difference may be due to cultural aspects associated with concepts and perceptions of suicidal behaviour in Vietnamese society.

Ratios between suicide plans and suicide attempts similar to those observed in an urban area of Vietnam (2.8:1) have been found in China, Australia and Stockholm. However, figures obtained in India, Brazil, Sri Lanka, Iran and Estonia differed: there, the ratio between suicide plans and suicide attempts was in the 1:0.7–1:1.7 ranges (Bertolote, 2005).

A future in-depth study will be undertaken to explore the reasons for these differences.

10.2.2. Psychiatric illness

Personality and/or psychiatric disorders are closely associated with attempted suicide in Europe (Persson et al., 1999, Fawcett et al., 1990). In our Vietnamese study, only 6% of attempted-suicide patients were diagnosed with mental disorders. The reasons may be that diagnoses were made by doctors not for research, but for clinical purposes; and that psychiatric diagnostic traditions and perceptions of mental illness in Vietnam and other Asian countries probably differ from those in the West. Adjustment disorder, post-traumatic stress disorder (PTSD) and depression are more rarely diagnosed in Asia, not only among people who attempt and commit suicide, but also among psychiatric patients (Phillip et al., 2002b). However, the population study from Vietnam found that the lifetime prevalence of mental distress was 5.4% (Giang et al., 2006a).

a. Depression and anxiety disorders

Results from our study show that prolonged feelings of anxiety, depression and fear are correlated with suicidal thoughts.

In the rural Vietnamese population, the 19.4% who had lifetime suicidal thoughts received scores indicating mild, moderate or severe depression according to the Beck Depression Inventory. Suicidal thoughts are an early symptom of depression. This

correlation between suicidal thoughts and depression was illustrated in studies in Asian as well as western countries (Barnow et al., 2000; Morgan et al., 1997; Ovuga et al., 2005).

In the West nowadays, depression is acknowledged as a mental illness and high past-year prevalence of reporting symptoms of depression has been found in population-based investigations. Figures of 8.2% in Italy, 12.0% in Belgium, 14.9% in the Netherlands and 18.4% in France have, for example, been obtained. In contrast, figures obtained for past-year prevalence of reported symptoms of depression are 4.3% in Shanghai, 8.8% in Japan, 9.1% in China and 26.4% in the USA (Ustun et al., 2002; Demyttenaere et al., 2004). It cannot be excluded that the local tradition in Vietnam is to diagnose depression only in very severe depressive states, such as melancholia or major depression with psychotic symptoms.

Various studies have found that severe anxiety symptoms may be a significant factor in suicide risk (Fawcett et al., 1988; Hall et al., 1999; Allgulander, 1994). Anxiety disorders are often comorbid with depression.

Western studies point to the conclusion that psychiatric disorders are often predictors for completed suicide. However, studies of completed suicide from China (Phillip et al., 2002a) and India (Vijayakumar et al., 1999) show that 37% of people who committed suicide in China and 12% of those in India were not suffering from any psychiatric disorder at the time, but that 63% in China and 88% in India had received psychiatric diagnoses in the past.

The findings of a study of completed suicide from China (Phillip et al., 2002b) showed a weak correlation between mental illness and high acute stress at the time of death.

The results from our Vietnamese study show that only 6% of attempted suicide patients were diagnosed with mental disorders. This result is similar to the figure for suicide attempters in Hongkong (5.8%; Chiu, 1989) but differs from the result obtained in a

Singapore study, in which more than 70% were diagnosed with mental disorders (Wai et al., 1999). The role of diagnostic quality and comparability is a future challenge to researchers on mental problems in Asia.

b. Schizophrenia and other psychotic states

The results from our study on suicide attempters in hospital were based on 11 cases diagnosed with schizophrenia. Many studies have substantiated elevated suicide risk among schizophrenics (Westermeyer et al., 1991; Addington et al., 1992; Heila et al., 1999). According to Roy, up to one-third of schizophrenic suicides occur during the first few weeks and months after discharge from a hospital, while another third occur while the patient is in hospital (Roy, 2001). Studies from Asia also indicate that, of suicides in the general population, 6.9% of the victims in Taiwan, 8% in India and 7% in China suffered from schizophrenia (Cheng, 1995; Philips et al., 2002b; Vijayakumar et al., 1999).

The fact that schizophrenia and other psychotic diagnoses are not found in our study calls for further investigations.

c. Alcohol abuse

Suicidal thoughts are highly correlated with the use of alcohol on a lifetime basis in our Vietnamese sample. Studies from non-Asian countries yield similar findings (Wasserman and Värnik, 1998; Ohberg et al., 1996; Kölves et al., 2006). Studies performed in Norway, Sweden and Finland have shown that high consumption of alcohol per capita is associated with a high rate of attempted suicide (Nielsen et al., 1996; Wasserman and Värnik, 1998).

Previous community-based studies in Vietnam reported that the prevalence of alcohol problems (alcohol dependence and harmful use) varies from 2% to 20% in different areas. This indicates that in some areas, prevalence of alcohol problems is at the same

level as in countries where alcohol problems are highly prevalent (Thiem, 2004; Giang et al., 2006b; Chen et al., 2004; WHO, 2004).

In our study, alcoholism and alcohol addiction were rarely found in hospitalised suicide attempters, while these factors are commonly found in western studies among both males and females who attempt or commit suicide (Wasserman et al., 1998; Ohberg et al., 1996; Nielsen et al., 1996). Our results are similar to those obtained in some Asian countries where alcohol and other substance abuse were diagnosed: in only 0.5% of the suicide attempters in Singapore (Wai et al., 1999) and 2.0% in HongKong (Chiu, 1989).

In population-based studies on suicide in other Asian countries, such as Taiwan, India and China, alcohol abuse and dependence were found in 44%, 34% and 7% respectively of persons who committed suicide in these countries (Cheng, 1995; Vijayakumar et al., 1999; Phillips et al., 2002b). This probably mirrors cultural patterns and differences among Asian countries concerning how far people respond to conflicts and stressful situations by resorting to alcohol.

The results from our urban Vietnamese sample show that nearly 90% of respondents had never used sedatives or pain relief medication in their lives. The habit of not using this kind of medication might be a protective factor for suicidal ideation in Vietnam.

10.2.3.Somatic illnesses

Suicidal thoughts and suicide attempts are also related to general medical illness, ranging from terminal diseases such as cancer and AIDS to acute life-threatening illnesses such as stroke, traumatic brain injury and spinal cord injury, as well as more widespread illnesses, such as asthma and chronic bronchitis (Stenager , 2000).

Although the numbers of cancer and asthma patients in our study were small, since they

were selected not from the hospital but from the general population, suicidal thoughts were found to be significantly more frequent in persons with somatic illnesses.

In our Vietnamese study, 3.5% of suicide attempters had somatic diseases such as cancer, tuberculosis, diabetes and heart disease at the time of their attempts. These results indicate the need to pay attention to suicidal thoughts prior to suicide attempts when treating somatically ill patients and the need for further hospital-based studies designed to identify the association between suicidal behaviour and somatic illness in Vietnamese population.

10.2.4. Psychosocial problems

a. Unemployment and financial problems

Several previous studies have found a correlation between unemployment, on the one hand, and suicidal thoughts and suicide attempts on the other (Turvey et al., 2002; Platts, 1984; Beautrais et al., 1998; Pirkola et al., 1997). The results of one study on suicide attempters within SUPRE-MISS show that 14% of male and 9% of female suicide attempters were unemployed (Fleischman et al., 2005). According to Jones et al. (1991), unemployment may increase the impact of stressful life events or indirectly affect suicide risk by increasing the risk of events (relationship difficulties or financial problems) occurring that may precipitate suicidal behaviour.

As a cause of attempted suicide in Vietnam, financial problems were reported by 6% of urban and 4% of rural males in our study. Prolonged unsolved financial problems can lead to distress and depression symptoms.

Unemployment and economic hardship as risk factors in attempted suicide are key factors in western males. This has been pointed in several studies (Beautrais et al., 1998; Pirkola et al., 1997).

b. Education

The results of our study show that in urban areas, low education was not associated with suicidal thoughts. On contrary, more than half the suicide attempters from both urban and rural areas aged under 25 were students (53.8%). Results of the SUPRE-MISS study showed that suicide attempters in Vietnam are mainly engaged in or have attended higher education, rather than having only secondary or a lower level of education. This result is similar to that found for suicide attempters in Iran and Estonia, but differs from results obtained from China, India, Brazil and Sri Lanka, where most suicide attempters had secondary or a lower level of education (Fleishmann et al., 2005). The overrepresentation in our sample of suicide attempters with higher education may be due to their lack of coping skills and the high pressure to perform as academics in a rapidly changing society. There is a need to investigate this in further studies.

c. School problems

As causes of attempted suicide and suicide, study problems have been mentioned in previous studies (Donal et al., 2006; Beautrais, 2001). The results from our study show that study problems are a motive for attempted suicide among 1.8% of suicide attempters in the hospital population. In studies from Singapore and China, school pressure has been cited in, respectively, 11% and 13.5% of all suicide attempters (Wai et al., 1999; Zhang et al., 2006).

However, in-depth interviews of young suicide attempters in a rural community in our study showed that 15 of the 19 young suicide attempters were school drop-outs.

Reactions from the school, society and the family were lacking. Young people who drop out of school have to find jobs despite their limited education. This may lead to distress and culminate in suicide attempts.

The Programme on Global Child Mental Health (www.globalchildmentalhealth.com) makes school drop-outs the focus of preventive intervention aimed at preventing mental

problems and suicide. Dropping out of school is one of the most significant indicators of mental distress and mental problems, of which suicide attempts and suicide are the ultimate consequence. Young people's study problems and school drop-out may influence the design of suicide-prevention strategies in Vietnam, and this is discussed below.

d. Relationship problems

The results of our study show that arguments, quarrels or blame from parents or other family members were triggers of suicide attempts in young suicide attempters. The study from China showed that family-related problems were present for 61% of female suicide attempters and 40% of male attempters (Zhang et al., 2006). During a family dispute or crisis, the woman is typically blamed (Zhang, 1996).

In our study, many young suicide attempters decided to attempt suicide when their parents refused to accept their love of girlfriends or boyfriends. These results are in agreement with studies from Singapore, China, India and Hong Kong (Wai et al., 1999; Zhang et al., 2006; Adityanjee, 1986; Chiu., 1989). Relationship problems are also known to be a risk factor in suicidal behaviour in western countries (Heikkinen et al., 1995; Maris, 1997). However, there is a difference in marriage culture between western and Asian countries. While western marriages are supposedly based on romantic love, Asian marriage tends to be greatly influenced by the opinions of parents and relatives (Mäkinen and Wasserman, 2001).

e. Domestic violence

The association between mental-health status and domestic violence has been demonstrated in a number of studies (Caldera et al., 1999; Resnick et al., 1997; Mullen et al., 1998). In Vietnam rural areas, when we asked young married women about their acceptance of domestic violence, most replied that 'a beating from my husband is normal in my life, because it's the husband's right'. Domestic violence is the main

reason for suicide attempts by some of the young married women investigated in our study. In previous studies, suicide attempts have been found to be associated with domestic violence in the Philippines, Egypt and India, while 12% of women in Chile, 2.6% in Egypt, 7.5% in India and 1.6% in Philippines reported attempted suicide (Vizcarra et al., 2004). Domestic violence thus affects mental-health status and may result in suicidal behaviour.

f. Culture and religion

According to data from WHO, there is remarkable variation in suicide rates among countries with different religious traditions. In Muslim countries (e.g. Kuwait), where committing suicide is strictly forbidden, the overall suicide rate is close to zero (0.1 per 100,000 inhabitants). In Hindu (India) and Christian countries (e.g. Italy), the overall suicide rate is around 10 per 100,000. In Buddhist countries (e.g. Japan), the suicide rate is around 17.9 per 100,000 inhabitants (Bertolote et al., 2002). Thus, average suicide rates reported from countries with religious sanctions against suicide are lower than for countries without such sanctions (Kelleher et al., 1998).

In our study, the results show that followers of the Buddhist religion experienced less suicidal ideation than people who either had no religion or followed other religions or faiths (Muslim, Protestant, Jewish). The Vietnamese commonly believe that life is merely ‘a visit to Earth’, while death represents ‘returning home’, that ‘life’ is a ‘temporary dwelling’ while death is ‘long-lasting existence’. These beliefs may, of course, be rooted in the Buddhist religion, which upholds the belief of reincarnation. Accordingly, one’s next life is thought to depend on how one has lived in this life, and no one can avoid what will happen. Escaping from this life by dying cannot prevent the sufferings of the next life. These beliefs are close to the humanist, existential model of thinking, in which the meaning of life is sought while life is almost nothingness.

Other popular concepts of life and death are rooted in the doctrines of Confucius. It is said that when a student came and asked Confucius what might happen after death, the master answered that one should live a worthy life and that it is better not to worry about the next, because on dying one will learn what the next life is to be like. This concept is close to the cognitive behavioural model of a 'here and now' approach: that there is no 'should' or 'must' in this life, and 'here and now' is what we should accept. In our study, when asked 'What is your religion?', more than 90% of respondents stated that they had none. This result is similar to findings obtained in China within the SUPRE-MISS study. However, most of the Vietnamese respondents in our study stated that they belonged to no religious denomination but nevertheless considered that they had religious beliefs. This result is different from the findings from some other countries, where the rate of affiliation to organised religion is high while the presence of religious beliefs is much lower. Most Vietnamese people are strongly influenced by Buddhist practices, even if they do not openly admit that they are Buddhists (Vien, 1993). The results of our study indicated that Buddhists appear to be protected from suicidal thoughts. In addition, a study from the Netherlands indicated that acceptance of suicide is lower among individuals with religious beliefs than those who lack them (Neeleman, 1998).

10.2.5. Suicidal communication and the suicidal process

a. Suicidal communication

Suicidal communication is a manifestation of personal style, reflecting a person's capacity to ask for help. In a study performed in Stockholm and Los Angeles, the results showed that 56% of suicide victims in Los Angeles and 66% of those in Stockholm were known to have communicated their suicidal intent directly to significant others (Rudestam, 1971). Yessler et al., in another study (1960), indicated

that 29.8% of persons who committed and 25% of those who attempted suicide communicated their suicidal thoughts before performing the act concerned.

In our study of young people, seven of 19 respondents used indirect verbal forms of suicidal communication: three used direct verbal communication; and three more used some other kind of suicidal communication. The fact that 13 of the 19 interviewees engaged in some kind of suicidal communication indicates that there was little opportunity for these young persons' parents, other family members or significant others to intervene. An indirect communication can be difficult for outsiders to interpret, and direct suicidal communication was utilised by only three persons. Absence of constructive communication and dialogue is characteristic of suicide attempters in the West as well (Wolk-Wasserman, 1986). The response of significant others to suicidal persons' suicidal communication and pleas for help is known to have an impact on the development of the suicidal process (Wolk-Wasserman, 1986). From other western studies, it is known that family members can show indifference, ambivalence and, in some cases, anger, hostility and even explicit death wishes towards a suicidal person (Richman and Rosenbaum., 1970; Rosenbaum and Richman, 1970; Richman, 1978; Richman, 1979; Wolk-Wasserman., 1986). The absence of good communication and dialogue therefore seems to be characteristic not only of the young rural Vietnamese families studied, but of suicidal people generally.

b. The suicidal process

In results of our study, 16 of the 19 subjects had experienced intense and constant sadness, as well as fleeting, vague suicidal thoughts, and felt that life was 'meaningless', for one week to six months prior to their suicide attempt. However, they were unable to communicate constructively with their parents or other family members about their feelings. This inability to seek advice and communicate in a dialogue with

others about their distress, as well as the need for psychological or financial support, was evident in almost all the persons investigated.

Although 12 of the 19 youngsters showed a short time lag (less than one day) and five of the 19 a time lag of one to three days between their first distinct, strong suicidal thought and their suicide attempt, they experienced vague, fluctuating suicidal thoughts and marked distress during the ensuing months.

Five of the 19 had some kind of suicide plan one to three days before their suicide attempt. Results from western studies also show that young people have a short suicidal process (Runeson et al., 1996). However, this short decision time was used by young suicide attempters in our study for buying raticides or pesticides. It is possible that, had they been taught to communicate better, or if their distress had been previously understood by significant others they might have been able to speak to someone instead of buying poison.

c. Reasons for suicide attempts

Interpersonal conflicts are main causes of attempted suicide in Asian countries (Chiu, 1989; Zhang et al., 2006; Phillips et al., 2002b; Adityanjee, 1986). The percentages of suicide attempts precipitated by interpersonal conflicts according to other studies were 66% in Hong Kong, 32% in China and 48.1% in Singapore (Chiu, 1989; Zhang et al., 2006; Wai et al., 1999). These findings are consistent with the result from our study, in which the most frequent cause of attempted suicide was conflict with the family (73.8%), mainly with partners and parents. In Vietnamese culture, family or other types of conflict are well-known psychosocial stressors and can result in impulsive suicide attempts, especially among youngsters, when no underlying psychiatric illness is present, when firm support from their various networks is simultaneously lacking. Conflicts in the family were more common among females than males. A study on female suicide attempters in a rural community in China indicated that 38.3% of these

attempts were due to beatings by the spouse and 31.9% to conflicts with mothers-in-law (Pearson et al., 2002). These kinds of interpersonal conflict are specific to developing countries, and Vietnam is no exception. Some theories focus on the low status of rural females in many developing countries, and emphasise the domestic violence due to family conflicts to which these women are subject (Krug et al., 2002).

10.2.6. Access to means of suicide

In our study on attempted suicide, the majority of the suicide attempters in urban areas used intoxication as means of attempting suicide.

The results from our study show that suicidal thinking is related to the use of sedatives and that these kinds of medicines are a frequent means of attempting suicide, specifically in urban areas in Vietnam. This result is consistent with studies from western countries (Hawton et al., 2005).

The majority of attempts (57.1%) in the rural areas were by means of pesticides, raticides or other chemicals used in agriculture (ICD-10 code X68). This method, which is almost absent in both attempted suicide and suicide in the West, has been reported as common in Asian countries, including China, Sri Lanka and India (Phillip et al., 2002b; Eddleston et al., 2005; Somasundaram and Rajadurai, 1995; Vijayakumar, 1999; Hutchinson et al., 1999). In rural China, pesticides account for over 60% of suicides (Phillip et al., 2002a, b). Similarly, the proportions of suicide due to pesticides in rural areas are 71% in Sri Lanka (Somasundaram and Rajadurai, 1995) and 68% in India (Hutchinson et al., 1999). Many deaths from self-poisoning in Asia Pacific occur among people who do not intend to die but who do so because the poisons ingested are highly toxic, the nearest hospital is distant and these patients are difficult to treat (Eddleston et al., 2004; Phillips et al., 2002b).

Our study on suicide attempters also indicated higher medical lethality among rural patients who use pesticides and rat poison as means of suicide, and showed that they need emergency treatment more often. Most people living in rural areas in developing countries are involved in agriculture. Pesticides are therefore stored at home. Our qualitative study found that availability and low price are two factors explaining why young suicide attempters use pesticides and raticides for suicidal purposes.

However, attempted suicide in Vietnamese urban areas more closely resembles attempted suicide in the West. Analgesics and antipyretics (55.6%), such as paracetamol and rotunda—a traditional herb with an action similar to paracetamol (X60)—and tranquillisers (X61) are used for suicidal purposes. This closely resembles western patterns of suicide-attempt methods (Schmidtke et al., 1996) and also the methods used in some Asian countries such as Singapore, Malaysia and Hong Kong, where 55%, more than 30% and 22% respondent suicide attempters respectively had used medicine overdoses in attempting suicide (Fathelrahman et al., 2005; Chiu, 1989; Wai et al., 1999).

There were no attempted suicides with firearms in our material, since firearms are not accessible to the general population in Vietnam. Firearm possession is prohibited, except for military personnel and policemen.

10.2.7. Young people

a. Lifetime suicidal ideation in young people

In our study, the lifetime prevalence of suicidal thoughts in the 14–25 age group, in an urban community, was 13.7%. A previous study from Hong Kong showed 52.6% lifetime prevalence of suicidal ideation in adolescents aged 14–20 (Lee et al., 2006).

A study from China found that 16% of school pupils aged 13–17 years had experienced suicidal ideation at some point in their lives (Hesketh et al., 2002). In European countries, Mehlun (1998) showed that 21.7% of Norwegian male conscripts had had

suicidal thoughts at one time or another, and Ivarsson and Gillberg (1997) found that the rate of suicidal ideation among Swedish youngsters in the 13–18 age group was 4%. The differences in results from the above reports are probably due to demographic factors, but cultural factors cannot be excluded and further investigation is therefore called for.

b. Young suicide attempters' suicidal communication

In our qualitative study, suicidal thoughts of young suicide attempters in a rural community have proved vague and fleeting, but suicidal communication was present in 13 of the 19 cases. Studies from rural areas of China have pinpointed, in particular, the influence of poor academic performance and psychological morbidity on adolescents' suicidal ideation (Liu et al., 1999; Hesketh et al., 2002). Young people's academic performance has been shown to be directly related to school achievement, self-confidence and parental satisfaction with performance (Lee et al., 2006).

Outsiders cannot easily recognise suicidal communication. Ten out of 19 (52%) of the young suicide attempters in our study expressed suicidal thoughts in a non-verbal way, while only three used direct verbal communication. A study of Canadian college students found that of those considering suicide, 55% told others of their suicidal intentions (Mishara, 1982). In studies of upper-secondary school pupils, 59.6% of the Turkish and 38.8% of the Swedish pupils who had thought of killing themselves said that they had told someone of their suicidal thoughts (Eskin, 2003).

Lawrence and Ureda (1990) indicated that, although students can recognise suicidal behaviour in their peers, they do not know how to respond. In the Swedish study, young suicide attempters' communication is often unnoticed by their parents and other adults (Hultén and Wasserman, 1995).

c. Young people's suicide attempts

Hospital-based

The largest group of suicide attempters in Vietnam in our hospital study was the group aged 15–24 years. This age group accounted for 48.7% of all attempters, against 28% in the WHO Europe study of attempted suicide. The mean age of suicide attempters in European (Schmidtke et al., 1996) and western studies (Beautrais et al., 2001) is approximately 30–35 years. In our Vietnamese study, attempters were younger (28.3 ±12.9 years). The female-to-male ratio of suicide attempters in the 15–24 age group in the urban area was 2:1, which was higher than that among patients from rural areas, who showed a ratio of 1.3:1.

In the WHO/EURO Multicentre Study on Parasuicide, mean rates of attempted suicide in the 15–24 age group in European countries range from 139 per 100,000 of the population in Slovenia to 832 /100,000 in France in 1996 (Schmidtke et al., 2004).

Population-based

From population-based data, the rate of self-reported suicide attempts among 16- and 17-year-olds in the Swedish study was 7.7% (Ramberg and Wasserman, 1995). A study of Dutch secondary school students indicated a 2.2% lifetime rate of suicide attempts (Kienhorst et al., 1990) while a study from Slovenia found rates of 3.1% for boys and 7.4% for girls (Tomori and Zala, 2000). In our study in an urban Vietnamese community, we found 2% prevalence of attempted suicide in the 15–24 age group.

d. Psychosocial factors affecting young suicide attempters

The young suicide attempters in our study felt, deeply and bitterly, that they did not receive practical, financial and psychological support from their families when they felt distressed. There are also studies from the West showing that adolescents who report suicide attempts receive relatively little family support. They also report much more physical and/or sexual abuse than non-attempters (Garnefski and Arends., 1998).

There are also various studies on deficiencies in problem-solving skills that lead to depression, which can lead to suicidal behaviour, when adolescents face adversity in everyday life (Wilson et al., 1995; William et al., 2000; Yang et al., 2000). The association between life events, such as interpersonal losses, conflict with parents and boyfriends/girlfriends and school problems, and young people's attempted suicide is well known, and these events have been recognised as risk factors for suicidal behaviour in many western studies (Fergusson et al., 2000; Borowsky et al., 2001; King and Apter, 2003). These kinds of stressors were also found in our qualitative study on young suicide attempters in Vietnam.

10.2.8. Health services for suicidal attempters

a. Accessibility

In the results of our study, Vietnamese suicide attempters who were hospitalised reported attempts that were medically more serious than those of their counterparts in other countries. In Vietnam, there seems to be reluctance to seek professional attention when emotional problems arise. However, it is also well known from other countries that many people who suffer from prolonged stress and mental problems do not come to the health services' attention (WHO, 2003). A study from China found that 63% of suicidal persons had mental illness, but only 7% had ever consulted a mental-health professional (Phillip et al., 2002b). People may be concerned only with somatic symptoms that arise, either failing to recognise emotional symptoms or, if they recognise them, failing to seek help from general practitioners (GPs) and other health professionals. This failure may be connected with taboos or diverse cultural aspects of mental illness and suicide in Vietnam, but is also due to a general lack of knowledge about diagnosis of and treatment options for mental illness (Rutz, 1992).

b. Utilisation

Our study revealed a lack of specialist care facilities to which Vietnamese suicide attempters and people with emotional problems can be referred. Mental health-care services are especially lacking in rural areas. There is an inadequate supply of psychiatric professionals, as well as social workers and medical psychologists, in these communities. In the whole country, with its population of more than 80 million, there are only about 1,500 graduate mental-health professionals and 2,200 psychiatric nurses. According to Giang et al., only 5% of Vietnamese people who are in mental distress seek health care at the district, provincial or central hospitals, where mental health-care services are provided (Giang et al., 2006a). Moreover, in the health-care units where psychiatric services are available, psychiatric assessments are not systematic..

Previous studies have recommended systematic and active aftercare of people who are at high risk for suicide, for example after attempting suicide, as a vital means of suicide prevention (Hawton et al., 1988; Schmidtke et al., 1996). The findings of the SUPREMISS study indicated a lack of professional services in Vietnam for referral of suicide attempters. In Hanoi, 74% of female and 82% of male suicide attempters were not referred to any professional mental health services after treatment at emergency units. The results are similar in China (97% for men, 98.8% for women) and India (97.6% and 98.3% respectively), reflecting the non-existence of eligible referral services in Asia as a whole (Fleischmann et al., 2005). Western studies also show deficiencies in aftercare of suicide attempters. A study from Helsinki shows that one-third of attempters did not even receive the absolute minimum recommended aftercare during the month after their suicide attempts (Suominen et al., 2002). The WHO/EURO Multicentre Study on Parasuicide found that 20% of female suicide attempters were not

recommended any further treatment (Schmidtke et al., 2004; Bille-Brahe and Löhr, 2004).

10.2.9. Suicide prevention

Strategies for suicide prevention can be divided into a health-care approach and a public-health approach. The health care perspective deals with how to improve early diagnostics; deliver the best effective treatment of mental disorders in hospital and the community; and follow up and rehabilitate patients at risk for suicide. The public health approach includes controlling environmental risk factors by, for example, reducing access to means of suicide, and also changing attitudes towards mental illness and suicide, and making professionals and the general public more aware of symptoms of mental illness, suicide and scope for improving mental health and preventing suicide (Wasserman, 2001).

a. Present situation in Vietnam

Strategies for suicide prevention do not exist in Vietnam. National strategies for mental health were developed and initiated in 1999, but these focused on schizophrenia alone. There are various reasons for this. First, Vietnam does not yet have a system for monitoring causes of death, and the nationwide scale of suicide is therefore still unknown. Judging from hospital records, the suicide rate is low. But only a minority of attempted-suicide cases is treated in hospital and only a tiny proportion die from suicide in hospital. Lack of involvement by makers of public-health and health-care policy is due to their ignorance of the scale of suicidal behaviour and seriousness of suicide problems. In addition, cultural factors, such as stigmatisation of mental problems and suicidal behaviour, may explain why the problem has been neglected. Limited knowledge of risk and protective factors for suicidal behaviour is another obstacle to the development of suicide-prevention strategies.

b. Examples from the West

There are many suicide-preventive programmes in European countries as well as the USA, Canada, New Zealand, and Australia. Several studies have shown that effective treatment of depression, bipolar disorders and schizophrenia can prevent suicide and attempted suicide. There are promising results from both physical (pharmaceutical) and psychological treatments (Wasserman, 2001). The two approaches need to be combined, since suicidal behaviour has biological, psychological and social causes. A training programme for GPs in Gotland, a Swedish island, showed a significant decrease in the suicide rate, but only for females (Rutz, 1992). Reducing alcohol consumption proved to be the most effective suicide-preventive programme for males during *perestroika* in the former Soviet Union (Wasserman and Värnik, 1998). In Sweden, Israel, Australia and the USA, suicide-preventive programmes in schools that train pupils in life-management skills show encouraging results (Wasserman, 2001; King and Apter, 2003; Aseltine, 2004). In Norway, Ukraine and Lithuania, suicide prevention is also implemented in specific environments, for example in military services and in prisons, by enhancing the knowledge of staff responsible (Wasserman et al., 2002). In Canada, Leenaars and Lester showed that the gun-control laws are an effective way of restricting access to means of suicide among young people and women (Leenaars and Lester, 1998).

c. Examples from Asia

Existing strategies

Most Asian countries do not yet have national strategies for suicide prevention programmes, although 60% of suicides worldwide occur in Asian countries (Bertolote, 2001). Together, China, India and Japan account for more than 40% of all world suicides (WHO, 2006). The first workshop on developing strategies for suicide prevention in Asian countries, to be organised by Professor Herbert Hendin from AFSP

in New York, Professor Jose Manoel Bertolote of WHO in Geneva, Professor Danuta Wasserman from NASP and the Department of Public Health Sciences in Karolinska Institute and invited experts from Asia, will therefore be held in Hong Kong in November this year.

Certain activities in suicide prevention are currently being implemented in Asian countries, such as Hong Kong, India, Japan, Taiwan and China.

Hong Kong

In Hong Kong, a major educational campaign entitled 'Defeat Depression' was launched in 1999 and 2002, to raise public awareness of depression and encourage a positive help-seeking attitude. Various training programmes on suicide prevention are under way. These include training programmes for 'gatekeepers', which include the police, medical professionals, social workers and volunteers, as well as those for school pupils, teachers and parents designed to enhance students' mental health and help teachers to support their pupils. Charcoal-burning is known to be a major means of suicide in Hong Kong, and restriction of access to charcoal in supermarkets is implemented as one of the strategies for suicide prevention (Yip, 2006).

India

There is no national strategy for suicide prevention in India. Suicide-prevention activities are conducted through non-governmental organisations (NGOs). They include training for primary health-care physicians in how to recognise and effectively treat depression and suicide, as well as numerous training programmes for nurses, teachers and police officers in how to recognise suicide risk. Unfortunately, these programmes have not yet been evaluated (Vijayakumar, 2006).

Japan

Suicide by means of the pesticide paraquat increased dramatically in the 1980s. The Japanese Government therefore took measures to restrict its use. Paraquat is now brightly coloured, with an offensive odour and emetics added: these features make it unpalatable for suicidal persons. In addition, the concentration of paraquat for commercial use has been reduced to make it less lethal. This strategy succeeded in reducing the rate of suicide by pesticide intoxication (Takahashi, 2006).

Taiwan

Taiwan is one of few countries in Asia where a national strategy on suicide prevention has been developed. However, this strategy is new and the activities on suicide prevention that are currently being implemented have not yet been evaluated. The strategy for suicide prevention comprises public training on depression and signs of suicidal behaviour; holding of press conferences; training in awareness of inappropriate media reporting of suicide; education and training of family physicians in mental problems; restriction of means of committing suicide by attaching labels to charcoal packages with warnings and information about where to get help in the event of intoxication (Andrew, 2006).

China

In China, suicide-prevention activities are implemented by both governmental and non-governmental sectors. There is a national plan for mental-health development in the period 2002–2010, one aim being to increase public awareness about depression. Many training programmes have been developed to train primary health-care providers, emergency health workers, psychological counselors, social workers, community leaders and police officers in how to recognise depression and risk factors for suicide.

In many universities in China, psychological health networks have been developed for identifying students at high risk of suicide. In addition, nationwide distribution of highly toxic raticides and pesticides has been prohibited; but the production and sale of high-risk pesticides and raticides nonetheless persists in most parts of China (Xiao, 2006).

d. Future suicide prevention in Vietnam

Strategies

Based on epidemiological findings that suicidal thoughts are 22 times more common than suicide attempts, while suicide plans are only three times more common, it was previously recommended that suicide prevention should focus on those with suicide plans (Fleischmann et al., 2005).

However, when more in-depth studies were performed, the results showed that 42.7% of respondents who had lifetime suicidal thoughts scored within the range of mild or severe depression according to Beck Depression Inventory. Those results indicate that it is useful to start suicide prevention activities among persons with suicidal thoughts, since they often have depression that can be treated (Wasserman, 2001).

Given Vietnamese culture and stigmatisation of mental illness and suicidal problems, it is probably more feasible for suicide-preventive strategies to be included as a part of a national programme for improving mental health, such as the programme that already exists in Vietnam.

Psychosocial aspects

Based on the stress-vulnerability model, suicidal behaviour occurs when there is an imbalance between risk factors and protective factors. Personal conflicts and lack of support were found to be the main factors precipitating suicide attempts in our study.

Attempts usually occurred after physical or psychological abuse, such as blaming or scolding by the respondents' parents or husbands.

This kind of phenomenon is highlighted by WHO strategies of how to prevent domestic violence and battering of children and partners (Krug et al, 2002). These WHO strategies should be implemented, since they can probably assist in suicide prevention as well. The WHO resources for teachers regarding how to prevent suicidal behaviour, an ultimate consequence of mental ill-health, could also be used immediately in Vietnam (WHO, 2000a; Wasserman and Narboni, 2001)

Teaching young people how to find other people to confide in if the family fails to give them support is another strategy. These strategies also involve enhancing public awareness of the importance of recognising suicidal communication and distress in young people. Psychosocial strategies that focus on young people at risk, such as school drop-outs, and on teaching families how to communicate about problems and distress can be tested.

Restriction of means

The other population-oriented measure would be to reduce access to toxic pesticides by raising public awareness of the need to keep these potent poisons under lock and key. Exerting control over the sale of highly toxic raticides is a second way of restricting access. Thirdly, regulating the sale of paracetamol or sedatives, which has proved to be a successful suicide-preventive strategy in the United Kingdom, could be used in urban areas in Vietnam.

Health-care services

The lack of mental-health services in the community and of systematic ways of assessing mental ill-health and suicidal behaviour are obstacles to suicide prevention.

The development of mental health-care services as well as helpline networks (Lester, 2001) in suicide prevention should be encouraged in Vietnam. Enhancing the knowledge of people in the community about how to cope with emotional pressures, and when and where counseling and diagnosis of emotional problems should be sought. Upgrading of psychiatrists' knowledge of how to detect suicidal thoughts, suicide plans, early symptoms of depression and other psychiatric disorders, and of treatment and rehabilitation measures, is another important means of suicide prevention in Vietnam. Finally, improving GPs', nurses' and other health professionals' knowledge of how to detect suicide-risk factors is an equally important way of preventing suicide.

Data collection

The magnitude of suicide problems is still hidden in Vietnam since there is no system for monitoring causes of death. It is paramount to develop a national mortality register system and regional monitoring systems for attempted suicide, so that trends can be followed and data on risk factors monitored at local and regional level.

Evaluation of risk and protective factors among high-risk groups is also necessary for suicide prevention.

11. CONCLUSIONS

This thesis explores suicidal behaviour in both rural and urban areas in northern Vietnam. Although there are similarities between suicidal ideation and attempted suicide in Vietnam on the one hand and western, as well as other Asian, countries on the other, some dissimilarity can also be found. The findings of our studies can be used as a base for a suicide-preventive strategy for Vietnam.

Conclusions and recommendations

- Suicidal thoughts are multi-factorial and associated with mental problems such as feelings of anxiety and depression, general somatic illness such as cancer, and an array of social factors. A better understanding of the unique and common complex factors in a culture or region may facilitate prediction and control of suicidal processes in the region concerned.
- The results of our study showed that large numbers of respondents who had lifetime suicidal thoughts scored within the range classified as ‘mild’ or ‘severe’ depression. Those results indicate that it is useful to initiate suicide-preventive activities among people who have suicidal thoughts since they often suffer from depression, which is treatable.
- Our studies show that numerous people who have had lifetime suicidal thoughts exhibit signs of depression and poor well-being. It is essential to train health-care staff in the community, GPs and other physicians to detect early signs of depression, other mental problems, and suicidal behaviour, and to make health services more accessible.
- Psychosocial stressors play a key role in suicide attempts, especially among young suicide attempters in Vietnam. Young suicide attempters suffered prolonged distress before attempting suicide, but their family and friends failed

to recognise their signals or communication attempts. Psychosocial interventions in the form of programmes targeting school drop-outs, domestic violence, and communication and coping abilities should be introduced. Skills in resolving family and other conflicts can be taught in schools according to the WHO's suicide prevention resource for teachers. In addition, greater public awareness is important if recognition of suicidal communication and distress in young people is to be enhanced.

- Attempting suicide using pain-relief medication or analgesics is common in urban areas of Vietnam, just as in the West. The use of pesticides or raticides, on the other hand, appears to be much more of a Vietnamese and Asian phenomenon. Some suicide-preventive strategies used in the West for young people may also be applicable to Vietnam. In many Western countries, over-the-counter sale of paracetamol has been restricted to small quantities in order to reduce the accessibility of dangerous means of attempting and committing suicide. Measures targeting access to pesticides and raticides, by, for example, raising public awareness of the need to keep these potent poisons under lock and key or to make them available to authorised persons only, are also necessary.

12. IMPLICATIONS FOR FUTURE RESEARCH

- This, the first study on suicidal behaviour in Vietnam, was carried out in the city and suburbs of Hanoi. The goal was to find characteristics of suicidal behaviour in Vietnam.
- In the future, these studies on suicidal behaviour need to be extended to different geographical areas throughout Vietnam. Longitudinal studies to define risk, protective and other aetiological factors contributing to suicidal behaviour are also needed.
- Development of a systematic nationwide monitoring system for suicide and a registration system for monitoring attempted suicide is necessary to enable trends to be followed and risk and protective factors in high-risk groups defined.
- Applied research, such as testing of certain preventive strategies, is advisable. Examples of such strategies are educational programmes for young people, parents and school teachers on how to recognise suicidal communication and distress, and training programmes for GPs and other physicians in how to detect suicidal thoughts, suicide plans, early symptoms of depression, and other psychiatric disorders.
- Further development of evaluation tools for specific Vietnamese populations and their use for following up the effectiveness of suicide-preventive programmes are encouraged.

13. ACKNOWLEDGEMENTS

I would like to express special thanks to the following people, who guided and helped me in completing this thesis.

Special thanks are due to Professor Danuta Wasserman, my supervisor, for solid guidance; for giving me your time and the benefit of your extensive knowledge and experience; and for supporting my growth and development in the field of suicidology.

I will never forget the first time I came to NASP, with such limited knowledge of suicide research, and now, look how far I have come!

Professor Hans Rosling for the idea of developing suicide research in Vietnam, for supporting me in the difficult initial period and for introducing me to Professor Danuta Wasserman.

Professor Pham Thi Minh Duc, my co-supervisor as well as Head of my department in Vietnam, for encouragement, advice and time for discussions, not only about research, but about every aspect of life.

Associate Professor Nguyen Van Tuong, my co-supervisor in Vietnam and coordinator of the collaborating programme between Hanoi Medical University and Karolinska Institute in Vietnam, for accepting me as student on the programme and supporting me during the completion of my thesis.

Professor Pham Huy Dung, for encouraging me to study such a difficult and sensitive issue. Thank you for taking the time to discuss culture, history and social aspects relating to suicidal behaviour in Vietnam.

Professor Jose Manoel Bertolote, for supporting me in raising the topic in Vietnam during the difficult initial period.

Dr. Victor Storm and Dr. Robert Redwin, for arrangements and guidance, and allowing me to practise in the mental healthcare services of New South Wales, especially in the Child and Adolescent Psychiatric Hospital in Sydney.

The late Professor Ton That Bach, former Rector of Hanoi Medical University, who always supported the younger generation, for giving me the opportunity to become a research student on the programme.

Associate Professor Ingeborg van der Ploeg, my great friend as well as coordinator of the KIRT collaborating programme between Hanoi Medical University and Karolinska Institute, for promptly helping me whenever I had difficulties with my studies. Thank you for all of the social events that you organised for us students, which helped us understand more about Western culture; and thank you for such a wonderful time when my family stayed in Stockholm. Thanks are also due to Monica Grangien and Maissa Al Aldami for administrative support.

Professor Nguyen Lan Viet, Dr. Do Doan Loi and Associate Professor Dao Van Long of the Board of Directors of Hanoi Medical University, for encouraging me during my studies.

Thanks are due to Birgit Frisén-Andersson at NASP for her tireless assistance with numerous administrative tasks throughout my studies at KI.

I am also especially grateful to my co-workers Max Goldstein Master of Arts (Planning), School of Community and Regional Planning, University of British Columbia, USA, MBA in psychology Gergö Hadlaczky from Stockholm University, the Department of Psychology, Sweden, Ana Nordenskiöld, student in anthropology at Stockholm University, both working at NASP and MBA in social anthropology Camilla Wasserman from University of Paris VIII: Vincennes - Saint-Denis, the Department of anthropology, France, for helping me with scientific formulations and for correcting my English and enjoying good times with me.

I thank my colleagues at NASP for their cooperativeness and commitment. I am particularly grateful to Dr. Guo Xin Jiang for advice and valuable comments for Study II, III, Dr. Ellenor Mittendorfer for comments on Paper III, Associate Professor David

Titelman for his kind support, Eva Wasserman, and Laila Lindahl for helping me with administration during this whole time.

I wish to thank my special colleague Nguyen Thi Bach Yen, for talking to me about academic issues as well as everyday life when I was studying in Stockholm, and helping me to ward off loneliness; Nguyen Thi Thanh Huong for extensive discussions on social and academic issues; Nguyen Van Tuan for discussions on mental-health issues, and for guiding me in psychiatric knowledge and the development of my future career; and Tran Nam Trung for sharing his experience in epidemiology and helping me analyse data for Paper II.

I thank my colleagues and students in Vietnam for helping me collect data: Dinh Thu Huong, Le Thu Hoa, Nguyen Lan Huong, Nguyen Bao Lien, Nguyen Van Minh, Hoang Hoa Son, Ha Tran Hung, Nguyen Huyen Linh, Nguyen Van Manh, Nguyen Thu Thuy and Nguyen Van Thang.

I also want to thank all the research students and my colleagues on the programme: Nong Ngoc Huy, Ta Thanh Van, Dang Ngoc Dzung, Nguyen Van Do, Nguyen Vu Trung, Nguyen Khanh Hoa, Hoang Thu Ha, Nguyen Thanh Huyen and Vuong Tuyet Mai for the enjoyable time we have had together while abroad.

Last but not least, warm thanks are due to my family and my closest friend; my grandmother and parents for continuous support and encouragement during my studies; my sister for her kindness and take care me when she left her work and for staying with me when I had to spend long periods abroad. Special thanks to Quang for sympathy, love and support, and always being there for me whenever I need you, even when you are very busy. I will never forget everything you sent me when I felt down during my studies and while living far away from home.

The funding from SAREC/Sida (the Swedish International Cooperation Agency) and the World Health Organization is also gratefully acknowledged.

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