



**Royal University of Phnom Penh
Department of Psychology**



**Cambodian
Mental Health Survey**

2012



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Abbreviations

AFESIP	Agir Pour les Femmes en Situation Précaire
CBT	Cognitive Behavioral Therapy
CCAMH	Centre for Child and Adolescent Mental Health
CDC	Center for Disease Control and Prevention
CIDI-Scale	Composite International Diagnostic Interview
C-SSI	Cambodian Symptom and Syndrome Inventory
CW	Civil War
CWCC	Cambodian Women's Crisis Center
DBT	Dialectic Behavioural Therapy
DC-CAM	Documentation Center of Cambodia
DP	Department of Psychology
DSM III-R/IV-TR	Diagnostic Statistic Manual 3rd edition revised/ 4th edition text revised
DV	Domestic Violence
ECCC	Extraordinary Chambers of the Courts of Cambodia
EMDR	Eye Movement Desensitization and Reprocessing
FHI	Family Health International
GBD	Global Burden of Disease
GIZ	Gesellschaft für Internationale Zusammenarbeit
HAP	Human Assistance Programme
HRW	Human Rights Watch
HSCL-25	Hopkins Symptom Checklist 25 Items
HTQ	Harvard Trauma Questionnaire
ICESCR	International Covenant on Economic Social and Cultural Rights
IOM	International Organization for Migration
KR	Khmer Rouge
LICADHO	Cambodian League for the Promotion and Defense of Human Rights
M	Mean
MOH	Ministry of Health
MOWA	Ministry of Women's Affaires
N	Number
NGO	Non-Governmental Organization
NET	Narrative Exposure Therapy
OPD	Outpatient Psychiatric Department

PPS	Probability Proportional to Size
PSF	Psicólogos sin Fronteras
PTSD	Post Traumatic Stress Disorder
RUPP	Royal University Phnom Penh
SD	Standard Deviation
SP	Sleep Paralysis
SSC	Social Services Cambodia
TCMIE	Trauma associations, Catastrophic cognitions, Metaphoric resonances, Interoceptive conditioning, Escalating arousal and panic
TF-CBT	Trauma-Focused Cognitive Behavioural Therapy
TPO	Transcultural Psychosocial Organization
TT	Testimony Therapy
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USA	United States of America
USD	United States Dollar
WHO	World Health Organization
YFP	Youth for Peace
YRDP	Youth Resource Development Programme



Abstract

This study reports on the first large-scale investigation of mental health in Cambodia. A randomized sample of 2690 adults from 9 provinces across Cambodia was interviewed about mental health and mental disorders, addictive and violent behaviours, suicidal tendency, traumatic events, and culturally influenced symptoms related to mental health. In addition, the Harvard-Trauma Questionnaire (HTQ), the Hopkins Symptoms Checklist (HSCL-25) and the Cambodian Addendum of Culturally Sensitive Items (now C-SSI) were administered to all respondents.

Results indicate high rates of children's problems, especially aggressive behaviour in the families (11.5%) (for comparison in India a rate of 12.8% was found for child and adolescent disorders), child abuse experienced by males (10.6%) and by females (8%) (as compared to 10.2% of cases of maltreated children in the USA), suicide (0.8% of the households, 42.35 suicides estimated per 100,000 per year 2011 compared to worldwide numbers with an average of 16 suicides per 100,000 population per year (WHO, 2011a) and a Thai rate of less than one fifth of the Cambodian rate) and suicide attempts (115 respondents, 4.3% of respondents, 1.7% of males, 5.5% of females). Probable schizophrenic disorders were estimated at 0.6% for the male and 0.2% for the female population (based on individuals being chained or put in a cage).

The HTQ-Symptom scale results found 3.1% of women and 1.6% of men suffering from probable PTSD. From the HSCL-25, estimates were that 31.7% of women and 18.4% of men suffer from probable anxiety disorder and 19.7% of women and 10.2% of men suffer from probable depressive disorders. The most common depressive symptoms were worrying, difficulty sleeping and low energy.

Physical forms of domestic violence were committed twice as frequently by women as compared to men, whereas financial and sexual forms of domestic violence were more frequently committed by men. The percentage of male respondents committing domestic violence under the influence of alcohol was about 6 times higher compared to females.

Of the respondents 64.1% had experienced the period of Civil War. Of these 92.3% had experienced at least one traumatic event, with a mean of 7.0. Traumatic events were also reported among those younger respondents who did not experience the Civil War, where 70.2% experienced at least one traumatic event (with a mean of 1.3). Most of these younger respondents (94.4%) had experienced one to 12 other stressful experiences such as death or severe illness of close family members, marital, problems or financial worries. In the full sample, 87.9% had experienced some traumatic event, 86% suffered from financial worries and 15.9% reported fear of landmines.

Scores on scales of depression, anxiety, and trauma showed significant correlations with demographic data variables such as age, sex and years of education. Traditionally culturally-influenced symptoms of Cambodians were assessed by including an abbreviated form of the Cambodian Symptom and Syndrome Inventory (C-SSI). Scores on the C-SSI increased most with higher age and lower education. Gender-dependence was high for all of the scales with significantly higher proportions of women suffering from psychological symptoms. Increasing poverty is associated with increasing depressive symptoms, anxiety and trauma.

Only 24.1% of the respondents had ever sought help for the symptoms discussed in these interviews. Some had approached a health center (62.3%), some sought help within their family (50.7%) some at pharmacies (34.1%) and some contacted traditional, spiritual and Buddhist resources (47.7%). Nearly all (97.2%) wished for a mental health service at their local health center and 35.7% stated they would see a psychologist.

Major limitations of this study were that in approximately 50% of the interviews complete privacy couldn't be obtained. Due to the planting season the randomized sampling led to an overrepresentation of female respondents (66%). Because the survey was conducted by interviews based on self-reports of respondents and no clinical/psychiatric examination took place, prevalence rates are estimations for probable disorders.

In summary a high percentage of mental disorders especially among the female population was found. Problems that need to be addressed with priority are suicidal behaviour, children and adolescent mental health, mental health and poverty issues as well as human rights, with an urgent need for improvement of access to treatment by psychiatrists and psychologists and of mental health literacy among the population.



Recommendations

Summary

Support and conduct further research in the fields of

- Etiological research (see also: Stewart, Tsong & Phan Chan, 2010) especially on causes of suicidal behaviour
- Second generation trauma
- Child and adolescent mental health
- Psychosis
- Epidemiology (Ministry of Health (MoH), 2011) with a need of data sharing
- Monitoring and evaluation of treatment interventions (Stewart, Tsong & Phan Chan, 2010) with controlled trials of outcomes (Reicherter & Eng, 2011)
- Further cross cultural studies (see also: Hinton, Hinton, Eng & Choung, 2011a)
- Culture-bound reactions to traumatic events, culture dependent interpretation of psychological symptoms

On the governmental level

- Put the National Mental Health Plan into practice
- Increase nationwide services in the provinces: install governmental positions for psychiatrists and psychologists e.g. in hospitals and health care centers. Make such positions more attractive by increasing staff salaries (see also: MoH, 2011, p. 10 and 19)
- Increase community mental health care with regular follow up care: cost effective, decentralized services integrated into local settings in order to deliver an adequate coverage of mental health care for the population, including outpatient clinics, mobile community mental health teams for outreach, acute inpatient care, rehabilitation and occupation (MoH 2003; Saxena, Thornicroft, Knapp & Whiteford, 2007; Somasundarami & van de Put, 1999; WHO, 1990)
- Support multi professional teams that implement culturally appropriate, fitting interventions including psychiatrists, psychiatric nurses, psychologists, art therapists and social workers (see also: MoH, 2011, p.21)
- Promote cooperation and a participatory approach among all stakeholders (MoH, 2011, p.13)
- Add positions for psychologists and counselling to psychiatric services and addiction programmes in psychiatric hospitals
- Establish positions for school counsellors: to promote positive mental health and mental health literacy in schools, to provide a valuable opportunity for better preparation for challenges in life, to help to prevent deterioration at an early stage, especially considering the high percentage of youth and adolescents in Cambodia (see also: Stewart, Tsong & Phan Chan, 2010)
- Support parenting classes: to interrupt the cycle of intergenerational transmission of psychological problems, to promote positive mental health, communication and interaction skills
- Implement a mental health legislation for fair humane treatment: to protect the basic human and civil rights of people with mental disorders, especially those receiving involuntary treatments (see also: MoH, 2003, Saxena,et al., 2007)

- Implement a health insurance system: to pool risks especially for the poor population as already in process by the Ministry of Labor and Vocational Training
- Establish a suicide prevention programme: culturally appropriate and gender specific programmes, combined with school educational programmes on positive mental health (see also: Jegannathan & Kullgren 2011), stop public presentation of videos “glorifying” suicide
- Continue and amplify programmes on domestic violence: to increase awareness in the population and offer assistance and support, to train more effective communication skills to families
- Focus on programmes for prevention of depression and anxiety especially for women (WHO, 2011c)
- Promote mental health literacy (knowledge about signs and symptoms of mental disorders and whom to approach best) with psycho-education programmes focusing on child raising, family relationships, and consequences of mental problems through mass media e.g. radio/TV, newspaper etc.
- Diminish poverty by creating more job opportunities and income generating programmes as a long-term preventive measurement against mental disorders

For the Departments of Psychology, Social Work and Psychiatry

- Ensure high quality curricula
- Include client-based teaching approaches and practical training in classes as well as in governmental and NGO mental health services (see also MoH, 2011, p.11)
- Provide constant supervision for students’ internships
- Ensure self-care and burnout prevention for staff and students
- Promote “mental health literacy” for the population
- Conduct further research on mental health issues
- Participate in international cooperation and collaboration

Promising counselling approaches

- Support and apply cross-cultural approaches utilizing local resources (see also: Nickerson & Hinton, 2011; Boehnlein & Kinzie, 2011)
- Include family and group counselling
- Individualize treatment settings (Dubois et al., 2004): strength based, short term solution focused, CBT, client-centered (see also: Stewart, Tsong & Phan Chan, 2010)
- Offer trauma focused counselling (EMDR, testimony and narrative therapies, self-help groups)
- Offer art therapeutic approaches for children
- Train elders as mediators, and train Buddhist monks and traditional healers in mental health response (see also: Stewart, Tsong & Phan Chan, 2010)
- Integrate meditation (e.g. breathing) mindfulness and awareness exercises from Buddhism into counselling and prevention programs
- Integrate Buddhist ceremonies in group counselling where appropriate
- Provide multi-professional teams including social workers to address the psychosocial needs, poverty reduction, vocational training
- Develop psychoeducation programmes for psychosis, anxiety, depression, addictive disorders, aggressive behaviour and other mental health problems



Introduction

"There is no health without mental health" said Ban Ki-moon on October 10th, 2011, the World Mental Health Day, "Mental disorders are major contributors to illness and premature death, and are responsible for 13% of the global disease burden" (Chinese Women's Research Network, 2011, Prince et al., 2007)

- Mental disorders exact a toll greater than tuberculosis, cancer, or heart disease (World Bank, 1994).
- Mental health is an integral and essential component of health as mental disorders are among the leading causes of disability (World Health Organization's - WHO 2005 estimation, Mathers & Loncar, 2005; Murray & Lopez, 1997).
- Worldwide epidemiological data show that prevalence rates for child and adolescent mental disorders are around 20%, and types of disorders vary only little across different cultures. It is alarming to realize that this data also suggest a very early start of psychological aberrant behaviour. About half of all lifetime mental disorders begin before the age of 14 years (Saxena, Thornicroft, Knapp & Whiteford, 2007).
- Mental illness unfortunately often develops into chronic disorders, especially if untreated for a long period of time due to a lack of services and economic resources or fear of losing face and feelings of shame. The average time that passes between first evidence of a disease and the initial more adequate treatment was estimated between 3 months

and 7 years. - 2010 Cambodian survey - (Stewart, Tsong & Phan Chan, 2010).

- Regardless of these alarming facts, analysis of data from the WHO's Atlas project shows widespread, systematic, and long-term neglect of resources for mental health care in low and middle income countries (WHO, 2011a; Saxena, Sharan, Garrido & Saraceno, 2006).
- This phenomenon is even more prominent in the poorest countries as they spend the smallest proportion of their already scarce resources on mental health (less than 1%) (Saxena et al., 2007).



Summary: Mental Health worldwide

- No health without mental health
 - Mental disorders account for about 13% of the global burden of disease
 - Mental disorders are among the leading causes of disability
 - The most vulnerable groups are the uneducated, female, young and rural people
 - Long-term neglect of resources for mental health care in low- and middle-income countries
 - The poorest countries spend the smallest proportion of their already scarce resources on mental health
 - Poor provision of mental health is costly
- 

The most vulnerable groups for mental health disorders are the indigent, uneducated, female, young, and rural people (Saxena et al. 2007). Yet

these groups have the lowest access to services. The WHO has reported that the treatment gap for serious mental disorders is 35 to 50% for developed countries and 76 to 85% for low and middle-income countries (WHO, 2004 a). The proportion of those receiving good quality and humane treatment is small or none. The consequent results of inadequate mental health care are exponential.



Indeed, mental health issues account for 3 to 4% of the Gross Domestic Product of developed countries. Costs for low-income countries are much higher due to high costs, financial impact on family caretakers, and losses in productivity (McDaid, Knapp & Raja, 2008).

Many governments and policymakers ignore the high costs mental illnesses produce due to the fact that they are less visible than physical disability and have a highly negative social stigma. Rejection and avoidance of mental health issues are a universal phenomenon (Saxena et al., 2007). In many cultures, the mentally ill are said to be possessed by evil spirits as a punishment for misbehaviour. Thus, many still believe treatment for mental disorders is not viable.

It will take a great deal of advocacy and effort to improve mental health literacy (i.e. the ability to correctly identify mental illness) and to change attitudes and perceptions. Additionally, human, social, and financial resources will have to be increased significantly in order to achieve the World Health Report objective of adequate access to effective and humane treatment for those who suffer from mental disorders (Saxena et al., 2007).

I Mental health in Cambodia

Cambodia is dealing with an exceptionally challenging and specific situation regarding mental health. The many decades of Civil War (CW), brutal regimes, and intensive persecution have few parallels in the twentieth century.

The burden of having to restart and rebuild these entire human, economic, and societal structures has made Cambodia enormously dependent on external aid. The official development assistance was 884.5 million USD according to the Paris Declaration Survey 2011 (UNDP, 2010).

This transformation from a tranquil agrarian society into dehumanized brutality remains inexplicable. In survivor self-help groups conducted jointly by the Department of Psychology (DP) and the Trans-cultural Psychosocial Organization (TPO) the demand for explanation and the lack of understanding regarding how this could happen poses a major obstacle in the endeavour to find meaning and a potentially healing process. This situation seems to amplify somatic symptoms found so commonly in Cambodia (see also: Perry, Oum, & Gray, 2007). The KR period has only been introduced in schools since 2009 by the Documentation Centre of Cambodia (DCCAM) and the Ministry of Education (Dy, 2009).

In 2006 the “Khmer Rouge trials” (a hybrid tribunal sponsored jointly by the United Nations and the Kingdom of Cambodia, formally known as the “Extraordinary Chambers in the Courts of Cambodia” (ECCC)) were established to try the primary KR leaders .

With the pending trials regarding case 002 at the ECCC, NGOs such as TPO are confronted with a number of no less than 3,866 recognized civil parties that urgently need psychological preparation before their participation during the hearings to prevent retraumatization.

Legacy of the Cambodian holocaust related to Mental Health

- The loss of approximately 2 million Cambodians (>1/4 of the population) with an emphasize on Cambodian intelligentsia
- Remaining landmines and unexploded bombs
- Destruction of infrastructure, health care, education systems, as well as religious and cultural legacies
- A deeply disturbed and traumatized society
- Pure dehumanized brutality seems inexplicable, great demand for explanation and better understanding
- Great need for psychological support for participation at the ECCC of KR survivors
- Enormous dependence on external aid
- Promoting mental health care has the potential to relieve personal suffering, as well as to bring about significant benefits to the society at large

Concise list of atrocities

Between the early 1970s and late 1990s a single individual could experience (singly or in any combination) the following traumatic events:

- Displacement from Vietnam War
- Killing others
- Refugee camps
- Separation from family
- Witnessing torture and/or murders
- Poverty
- Bombings
- Humiliation
- Land mines
- Becoming a KR child soldier
- Forced labour
- Loss of land
- Betrayal of family members
- No education/health care
- Starvation

All of these experiences can contribute to personal multiple type 2- trauma (see also: Field, 2011)

National reconciliation, reconstruction, and development can only occur with the establishment of a mental health program to address motivation, self-esteem, friendly relationships, and self-confidence (Somasundaram & van de Put, 1999).

However, child abuse, sexual exploitation, domestic violence, trafficking, gambling, and alcohol dependence pose serious problems in Cambodia and lead to a further decrease in mental health (Somasundaram & van de Put, 1999). These issues have therefore been included in the screening part of the present survey's questionnaire.

Barriers towards national reconciliation

(Human Rights Watch, 2010; Humeniuk, Ali, & Ling, 2004; van de Put & Eisenbruch, 2002)

Socio-political issues:

- Violence • Poverty • Scarcity of services
- Lack of education/safety • Unemployment
- Repression • Malnutrition • Human rights
- Stigmatization

Interlinked with

Post-traumatic symptoms:

- Nightmares • Poor sleep • Hyper vigilance
- Loss of self-control • Mistrust • Fear
- Varied somatic symptoms • Substance abuse
- Poor concentration • Stigmatization

II The Development of a Nationwide Mental Health Survey at the Department of Psychology (DP) at the Royal University Phnom Penh (RUPP)

A significant lack of epidemiological data, training, and services in mental health was jointly discussed by the DP on September 24th 2010 at the WHO office in Phnom Penh. As per WHO guidelines (WHO, 2004 b and 2008), the DP decided to explore the extent of psychological problems and mental disorders in Cambodia as well as possible etiological, historical and socioeconomic contributing and/or resulting factors.

Thus, the DP decided to conduct a nationwide survey on mental health to contribute to a more comprehensive and in-depth situational analysis. This epidemiological research included cultural treatment-seeking behaviour and will help to provide an informative baseline for future planning of interventions and policy in order to ensure efficiency and address service gaps (see also: Stewart et al., 2010).

Specific Objectives of the Nationwide Mental Health Survey

The purpose of the survey is to provide information for programme planning on the part of the Department of Psychology, the Ministry of Health and other institutions working in the field of mental health.



Objectives of the Cambodian Mental Health Survey

- Provide reliable population-based information /figures about important mental-health-related issues such as violence, addictive behaviours and psychological symptoms in order to identify positive and negative trends and thus target efforts in an evidence-based way
- Provide reliable population-based information about mental health service utilization and needs for planning purposes
- Assess major topics and needs related to mental health in order to help adjust programmes and offers to the Cambodian population
- Establish a baseline against which programme long-term effectiveness and impact can be subsequently assessed
- Build capacity in the area of research, monitoring and evaluation at the DP
- Establish more cooperation between the DP and the Ministry of Health
- Advocate and raise awareness for psychological issues and mental health



III Situational background of the present survey


Resources in Mental Health

Most of the staff and patients of the 800-bed psychiatric hospital in Takhmau were killed during the KR regime. In 1989, the United Nations Development Programme estimated that no more than 300 qualified persons of all disciplines were available to serve the country (Bit, 1991). In addition, Buddhist principles foster an acceptance of suffering. Cambodian culture does not support socially acceptable ways of expressing and releasing anger/frustration (Bit, 1991).





The situation after the KR Regime

- Only 50 physicians out of 1,000 (including two psychiatrists) before 1975 survived the KR regime, with no mental health professionals among them (Stewart et al., 2010).
 - No more than 300 qualified persons of all disciplines were left to serve the country (Bit, 1991).
 - No conceptual framework or system of mental health care existed in Cambodia until 1993; trauma-related and other mental disorders largely went untreated (Hinton, Hinton, Eng & Choung, 2011).
- 

In 1994, the International Organization for Migration (IOM) and the University of Oslo, in cooperation with the Ministry of Health in Cambodia, initiated the training of psychiatrists. At present, 49 psychiatrists (11 females among them) have been trained (according to the University of Health Sciences). Additionally, 45 psychiatric nurses have been trained and work in mental health facilities and/or private practice in Cambodia (information from Ministry of Health). Mental health care has also been integrated into primary health care by the Ministry of Health and includes 297 trained physicians and 270 trained nurses.

However, according to several Cambodian psychiatrists, psychiatric education doesn't include extensive training in counselling and psychotherapeutic skills, and the National Programme for Mental Health estimates that 30% of psychiatrists and 90% of the trained primary care professionals are not involved in clinical mental health care (Stewart et al., 2010, Ministry of Health, 2010).

There currently exist 68 outpatient psychiatric departments (OPD) under the Ministry of Health. Of these, 50 are located among Cambodia's 84 referral hospitals and 18 among the 967 health centres (Ministry of Health, 2010). There are 8 OPDs at national level and one includes services for

children at the Clinic for Child and Adolescent Mental Health (CCAMH) - Chey Chumnea provincial hospital in Takhmau.

In 2010, mental health services were available in 9 out of 24 provinces and 12,000 new psychiatric cases (32% male and 68% female) were diagnosed at governmental mental health services (Ministry of Health, 2010).

Nationwide, there are two psychiatric in-patient units at two referral hospitals with 16 acute care psychiatric beds in Phnom Penh (Khmer Soviet Friendship Hospital and Sunrise Clinic). However, there is no constant routine follow-up community care provided by the governmental health sector and only few NGOs provide community based care in the provinces. There were two psychosocial rehabilitation centres at Phnom Penh (1997) and Siem Reap (2001), but funding is very short and some programmes had to be stopped.

The DP at RUPP has existed since 1994. Over 660 students have graduated since 1994 with a Bachelor's degree in psychology. Since 2008, the Department is offering a Master of Arts in Clinical Psychology and Trauma Treatment which provides advanced concepts and principles of psychology, psychotherapy, counselling, and the methods of scientific inquiry into the behaviour of individuals, groups and society. The goal is to train psychologists with a special focus on trauma therapeutic approaches along with a strong integration of traditional Cambodian cultural ways and forms of support.

At present, 13 students have successfully graduated with a master's degree and many of them are working in private practice as programme coordinators and counsellors in the field of trauma and mental health (some with extensive additional training in Eye Movement Desensitization and Reprocessing (EMDR)). Some have started setting up a mobile team serving other provinces. The second cohort of students started its studies in February of 2011 (see: www.masterpsychrupp.webs.com).



Opening of Master in Clinical Psychology and Trauma Treatment

Additional degree courses are provided by the Department of Social Work (BSc since 2008, MSc since 2009). However, no psychologists or social workers have yet been involved in governmental services such as hospital care or education. Regardless, the DP programmes aim at meeting the great need for well-trained psychologists and counsellors in Cambodia's rural and urban areas. The vision includes setting up a cooperation network with a wider range of governmental and non-governmental institutions to establish synergies and enhance sustainability and efficiency.

As in many other low-income countries, training facilities are still inadequate and professionals are scarce in Cambodia (Saxena et al., 2007). However, a study by Henderson et al. (2005) showed a significant improvement in the confidence of primary care providers in Cambodia in all clusters of medical and psychiatric procedures including e.g. counselling, prescribing medications, psychiatric diagnosis, traditional treatments, and treating trauma victims after extensive training.

In developing countries NGOs often have a leading role in the development of new services. However, they often supplement inadequate state infrastructure for mental health care as done by the Transcultural Psychosocial Organization (TPO) and Social Services Cambodia (SSC). Unfortunately, poor collaboration across all sectors of different organizations and between practitioners of different professions (social work, psychiatry, and counselling) seems to worsen due to an increasing competition for limited funding (Reicherter, Boehnlein & Stewart, 2011).

Additionally, the donor preference for short-term project-based funding, purely donor driven activities, internal conflicts in mental health leadership, and a lack of a common vision of suitable mental health approaches, hinders the development of sustainable and long-term committed mental health services under Cambodian ownership (Stewart et al., 2010).



Summary: Resources in Cambodia

- Up to now 49 trained psychiatrists and 45 psychiatric nurses who work in mental health facilities and/or private practice in Cambodia
- 68 outpatient psychiatric departments (OPD)
- Mental health services available at 9 out of 24 provinces
- 1994 start of undergraduate programme at the DP (RUPP) and training of psychiatrists at the University of Health Sciences
- Over 660 students graduated from the undergraduate programme in psychology
- 2008: start of Master of Arts in Clinical Psychology and Trauma Treatment at DP, 13 graduated Masters of Psychology
- Training facilities still inadequate in most instances
- Scarcity of professionals in Cambodia
- NGOs: leading role in responding to conflicts and disasters by development of new services



Mental Health Policy in Cambodia

In the field of mental health, professional skills, training, and supervision determine the state of the art and its quality rather than advanced equipment, machines and technology. However, this training is so far not a special focus for the government. According to the Cambodia Health Information System (Ministry of Health, 2007, p.21):

“Capacity [in the health sector] is not adequate. ... The major obstacle to a well performing HMIS [Health Management Information System] is the acute shortage of dedicated and qualified personnel due to low salary and lack of staff motivation.”

The majority of civil servants make an estimated \$28 per month, while the Gross Domestic Product in Cambodia is 1,952 USD per capita (UNDP, 2010). The low coverage of mental health services in the country produces a 0.001 annual rate per capita for utilization of mental health services (Ministry of Health, 2010).



Mental Health Policy

- Developed countries have a ratio of psychiatric staff per 100000 population that is about 200 times higher than the one in developing countries (Saxena et al., 2007)
- Ranked 124 out of 169 countries in the United Nations Development Programme's Human Development Index, Cambodia is a country far from socioeconomic justice (UNDP, 2010)
- The Cambodian budget for mental health is less than 1% of the total annual health budget (Ministry of Health, 2010)

As individuals with mental illnesses are vulnerable to human rights abuse due to disadvantages in cognitive functions, a mental health policy framework has to include a legislation for protection of their basic rights, especially for those in receipt of involuntary treatment (as decreed in Cambodia's

National Mental Health Plan 2003-2022) (Saxena et al., 2007). This government-supported national plan envisages positive measures for treatment of mental illnesses and an effective mental health system. However, such plans have so far not been put into action.

Community-based care is very advantageous for Cambodia as 80% of its population live in rural areas. Although the official mental health policy favours decentralized, community-based care, there are actually no such regular services (Stewart et al., 2010).




Community based Mental Health Care

- Community-based mental health care can be defined broadly, as “any type of care, supervision and rehabilitation of patients with mental illness outside the hospital by health and social workers based in the community” (Saxena, 2007, p. 878)
- From experiences in many countries over the world, a good balance of community-based and hospital-based services has been shown to meet the needs of mentally ill most effectively (Thorncroft & Tansella, 2004) and be costeffective (Saxena et al., 2007)
- 80% of the total of 14.5 M inhabitants in Cambodia live in rural areas and 37% of the population live on less than 1 USD per day (National Institute of Statistics, 2008)




Via the present survey, the DP hopes to raise awareness about the importance of mental health and the relative cost-effectiveness of mental health care (Patel, Araya & Chatterjee, 2007). However, the negative stigma of mental disorders remains strong and hinders the development of adequate and sufficient mental health services. This limits the use of available resources for those in need because they fear social isolation.




Mental Health Literacy

- In Cambodia many families try to conceal mental illness and hide their ill relatives
- “Educating the public about mental disorders and their treatment is important for improving the empathy of the citizens towards those individuals suffering from mental health problems, reducing discrimination and stigmatization, and improving people’s access to general services. It is also important to educate the public on how and when to contact mental health services in order to improve accessibility of services” [mental health literacy] (Ministry of Health, 2003, p. 14)




mental illnesses in Cambodia

The Khmer concept of individual health is rooted in 4 basic traditional practices rather than a single ‘physical’ model of health:



Cultural explanations (traditional and moral beliefs) for mental illness

- Buddhist-Hindu beliefs: “Dharma”
- Beliefs in spirits
- Concept of luck (astrology + fortune tellers)
- Somatic/Physiological concept



1. “Dharma” (correct action) and “Karma” (the balance of good and negative deeds from this or a previous life or “fate”) are major elements of belief in Cambodia. “Straying from one’s “Dharma” will have a significant impact upon one’s ability to advance in “Samsara”, the cycle of birth and rebirth” (Jacobsen, 2006, p. 6). From this derives a strong spiritual and behavioural code of conduct in Cambodia (Stewart et al., 2010).

2. Animistic beliefs include the concept of “unappeased” ancestors as the cause of mental illness. Angry ancestors are placated by ceremonies and offerings placed on the family’s shrine.

3. The Cambodian belief system incorporates the concept of luck and astrology. Thus, fortune tellers are consulted to assist in preparation for the future. Hinton, Pich, Chhean & Pollack. (2005 a, p.55) illustrates this:

“Krauch attributed his frequent khmaoch sângkât [sleep paralysis] to two facts: ‘low bodily energy’ (meun mien kamlang dâl) and ‘low good luck’ (rieseyu choh). He explained that if you have ‘low good luck’ (rieseyu choh), then nothing you attempt to do succeeds; that while in a state of vulnerability (owing to low good luck or weakness), a bad sorcerer (kruu cweng) could send a ghost to attack you.”

4. Mental illnesses can result from physical problems (e.g. nausea, palpitations, dizziness, and low energy) and can be treated by easily available medications. “Kyo goeu” (wind overload) is an example of orthostatic irregularity often associated with panic disorder. A Khmer nurse refugee in the USA describes it as:

“When wind increases in the body, the person feels aches (especially at the joints), weakness, some anxiousness, and usually a little dizziness. This increase in inner wind may result from eating poorly, from decreased or disturbed sleep, and from thinking too much about one’s problems. All of these processes ... weaken the body in a more general way, causing the heart to beat less vigorously than usual, resulting in feeble circulation. Decreased cardiac power results in stagnation and hence further coagulation. Poor circulation also leads to less exiting of wind from the body.” (Hinton, Um & Ba, 2001, p. 409)

The role of culture is a major factor in both the explanation and presentation of mental disorders. The use of cultural narratives and idioms create uniquely Cambodian pathologies (Reichtman, 2000; van de Put & Eisenbruch, 2002). Hinton and others have described a range of key descriptors of Khmer trauma reactions:

1. Culturally specific panic attacks, "wind attack" (khyâl) (e.g. orthostatically induced and neck-focused panic) that lie at the centre of the Khmer response to trauma (Hinton, Pich, Marques, Nickerson & Pollack, 2010).
2. Sleep Paralysis (SP), in which a demon or ghost pushes down (khmaoch sângkât) upon an individual that is either falling asleep or awakening. The experience causes paralysis, a sensation of a hand on the chest or neck, chest tightness and shortness of breath and is interpreted as a sign of bad luck and imminent danger of dying (Hinton et al., 2005a). SP has been clearly associated with trauma and PTSD in Cambodian and other cultures (Hinton et al., 2005a; Ohayon & Shapiro, 2000; Paradis, Friedman & Hatch, 1997).
3. "Weak Heart" syndrome (khsaoy beh daung), which involves the belief that "excessive bodily wind" (kyol goeu) causes a breakdown in functioning of the heart with palpitations on slight provocation (e.g., orthostasis, an odour, being startled, exercise-induced palpitations (Hinton D., Hinton S., Um, Chea & Sak, 2002; Hinton et al., 2011a; Hinton et al., 2010). Lambert (1986) has described the "weak heart" as a local manifestation of PTSD, whereas Hinton et al. (2002) perceive it as corresponding more to the western diagnosis of Panic Disorder.

According to Dr. Sotheara Chhim a generalized mistrust and fear, low compassion and feelings of disempowerment during and after the Khmer Rouge era gave rise to a Cambodia specific response to trauma (*baksbat*) characterized by

low self-esteem, low trust in self-efficacy, a submissive attitude, dependence, fear among others (Reicherter & Eng, 2011).

Treatment Seeking Behaviour and Treatment Options for mental illnesses in Cambodia

Until the mid to late 1990s there were no professional counselling services available in Cambodia. The pattern of treatment seeking in Cambodia generally starts with reliance on individual or family coping methods, including:

- Recreational activities
- Problem solving
- Support from loved ones
- Drinking only warm water (traditional)
- "Coining" (rubbing a coin on the upper arm or on other parts of the body)
- "Cupping" (suction is created on the skin to mobilizes blood flow in order to promote healing)
- Herbal remedies
- Alcohol/drug use
- Gambling

In case none of these actions brings relief, Cambodians often seek the assistance of monks, traditional healers (*kru khmer*), or a medium or fortune teller to alleviate their symptoms through meditative prayer, blessing ceremonies or communication with ancestral spirits (Bertrand, 2005; van de Put & van der Veer, 2005; van de Put & Eisenbruch, 2002). The belief in protection through Buddhist rituals is described by Hinton et al. (2005 a, p. 60):

"Lor visited the local Khmer temple where a Buddhist monk tied a white string around his wrist; it is believed the string helps to prevent the soul from leaving the body and creates a holy, protective barrier."

Western medicines are used when traditional approaches do not alleviate the problem. Neighbours often exchange medication they have been given (Pickwell, 1999); otherwise a pharmacist or physician is contacted for help. Individuals are traditionally ignorant about the name, ingredient, hoped-for effect and side effects of the prescribed medication.

Because the expectation of many rural Cambodians is to be given at least several medications in order to alleviate their problems, a general habit of over-prescribing drugs has developed all over Cambodia (see: Stewart et al., 2010, McLaughlin & Wickeri, 2012). Additionally many remedies which are prescription-based in the western world are available over the counter without any prescription at all in Cambodia. The low quality of assessment and information and limited availability of appropriate modern medication at many health centres create an increased risk of drug over-use and abuse.

In addition, by the time people finally become aware that more sophisticated treatments are available in Phnom Penh or abroad, most families have already spent a small fortune on local cures. Thus, the vicious cycle of mental illness, discrimination and impoverishment continues.

Inhumane treatments of individuals suffering from schizoaffective or schizophrenic disorders have been reported in many rural areas (Stewart et al., 2010; Ministry of Health, 2003) and observed by staff from the DP. These include putting the affected individual into cages or chaining them, sometimes for months or even years. The study included screening questions for such treatments to better understand how commonly these practices are used and as an indirect indicator for possible psychotic disorders.



Self constructed cage in which a client with schizoaffective disorder spent two years because of aggressive and self-harming behaviour

Research findings regarding the different issues addressed in this survey

There is little information on the nationwide prevalence of mental illnesses. Most of the studies in this area have so far focused on quite specific aspects or on subpopulations such as refugees. The largest amount of studies has been conducted with Cambodian refugees in the USA. These diverse studies used different measuring scales, addressed different populations, and used different methodology. Their outcomes can only roughly be compared. Additionally cross-cultural challenges of diagnosing mental disorders exist. Many researchers have used the “unverified assumption that DSM-IV disorders have diagnostic validity across cultures” (e.g. de Jong, Komproe & Ommeren, 2003, p. 2128).

An attempt at sorting and clustering the various results according to sub-topics is undertaken in this report. Overall, it can be assumed that Cambodians suffer from significant levels of daily stress, mainly due to low quality of life, poverty, and a higher percentage of mental disorders (especially depression, anxiety and PTSD) than normative populations (Sonis et al., 2009; de Jong et al., 2003; Dubois et al., 2004). For the general population in Cambodia, these studies estimate prevalence rates ranging from 40 to 53% for anxiety disorders, 11.5 to 80% for



Summary: Coping and Treatment Options in Cambodia

- Reliance on family and friends
- Traditional: “coining”, “cupping”
- Herbal remedies
- Blessings from and offerings at a pagoda
- Communication with spirits through a medium
- Traditional healers (kru khmer)
- Western medicines with potential danger of harm due to insufficient information
- Many inadequately treated mental illnesses



depression, and 7.3 to 86% for PTSD. Comorbidity (i.e. the appearance of several mental illnesses at the same time) is also particularly high (For details see table 1 in the appendix).

1) Violence and Mental Health

A traumatic experience is defined by the Diagnostic and Statistical Manual IV as an event or events that “involve actual or threatened death or serious injury, or a threat to the physical integrity of the self or others”.

Exposure to prolonged or repeated “type 2 trauma”, common in Cambodia, has a cumulative and far more debilitating impact than single or short traumatic episodes (Field, 2011) and is associated with higher levels of psychopathological conditions (Green et al., 2000; Mollica et al., 1998a; Mollica, McInnes, Poole & Tor, 1998b; Killpatrick, Resnick, Saunders & Best, 1998; Follette, Polusny, Bechtle & Naugle, 1996).

Sexual violence against children is prominent in Cambodia (Miles, 2006 a). According to the World Report on Violence against Children (Pinheiro, 2006), most sexual childhood abuse is committed by family members or their friends in a home setting. “Most children do not report sexual violence experienced at home because they are afraid of what will happen to them and their families” e.g. shame, rejection, abandonment, or disbelief (Pinheiro, 2006, p 55).

Gang rape seems to be a growing phenomenon in Cambodia. In a qualitative survey conducted by UNICEF (Woods, 2007) and a quantitative Tearfund study (Miles, 2006 b), some young Cambodian men considered it acceptable to gang rape (*bauk*) girls or women perceived as promiscuous, sexually available, or as prostitutes. A set of questions regarding such experiences was included in the present study.



Summary: Violence and mental health

- A traumatic experience is defined as an event or events that “involved actual or threatened death or serious injury, or a threat to the physical integrity of the self or others”.
- Exposure to prolonged or repeated, so called type 2- trauma has a cumulative and far more debilitating impact than single or short traumatic episodes.
- Most sexual childhood abuse is committed by family members or their friends in a home setting.
- Most children do not report sexual violence they experience at home because they are afraid of shame and rejection



2) PTSD

To meet the criteria of a posttraumatic stress disorder (PTSD), according to DSMIV and ICD 10, three categories of symptoms have to be present: persistent re-experiencing, avoidance of stimuli associated with the trauma, and persistent symptoms of increased arousal (see panel 1).

Several studies conducted among the US population show a variety of risk factors associated with PTSD. These include childhood physical abuse (Bremner, Southwick, Damell & Chamey, 1996), trauma in childhood, previous psychiatric history, parents and siblings with mental illness (Bromet, Sonnega & Kessler, 1998), and the severity of trauma exposure (Green, 1990; Kilpatrick & Resnick, 1993). For the PTSD rates in Cambodian populations found in different studies, please see table 1 in the appendix.

Additionally, the ongoing challenges in coping with psychological consequences stemming from the KR regime, such as living with survivor’s guilt and experiencing feelings of revenge have been examined and reported in various studies (Pham, Vinck, Balthazard, Hean, 2011; Kirchenbauer, Burchert, Taing, Bockers, Knaevelrud, 2010; Rechtmann, 2006; Field & Chhim, 2008).

Panel 1 DSMIV-TR criteria for PTSD

- A. The person has been exposed to a traumatic event in which the following were present:
 - 1. The person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death, or serious injury, or a threat to the physical integrity of self or others
 - 2. The person's response involved intense fear, helplessness, or horror.
- B. Persistent re-experiencing in one of the following ways:
 - 1. Recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions.
 - 2. Recurrent distressing dreams of the event. In children, there may be frightening dreams without recognizable content.
 - 3. Acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur when awakening or intoxicated). In young children, trauma-specific re-enactment may occur.
 - 4. Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event
 - 5. Physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event
- C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by three or more of the following:
 - 1. Efforts to avoid thoughts, feelings, or conversations associated with the trauma
 - 2. Efforts to avoid activities, places, or people that arouse recollections of the trauma
 - 3. Inability to recall an important aspect of the trauma
 - 4. Markedly diminished interest or participation in significant activities
 - 5. Feeling of detachment or estrangement from others
 - 6. Restricted range of affect (e.g. unable to have loving feelings)
 - 7. Sense of a foreshortened future (e.g. does not expect to have a career, marriage, children, or a normal lifespan)
- D. Persistent symptoms of increased arousal (not present before the trauma), as indicated by two or more) of the following:
 - 1. Difficulty falling or staying asleep
 - 2. Irritability or outbursts of anger
 - 3. Difficulty concentrating
 - 4. Hyper-vigilance
 - 5. Exaggerated startle response
- E. Duration of the disturbance (symptoms in Criteria B, C, and D) is more than 1 month.
- F. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning

Cambodians seem to experience hyper-arousal mainly in the form of dizziness and blurred vision whereas blocked traumatic energy leads to chronic muscle tensions causing headaches, backaches, and stiff necks. In addition, many KR survivors experienced physical trauma and still suffer from vivid body memories or chronic physical lesions.

3) Cultural validity of the PTSD construct

In the world's literature about cross-cultural trauma, the western concept of PTSD is disputed as ignoring somatic and dissociative symptoms and focusing too much on avoidance (Berthold & Gray, 2011). Researchers in Asian and African nations have created new tools, are advocating for the inclusion of more cross-cultural aspects in the new version of the DSM and found considerable evidence of the cultural structural and

content validity of PTSD (Hinton & Lewis-Fernández, 2011b).

It was also found that "many of the 17 PTSD items listed in the DSM IV manual, such as nightmares, startle reflexes, and vivid unwanted recall of trauma events are a core part of the universal response to trauma. [However] other DSMIV PTSD items like amnesias or numbing seem to be much less salient aspects of the trauma response in non-Western cultures." (Hinton et al., 2011, p. 51). In a study on sleep paralysis, which is not mentioned in Western concepts of PTSD, Hinton et al. (2005 a) found a much higher prevalence of SP in clients with PTSD than without - probably due to their high arousal level. This shows the importance of using culturally adapted versions of assessment tools and instruments especially developed for certain cultures in research.

4) Anxiety and Depression

"Gender determines the differential power and control men and women have over the socioeconomic determinants of their mental health and lives, their social position, status and treatment in society, and their susceptibility and exposure to specific mental health risks." (WHO, 2011 d). Unipolar depression may become the leading cause of the global disability burden by 2020 (WHO, 2011 d). The Global Burden of Diseases (GBD) 2000 estimates a point prevalence for unipolar depression of 1.9% for men and 3.2% for women and a 12 months prevalence of 5.8% for men and 9.5% for women (WHO, 2001).

In a study by Jegannathan & Gunnar (2011) with 320 high school students around Takhmau aged 15 to 18, young women scored higher on anxious/depression, withdrawing/depression, somatic complaints, social problems, and internalizing syndrome whereas young men scored significantly higher on rule-breaking behaviour than young women.

Governmental estimates of percentages of the most common mental disorders treated at governmental health centres in Cambodia are: anxiety disorders (39%), depression (29%), psychosis (18.5%), epilepsy and organic problems (5.2%), substance abuse (3.0%), and reactions to severe stress and adjustment disorders (1.9%) (Stewart et al., 2010). For other study results in Cambodia please see table 1 in the appendix.



Summary: Anxiety and Depression

- "Gender differences occur particularly in the rates of common mental disorders, depression, anxiety and somatic complaints. These disorders affect approximately 1 in 3 people in the community and constitute a serious public health problem." (WHO, 2011d)
- Worldwide depression is the most common mental health problem in women



5) Tendency to suicide

"In the last 45 years, suicide rates have increased by 60% worldwide. Suicide is among the three leading causes of death among those aged 15 - 44 years in some countries... Although traditionally suicide rates have been highest among the male elderly, rates among young people have increased to such an extent that they are now the group at highest risk in a third of countries in both developed and developing countries. Mental disorders (particularly depression and alcohol use) are a major risk factor for suicide in Europe and North America; however, in Asian countries, impulsiveness plays an important role. Suicide is complex with psychological, social, biological, cultural, and environmental factors involved." (WHO, 2011b, p.1).

"As of May 2003 the highest rates for accomplished suicides were found in eastern European countries such as Lithuania, Hungary, Russia, Slovenia, Kazakhstan, and Estonia. High rates have also been recorded for Japan and Sri Lanka." (WHO, 2011c).

In the USA, suicide is the eleventh leading cause of death for all US Americans, and the third leading cause of death for young people between 15 and 24 years. A study by Weissman et al. (1999) confirms these findings and describes suicide attempts as relatively consistent across nine countries from North and South America, Europe, Near East, Asia, and New Zealand. They also found that attempts in most countries were associated with being currently divorced or separated as compared to currently married.

There exist many examples of secretly desperate people driven to attempt suicide in Cambodia. Newspapers report many attempted and committed suicides (Cambodia daily, 2011). Severe trauma, torture, and refugee experiences were associated with higher suicide rates and 40% of refugees from different countries with PTSD attempted suicide (Ferrada-Noli, Asberg, Ormstad, Lundin & Sundbom, 1998). Suicides and suicide attempts have therefore received special attention in the present study.



Summary: Facts on suicide

- Every year, almost one million people die from suicide (WHO, 2011a)
- "Global" mortality rate of 16 per 100,000, or one death every 40 seconds from suicide (WHO, 2011a)
- Suicide is the second leading cause of death in the 10-24 years age group (WHO, 2011a)
- Suicide attempts are up to 20 times more frequent than completed suicide (WHO, 2011a)
- In the US males are four times more likely to die from suicide than females. However females attempt two to three times more often to commit suicide (Centers for Disease Control and Prevention (CDC), 2009)
- Compelling evidence indicating that adequate prevention and treatment of depression and alcohol and substance abuse can reduce suicide rates, as well as follow-up contact with those who have attempted suicide (WHO, 2011b)



6) Second generation trauma

At present, over 60% of Cambodia's population were born after the KR regime (Munyas, 2008). "The loss of family ties, rights, dignity, and honour has been in the heart of the Cambodian population for a full generation. Due to this troubled history, many parents did not have the experience of positive parenthood. Instead, war and public violence was a grim reality faced on a daily basis. As a result, a whole generation of Cambodians is missing parenting skills and models for the peaceful resolution of conflicts" (Woods, 2008, p.10). In Cambodia, typically a parent-child role reversal (or overprotective behaviour) has been found deriving from the large prevalence of traumatic experiences (Field, 2011). Trauma can also lead to disorganized child-parent attachment (Bar-On et al., 1998).

The second generation of Cambodians also experienced a high level of violence after the KR era. According to Field (2011, p. 77):

- 47% experienced physical punishment by parents
- 14% were sexual abused
- 22% witnessed the rape of another child by an adult
- 48% had knowledge of a child having been sold

These findings also suggest that traumatized parents failed to protect their children and probably caused physical and emotional neglect. Such second generation relational trauma is only indirectly visible and thus often ignored.

A study by de Jong (2001) revealed a significant predictive value of domestic stress for PTSD in a Cambodian sample, which was not present in the three other countries examined (Algeria, Ethiopia, and Gaza).

As a result, the present study included screening questions about child and adolescent mental health and problematic behaviours.

7) Addictive disorders

"The lifetime prevalence rate for alcohol dependence is more than twice as high in men than women. In developed countries, approximately 1 in 5 men and 1 in 12 women develop alcohol dependence during their lives." (WHO, 2011d). According to the GBD (2000) the point prevalence for harmful use of or alcohol dependency is 1.7% overall, 2.8% for men, and 0.5 % for women (WHO, 2001). Prevalence rates in a representa-



Summary: Second generation

- Today over 60% of Cambodia's population were born after the KR regime
- Due to the nation's troubled history many of today's parents did not have the experience or example of positive parenthood
- High level of violence experienced by the second generation of Cambodians after the KR era
- Findings suggest failed protection by traumatized parents and probable physical and emotional neglect

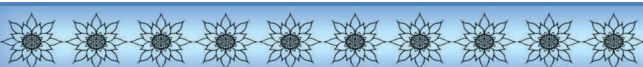


tive sample from the USA show 17.8% lifetime alcohol abuse, 12.5% lifetime alcohol dependence, 4.7% 12 month alcohol abuse and 3.8% 12 month dependency (Hasin, Stinson, Ogburn & Grant, 2007).

Addictive disorders often develop as a sort of coping strategy for dealing with overwhelming emotions, often abundant and horrific fears, social isolation, stigmatization and loss of capacities, or low self-esteem.

Many people with psychological problems resort to self-medication with drugs, alcohol, or over the counter medication that can be very harmful. Others take up gambling. A meta-analysis by Stewart (1996) shows a significantly elevated risk for the development of alcohol-related problems for individuals suffering from PTSD when compared with both individuals exposed to trauma without PTSD and those who have never been exposed to a traumatic event. This is suspected to be due to self-medication with alcohol for PTSD symptoms although, in the long term, alcohol seems to increase symptoms of anxiety and PTSD rather than being helpful.

Addictive disorders may create a bad model for youth and influence them to engage in such behaviour. This is particularly alarming with respect to sniffing glue and amphetamine abuse in Cambodia (Crookes, 2011; UN, 2010). Therefore a set of questions regarding addictive behaviours was added to the questionnaire of this study.



Summary: Addictive disorders

- The lifetime prevalence rate for alcohol dependence is more than twice as high in men as in women
- In developed countries, approximately 1 in 5 men and 1 in 12 women develop alcohol dependence during their lives
- According to the GBD 2000 the point prevalence for harmful use of or alcohol dependency is 1,7% overall, 2,8% for men and 0,5 % for women
- Addictive disorders can be a coping strategy for dealing with overwhelming emotions, fears, social isolation, stigmatization, loss of capacities and low self-esteem



8) Domestic Violence

The Law on Prevention of Domestic Violence and Protection of Victims (Kingdom of Cambodia, 2005) states in Article 2 that, “Domestic violence as referred to the violence that happens and could happen towards: husband or wife, dependent children, persons living under the roof of the house and who are dependents of the households.”

Domestic violence can be divided into physical, sexual, emotional and financial violence. The Cambodian League for the Promotion and Defence of Human Rights (LICADHO) notes “a strong relationship between violent conflict in society and violence in the home. [For example,] after three decades of war, violence is an accepted end to conflict in most of Cambodia.” (Pact Cambodia, 2004).

Communication skills that might prevent misunderstandings and domestic stress seem to have a low cultural value and are widely underdeveloped in Cambodia. Opinions therefore are seldom shared and points of view are not explained.

The incidence of domestic violence remains high, affecting 20 to 25% of women (MoWA, 2008). The analysis of the Cambodian Demographic and Health Survey 2005 showed that women earning more are at higher risk for mental violence whereas less educated women were associated with greater physical domestic violence.

9) Schizophrenia

“There are no marked gender differences in the rates of severe mental disorders like schizophrenia and bipolar disorder that affect less than 2% of the population” (WHO, 2011d). There are no studies available on schizophrenia or psychotic disorders in Cambodia so far. The world health report 2001 mentions a point prevalence of 0.4% worldwide according to the GBD 2000 (WHO, 2001).

As mentioned before, this disorder has severe consequences and often affects the dignity and human rights issues of individuals. Therefore indirect indicators for this disorder have been included in the screening part of our questionnaire.

Methodology

A nationwide 'mental health' survey was conducted among 2,690 adults from nine provinces and Phnom Penh in Cambodia (July - August, 2011). The study was reviewed and approved by the Cambodian Mental Health Ethics Subcommittee.

I Sample

The sampling technique and the sample size were decided upon based on a Cambodian study on violence against women conducted by the Ministry of Women's Affairs in 2009 (GTZ, 2009). This research targeted a nationally representative sample of Cambodian adults (21 years of age and above) living within Cambodia by using a multi-stage cluster sampling technique with probability proportional to size (PPS).

Multi-stage cluster sampling: The specifics of the multi-stage cluster sampling for this research included five stages:

1: Cambodia comprises 23 provinces that can be grouped into four geographic regions (i.e. plain, coastal, plateau/mountain, and Tonle Sap). Two provinces per region were selected – nine provinces in total (incl. three provinces for Tonle Sap). The capital of Phnom Penh was also integrated. Thus, the nine selected provinces & Phnom Penh comprised Koh Kong, Preah Sihanouk, Kampong Speu, Kratie, Prey Veng, Takeo, Phnom Penh, Banteay Meanchey, Kampong Chhnang, and Pailin

2: Each province was divided into administrative districts. Of these 50 districts were randomly selected using the PPS method (please note: throughout the study, the adult population was determined by the '2008 General Census').

3: Based on the PPS method, 100 communes were selected within the districts. The communes in the selected districts were further stratified into urban and rural (14% were urban communes).

4: 270 villages (2 to 3 randomly selected from each stratum) were identified from the selected communes.

5: Ten households were selected from each targeted village based on a fixed interval according to the total number of families in the village and a 10:1 sampling ratio. Once a household was identified, the Kish Grid technique was used to select adult respondents in the household for interview. Thus, a total of 2,700 respondents were targeted.

II Instruments and Survey development

The interview questionnaire was divided into 8 parts:

Structure of the Survey

- Biographical Background
- Screening Questionnaire
- Domestic violence, (National Institute of Public Health, 2006)
- Traumatic events during and after the KR (HTQ) (Mollica et al., 1996), and other stressful events
- Harvard Trauma Questionnaire-Symptoms Part (HTQ), (Mollica et al., 1996)
- The Hopkins Symptom Checklist 25 (HSCL-25) (Mollica et al., 1987)
- Cambodian Addendum of Culturally Sensitive Items, now: Cambodian Somatic Symptom and Syndrome Inventory (C-SSI), (Hinton, Pich, Kredlow, Bui, Hofmann, in press)
- Questions related to needs and services

4 natural regions (Plain, Tonle Sap, Coastal and Plateau and Mountain) & Phnom Penh purposively selected

→ **2 provinces per region** selected by PPS

→ **9 Provinces & Phnom Penh:**

Koh Kong, Preah Sihanouk, Kampong Speu, Kratie, Prey Veng, Takeo, Phnom Penh, Banteay Meanchey, Kampong Chhnang, and Pailin

→ **50 districts** in the chosen provinces by PPS

100 Communes within the districts by PPS
Stratify Communes into urban (14%) and rural

2-3 villages randomly selected from each stratum (PPS)

→ **270 villages**

10 households within each targeted village by PPS

→ **2700 households**


Kish Grid technique to select adult respondents in households

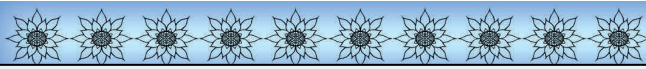
In order to deal with the high illiteracy rate, all questions included in the questionnaire were conducted as part of the interview.

From December 2010 to May 2011, Parts A, B and G were developed by a multi-professional team of Cambodians, a sociologist (PhD from Mississippi State University), and a psychiatrist (GIZ German Civil Peace Service advisor). Part A assessed biographical background information. Part B ('screening questionnaire') measured indirect indicators and influencing factors for mental health. Part G Questions covered the availability of psychological services within the target area.

Background information

- Age
- Sex
- Marital status
- Position in the household
- Years of education
- Family size
- Number of respondent's children working or attending school
- Family income and spending






Screening questions

regarding children:

- Antisocial behaviour and contact with police/ court/reeducation camp
- Aggressive behaviour
- School problems
- Other problems

regarding respondents and family:

- Indicators for psychotic or schizoaffective disorders (including being held in a cage / being chained)
- Aggressive behaviour
- Suicide and suicide attempts
- Violence experienced
- Addictive disorders



Additional in-depth questions explored reasons for suicidal behaviour, substance abuse, and other possible addictive behaviours. This screening part of the interview (developed in English

and Khmer) used typical Khmer expressions for some phenomena. Items developed in English were extensively discussed for an accurate translation by field supervisors.

Questions on 'domestic violence' were selected from the Cambodian Demographic Health Survey (National Institute of Public Health, 2006) assessing violent behaviour conducted or experienced in a domestic context as well as the interviewee's attitude towards domestic violence.

The Cambodian HTQ, HSCL-25, and the C-SSI are commonly used instruments in research conducted in Cambodia and humanitarian contexts (Dubois et al., 2004). "The HTQ and HSCL-25 were initially developed to assist clinicians in assessing the mental health of refugee patients in specialist refugee mental health services and in primary care settings" (Mollica, McDonald, Massagli & Silove, 2004, p. 4). They have been translated, back-translated and validated extensively (Sonis, 2009) and address only the respondent.

The HTQ Part I assesses traumatic events during the Khmer rouge regime such as torture, witnessing murder, and lack of food and water. The original list was adapted to address Cambodian experiences. The number of different traumas out of 20 was summed to create an index of trauma experienced during the KR era.

Two lists of events were added to the HTQ. The first list assesses traumatic events that occurred after the Civil War, such as severe accidents, natural disasters or rape. In this part respondents are asked whether they experienced or witnessed the mentioned traumatic events. The number of different traumas, out of 12 was summed to create an index of trauma experienced after the KR era.

The second list included stressful events happening within the families such as severe illnesses, death of a close relative or severe financial problems. The number of different stressful experiences, out of 13 was summed to create an index of stressful life experiences.

The HTQ Part IV includes 16 items as criteria for PTSD that were derived from the Diagnostic and Statistical Manual of Mental Disorders (Third edition, Text Revision) (DSMIII-R)

tion, Text Revision) (DSMIII-R) and also includes some other Cambodian refugee-specific (e.g. dissociative) symptoms and was slightly shortened. Respondents were asked to rate the intensity of the symptoms on a Likert scale from 1 (“not at all”) to 4 (“extremely”). The threshold-score of the 16 core symptoms for PTSD was evaluated as ≥ 2.50 originally (in order to compare) and as > 2.0 as recommended more recently (Mollica et al., 2004). Validity and Reliability of the HTQ are sufficiently high. The term ‘probable PTSD’ was used because the HTQ, despite good measurement properties, is not a diagnostic interview. In the current study, the HTQ-Symptoms had excellent internal reliability (Cronbach $\alpha = 0.91$).

HTQ-Symptoms (Part IV)

- Includes 16 items that derive from the DSMIII-R criteria for PTSD and other Cambodian refugee specific symptoms
- Likert scale for the intensity of the symptoms from 1 („not at all“) to 4 („extremely“) true
- The threshold-score for PTSD evaluated originally as ≥ 2.50 for Southeast Asian patients, and as > 2.0 as newly recommended
- Validity and reliability of the HTQ sufficiently high (internal reliability in this

reliability of Cronbach’s $\alpha = 0.86$ for anxiety and 0.86 for depression. Again we use the term probable anxiety or depression because the HSCL-25 is not a diagnostic interview.

The Hopkins Symptom Check-List-25

- 25 items (10 items for anxiety, 13 items for depression, 2 items for somatic symptoms)
- Depression and Anxiety Scores
- Likert scale for the intensity of the symptoms from 1 („not at all true“) to 4 („extremely true“)
- Threshold scores in a Cambodian Context: > 1.75 for depression, > 1.75 for anxiety
- Sensitivity and specificity .88
- Retest-reliability for the total score is .89 and .82 for the depression score
- Inter-rater reliability was estimated .98
- Internal reliability in this study .86 for anxiety and depression

The Cambodian Somatic Symptom and Syndrome Inventory (C-SSI) is a tool to assess typical (often trauma related) symptoms in a Cambodian population (Hinton, Hinton, Eng, Choung, 2011a). An abbreviated version of the C-SSI was previously called the “Cambodian Addendum of Culturally Sensitive Items” and used in this survey.

The C-SSI consists of two parts. The first part measures culturally predominant somatic symptoms that correspond partly to anxiety symptoms and are missing in the Western PTSD description. The second part measures key cultural syndromes and constructs often related to typical causal attributions (e.g. evil spirits, ghosts, and sleep paralysis caused by *khmaoch sângkât*). Respondents were asked to rate the intensity of the symptoms on a Likert scale from 1 (“not at all”) to 4 (“extremely true”) referring to the previous month.

The Cambodian Addendum of Culturally Sensi-

The HSCL-25 consists of 25 items measuring anxiety, depression, and somatic symptoms. Respondents were asked to rate the intensity of the symptoms on a Likert scale from 1 (“not at all”) to 4 (“extremely true”). Subjects with a score > 1.75 on the depression scale were classified as probably depressed whereas subjects with a score > 1.75 on the anxiety scale were classified as probably suffering from anxiety. Quality criteria are sufficiently high: Sensitivity and specificity of the Indochinese version of the HSCL-25 are around 0.88. ‘Retest reliability’ for the total score is 0.89 and 0.82 for the depression score. Inter-rater reliability was estimated as 0.98. In the current study, the HSCL-25 had a very good internal

tive Items has been used frequently with Cambodian refugees (Hinton et al., 2005). In this study it had excellent internal reliability (Cronbach = .89).

The Addendum of Culturally Sensitive Items (now: Cambodian Somatic Symptom and Syndrome Inventory C-SSI)

- Typical (possibly trauma related) symptoms in a Cambodian population
- 2 parts:
 - Culturally predominant somatic symptoms that are missing in the PTSD concept
 - Key cultural syndromes and constructs often related to typical causal attributions
- Likert scale for the intensity of the symptoms from 1 („not at all true“) to 4 („extremely true“)
- Maximal total score of 4.29
- Easily understood by interviewees

Questions on ‘mental health services available’ were developed by the research team and covered the accessibility and utilization of mental health services in the area of the respondent as well as general knowledge about psychology.

Needs and services

- Accessibility of mental health services in the area of the interviewee
- Who is contacted by the interviewees in case psychological problems occur?



- General knowledge of psychology

III Data collection procedures

Face to face surveys were administered by students from the Department of Psychology at the Royal University of Phnom Penh (13 males and 13 females). Five field supervisors (all with master's degrees in psychology) implemented strict quality control, including detailed review of completed interviews and random observation of interviews in progress during the survey. All members of the data collection team received 19 hours of training in sampling, interviewing skills, and basic trauma response skills. The training was provided by the GIZ advisor to the DP (German psychiatrist and expert in traumatology) and a statistician (member of the National Committee for Population and Development with a PhD in Sociology). The data collectors applied the questionnaire under supervision during a pilot testing.

Data collection teams consisted of five interviewers and one supervisor. An average of 4 interviews was conducted per day and interviewer. Each Interviewer conducted approximately 110 interviews in total (each interview lasting between 40 to 100 minutes). Distances between villages were often very far. Only 18 interviews were not completed. Interviewers were asked to fill out an evaluation questionnaire (Data Collectors Evaluation Report) concerning their experiences and possible problems occurring during data collection. Although strict confidentiality was intended, approximately 50% of the interviews were conducted with other household members present (according to Data Collectors Evaluation Report).

All respondents were informed about the subject and intent of the interview. Due to the high rate of illiteracy and fear of signing forms, respondents gave oral rather than written consent to participate in the study. No incentives were offered to respondents. If interviewees were assessed as needing psychological or psychiatric counselling, such treatment was planned to be offered via the Mekong project. The project provides free treatment for traumatized individuals via HAP (Human Assistance Program) - Germany.



Summary: Data collection

- Interviewers: 25 undergraduate and graduate psychology students
- 5 field supervisors (master in psychology)
- Data collection teams were trained in interviewing skills and basic trauma response skills (2 days)
- Pilot testing
- Feedback-questionnaire and debriefing meeting after the data collection
- Data collection teams: 5 interviewers & one supervisor
- An average of 4 interviews per day per data collector
- Duration of interviews: 40 to 100 minutes
- Oral consent to participate in the study
- No incentives
- 18 interviews uncompleted



IV Data entry

Double data entry was performed by 7 experienced psychology students between late August and late October. All were trained by the project assistant. The data was checked for data entry errors using EpiInfo and errors were corrected accordingly. Further checks for inconsistencies and corrections were conducted by the team's statistician, the German advisor, and the team. Some misinterpretations were detected due to translational issues (e.g. the English word "children" has two different translations and meanings referring to one's own and other children in Khmer).



V Data analysis

Data analysis was conducted using SPSS 16 and sometimes used a multi-level model when splitting data concerning rural and urban areas, sex, and age. Grouping into rural and urban areas was done to acknowledge the possibility of different experiences of the respondents during the KR regime as well as natural disasters and/or traffic accidents.

Sex (as a grouping variable) was included as many studies have found significant differences in symptoms and syndromes of mental health problems in men and women (de Jong, 2003).

Age was used as a grouping variable as the authors expected to find different outcomes for people who have directly experienced the KR and the second generation who might be indirectly affected by traumatized parents and/or other community elders. Therefore interviewees were categorized as those of and under and those above 36-years. Respondents of the age above 36 were at least 3 years old at the end of the KR regime.

Background information, mental health services, and the screening questionnaire were analysed descriptively. For the screening questionnaire children's problems and problematic behaviours were estimated per household with respondents having children (N = 1848) and per respondents' children (N = 4002). For other screening questions it was differentiated between members of the household (excluding the respondent) and problems of the respondents themselves. This was done for:

- Mental disorders
- Occurrences of traumatic events (such as rape, gang rape, trafficking, child abuse)
- Suicide attempts of respondents
- Addiction problems such as alcohol, drugs and gambling

Alcohol consumption was analysed more in depth for the respondents and considered to be a probable addiction problem if the respondent reported to drink more than half a litre or two cans of alcohol per day. Alcohol consumption was considered to be a probable abuse problem if the respondent

reported to drink more than a liter or 5 cans of alcohol per week and to have financial problems because of this.

Committed suicides were analysed per household and referred to according to the total number of members in the household. From this the suicide rate was estimated per 100.000 and year.

Further analysis using cross-tables was conducted and checked for significance for such variables as alcohol problems, suicide attempts, and the event of being chained or put in a cage. Each variable addressed, on one side, the respondents themselves and, on the other side, demographic data (i.e. age, education, economic, and marital status).

In the trauma-related part of the questionnaire, events witnessed and experienced were combined into one category in order to estimate the total amount of traumatic events experienced by the respondent according to the definition in DSM IV. The amount of traumatic events experienced was summed up separately for traumata related to the CW and the ones after the CW. Only respondents who were 37 years or older at the time of the interview were questioned on traumatic experiences during the CW, percentages in this chapter refer to these respondents. The total of stressful life experiences ("current events") was calculated accordingly. Additional summative scores were calculated for traumatic experiences during and after CW combined and the total amount of traumatic and stressful experiences.

The item of "sleep paralysis" of the C-SSI scale was weighted double because of its outstanding severity according to a personal notice from D. Hinton. The values of the items per scale were added and divided by the number of items. Since a validated cut off value doesn't exist for this scale, only means and standard deviations were calculated.

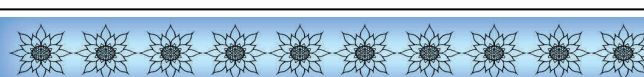
For the other symptom scales, summative scores with means (M), standard deviations (SD), and percentages of probable diagnosis - according to the above mentioned threshold scores with confidence intervals (95% CI) - were calculated for each of the total, female and male (sub-)

populations. Internal reliability of all scales was analysed.

Data was checked for distribution with the Kolmogorow Smirnow test and mostly did not follow


normal distribution. Differences in categorical variables across population groups (e.g. sex, education, marital status) were therefore assessed with the nominal by nominal Phi. Spearman correlations were calculated for traumatic experiences, symptom scales and continuous demographic variables (age, savings per capita, years of education). Differences in means of the various symptom scales across population groups were assessed using the Mann Whitney U Test for dichotomous variables and the Kruskal Wallis H-Test for categorical variables.

Questions about domestic violence were analysed descriptively and separately for violence committed and experienced by male, female, and all respondents.



Summary: Data entry and analysis

- Double data entry
- Data check for data entry errors with EpiInfo
- SPSS 16
- Data was split up into rural and urban areas, sex and age (under and over 36)
- Data was analysed mainly descriptively and with Spearman r correlations



Results

Note: All numbers, reported in results, are valid percentages (excluding missing values)

I Biographical background - respondents' profiles (gender, age, position)

Of the respondents:

- 67.5% female, 32.5% male
- Average age: 44.13 years
- SD: 14.71 years
- Minimum: 21 years
- Maximum: 86 years
- 36.4%: 36 years or younger
- 44.1% = head of household
- 40.0% = husband/wife of head of household
- 10.9% = children of the head of household
- 4.9% = other relatives

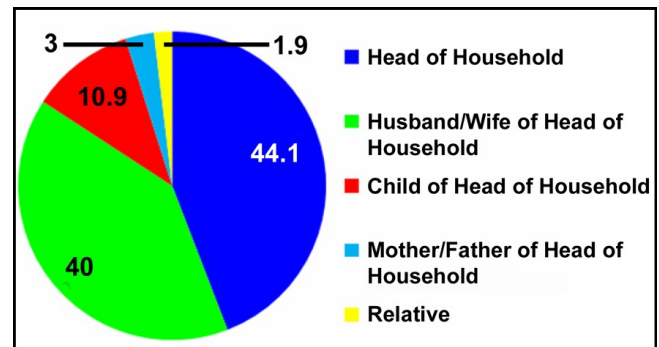


Fig. 1: Household Position of Respondents in % (N = 2,671)

Marital status

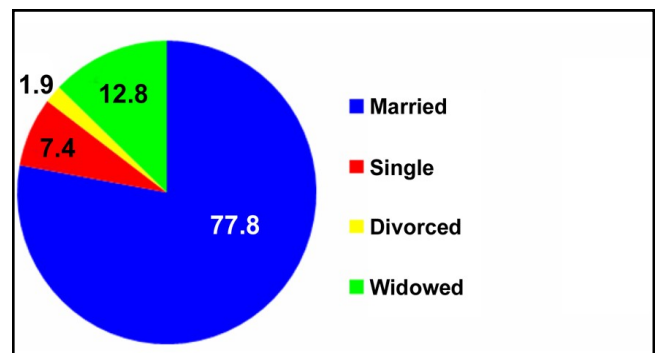


Fig. 2: Marital status of respondents in % (N = 2,677)

Marital Status	Urban	Rural	Total
Married	602	1,482	2,084
Single	105	94	199
Divorced	36	15	51
Widowed	115	227	342
Total	858	1,818	2,676

Table 1: Marital status and number of respondents by region of origin

Education

Years of education:

- Average: 4.96
- Minimum: 0
- Maximum: 20
- SD: 3.90

Occupation



Main Employment

- 49.6% Farmers
- 18.0% Vendors
- 12.8% Housewives
- 7.9% Labourers
- 4.8% Unemployed
- 4.7% Civil servants
- 1.6% Students
- 0.4% Company staff
- 0.3% NGO staff

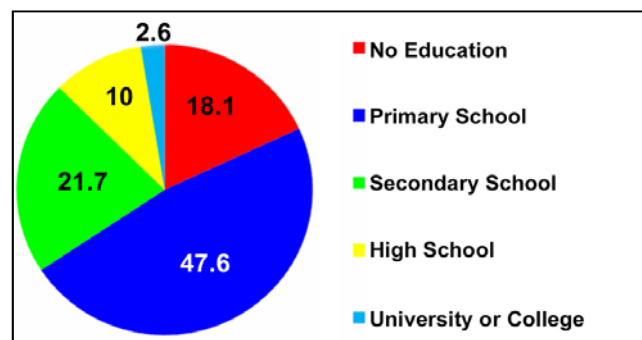


Fig. 3: Educational status of respondents in % (N=2,685)

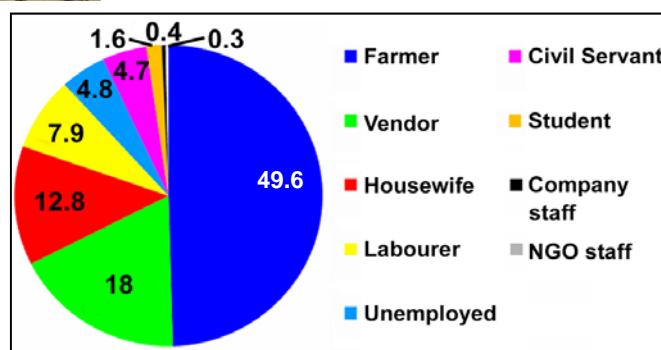


Fig. 4: Main occupation of respondents in % (N=2,680)

Family members

- Average of 5.31 members per family (Min 1, Max 22, SD 2.08, N = 2,688) with 1.49 children per family for all respondents
- Of all respondents, 69% had children (i.e. 1,848 out of 2,678 respondents)
- Thus 2.17 children per family for all respondents with children (Min 1, Max 9). Of these children, 69% attended school and 30.4% were employed

Economic situation

Income, spending and savings:

On average, 2.17 people per household earned an income (Min 0, Max 9, SD 1.06, N = 2,671)

Average monthly income:

- For all households: 153.06 USD (SD=137.11)
- For 48.2% of households: less than 50 USD
- For 1.2% of households: greater than 800 USD
- For 0.6% of households: no income was earned

Average monthly spending:

- For all households: 140.56 USD (SD=114.57)

Average monthly savings:

- For all households: 2.53 USD (SD=18.82) (N = 2,681)
- For 87.4% of households: no savings - subsistence living only

Average monthly debt incurred over income earned:

- For 6.5% of households: greater than 150 USD

The following table shows the mean midpoint averages in US dollars representing the economic situation of respondents by location.

Area	Income per household	Spending per household	Savings per capita
Rural	124.15	115.05	2.04
Urban	214.59	194.87	3.60
Total	153.06	140.56	2.54

Table 2: Financial situation of the respondents relative to demographics and average monthly income

Respondents in urban areas earned and spent more, and could save nearly twice as much as rural residents.

Ownership of property and landholdings

Approximately 91.5% of respondents owned land (N = 2,683).

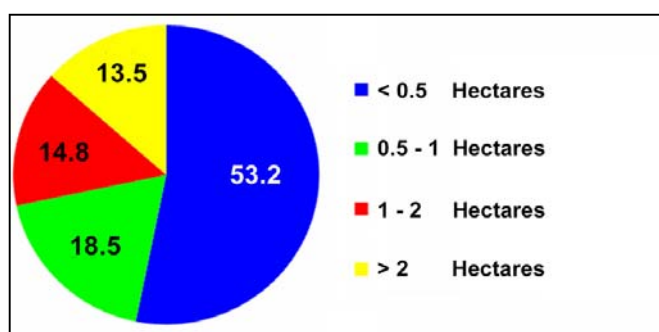


Fig. 5: Amount of land owned by the respondents in % (N = 2,441)



Real assets



Of the respondents' families:

- 95.8% owned a house (N = 2,686)
- 64.5% owned a motorcycle (N = 2,686)
- 7.3% owned a car or truck (N = 2,681)

Type of dwelling	Percent of type owned
Wood house with tin roof	53.8%
Wood house with tiled roof	32.4%
Thatched house	7.9%
Brick house	5.9%

Table 3: % of resp. with different types of houses (N = 2,555)

II Screening Questions

Children problems



The following results concerning children are calculated based on the respondents with own children, which were 1848 respondents out of the 2690, if not mentioned otherwise.

1) School problems

The following graph shows the percentage of households with children who have problems at school.

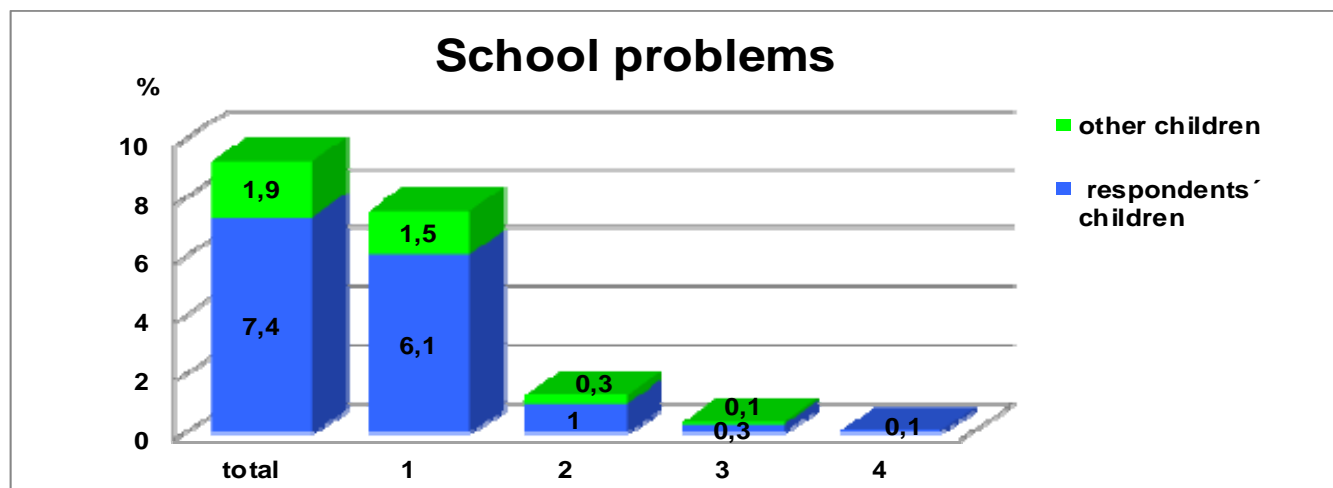


Fig.6: Percentage of households with respondents' and other children having problems at school (N = 1653/1667 (other/own))

- 7.4% of respondents reported that one to four of their children had problems in school and 1.9% reported that one to three other children living in the household had school problems
- In total 8.2% of the households had children with school problems

The following table shows the percentage of children having school problems in given time frames.

	School problems % within previous week	School problems % within previous month
respondents children	25.8	63.7
other children	43.3	70.0

Table 4: Cumulative percentages of respondents who experienced school problems in certain time frames (N = 30/124 (other/own))

- Around two thirds of all children that reported to have problems in school experienced these problems within the previous month

2) Aggressive behaviour

The following graph shows the percentage of households with aggressive children.

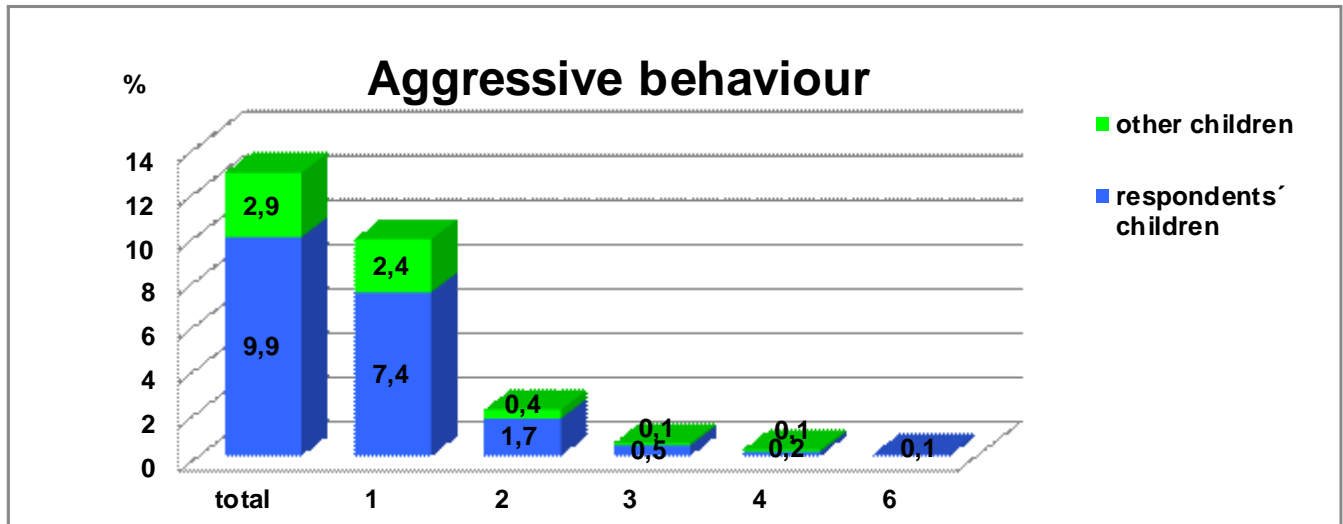


Fig 7: Percentage of households with respondents' and other children showing aggressive behaviour (N = 1,666/1,787 (other/own))

- 9.9% of respondents reported about one to six of their children showing aggressive behaviour out of which 78.4% exhibited the behaviour during the previous month
- In total 11.5 % of households were dealing with aggressive children in their family

The following table shows the percentage children with aggressive behaviour in given time frames.

	Aggressive behaviour % within previous week	Aggressive behaviour % within previous month
own children	45.5	78.4
other children	56.2	79.2

Table 5: Period in which respondents' and other children in the households exhibited aggressive behaviour (N = 48/146 (other/own))

- Nearly 80% of children's aggressive behaviour occurred within the previous month

3) Other problems

The following graph shows the percentage of households with children suffering from other problems.

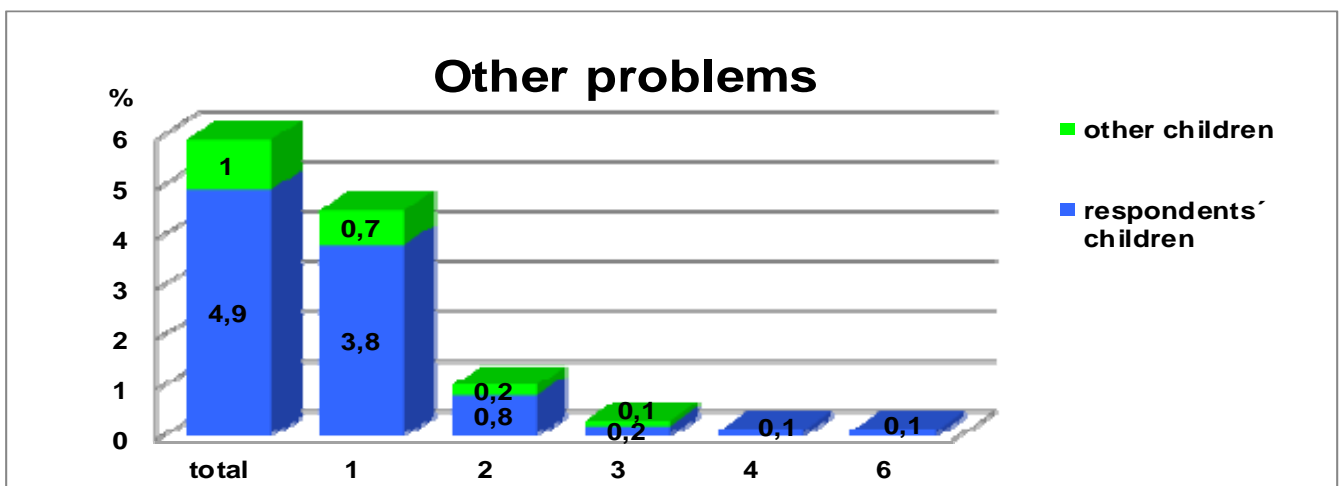


Fig. 8: Percentage of households with respondents' and other children suffering from other problems (N = 1671/1774 (other/own))

- In total 4.9% of the respondents reported other problems with their children out of which 58.6% occurred during the previous month
- 1% reported about other problems with other children in their homes

4) Detention of children

The following graphs present the percentage of households with respondents' own or other children who were brought to a reeducation camp or to police/ court or prison.

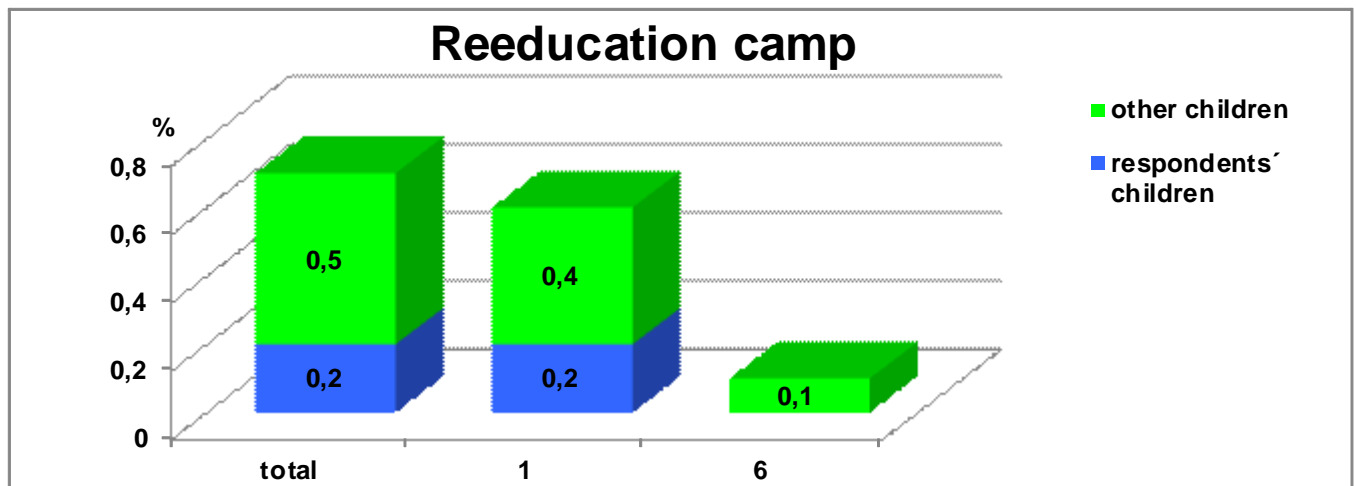


Fig.9: Percentage of households with respondents' or other children being brought to reeducation camps (N = 1672/1778 (other/ own))

- Three respondents (0.2%) reported that one of their children had been brought to a reeducation camp (one of these within the previous year)
- Six respondents reported about one other child and one about six other children in their household that had been brought to a reeducation camp (57.1% of these within the previous year)
- In the whole sample of 2690 households (N= 2365), 22 cases of other children in nine of the respondents' households had been brought to a reeducation camp. Out of these 33.3% occurred within the previous month and 55.6% within the previous year

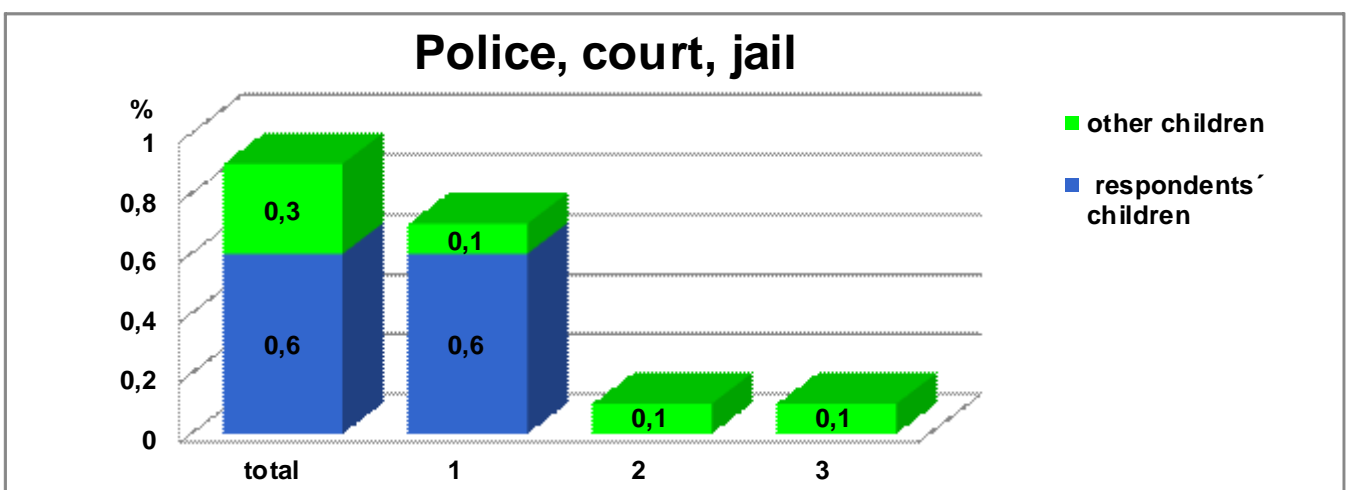


Fig.10: Percentage of households with respondents' or other children which had contact with the police, court or went to prison (N = 1659/1782 (other/own))

- In 10 households (0.6%) respondents reported that one of their children had been brought to the police, to court or to a prison, 60% of these within the previous year
- In five households one to three other children had been brought to the police, to court or to a prison, 40% within the previous year

5) Percentage of respondents' children suffering from different problems

The following graph shows the percentage of the respondents' children suffering from the problems discussed calculated in relation to a total number of 4002 children of respondents.

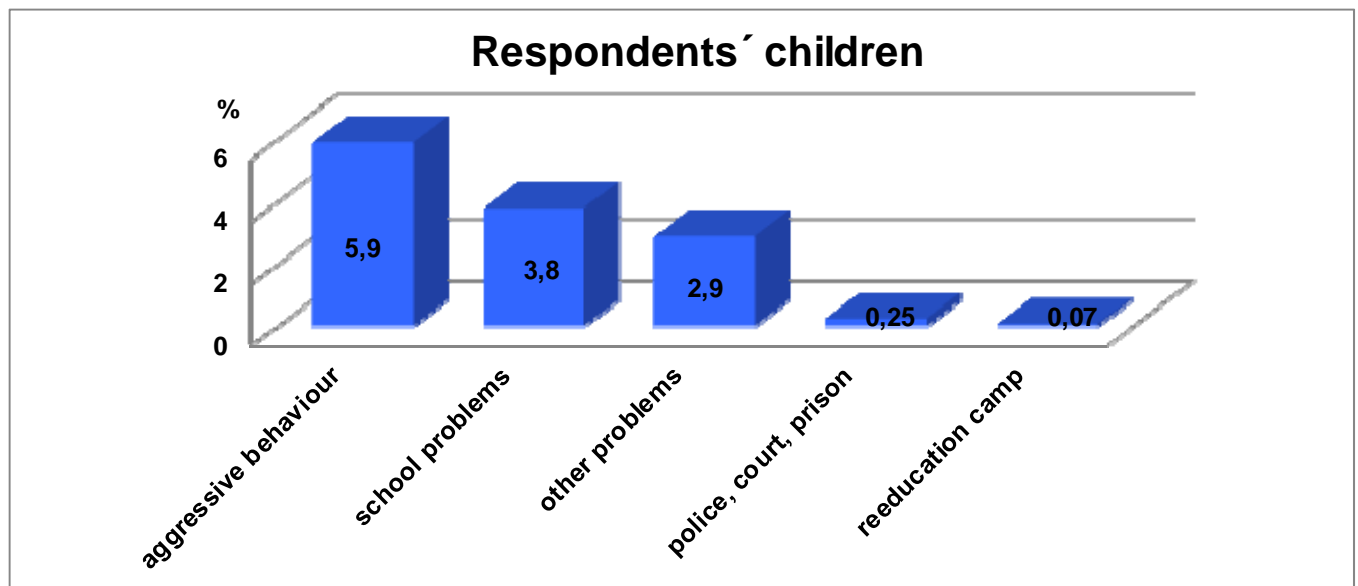


Fig.11: Percentage of respondents' children suffering from various problems

- 5.9% of the respondents' children were exhibiting aggressive behaviour, 3.8% problems at school and 2.9% other problems

Traumatic events experienced

- In 0.4% of the households one family member had experienced rape, 45.5% within the previous year (N = 2685)
- In 0.7% of the households one to four members of the family had experienced trafficking, 61.1% within the previous year (N = 2684)
- 8.8% of the respondents had experienced child abuse, described as physical or sexual violence or severe neglect, 10.6% of male respondents (N = 871) versus 8.0% of female respondents (N = 1807)
- In 4.0% of the households one to six other family members had experienced child abuse (N = 2666)
- In 5.9% of the households one to five members had experienced another crime (N = 2681), out of which 24.2% within the previous year

Mental Disorders of family members

- 93 respondents (3.5%) reported having one to two family members affected with "craziness" and "talking nonsense" (N = 2681)
- An average of .04 members per family were affected
- 25.8% of these were acute within the previous week, 38.7% within the previous year. They were ill for a period of 2 months to 70 years, with an average of 16.91 years
- Additionally four cases of respondent's family members were reported to have been chained or put in a cage because of a mental problem, two of them within the previous month
- 8 respondents (0.3%) reported that they had been chained or put in a cage because of a mental problem, five (0.6% of) male respondents (N = 870) versus three (0.2% of) female respondents (N = 1811)

- One reported this happened the week before the interview took place
- Together with the cases of family members this makes 0.74% of the household members affected by severe probably psychotic disorders and a point prevalence of about 0.2%

Irritability/ Aggressiveness

- 56.1% of respondents reported being irritable or angry (N = 2653), 60.4% of female respondents (N = 1790) versus 47.3% of male respondents (N = 859); 60.4% out of these within the previous month
- 24% of the respondents reported having one to seven family members behaving irritably or angry; 64.9% of these within the previous month

Suicidal Tendency

1) Suicide attempts

- 115 (4.3%) respondents reported that they had previously attempted to commit suicide (N = 2684)
- 15 were male (1.7% of male respondents, N = 871) and 100 were female (5.5% of female respondents, N = 1809), a highly significant difference
- 46 were 36 years old or younger (5% of younger population), 69 older than 36 (3.9% of the older population) (not significant)
- Suicide attempts correlated negatively on a significant level ($p < .05$) with savings per capita, meaning that respondents with fewer savings committed more suicide attempts
- In 22 cases (0.8%) the respondents reported a family member had attempted to commit suicide (N = 2668)

The following graph shows the percentages of attempted suicides per time frame.

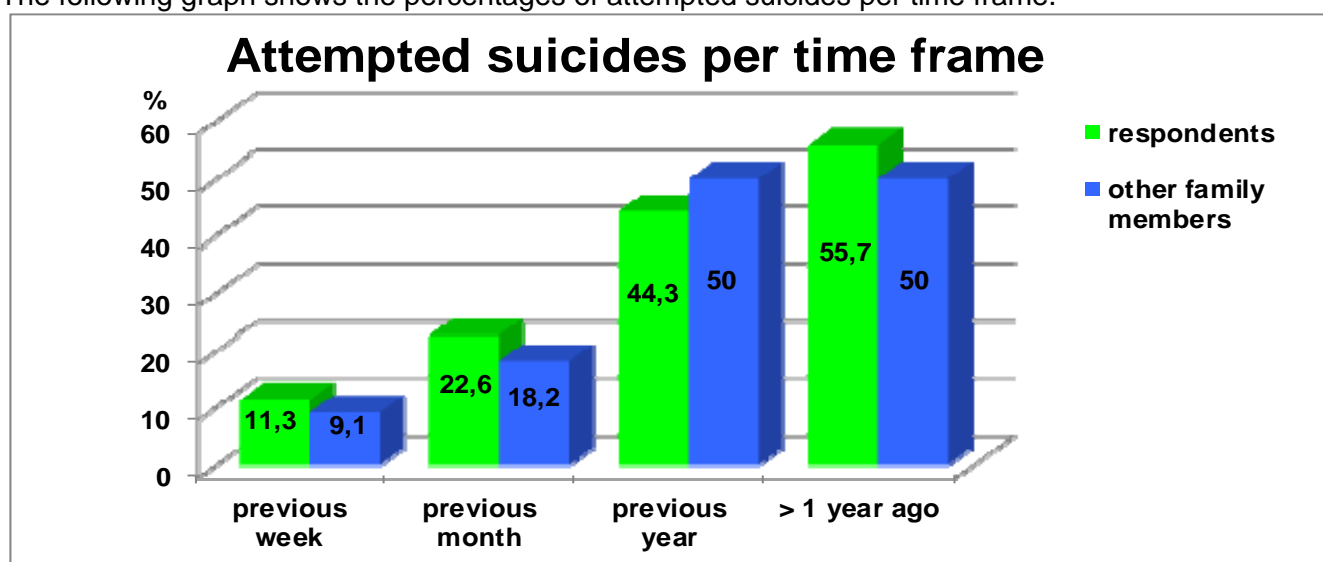


Fig.12: Percentage of attempted suicides within a given time frame, cumulated percentages (N = 115/22 (respondents/ family members))

- 13 (11.3%) out of the 115 respondents who had attempted suicide reported having done so during the week previous to the interview
- 26 (22.6%) reported having attempted suicide during the month previous to the interview
- In total 44.3% of the 115 respondents reporting suicide attempts and 50% of the 22 family members who had attempted suicide had done so during the previous year

The following table shows mean scores on different symptom scales for respondents that had or attempted to commit suicide. The differences between the two groups are highly significant (Mann-Whitney-U-Test, $p < .001$) for all scales.

Suicide attempts	HTQ-Symptoms	HSCL-25 anxiety	HSCL-25 depression	CSSI
No (N 2567-2569)	1.40	1.49	1.42	2.05
Yes (N 115)	1.91	1.98	1.94	2.22

Table 6: Mean symptom scores related to suicide attempts

- Respondents that had attempted to commit suicide suffer from much higher levels of psychological symptoms

2) Committed suicides

- In 22 households (0.8%) a family member of the respondent had committed suicide (N = 2668) with six (27.3%) of these suicides occurring in the previous year
- Taking into account the average number of family members per household of 5.31 and the number of 2668 respondents that answered this question, a rate of 42.35 suicides per 100000 per year 2011 can be indirectly estimated

Alcohol problems

1) Alcohol problems of family members

- 9.2% of respondents reported that they had family members having “problems with drinking too much alcohol” (N = 2678)
- 8.8% reported that one family member (236 persons), 0.3% two family members (16 persons), and 0.1% three family members (nine persons) drank too much alcohol
- 48.2% of these drank heavily during the previous week, 69.4% during the previous months and 82.9% during the previous year

2) Alcohol consumption of respondents

The respondents' answers to their own alcohol consumption are shown in the following graphs. 59.1% of the respondents who reported consuming alcohol said they drink wine, 40.9% beer.

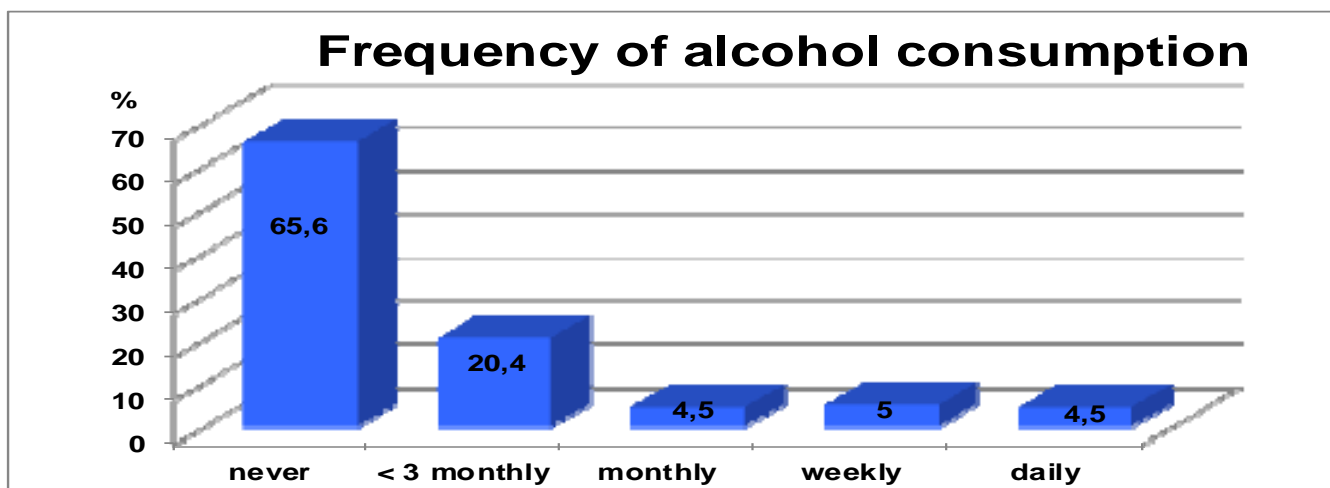


Fig. 13: Percentage of respondents consuming alcohol in given time periods (N = 2686)

- 86% of respondents said they drink less than monthly
- 9.5% of respondents said they drink regularly (at least weekly)

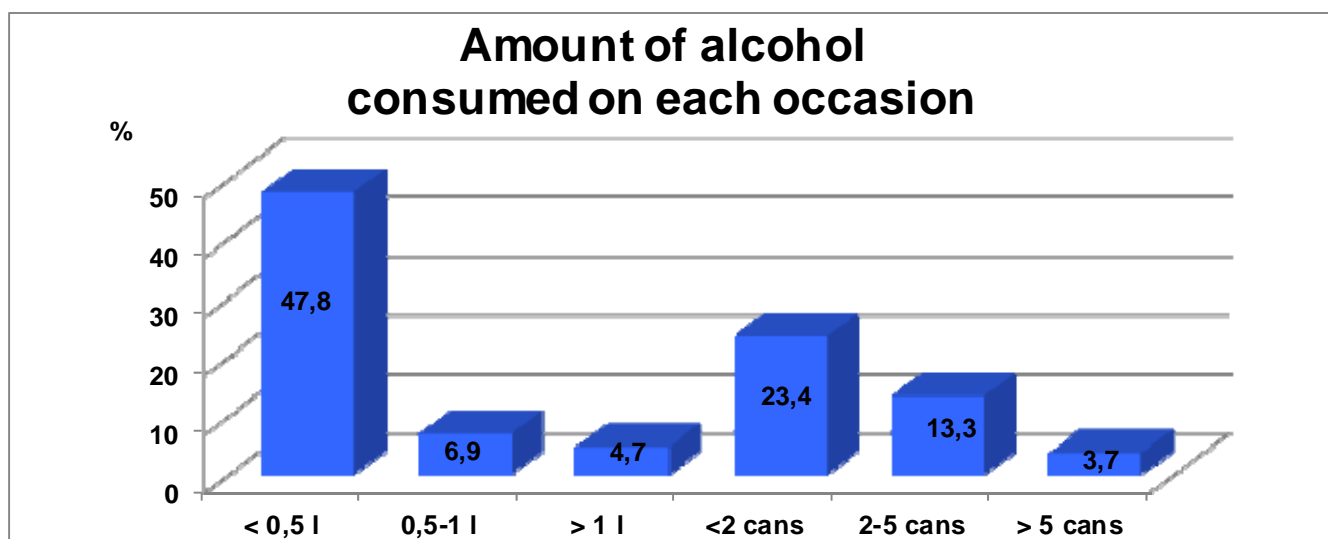


Fig. 14: Percentage of respondents consuming the given amount of alcohol per occasion (N = 922)

- Of the respondents consuming alcohol:
 - ⇒ 71.2% drank less than half a liter or two cans per occasion (N=922)
 - ⇒ 8.4% of them drank more than one liter or five cans per occasion (N = 922)
 - ⇒ 22.4% said that their alcohol consumption was causing problems with family, friends or their health (N = 922)
 - ⇒ 25.3% reported that their drinking was causing financial problems (N = 922)
- According to the definition described in the methodology 1 % of all respondents are likely to suffer from alcohol addiction and 0.4% from alcohol abuse according to their own answers
- 4.0% of male respondents (N = 873) versus 0.2% of female respondents (N = 1813) are likely to suffer from alcohol problems (abuse or addiction)

For the percentages of respondents having problems of different frequency with family, friends or their health caused by their drinking habits please see Fig. 1 in the appendix.

Drugs

- 14 (0.5%) of the respondents (N = 2675) reported they had one to five family members who were having a problem with taking drugs, 28.6% of these during the previous month
- Three (0.1%) of the respondents reported taking drugs daily and two (0.1%) less than three times per month, 99.8% reported never to take drugs (N = 2686)
- All of the respondents who reported that they use drugs were male (0.6% of male respondents, N = 872)
- 80% of these reported this rarely or sometimes caused problems with their families (N = 5)
- 80% of these reported that their drug consumption was causing financial problems (N = 5)

Gambling

- 1.7% of respondents (N = 2675) reported that at least one to four family members had a gambling problem
- 30.4% of these had gambled during the previous week, 47.8% during the previous month and 82.6% within the previous year (N = 46)
- 4.8% of respondents gambled at least sometimes, 6.6% of the male respondents (N = 870) and 3.9% of the female respondents (N = 1809)
- 6.1% of respondents reported that their gambling habits caused many or some problems
- 40.8% of respondents who gambled stated that their gambling was causing financial problems (N = 125)

For the frequency of gambling habits among the respondents and the results to the question: “Does your gambling ever cause any problems ?” please see the appendix Fig. 2 and 3.

Cross-tables for ‘suicide attempts’, ‘in cage or chained’ and ‘alcohol problems’ with demographic variables

The following cross-table shows the number and percentage of respondents having an alcohol problem, having attempted suicide and having been chained or put in a cage by sex and location (urban/rural).

		Suicide attempt		In cage or chained		alcohol problems	
		Yes		Yes		Yes	
		N	%	N	%	N	%
Male	within male	15	1.7**	5	0.6	35	4.0**
	Within problem		13.0**		62.5		92.1**
Female	Within female	100	5.5**	3	0.2	3	0.2**
	Within problem		87.0**		37.5		7.9**
Urban	Within urban	44	5.1	3	0.3	9	1.0
	Within problem		38.3		37.5		23.7
Rural	Within rural	71	3.9	5	0.3	29	1.6
	Within problem		61.7		62.5		76.3

Table7: Cross-table for respondents’ alcohol problems, suicide attempts and being held captive in a cage or on chains by sex and home location (urban/rural)

- Men had a nearly 20 times higher percentage of alcohol problems than women (highly significant)
- Women had a more than three times higher percentage of suicide attempts (highly significant)
- Males were three times more likely to be chained or put in a cage due to a mental disorder (nearly significant)
- Alcohol problems were more frequent in rural areas, whereas a higher percentage of the urban (5.1%) than the rural (3.9%) population tried to commit suicide (not significant)

Correlations of suicide attempts, being in a cage or chained and alcohol problems with demographic variables (age, years of education and economic situation)

- 76.3% of respondents with a probable alcohol problem had no savings or small debts. Alcohol problems correlated significantly negatively with savings per capita, meaning that the less wealthy suffered more from alcohol problems or vice versa alcohol problems lead to more spendings (Mann Whitney U: <.05)
- Alcohol problems correlated significantly negatively with age, meaning that the younger population was more affected. 2% of the group of 36 years or younger versus 1.1% of the group aged above 36 were affected
- Suicide attempts overall were more prominent in the less educated population (not significant)
- 87% of the respondents that had tried to commit suicide had no savings or were in debt (significant negative correlation between savings per capita and suicide attempts, Mann Whitney U: <.05)
- Being chained or put in a cage correlated significantly (negatively) with savings per capita (Mann Whitney U: <.05) meaning that severe mental illness was associated with poverty



Summary: Major findings from part B screening questionnaire

- There are high rates of report of aggressive behaviour in children (11.5% of households reported this)
- 8.8% of the respondents had experienced child abuse, described as physical or sexual violence or severe neglect (10.6% of male and 8.0% of female respondents)
- In 4.0% of the households there were one to two members affected with a probable psychotic disorder
- About 0.74% of the family members were affected with a probable psychotic disorder (lifelong) and 0.2% of those were acutely affected with it
- Males were three times more likely to be chained or put in a cage due to a mental disorder
- 56.1% of respondents reported feeling irritable or angry, 60.5% out of these within the previous month
- 4.3% of the respondents had previously attempted suicide (1.7% of male and 5.5% of female respondents), 22.6% of these within the previous month
- Respondents that had attempted to commit suicide suffer from much higher levels of psychological symptoms (significant)
- Women had a more than threefold rate of suicide attempts
- Suicide attempts overall were more prominent in the less educated population
- 87% of the respondents that had tried to commit suicide had no savings or were in debt; the poorer the respondents were the more likely that they attempted suicide (significant)
- Alcohol problems were more frequent in rural areas, whereas suicide attempts occurred more often within the urban population
- In 0.8% of the households a member had committed suicide
- Based upon these interviews, the suicide rate was estimated for the general population at 42.35 suicides per 100000 per year (2010/2011) (note that this is based on indirect data from family members)
- 9.2% of respondents had one to three family members with an alcohol problem
- 9.5% of respondents reported drinking regularly (daily or weekly)
- 25.3% of respondents consuming alcohol reported that their drinking was causing financial problems
- Men had a more than 4 fold rate of alcohol problems compared to women
- According to the definition described in the methodology 4.0% of male respondents versus 0.2% of female respondents are likely to suffer from alcohol problems (abuse or addiction)



III Traumatic experiences

Traumatic experiences during Civil War

- 64.1 % (1722) of the respondents had experienced the Civil War period comprising trauma during, shortly before and after the KR era

out of these

- Only 6 % had experienced or witnessed no traumatic events during CW
- The average number of traumatic events experienced was 7 (SD = 4.15, Max = 20)

The following graph shows the frequencies of different traumatic events experienced during the CW. It refers only to the respondents aged 37 years or older.

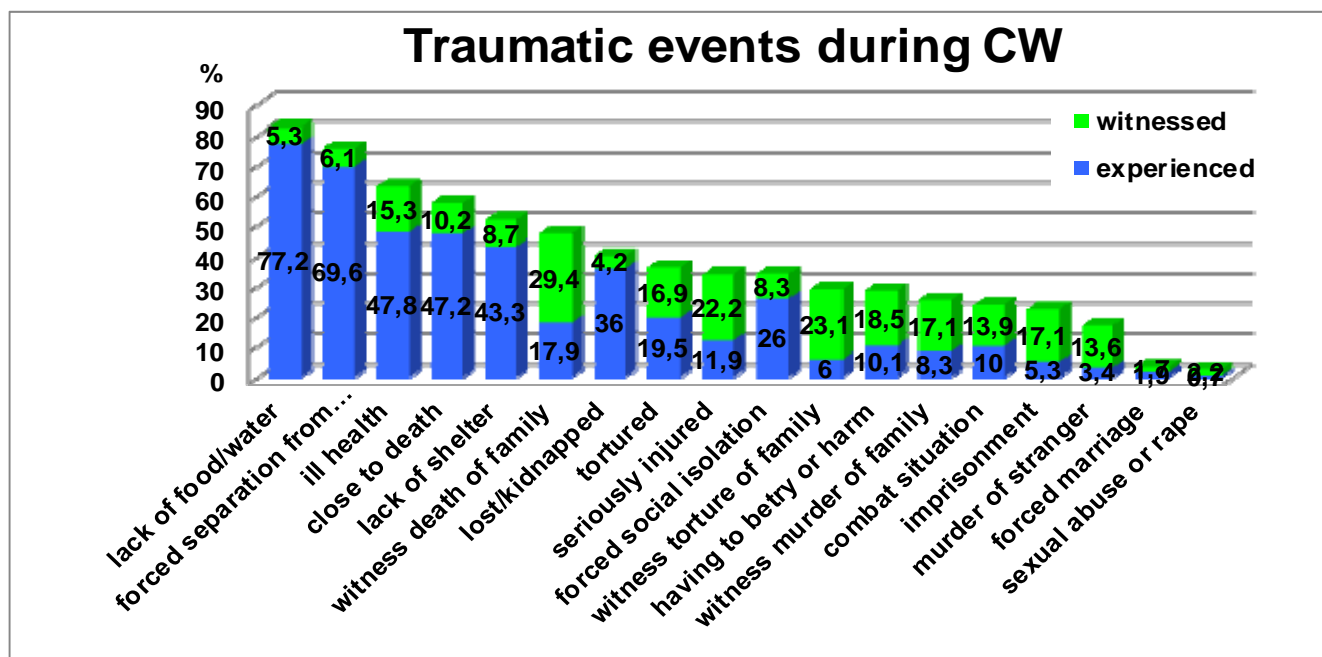


Fig. 15: Traumatic events experienced or witnessed by respondents during Civil War in % (N = 1714- 1718)

The most and least frequently experienced traumatic events (in order of frequency)

Traumatic event	Experienced by	Witnessed by
Lack of food and water	77.2%	5.3%
Forced separation from family/friends	69.6%	6.1%
Ill health	47.8%	15.3%
Close to death	47.2%	10.2%
Forced marriage	1.9%	1.7%
Sexual abuse/rape	0.7%	2.2%

Table 8: Frequencies of most and least experienced traumatic events

- Most frequently experienced and witnessed: lack of food and water (82.5), forced separation from family or friends (75.7 %), ill health (63.1%), and being close to death (57.4%)
- Least frequently experienced and witnessed: forced marriage and sexual abuse or rape
- 18.9 % experienced and 2.5 % witnessed another traumatic event during CW not mentioned in the list

Traumatic experiences after Civil War

- Traumatic events after the CW were experienced or witnessed by 70.2% of the respondents
- 35.5% of respondents had experienced one, 19.5% two, and 8.7% three such events
- $M = 1.31$, $SD = 1.28$, $Max = 9$

The following graph shows the percentage of respondents having experienced or witnessed a traumatic event after the CW.

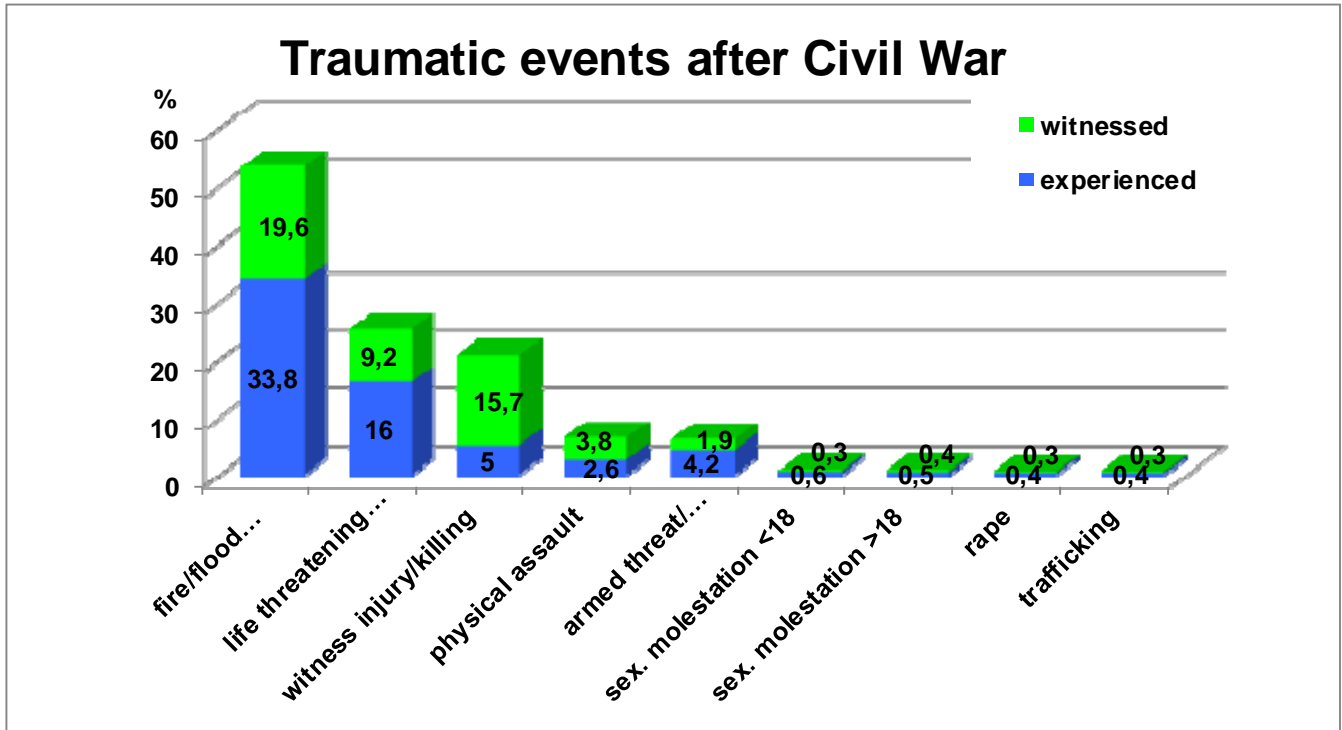


Fig16: Traumatic events experienced or witnessed by respondents after Civil War in % ($N = 2687-2689$)

- The three most frequent events were: fire, flood or other natural disasters experienced/witnessed by 53.4%, a life threatening accident by 25.2% and the witnessing of a bad injury or killing by 20.7%
- 13.9 % of respondents experienced/witnessed other extremely stressful or upsetting events
- Gang rape was not mentioned

Other stressful experiences



- 94.4 % of the respondents had experienced one to 12 stressful experiences
- 27.1 % of the respondents experienced two stressful events, 23.3% three and 15.9% four
- $M = 2.93$, $SD = 1.66$, $Max = 12$

The following graph shows the percentages of the respondents' other stressful experiences.

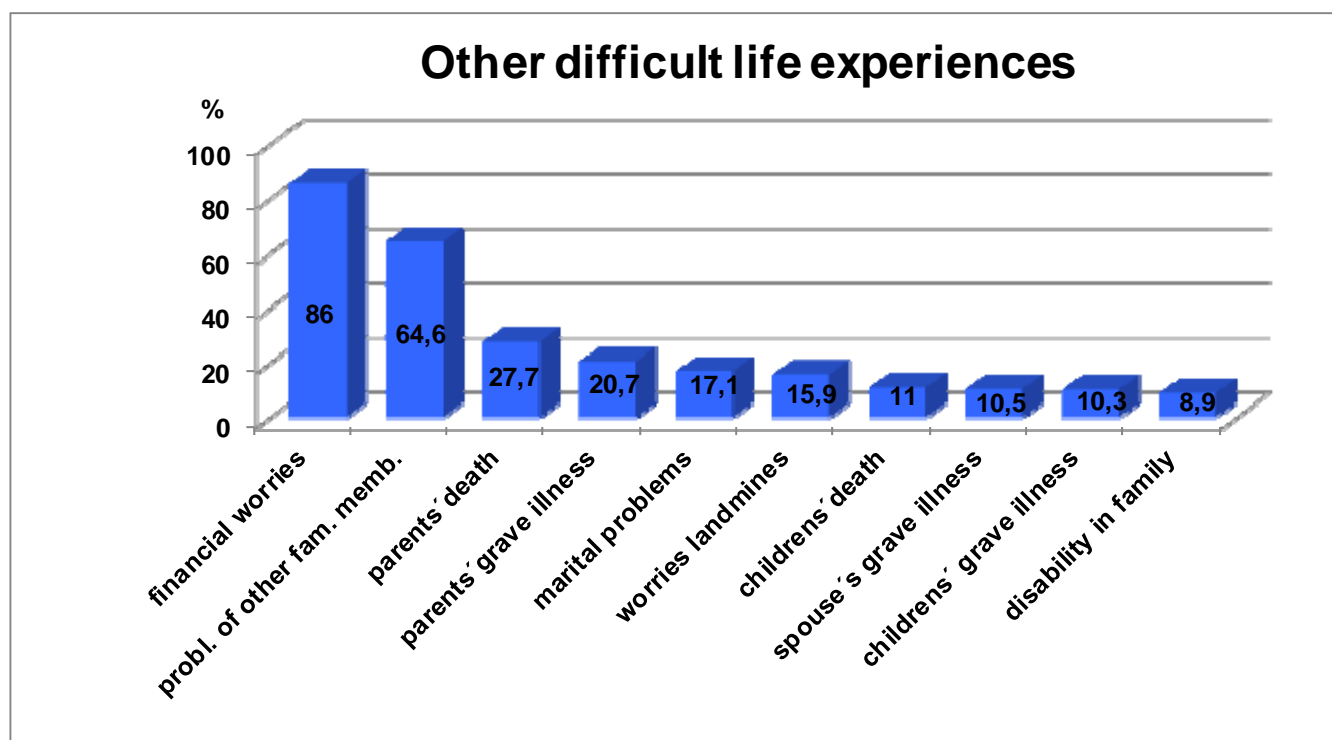


Fig.17: Other difficult events experienced by respondents in % (N= 2668-2689)

- The five most frequently experienced events were financial worries, worries about problems of other family members, death of parents, grave illness of parents and worries about land mines
- Additionally 10.8 % of respondents worried about other problems not mentioned in the list

Traumatic events combined

- 87.9% of all respondents experienced or witnessed one to 24 traumatic events during and/ or after the CW ($M = 5.8$, $SD = 5.11$). 98.7% of all respondents had one to 31 traumatic and/or stressful experiences ($M = 8.7$, $SD = 5.75$)
- Traumatic events during CW were experienced more by men ($M = 7.7$ for men versus $M = 6.6$ for women) as well as traumatic events after CW ($M = 1.6$ versus 1.2), whereas other stressful events were experienced slightly more frequently by women ($M = 3.0$ versus $M = 2.9$)

Correlations between the different traumatic/stressful experiences

Table 9 reflects relationships between different traumatic and stressful experiences at certain time periods. In the analysis, the amounts of traumatic events during and after the CW were also looked at separately as 'experienced' or 'witnessed' events. However, this did not show stronger correlations related to symptoms. Therefore, these correlations will not be shown in the results.

For the total amount of traumatic experiences during or after the CW the results for experienced and witnessed events were therefore combined as this also reflects the definition of a traumatic event according to DSM.


The following table shows inter-correlations between the sums of traumatic or other stressful life experiences at different times.

Time Period	Traumatic events experienced or witnessed during	Traumatic events experienced or witnessed after CW	Other stressful experiences
During Civil War	1	-	-
After Civil War	.274**	1	-
Other stressful life	.217**	.227**	1

*Table 9: Inter-correlations between various traumatic experiences ** = $p < 0.001$*


The results of table 9 show that :

- There is a relationship between the number of traumatic experiences at different times. This suggests that those who have experienced more trauma during CW have also experienced more trauma after the war as well as other stressful life experiences



Summary: Traumatic experiences

- The most frequently experienced traumatic/stressful events:
 - During CW: lack of food and water, forced separation from family or friends, ill health and being close to death
 - After CW: fire, flood or other natural disaster, a life threatening accident and the witnessing of a bad injury or killing
 - Other: financial worries, worries about problems of other family members, death of parents, grave illness of parents and worries about land mines
- 70.2% of the respondents had experienced at least one traumatic event after CW
- 94.4 % of the respondents had experienced at least one of the stressful experiences
- The amount of other stressful life experiences such as poverty, death/illness in families, and marital problems has a high correlation with traumatic events experienced during and after the CW period
- Those who have experienced more trauma during CW have also experienced more trauma after the war



IV Self-reporting Symptom Scales

Harvard Trauma Questionnaire - Symptoms

The following table shows the means (M), standard deviations (SD) and confidence intervals (CI) of the results from HTQ-Symptom scale for the total sample and for the male and female subsamples. The % of probable PTSD diagnosis was calculated for cut-off scores of 2.5 and 2.0 as other studies used 2.5 but 2.0 may be a more valid cut-off score (Mollica et al., 2004).

	HTQ Symptoms			% probable PTSD diagnosis			
				with cut-off 2.5		with cut-off 2.0	
	M	SD	95% CI		95% CI		95% CI
total N = 2689	1.43	.40	1.41-1.44	2.7	2.1-3.3	7.6	6.6-8.6
women N = 1813	1.46	.42	1.44-1.48	3.1	2.3-4.0	9.1	7.8-10.4
Men N = 872	1.36	.34	1.34-1.38	1.6	0.8-2.4	4.2	2.9-5.6
<= 36 years N = 922	1.37	.38	1.35-1.40	1.5	0.7-2.3	6.3	4.7-7.9
> 36 years N = 1767	1.45	.41	1.43-1.47	3.3	2.5-4.1	8.3	7.0-9.6

Table.10: M, SD and CI for HTQ scores and percentage of probable PTSD diagnosis

- The highest mean was found for women
- 2.7% of the total respondents had HTQ-Symptoms scores above 2.5 - the threshold score for probable diagnosis of PTSD (3.1 % of female and 1.6% of male respondents)

For the HTQ-Symptoms experienced by respondents above the total HTQ-Symptoms-mean of 1.43 see appendix Fig. 4.

The following graph shows HTQ-Symptoms experienced by 9% or more of the total respondents as 'quite a bit' or 'extremely'.

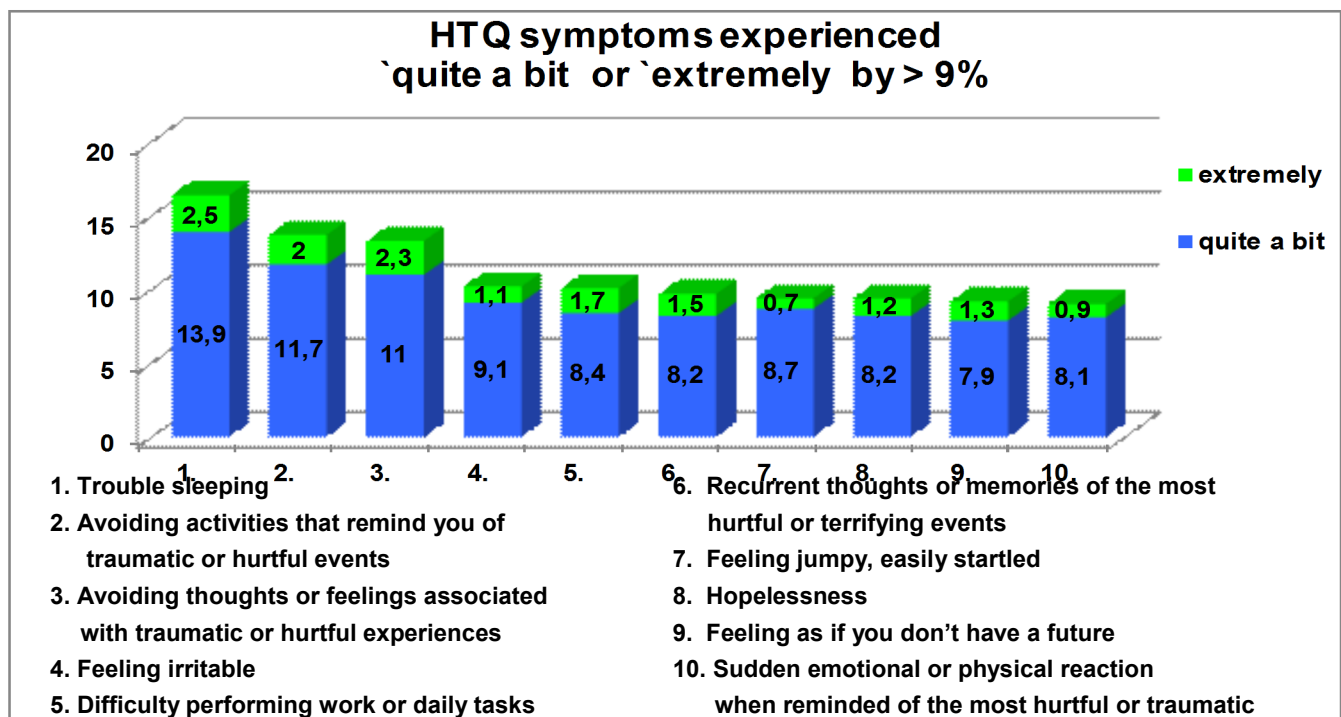


Fig.18: HTQ-Symptoms experienced quite a bit or extremely by >9% of respondents (N = 2681-2689)

- ‘Trouble sleeping’ was the most common symptom experienced by 16.4% of respondents who replied it was a problem ‘quite a bit’ or ‘extremely’
- The second and third most frequently experienced symptoms were avoidance symptoms with ‘avoidance of activities reminding of traumatic experiences’ with 13.7% of respondents selecting ‘quite a bit’ or ‘extremely’ and ‘avoidance of thoughts or feelings associated with traumatic experiences’ (13.3% of respondents)
- Feelings of emotional numbing (3.1%), shame (5.1%) and dissociative experiences (loss of memory (4.9%), feeling detached (4.6%), feeling split (5%)) were least experienced

Cambodian Addendum of Culturally Sensitive Items (now: C-SSI)



The authors divided this scale into two subscales according to Hinton et al. (2011a): the subscale of syndromes comprises six items among which ‘sleep paralysis’ khmaoch songot was weighed double, because of its rareness and extreme stress associated as suggested by Hinton (2011a, personal note). This leads to a total maximum score of 4.29 instead of 4. The subscale of symptoms comprises eight items.

The following table shows the M, SD and 95%CI of the C-SSI total and its subscales.

	M	SD	95% CI
C-SSI total N = 2689	1.76	0.50	1.75-1.78
C-SSI syndromes	1.86	0.51	1.84-1.88
C-SSI symptoms	1.69	0.54	1.67-1.71
C-SSI total women N = 1813	1.81	.51	1.78-1.83
C-SSI total men N = 872	1.67	.44	1.64-1.70

Table 11: M, SD and CI of C-SSI total, C-SSI syndromes, C-SSI symptoms

For the items of the C-SSI that were most prominent among the respondents of this study (M > total M of 1.76) see Appendix Fig. 5.

The following graph shows the C-SSI symptoms which were reported as occurring 'extremely' or 'quite a bit' by over 15 % of the respondents.

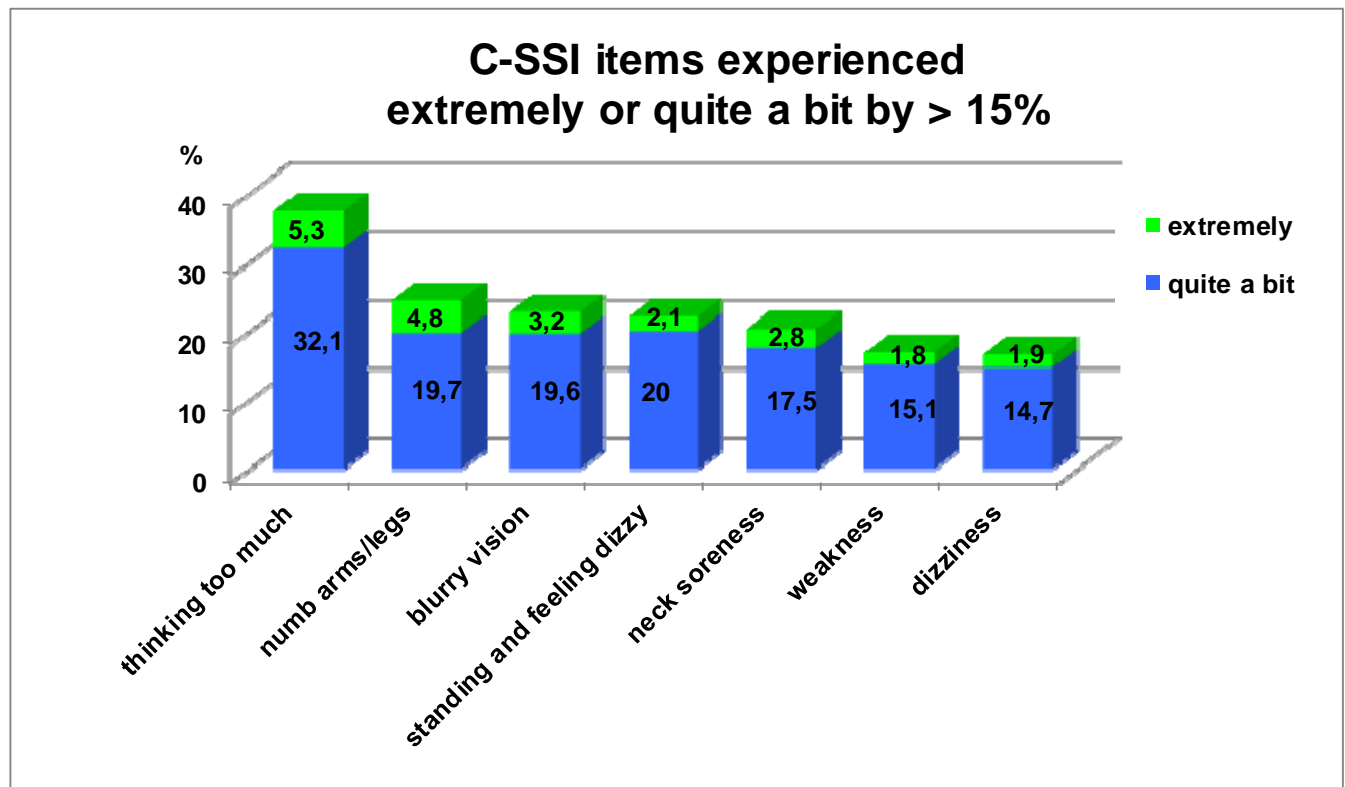


Fig.19: C-SSI items experienced 'extremely' or 'quite a bit' by > 15% of the respondents (N = 2683-2689)

- The three items experienced most frequently by the respondents were the syndromes of 'thinking too much' (*kit chraeun*) with 37.4% and of 'numb arms and legs' (*cok day cog ceung*) with 24.5% and the symptom of 'blurry vision' (*prul phaneik*) with 22.8%
- 'Sleep paralysis' (*khmaoch songot*) (2.9%), 'poor appetite' (*mun khlieun*) (6.4%) and 'cold hands and feet' (*treujea day treutea ceung*) (M = 10.4%) were the least frequently experienced items

The Hopkins Symptom Checklist – 25 for Anxiety and Depression (HSCL-25)

The following tables show the means (M), standard deviations (SD) and confidence intervals (CI) of the results from HSCL-25 for anxiety and depression scores and percentages of probable diagnoses for the total sample and for the male and female sub-samples. The highest possible score is 4.

	Anxiety			% probable diagnosis of anxiety	
	M	SD	95% CI	M	95% CI
total N = 2689	1.51	.47	1.50-1.53	27.4	25.7-29.1
Women N = 1813	1.57	.49	1.55-1.59	31.7	29.6-33.9
Men N = 872	1.40	.39	1.37-1.42	18.4	15.8-21.0
<= 36 years N = 923	1.43	.43	1.41-1.46	20.9	18.3-23.5
> 36 years N = 1766	1.56	.48	1.53-1.58	30.8	28.7-33.0

Table 12: M, SD and CI for HSCL-25 scores of anxiety

	Depression			% probable diagnosis of depression	
	M	SD	95% CI	M	95% CI
total	1.44	.39	1.43-1.46	16.7	15.3-18.1
Women	1.48	.41	1.46-1.50	19.7	17.9-21.5
Men	1.36	.31	1.34-1.38	10.2	8.2-12.2
<= 36 years	1.38	.37	1.36-1.41	12.9	10.7-15.1
> 36 years	1.47	.40	1.46-1.49	18.6	16.8-20.5

Table 13: M, SD and CI for HSCL-25 scores of depression

- Considering the cut-off score of a mean of 1.75 for the probable diagnosis of anxiety and depression respectively, 27.4% of the respondents suffered from anxiety (95% CI: 25.7%- 29.1%) and 16.7% from depression (95% CI: 15.3 %- 18.1%)
- The percentage for women was 31.7% for probable anxiety, 19.7% for probable depression and for men 18.4% and 10.2% respectively

1) Symptoms of anxiety

For the most prominent symptoms of anxiety of or above the total mean (M > 1.51) see Appendix Fig.6.

The following graph shows the HSCL-25 symptoms of anxiety as experienced 'extremely' or 'quite a bit' by more than 10% of the respondents.

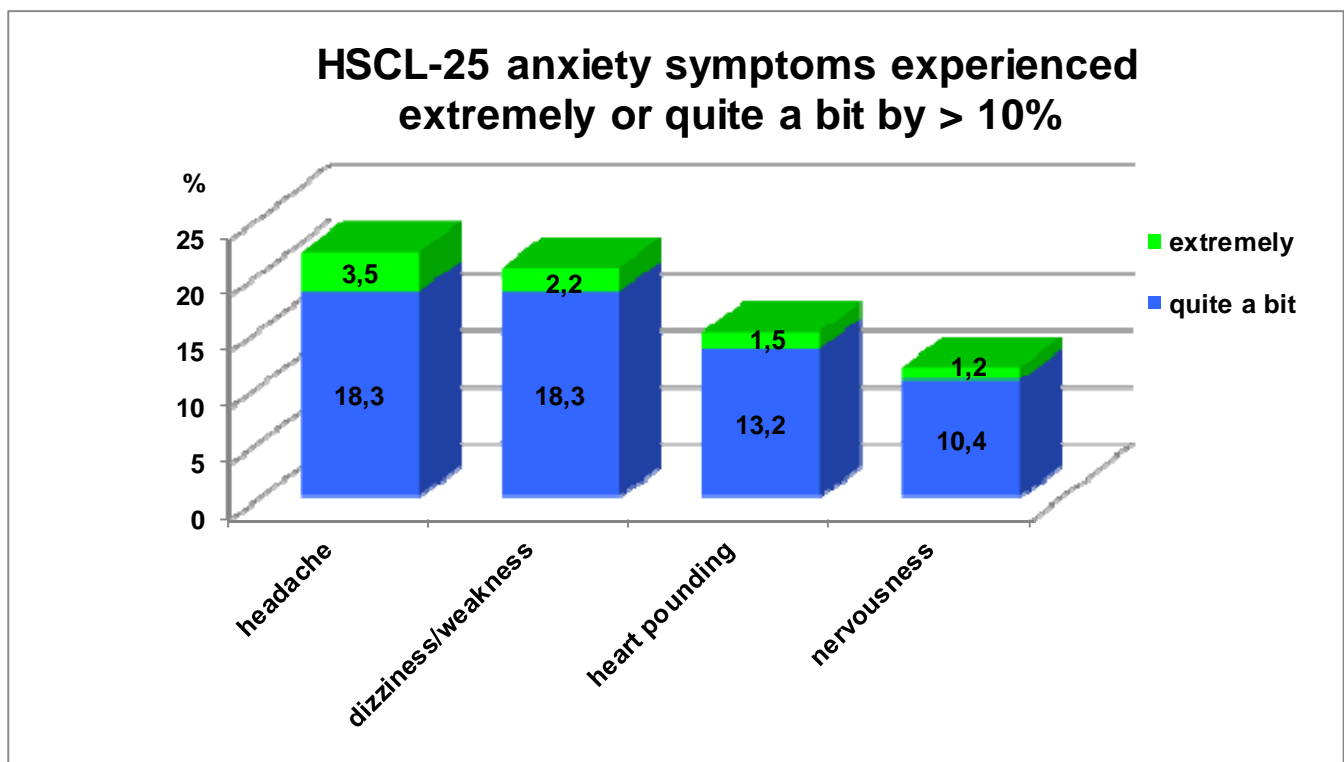


Fig. 20: HSCL-25 symptoms of anxiety experienced 'extremely' or 'quite a bit' by > 10% of respondents (N = 2687-2689)

- The most common symptom was 'headache', followed by 'faintness/dizziness or weakness', and 'heart-pounding'

2) Symptoms of depression

For the most prominent symptoms of depression above the total mean ($M > 1.44$) see Appendix Fig.7.

The following graph shows the HSCL-25 symptoms of depression as experienced 'extremely' or 'quite a bit' by more than 10% of the respondents.

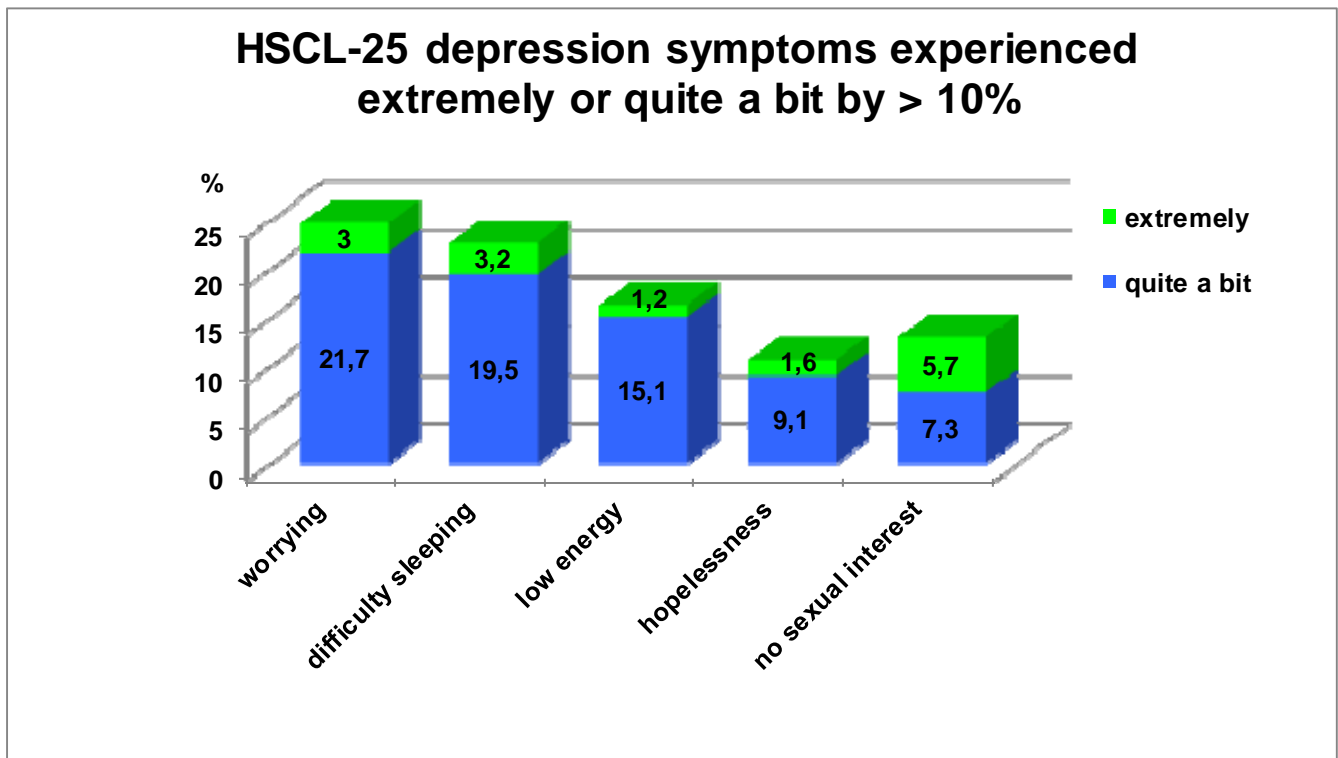


Fig. 21: HSCL-25 symptoms of depression experienced 'extremely' or 'quite a bit' by > 10% of respondents (N = 2686-2689)

- The three most frequently reported symptoms are 'worrying too much', 'difficulty falling or staying asleep', and 'low energy/apathy'
- Additionally, 'loss of sexual interest' is the symptom which is experienced 'extremely' by the highest percentage of respondents (5.7%) out of all depressive symptoms
- The 'thought of ending one's life' (0.9%), 'feeling no interest in things' (3.2%) and the 'feeling of being trapped or caught' (3.7%) were experienced least frequently



Summary of findings of symptoms experienced by respondents

	M	SD	Max	Maximum score possible	% above threshold score for diagnosis		
					total	women	men
HTQ-Symptoms cut-off 2.5	1.43	.40	3.75	4	2.7	3.1	1.6
HTQ-Symptoms cut-off 2.0	1.43	.40	3.75	4	7.6	9.1	4.2
HSCL-25 Anxiety	1.51	.47	3.8	4	27.4	31.7	18.4
HSCL-25 Depression	1.44	.39	3.8	4	16.7	19.7	10.2
C-SSI Total	1.76	.50	4.29	4.29			

Symptoms experienced most/least frequently:

- HTQ: most: trouble sleeping, feeling irritable, avoidance of activities and thoughts associated with traumatic experiences, difficulty performing work or daily tasks; least: feelings of emotional numbing, shame, loss of memory, feeling split
- C-SSI: most: thinking too much, numb arms and legs, standing and feeling dizzy, blurry vision; least: sleep paralysis, poor appetite, cold hands and feet
- HSCL anxiety: headache , faintness/dizziness or weakness, heart-pounding
- HSCL depression: worrying too much, difficulty falling or staying asleep, low energy/apathy



V Mental health and demographic factors

Gender

The following graph shows the different symptom scale mean scores by sex of respondents.

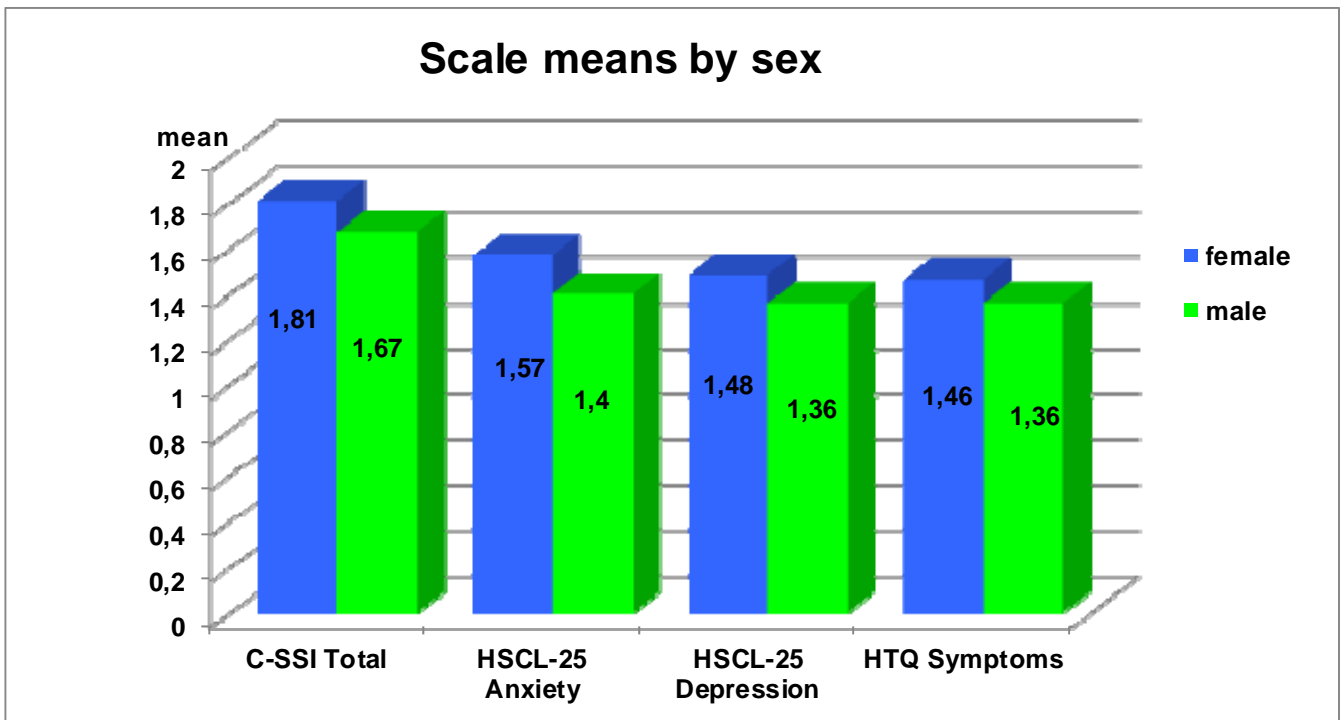


Fig. 22: Mean total scores of C-SSI, HSCL-25 Anxiety and Depression and HTQ-Symptoms by sex

- Clearly higher mean scores for all scales can be seen for female in comparison to male respondents on a highly significant level (Mann Whitney U: $p < .001$)

Age

The following graph shows the different symptom scale means by age of 36 and below, or above 36.

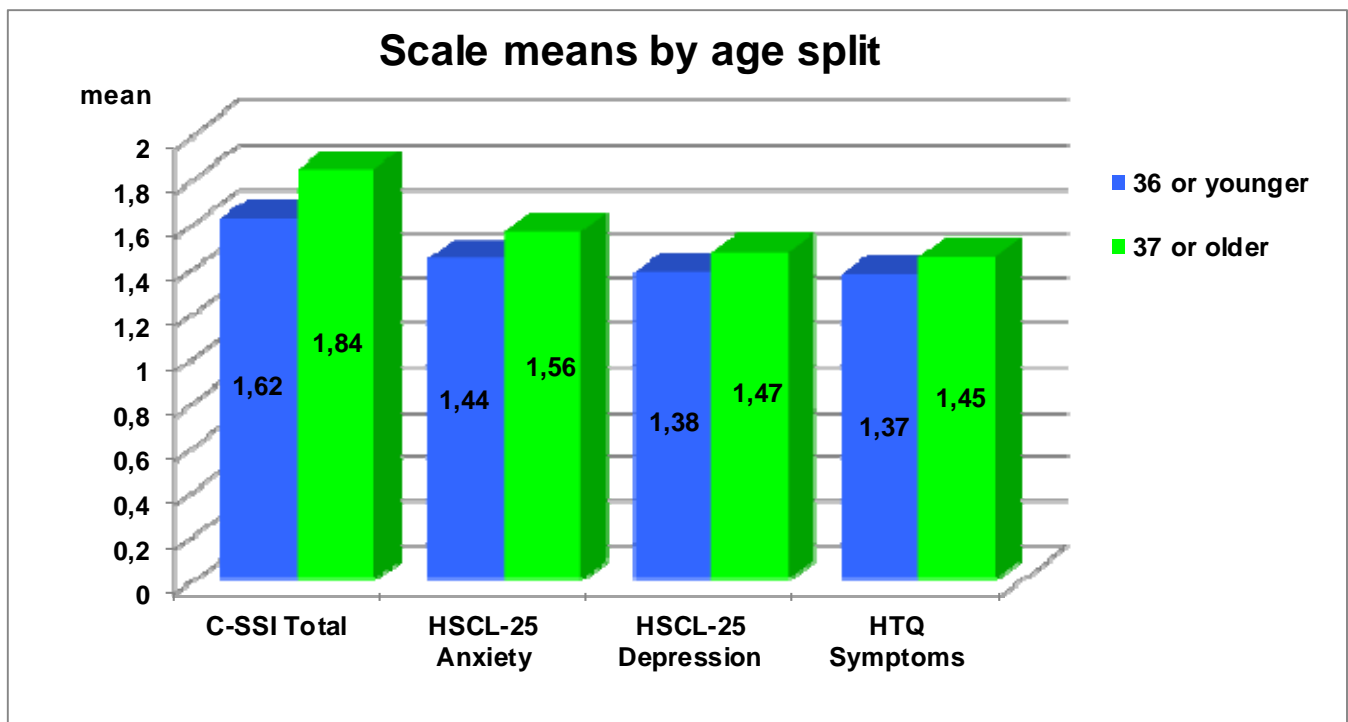


Fig.23: Mean total scores of C-SSI HSCL-25 Anxiety and Depression and HTQ-Symptoms by age split

- Higher age is related to higher scores in all the symptom scales with high significance for all scales (Mann Whitney U: $p < .001$)

Marital status

The following graph shows the different symptom scale means by marital status.

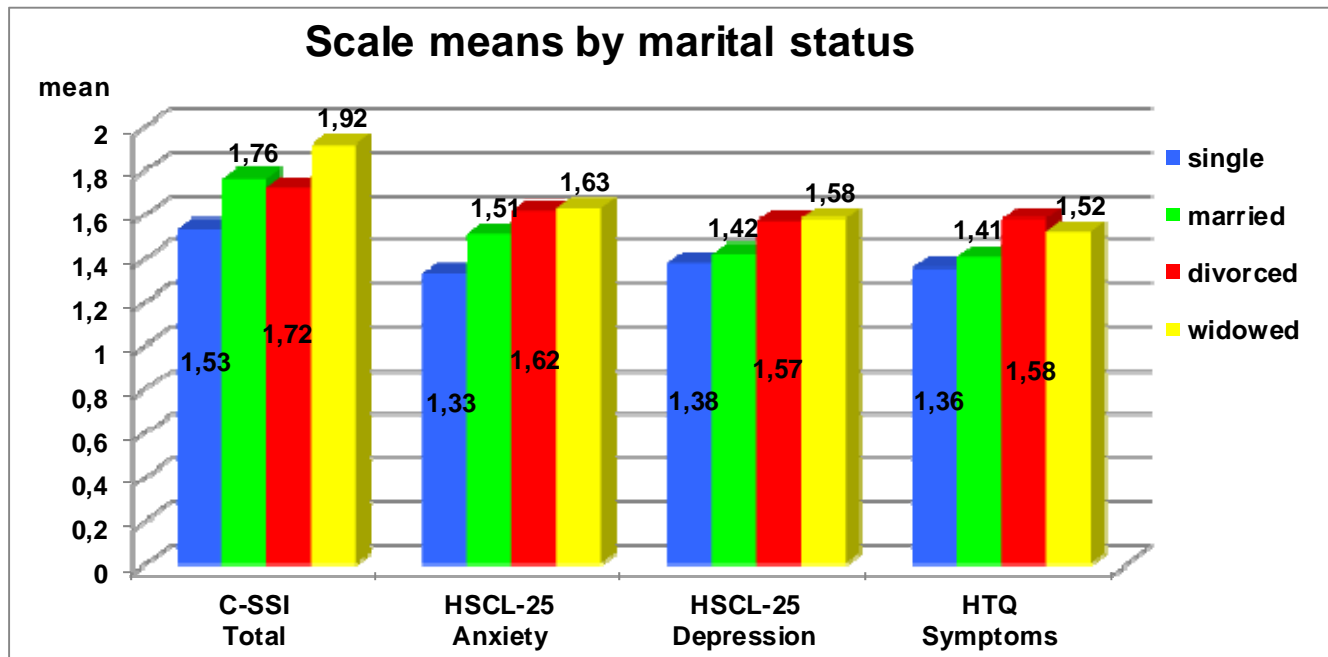


Fig. 24: Mean total scores of C-SSI HSCL-25 Anxiety and Depression and HTQ-Symptoms by marital status

- Single persons have the lowest scores in all symptom scales and widowed persons mainly the highest
- Divorced respondents have lower scores for somatic symptoms (C-SSI) than married ones, whereas this is opposite for probable anxiety, depression and PTSD
- The differences are all highly significant (Kruskal Wallis: $p < .001$)

Location

The following graph shows the relation between the different symptom scale means and the location urban or rural.

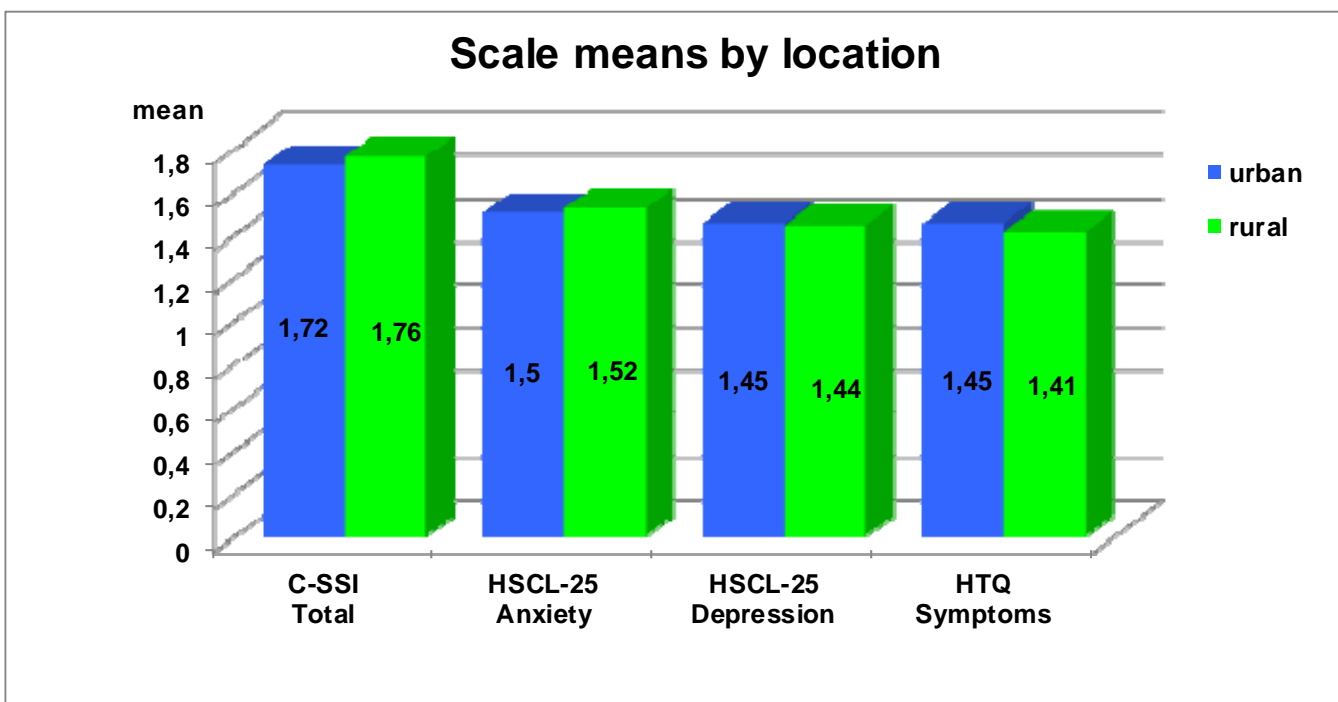


Fig. 25: Mean total scores of C-SSI, HSCL-25 Anxiety and Depression and HTQ-Symptoms by location

- The urban population suffers a bit more from traumatic symptoms and depression whereas the rural population suffers more from anxiety and typical Cambodian and bodily symptoms. This is only significant for C-SSI and HTQ (Mann Whitney U: $p < 0.05$).

Education

The following graph shows the different symptom scale means by years of education per respondent in categories of no, primary, secondary, high school and university education.

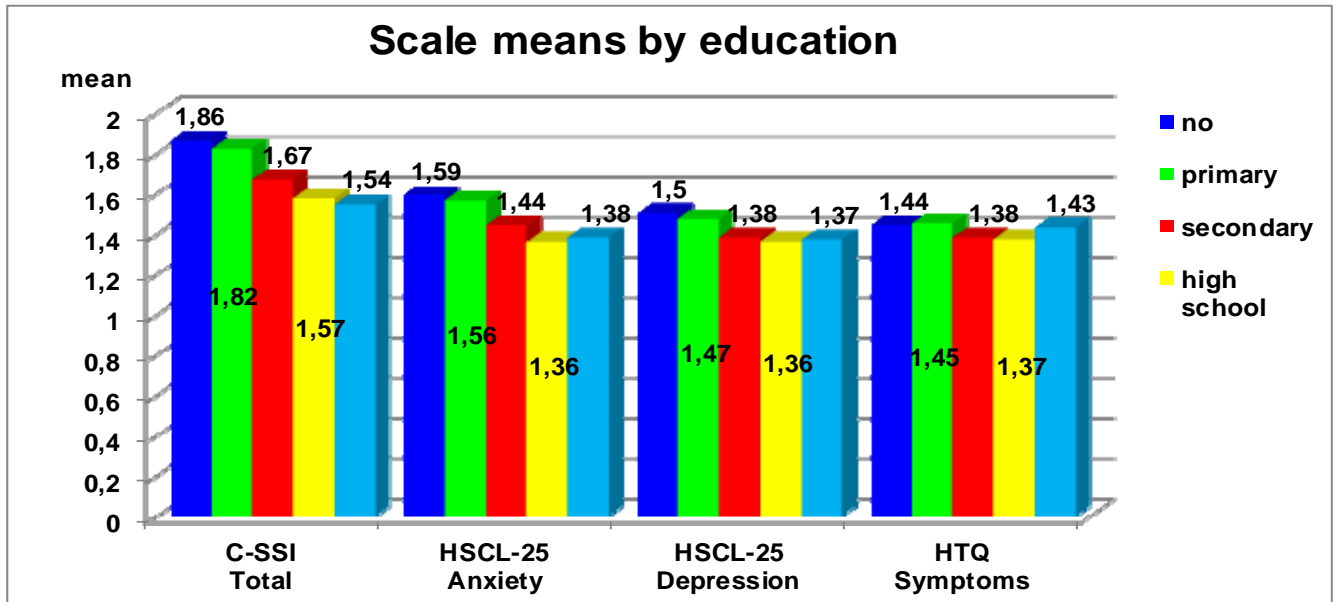


Fig. 26: Mean total scores of C-SSI, HSCL-25 Anxiety and Depression and HTQ-Symptoms by education in categories

- Overall respondents with no or primary education have highest scores in all of the symptom scales
- The highest differences were found for C-SSI and anxiety, the least for HTQ
- The differences were all highly significant (Kruskal Wallis: $p < .001$)

Economic situation

The following graph shows the different symptom scale means by average savings per respondent in category midpoints.

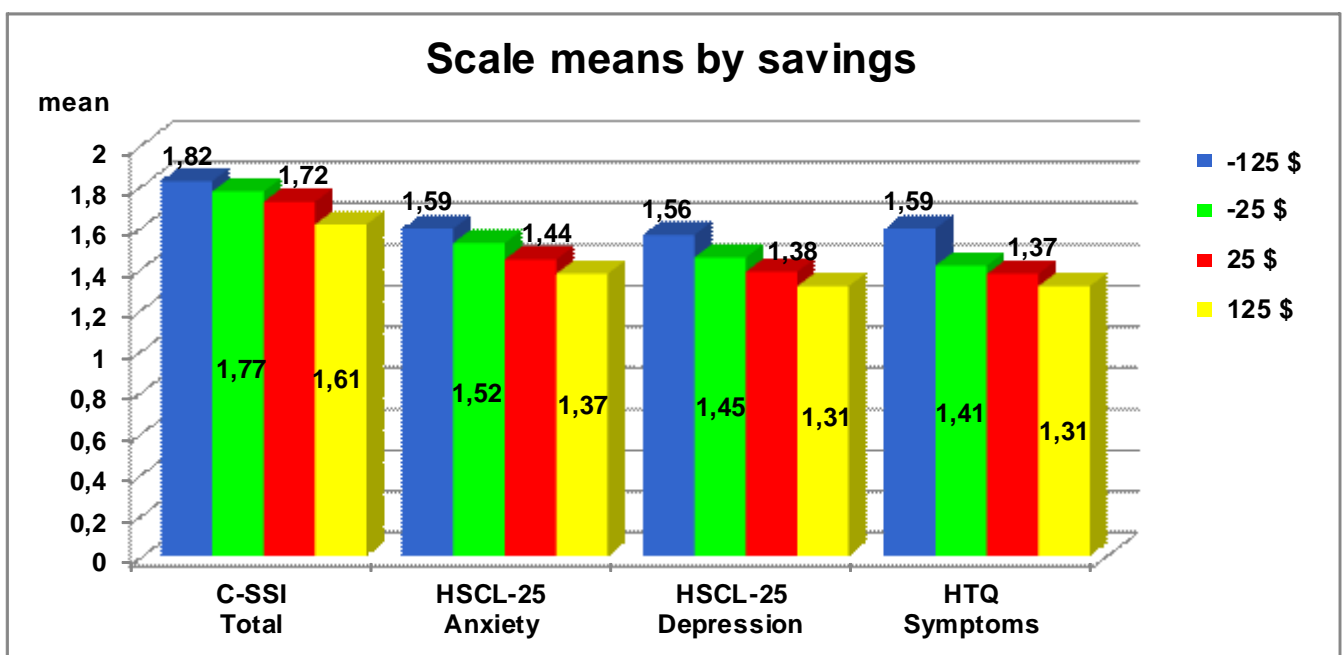


Fig. 27: Mean total scores of C-SSI, HSCL-25 and HTQ-Symptoms by savings per person in the respondents' household

- A clear decline of the C-SSI, HSCL-25 anxiety and depression and HTQ-Symptom scores can be seen with rising savings
- This is highly significant for Anxiety and Depression (Kruskal Wallis: $p < 0.01$) and significant for C-SSI ($p < 0.05$)

Correlations between different symptom scores and demographic factors

The following table shows correlations between mean symptom scores and demographic factors such as age, educational and economic background.

Mean total scores of				
	HSCL-25 Anxiety	HSCL-25 Depression	C-SSI Total	HTQ Symptoms
Age	.152**	.155**	.267**	.123**
Years of education	-.161**	-.130**	-.209**	-.063**
Savings per capita	-.083**	-.106**	-.059**	-.078**

*Table 14: Spearman correlations between mean symptom scale scores and demographic factors with significance level ** < 0.001*

The results of table 14 show that :

- All of these demographic variables correlated highly significantly with all of the syndrome scales
- Compared with HSCL-25 and C-SSI the HTQ-Symptoms showed the smallest significant correlations with demographic data variables. The smallest association was found with level of education (-.063). This indicated that higher educated respondents were slightly less frequently traumatized
- The highest correlations with age and years of education were reached by C-SSI. This means that these syndromes and symptoms increase most with higher age and lower education (negative correlation). C-SSI is least associated with the economic status
- The HSCL-25 Anxiety scale had the second highest correlation with years of education. This means that education seems to have an important influence on the development of anxiety or vice versa anxiety seems to hinder educational progress
- The HSCL-25 Depression scale correlated highest of all scales with savings per capita meaning that the more depressed a person is the less it can earn or vice versa the less it earns the more depressed it gets



Summary: Symptom scales and demographic factors

- Compared with HSCL-25 and C-SSI the HTQ- Symptoms showed the smallest significant correlations with demographic data variables such as age, sex and years of education
- C-SSI scores increase most with higher age and lower education, anxiety has the second highest association with these
- Gender-dependence is high for all of the scales with significantly higher proportions of women suffering from psychological symptoms
- Increasing poverty is associated highest with increasing depressive symptoms
- Single respondents suffer least, widowed respondents most from psychological symptoms
- The urban population suffers significantly more from trauma-symptoms, the rural population more from typical cultural syndromes



VI Domestic Violence

The questions on domestic violence were answered by multiple choice.

Violent behaviour displayed by the respondent

The following graph shows the percentage of total, male and female respondents that reported they had committed one of the following acts of emotional, physical, financial or sexual domestic violence (DV).

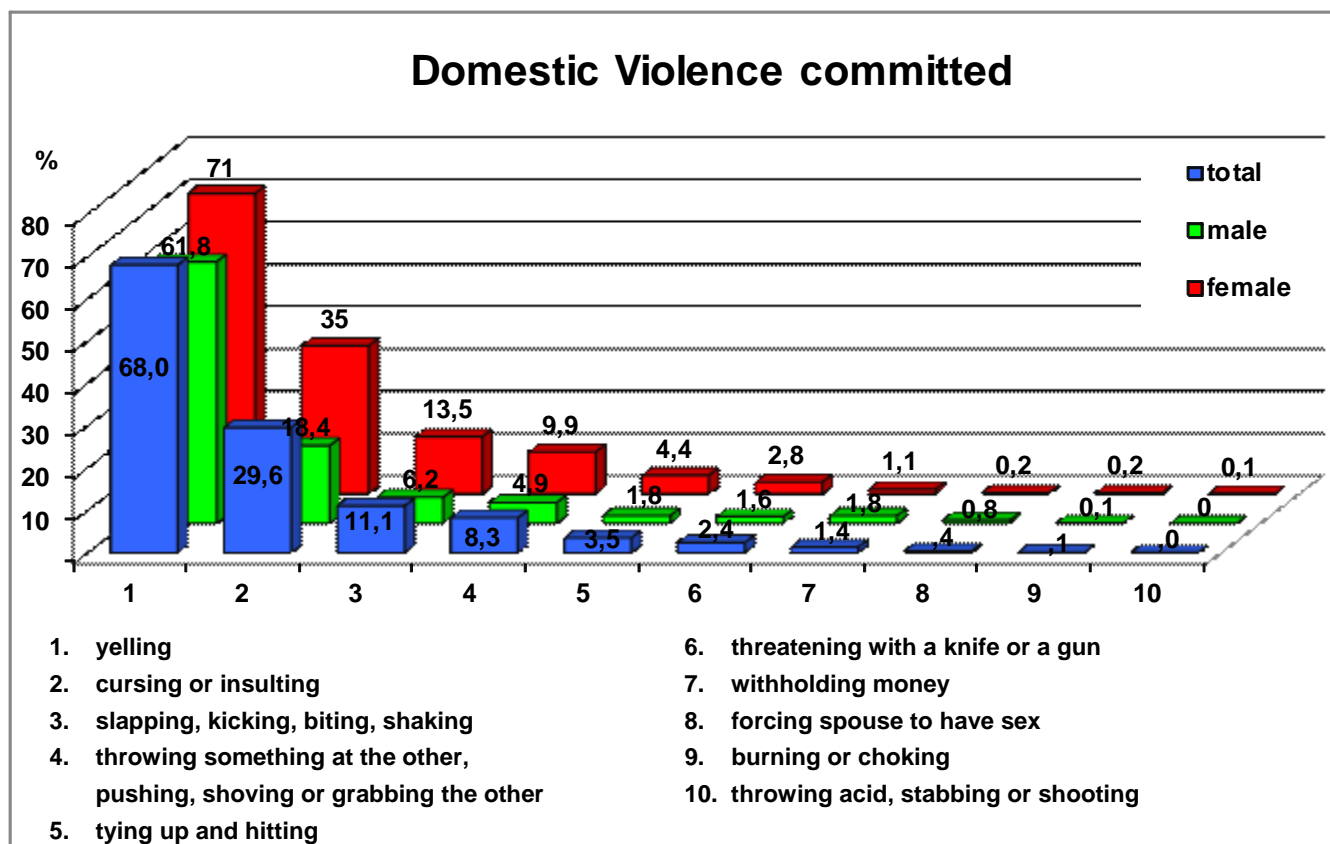


Fig. 28: Percentage of respondents committing different forms of DV (N = 2682-2687, N male = 869-872, N female = 1810-1812)

According to the respondents' self reports:

- 'Yelling' was the most frequent form of self-reported DV
- 'Slapping or spanking, knocking on the head, kicking, biting, shaking, pulling hair or punching' was the most frequent form of physical DV and was committed more than twice as frequently by women (13.5%) than men (6.2%)
- 1.4% of all respondents committed financial DV, including 'withholding money from a spouse and not leaving enough to run the household'. Out of these, 17.1% reported that this behaviour occurred every day, 11.4% every week, 17.1% every month and 54.3% every year
- 0.4% committed sexual DV by 'forcing the spouse to have sex against her/ his will'. Out of these, 10% reported that this occurred every day, 20% every week and 70% every year. Sexual DV was committed four times more frequently by men (0.8%) than by women (0.2%)
- One female respondent admitted having thrown acid, stabbing or shooting
- Except for financial and sexual violence, all other forms were committed more frequently by women than men, most of them even around twice as frequently

Respondents as victims of DV

The following graph shows the percentage of respondents that were victims of different forms of DV committed by other family members.

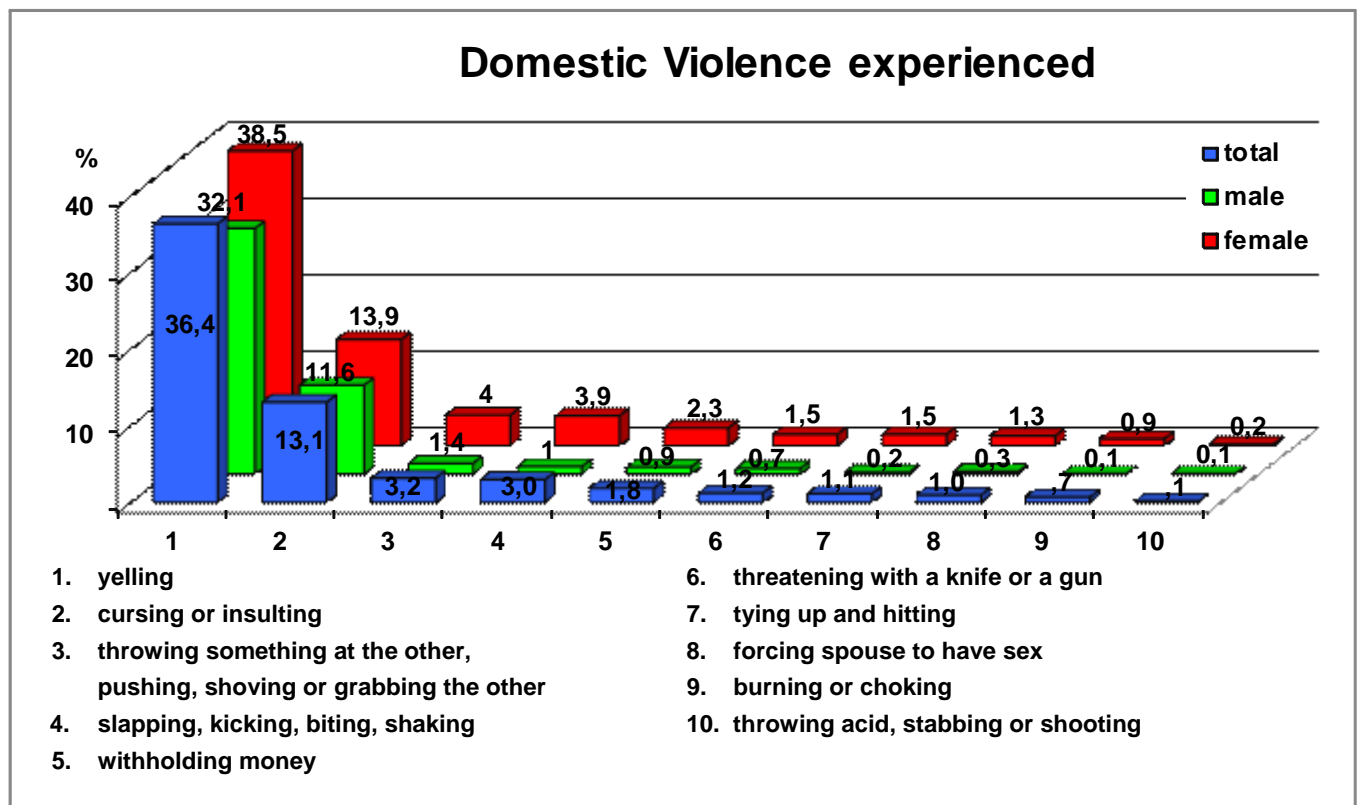


Fig. 29: Percentage of respondents having experienced different forms of DV (N = 2685-2688 N male = 869-872 N female = 1811-1812)

According to the respondents' information:

- Again 'yelling' was the most frequently experienced form of DV
- 'Throwing something at the other, pushing or shoving, or grabbing the other' was the most frequently experienced physical DV
- Financial DV was experienced by 1.8% of respondents. Out of these 18.2% experienced this every day, 15.9% every week, 29.5% every month and 36.4% every year
- Sexual DV was experienced by 1.0% of the respondents. Out of these, 13% experienced this every day, 13% every week, 26.1% every month and 47.8% every year
- All of the items were experienced more frequently by women than men. Most extreme differences were obtained for 'burning or choking' (0.9% of women versus 0.1% of men), 'tying up and hitting, hitting or trying to hit with an object, beating up' (1.5% versus 0.2%), sexual violence (1.3% versus 0.3%) and 'knocking on the head, slapping or spanking, kicking, biting, shaking, pulling hair, punching' (3.9% versus 1%)
- Most items were experienced much less frequently than committed. The most extreme differences were obtained for 'knocking on the head, slapping or spanking, kicking, biting, shaking, pulling hair, punching' (3.0% experienced versus 11.1% committed) and for 'throwing something at the other, pushing, shoving, or grabbing the other' (3.2% versus 8.3%)
- The following items were experienced more frequently than committed: 'burning or choking' (0.7% experienced versus 0.1% committed), sexual DV (1.0% versus 0.4%), 'throwing acid, stabbing or shooting' (0.1% versus 0%) and financial DV (1.8% versus 1.4%)

Emotional DV

- Nearly twice as many respondents reported to have committed (69.5%) as opposed to experienced (37.4%) emotional DV
- Emotional DV was most often committed weekly and experienced monthly

For details on the amount and frequencies of different forms of emotional DV committed and experienced see Fig. 8 and 9 in the appendix.

Physical DV

- 17.5% of respondents had committed, and 5.2% experienced, some form of physical DV
- Physical DV was committed most often weekly or monthly

For details on the amount and frequencies of different forms of physical DV committed and experienced see Fig. 10,11 and 12 in the appendix.

DV acceptability and influence of alcohol consumption

The following graph shows answers to the questions: “Do you think that this behaviour [DV] is acceptable?” and “Were you/ your spouse/family member drunk when this [DV] happened?”. Both questions were once answered regarding the respondent’s own behaviour and once regarding the behaviour of other family members towards the respondent. The graph shows the number of total, male and female respondents answering the questions with “Yes”.

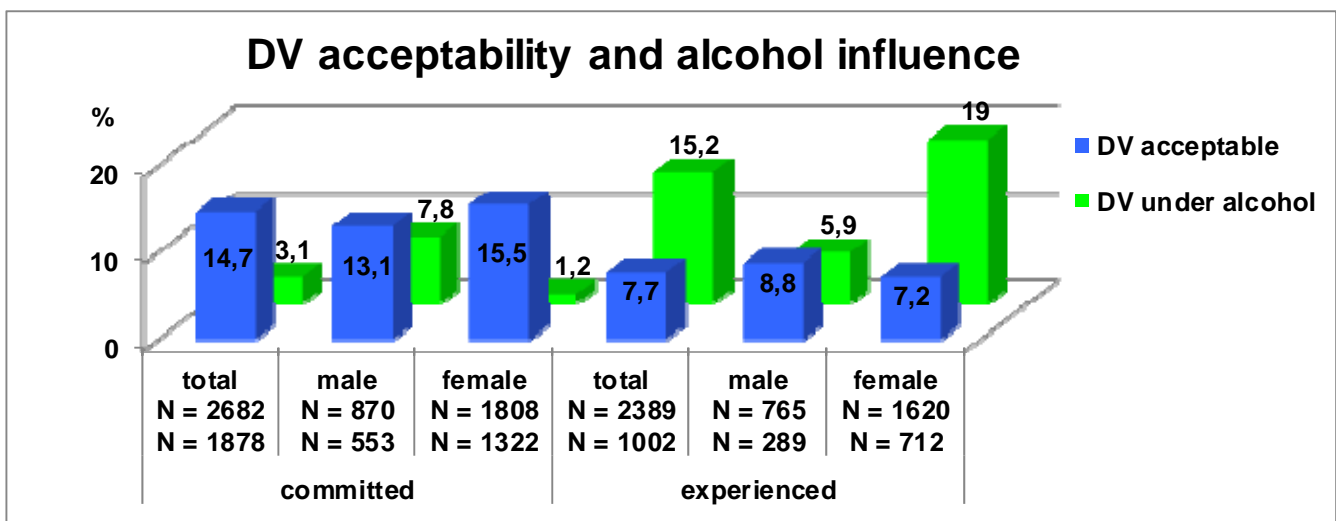


Fig. 30: Acceptability and influence of alcohol consumption regarding DV committed and experienced

N numbers in the upper row indicate numbers of respondents who answered to acceptability and in the lower row to alcohol influence regarding DV.

- Nearly two times the number of respondents found their own violent behaviour acceptable compared to domestic violence committed by other family members. This difference was more extreme for answers from female than male respondents
- Nearly 16 times more female respondents reported a link between alcohol consumption and DV committed by family members compared to DV they committed themselves. Male respondents reported more association between alcohol consumption and DV committed by themselves than committed by family members
- The percentage of male respondents committing DV under alcohol influence was about 6 times higher than the percent of female respondents



Summary: Domestic Violence

- DV was committed about two to three times more frequently than experienced, except for sexual and financial DV, 'burning or choking', and 'throwing acid, stabbing or shooting'
- Emotional DV, especially 'yelling', was the most frequent form of DV
- Emotional DV was mostly committed weekly and experienced monthly
- 'Slapping or spanking, knocking on the head, kicking, biting, shaking, pulling hair or punching' was the most frequent form of physical DV
- Physical DV was mostly committed and experienced at a weekly or monthly frequency
- All forms of physical DV were committed approximately twice as frequently by women than men
- Financial DV was committed more frequently and sexual DV even four times more frequently by men than women.
- Nearly twice as many respondents found their own violent behaviour acceptable compared to domestic violence committed by other family members
- Nearly 16 times more female respondents reported a link between alcohol consumption and DV committed by family members compared to DV they committed themselves. Male respondents reported more association between alcohol consumption and DV committed by themselves than committed by family members
- The percentage of male respondents committing DV under alcohol influence was about 6 times higher than for female respondents



VI Services

Service utilization, costs and knowledge

The following graph shows percentage of yes-answers to the following questions: “Is anybody providing help for the above problems?” “Is it affordable?” and “ Do you know about psychology?”

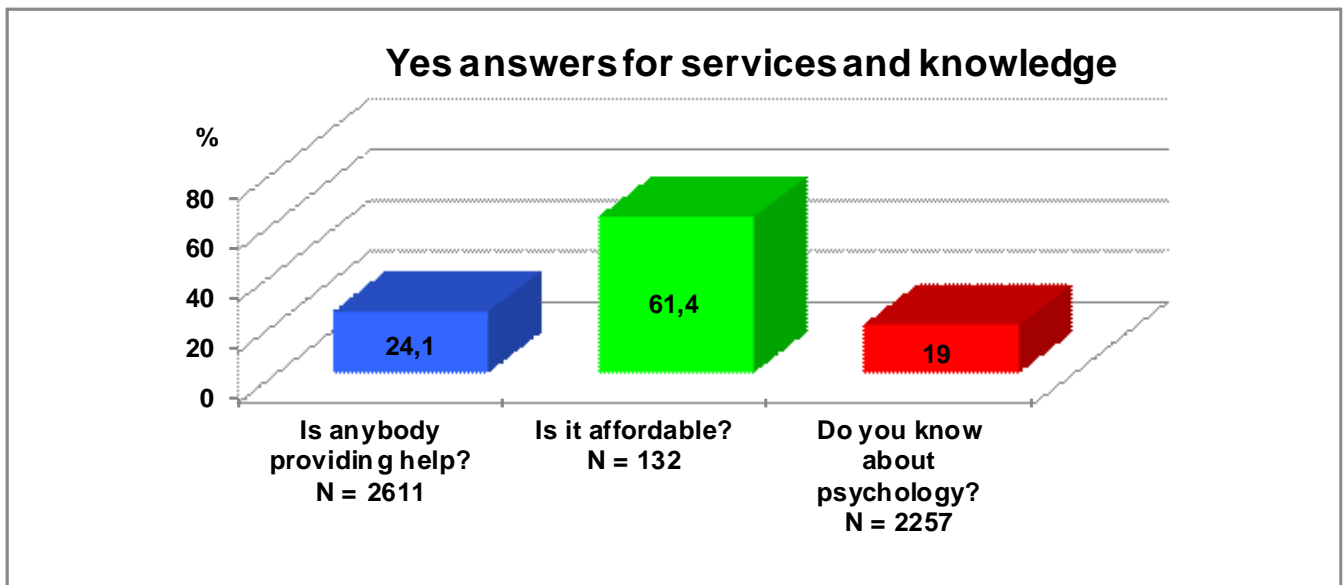


Fig. 31: Percentage of „yes“ answers to questions about services, economics and knowledge

- Only 24.1% of the respondents stated that someone was providing help for them if one of the problems mentioned during the interview occurred
- Of the people who received treatment, 61.4% reported it was affordable, but only 132 respondents answered that question
- 19% of respondents claimed to know something about psychology, 29.9% of male and 13.6% of female respondents

The following graph shows the percentage of respondents who approached the mentioned sources for help. Multiple responses were possible.

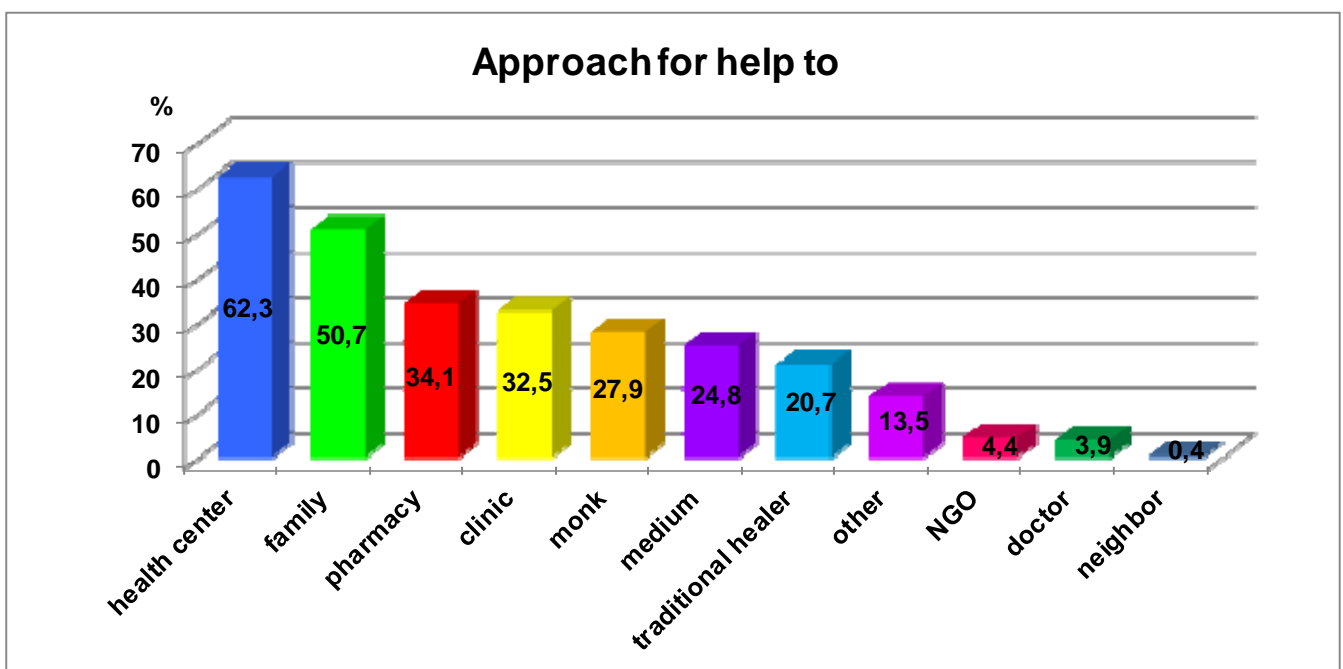


Fig. 32: Percentage of respondents who approached the mentioned sources for help (N = 2688-2689)

- At the top of services approached are low level medical services such as health posts, pharmacies and small clinics (probably respondents understood also small drug stores by this), the second important resource approached for help by 50.7% were the respondents' families
- 47.7% of all respondents contacted traditional spiritual services such as monks, mediums or traditional healers for help
- Doctors and neighbors were contacted least (3.9 and 0.4% respectively)
- 13.5% reported they approached other sources for help
- There were no major gender differences regarding seeking help

Needs for services

- After an explanation about what psychology means, 7.6% of respondents answered with „yes“ to the question “Are there any psychological programs or NGOs providing help in this field near your village?” (N = 2028)
- To the question “Would you like to have a psychological service at your health center” 97.2% answered with „yes“, 0.5% with „maybe“ and 2.3% with „no“ (N = 2658)
- 35.7% of respondents stated that they would contact a psychologist for their problems related to the survey questions (N = 2689)



Summary & Discussion

Overall the economic situation was poor for the survey respondents. Over 48% (48.2%) of the households earned less than 50 USD per month which is nearly equal to the findings by Sonis et al. (2009). Furthermore 87.4% had either no savings or were in debt. In addition, numerous issues related to mental health were apparent in the sample.

I Screening questionnaire

Children problems

High rates of problems in children were found such as high rates of aggression. These high rates may be interpreted as an indicator for second generation affects from the traumatic past experiences as they are linked with high reports of aggressiveness of respondents and other family members. Several difficulties were met when trying to interpret these findings. There are few reports on prevalence rates for disorders in childhood and adolescence. Thus prevalence figures vary considerably, e.g. 12.8% in India for children aged 1 to 16 and 22.5% in Switzerland for children aged 1 to 15 (WHO, 2001). The questions in this study focused on indirect indicators for children's problems and didn't cover the whole spectrum of disorders. Additionally, it is difficult to draw clear borders between normal development and developmental pathologies. The terms "aggressive behavior" and "school problems" weren't specified, so it remains open what respondents understood by these terms. Furthermore, taking into consideration that many interviews lacked sufficient privacy it may be that some cases remained concealed and the real numbers are even higher. However even with these uncertainties it can be concluded from these results that family and school counseling as well as psychosocial services for children and adolescents should become a high priority in mental health planning in Cambodia as this generation is in great need and will determine Cambodia's future.

Traumatic events

Over 8% of the respondents reported that they had been abused as a child (8.8%), and 4% of respondents reported that at least one of their family members had been victims of child abuse. Because many of the interviews lacked privacy (approximately 50%) the real numbers may again be higher. The discrepancy between the incidence rates reported by the respondents referring to themselves as opposed to other family members also suggests a taboo of this topic in the families. The high figures are in line with results from the Stop Violence Against Us- Report (Miles, 2006 a) that revealed that nearly a quarter of those interviewed witnessed the rape of a child in their community. A study from the US revealed incidence rates of 10.2% of maltreated children and 6.1% of sexual assault victims among 0 to 17 year olds (Finkelhor, Turner, Ormrod & Hamby, 2009). Contrary to the very common view of childhood abuse as a major problem for girls, the figures from the present study are higher for men (10.6%) than women (8.0%). Some organizations in Cambodia do try to address this fact of abuse of boys. Survey results from the Stop Violence Against Us- Report part II (Miles, 2006b) revealed that 13.3 percent of girls admitted having been sexually touched on the genitals before reaching the age of nine as opposed to 15.7 % of boys. The figures found in the present survey are alarming as the impact of child abuse is undoubtedly one of the most detrimental to the human psyche and can lead to many psychological problems such as depression, anxiety, addictive disorders and suicidal tendency in the long term (van der Kolk, Hopper & Crozier, 2001, Felitti et al., 1998) as well as pose a great socioeconomic burden (Fang, Brown, Florence & Mercy, 2012).

The reported numbers for trafficking in this report were 0.4% of respondents and 0.7% of family members, which is again quite high in spite of the lack of privacy during the interviews. According to a report from the MoWA (2008), incidents of rape

and sexual assault are increasing (MoWA, 2008). In an international survey conducted by the Department of State—United Nations of America (2010) the prevalence of trafficking in Asia was estimated at 3/1000 inhabitants as compared to 1.8/1000 inhabitants worldwide.

However numbers for rape lay with 0.4% of respondents and their family members far below the U.S. rate of 14.8% life time experience of rape for women (Tjaden & Thoennes, 2000). This may be in part due to a higher rate of violence in the U.S., but it probably also results from the fact that this issue is an especially sensitive one and probably many respondents feared stigmatization and negative consequences and therefore withheld information.

Probable psychotic/ schizoaffective/ bipolar disorders

This study provides the first data about probable psychotic or schizoaffective disorders for Cambodia although the data are indirect in nature. We calculated in the present data a lifetime prevalence for probable psychotic disorders of 0.76% for the total family members and a point prevalence of about 0.2%. The higher proportion of respondents that experienced being put in cages or chained because of a mental problem themselves in comparison with their family members seems difficult to explain as such events are quite dramatic and hard to hide. Possibly a fear of offending family members or of getting in trouble for having violated human rights prevented more information about these cases. Compared to data from WHO (2001) reporting a point prevalence for schizophrenia of 0.4% (GBD, 2000) and a lifelong prevalence of under 2% for schizophrenia and bipolar disorders the results from this study seem quite realistic. Schizophrenic and bipolar disorders are chronic disorders, which means that they have high relapse rates and need continuous medication with surveillance via regular follow-up consultations as compliance and insight into being ill is generally low. Therefore these types of disorders account for 18.5% of the cases presenting at governmental mental health services although their prevalence is much lower (Stewart et al., 2010). Considering the high need for regular treatment and the very low availability of mental health services especially in Cambodia's rural areas (McLaughlin & Wickeri

2012) the above described facts display an alarming outcome of the present study. Patients with these kinds of disorders are often forced to travel to Phnom Penh for more adequate treatment, which is a considerable financial burden for the family. In addition to the high expenses the families have perhaps spent already on inadequate traditional treatments (Reicherter & Eng, 2011) and other treatment costs they have to deal with travel expenses and often with missing income from often two potential income generators (the patient and caregiver). Many families have to sell their land and property or borrow money which they often can't pay back (a potential reason for suicides). The relationship between poverty and probable psychotic disorders was confirmed in this study and may be due to a shift from the wealthier to the poorer population following the onset of this disorder as described in other countries (drift hypothesis; Buck & Morrison, 1988). The often unavoidable consequence of putting family members affected with these disorders in cages or chaining them due to insufficient financial resources is a great risk for further psychological harm and traumatization, which often may augment and prolong the problem, as well as it being a serious violation of the patient's human rights (see also McLaughlin & Wickeri, 2012; Stewart et al., 2010). Some subjects with mental disabilities are even held in drug detention centres where their human rights may be severely violated (Human Rights Watch, 2012). Cambodia is a party in the International Covenant on Economic Social and Cultural Rights on "the right [...] to the [...] highest attainable standard of physical and mental health." (ICESCR, Art. 12, 1966) and has guaranteed free medical consultations for the poor and full consideration of disease prevention and medical treatment according to article 73 of its constitution (1993). However, Cambodia is far from upholding these promises and a higher allocation of money to the mental health sector is urgently required in order to meet the needs of acutely and chronically mentally ill. In addition mental health literacy must be improved in order to enable the population to react more adequately to these disorders and to promptly find appropriate help.

Suicidal tendency

Another alarming result are the high rates of attempted and committed suicides. The rate of suicide attempts for the respondents themselves was at 4.2% (of which 44.3% occurred within the previous year), for family members at 0.8% (50% within the previous year). The discrepancy between the rate for the respondents themselves and their family members may reflect the lack of communication and the large amount of unnoticed suicide attempts in the families. To the researchers' knowledge many clients attempt suicide without their families realizing. In 0.8% of the 2690 households interviewed in this study at least one family member had successfully committed suicide as well. Of these suicides, 27.3% had occurred during the past year which produces an estimation of 42.35 suicides /100000 population per year (including both men and women). The probable Cambodian suicide rate therefore exceeds worldwide numbers more than twofold with an average of 16 suicides per 100,000 people per year (WHO, 2011a). A study from Thailand (Lotrakul, 2006) found that between 1998 and 2003 there was an average suicide rate of 7.9/100,000 and a male to female ratio of 3.4:1 with males aged 25-29 at the highest rate. Compared with this culturally close neighbour, the Cambodian rate seems especially high as it exceeds the Thai numbers more than fivefold. Taking into account the unclear gender distribution, the figures found in this study come close to the highest numbers seen around the globe. For comparison, a rate of 74.6/100000 has been reported for the male population in Lithuania and 63.6/100,000 for the male population in Belarus from 2003 (WHO, 2011c).

Regarding the gender distribution for attempted suicides the present study found 1.7% for men and 5.5% for women. For all respondents it was at 4.3%. Taking into account the overrepresentation of women it can be estimated at 3.6% average. In a study by Jegannathan & Gunnar (2011) who interviewed 320 students from two high-schools in Takhmau suicidal plans were reported more often by teenage boys than teenage girls ($M = 17.3\%$, $F = 5.6\%$), whereas girls reported more attempts ($M = 0.6\%$, $F = 7.8\%$).

In comparison with the rates for accomplished suicide, the numbers for attempted suicides seem

even higher as the ratio attempted/ committed suicides is higher (38fold using the average of 3.6% suicide attempts) than the data reported by WHO (2011a) which is 20fold.

The outcome confirms the researchers' expectation and clinical experience. The international trend of increasing suicidal behaviours in younger people and the higher percentage of women attempting to commit suicide (WHO, 2011 a) are confirmed in this study ($>3:1$ women: men) on a significant level. The Cambodian younger generation seems to be at the highest risk for suicidal behaviour. Frequently it has the duty and burden to earn the family's income and to support other family members. Also a strong fear of burdening the family seems to drive many to consider suicide. One of the most commonly mentioned worries in this study was the lack of money. In fact, the family savings per capita correlated significantly negatively with the rate of suicide attempts.

Suicidal tendency also correlated highly with the rate of psychopathology as measured by the HSCL-25 Anxiety and Depression scales, the HTQ-Symptoms and C-SSI scales. Briere, Hodges and Godbout (2010) found that suicidality was an indicator of dysfunctional avoidance, which was associated with accumulated exposure to various types of interpersonal trauma and posttraumatic stress. Avoidance was the most prominent posttraumatic symptom found in the present study (see p. 62). The high suicide rate might therefore be linked to the country's traumatic history. The loss of fitness for employment and of earning capacity due to mental illness strains the family, especially in the context of ever-present poverty in Cambodia. Debts, pressure and worries increase and corner many in a seemingly intractable situation. These results indicate that poverty reduction, a better infrastructure for mental health and increasing services in this field could potentially reduce suicidal tendencies. One other factor with impact on suicidal tendency may be the number of HIV infections as suggested in the Thai study (Lotrakul, 2006).

The topic of suicide is also prevalent in Cambodian music videos and movies broadcast on TV and shown all over Cambodia such as during bus trips. These often suggest suicide as an adequate reaction to lost love and abandonment in partnerships. More detailed research should be

conducted on this topic, but it seems advisable to raise awareness on this issue and call for other entertainment. Suicide attempts also can be considered as cries for help and attention which due to a low level of communication cannot be achieved in other ways. This can be understood as an appeal for the improvement of interpersonal communication skills and emotional sharing.

Addictive disorders

The figures of 1% point prevalence for probable alcohol addiction and 0.4% point prevalence for probable alcohol abuse by respondents in this study seem quite realistic in comparison with the GBD 2000 point prevalence for harmful use of alcohol or alcohol dependency at 1.7% overall (WHO, 2001), especially when taking into account the oversampling of female respondents in this study. The gender distribution was about four to five times as uneven as suggested by WHO figures (2-3:1 WHO, 2011c) with a ratio of 35 men to 3 women probably suffering from alcohol problems in the present study.

As these figures rely on self-report and alcohol-dependents tend to underreport, the actual number may well exceed this prevalence rate. At the same time it has to be taken into account that these figures are based on indirect indicators and not on clinical diagnostic interviews and examinations.

A worrying fact is that alcohol problems were reported nearly twice as frequently in the younger age group (≤ 36) (2%) compared to the older age group (1.1%) and correlations showed a significant association between alcohol problems and younger age as well as poverty. These results mirror findings from other countries. Correlations with poverty can be explained either by the "drift hypothesis" of increasing poverty following addictive disorders (Buck & Morrison, 1988) or by the "social causation thesis" of use of alcohol as self-medication to cope with increasing financial worries, trauma and depression (Perry, 1996). The poorest respondents however were less likely to suffer from alcohol problems probably due to a lack of financial resources.

In order to prevent a further increase of this problem, poverty should be reduced in Cambodia, and the Cambodian media should support psycho-educative programs on radio and TV.

Gambling is a problem as common as alcohol problems. Here the fact that the term "gambling" was not clearly defined complicates the interpretation of results, because many families interpret gambling more in terms of a social activity than an addictive behaviour. Taking into account that 4.7% of respondents admitted they gamble and 40.8% of these stated that this gambling was causing financial problems it can be assumed that around 1.5% are likely to suffer from some degree of gambling addiction. Because of the self-reporting structure of the interview fear of stigmatization may have reduced this prevalence rate.

A study by Marshall, Elliott and Schell (2009) of 127 Cambodian refugees in the USA reported that 13.9% of the participants met their criteria for „disordered gambling“. Being male, being married, and being exposed to high levels of trauma were variables associated significantly with gambling. The prevalence of gambling may have increased in this refugee population because of "uprooting" and the stress of adapting to a new country and culture.

The problem of gambling is especially important to notice as the danger of impoverishment caused by gambling is a great risk for the whole family.

Drug consumption in comparison seems less frequent in the Cambodian population. As no typical signs of addiction such as craving, withdrawal or tolerance were collected it is difficult to estimate prevalence rates. The most important findings here were that 0.1% of the respondents stated that they take drugs on a daily basis. Another 0.1% responded that they take drugs more frequently than every three months and 80% of these individuals had financial problems because of this. Again this rate may be underestimated because of fear of stigmatization and the illegal nature of drug use. The „undesired“ have to fear being brought to drug detention centres, where human rights may be regularly violated (HRW, 2010). Drug addiction is often difficult to treat and the problem seems to be much more prominent in urban areas, especially Phnom Penh. This problem has therefore obtained attention reflected in the Mental Health and Substance Misuse Strategic Plan 2011-2015 (MoH, 2010). Counselling was added in cooperation with the DP to a substitution program set up at the Russian Hospital by WHO and FHI.



Summary of major outcomes and discussion of screening part

- The prevalence figures of difficult behaviours in children and adolescents seem high and suggest that school counseling should be regularly introduced in Cambodia.
- Child abuse seems to be a salient problem with men being more frequently affected. This is an alarming result considering its extremely detrimental impact.
- Trafficking was found to be more frequent in Cambodia compared to previous data from Asia.
- Schizophrenic disorders and the like seem to occur at a fairly common rate, but pose a major problem regarding appropriate treatment facilities and human rights issues. 0.3% of respondents had experienced being chained or put in a cage themselves. Here improvement of mental health literacy for the population and intermediaries such as traditional healers and monks as well as increase of psychiatric out-patient clinics should be major future goals.
- Suicidal tendency appears to be a significant issue in Cambodian society. The estimated rate of 42.35/100000 based on indirect data encompasses worldwide figures more than 2.5fold. 4.3% of respondents had previously tried to commit suicide (44.3% during the previous year). This corresponds to a rate of 1.6% attempted suicides per year with equal gender distribution and a 38fold ratio to accomplished suicides compared to a worldwide ratio of 20:1 (attempted to committed suicides). The international trends of more younger people and more women attempting to commit suicide seen in the literature are confirmed in this study (>3:1 female to male). A significant negative correlation between the families' savings and suicide attempts was found. This result clearly indicates that poverty reduction may prevent suicide attempts most effectively. The highly significant association between suicide attempts and psychopathology indicates that an improvement of general mental health care would probably also lead to a significant reduction of suicidal tendencies.

II Traumatic experiences (Harvard Questionnaire)

As expected, traumatic events during the Civil War were experienced by a very large percentage of respondents above the age of 36 (94 %).

In the following table results from this study of

respondents older than 36 years are compared with results from the literature. Dubois et al. (2004) examined lifelong traumatic events experienced in Kampong Cham, Sonis et al. (2009) reported on traumatic events experienced by a population over 35, and Mollica et al. (1993) studied a refugee population.

Traumatic events experienced during Civil War	Present study >36 years	Study by Dubois et al. (2004)	Study by Sonis et al. (2009) >35 yr	Study by Mollica et al. (1993)
Lack of food and water	82.5%	69.7%		
Forced separation from family and friends	75.7	18.9%	81.5%	
Ill health	63.1%	40.1%		
Close to death	57.4%	32.7%	50.1%	
Lost/kidnapped	40.2%	9.2%		
Tortured	36.4%	8.3%	31%	36%
Murder of family/friend	25.4%	16.4%	22.1%	54%
Combat situation	23.9%	18.7%	62.8%	
Imprisonment	22.4%	4.4%	8.3%	

Table 15: Traumatic experiences during CW in comparison with other studies conducted in Cambodia

In total this study's findings seem quite consistent with other studies although the different study designs make the comparisons difficult. Most results are lower in the study by Dubois et al., probably due to the greater age-range (also younger respondents answered) and higher in the study by Mollica et al. probably due to more severe experiences of refugees. Greater differences were found for murder of family/friends and imprisonment (higher percentage in the present study) and combat situations (lower percentage in the present study) maybe due to the oversampling of women. Further analysis by provinces can give further insight into the traumatic events experienced by Cambodians and possibly explain discrepancies.

Also 70.2% of the total sample experienced traumatic events after the Civil War, which seems very high. Natural disasters and life threatening accidents were experienced most. This calls for a more active preparation for trauma response not only on a pragmatic level of basic physical needs but also on a psychological level. As described in a master thesis by Seoung (2011) a well-trained team of psychologists and psychiatrists should be established for acute interventions in order to prevent a later onset of post-traumatic stress disorders as best as possible.

The following table compares the results obtained in the present study with the studies by Sonis et al. (2009) and Dubois (2004).

Traumatic experiences after the Civil War	Present study	Study by Sonis et al. Cohort < 35 years (2009)	Study by Dubois et al. (2004)
Fire, flood, natural disaster	33.8%	48.9%	
Life threatening accident	16.0%	22.7%	16.9%
Witnessed someone badly injured or killed	15.7%	38.0%	
Seriously physically attacked or assaulted	2.6%	5.8%	

Table 16: Traumatic experiences after CW in comparison with other studies conducted in Cambodia

The percentages seen in this study are 30 to 60% lower than results from the study by Sonis et al. (2009), but very close to those reported by Dubois et al. (2004).

The present study's findings regarding other stressful life experiences cannot be compared as none of the other studies collected these data. Alarming are especially the high amount of financial worries (86% of respondents), worries regarding health (illnesses and deaths) as well as continuing high fears of landmines (15.9%). Dubois et al. (2004) noticed the high impact of poverty related issues on mental health as well. They distinguished between traumatic experiences related to poverty on one hand and mass violence on the other hand. Of their respondents, 55.7% experienced both types of events, 19.9% poverty alone, 11.1% violence alone and only 13.3% never experienced any such events.

The strong significant correlations among the various traumatic experiences at different times or in different intensity reflects the high amount of

multiply traumatized individuals as well as the impact of traumatization on future vulnerability for such traumatic experiences. Relatedly, previous research has shown that women that have been raped become victims of such crimes again more easily than others. This happens probably due to dissociative "freeze" reactions and lack of resilience (see also: Anda et al. 2006).

In a meta-analysis of 32 studies on violence and mental health in low and middle income countries by Wagner, Sergi, Cleusa, Martin & Jair de Jesus (2009), it was found that a substantial part of mental health problems can be attributed to violence. In the general population, the highest prevalence rates of PTSD were associated with sexual and domestic violence, kidnapping, and cumulative trauma exposure.

The correlations between the different experiences of traumatic and stressful events and the scores of the different symptom scales and regression analysis will be investigated further by the DP at RUPP.

III Symptom scales

Posttraumatic stress symptoms HTQ

The prevalence rate of probable PTSD for the total population aged 21 years and older of 2.7% in the present survey is 7 times higher than in the general population worldwide with 0.4% when using a cut-off score of 2.5 (WHO, 2001). More recent findings support a cut-off score of 2.0 (Mollica et al., 2004) as more valid leading to a prevalence rate for PTSD of 7.6% which is 19 times the worldwide rate. The high rate of PTSD in the Cambodian sample is not surprising in light of the country's particularly horrific history. However it is lower than in previous studies conducted with Cambodians:

Carlson & Rosser 1991 refugees:	86% (DES)
Mollica et al. 1993 refugees:	15% (HTQ)
de Jong et al. 2003:	28.4% (CIDI)
Dubois et al. 2004:	7.3% (HTQ with cut-off: 2.5)
Sonis et al. 2009:	11.2%(PTSD Checklist)
(oversampled for old age)	

It is difficult to compare results with these studies because different diagnostic tools were used with different cut-off scores. According to Steel et al. (2009) studies with nonrandom sampling, small sample sizes, and self-report questionnaires are associated with higher rates of mental disorders. In a comparative study across four countries, de Jong et al. (2001) found the following prevalence rates of PTSD: Algeria 37%, Cambodia 28%, Gaza 18%, Ethiopia 16%. These data have to be interpreted carefully, since the PTSD prevalence rates were estimated within very different time spans between the time when the actual traumatic events had occurred and the assessment of symptoms. This makes the data difficult to compare as PTSD usually develops in relation to time. In addition, in Algeria terrorist attacks were still going on during the data collection, so the diagnosis of PTSD may reflect in parts acute stress reactions.

The relationship between age and PTSD (older age was associated with higher PTSD rates) found by de Jong, Komproe & Ommeren (2001) and Sonis et al. (2009) is consistent with findings from the West (Kessler, Sonnega, Bromet & Nelson, 1995) and was confirmed in the present study.

The prevalence rate Sonis et al. found in 2009 is more than six times the one in the USA (Field,

2011). In their study Sonis et al. chose a threshold score for PTSD of 44 instead of 50 as originally defined because it demonstrated a better balance of sensitivity and specificity according to other studies (Sonis et al., 2009, Brewin, 2005).

Over all it can be seen that the trend is that the refugee populations suffer to a much higher degree from PTSD and that the rates of PTSD decrease in Cambodia over time especially looking at the three studies using the HTQ-Symptoms scale. This is probably due to the fact that many victims of the KR have died already and more individuals without the experience of the KR regime take part in the studies. Also the timing of surveys may play an important role for the events reported by traumatized subjects. Staff from the Transcultural Psychosocial Organization (TPO) estimates the probable rate of PTSD at 10 to 18% based on their clinical experience at TPO's out-patient clinic (McLaughlin & Wickeri, 2012). This may be the result of a more clinical impression as presented by data from Sonis et al. (see above) and/or due to TPO's good reputation especially in the field of trauma which attracts clients. The rates found by Cambodia's governmental psychiatric services are lower (reactions to severe stress and adjustment disorders 1.9% of the population visiting health care centers) (Stewart et al., 2010).

HTQ-Symptom scores were significantly higher in the female population. This corresponds to findings by de Jong et al. (2003) in Algeria and Cambodia. HTQ-Symptom scores were significantly correlated with age (more PTSD with older age) and with years of education (higher amount of education less vulnerable for PTSD), but with a weaker association than the other symptom scales had. The relationships between age/ education and PTSD are consistent with findings from de Jong et al. (2001) and from the West (Kessler, Sonnega, Bromet & Nelson, 1995). HTQ-Symptoms were significantly more prominent in the urban population, which can possibly be explained by more traffic accidents and the greater burden of trauma from the KR on urban population.

With regard to the discussion about cultural differences in the expression of traumatic symptoms it was found in the present study that the most experienced symptom of 'trouble sleep-

ping' and the fourth most experienced 'irritability' were hyperarousal symptoms, the second and third most experienced problems listed in the HTQ-Symptoms scale were 'avoidance of thoughts or feelings and activities'. Re-experiencing symptoms only appeared on place six and ten ('recurrent thoughts or memories', 'sudden emotional and physical reactions...'). High rates of sleeping difficulties were also seen in the HSCL -25 Depression scale. In comparison to other studies reexperiencing seems to have decreased in favour of hyperarousal.

Present study: Hyperarousal > Avoidance > Reexperiencing

De Jong: Reexperiencing > Avoidance > Hyperarousal

Dubois: Reexperiencing > Avoidance

Sonis: Reexperiencing > Hyperarousal > Avoidance

A more detailed analysis of the different instruments, their clusters and categorization is necessary to draw clear conclusions on this issue.

According to findings from Sonis et al. (2009) PTSD was associated with mental disability in a model controlled for demographic covariates.

Cambodian Symptom and Syndrome Inventory (C-SSI)

The mean average score in the present study for the C-SSI was 1.76 out of 4.29 with a significant gender difference. The most prominent symptom 'thinking too much' was similar to the most prominent symptom of the HSCL-25 depression scale: 'worries'. Other common ones were 'numb arms and legs', 'standing and feeling dizzy' and 'blurry vision'. Three of these belong to the subscale of cultural syndromes linked to a wide spectrum of cultural beliefs and interpretations, which can be regarded as a confirmation of the importance of these beliefs and associations (Hinton et al., 2005 b).

The C-SSI and HTQ-Symptoms scales were the

only scales to show significant differences between the rural and urban samples. The rural population suffered more from cultural somatic symptoms probably due to their more traditional roots and beliefs.

Anxiety and depression (HSCL-25)

The prevalence rates for acute anxiety and depressive disorders measured with the HSCL-25 for the 2690 respondents were high:

Anxiety: total: 27.4% men: 18.4% women: 31.7%

Depression: total: 16.7% men: 10.2% women: 19.7%

The means for anxiety in the total sample and all subpopulations of ≥ 1.4 are already very close (less than 1 SD away) to the clinically significant threshold score of 1.75. This also applied to depression with means of ≥ 1.44 except for the male subpopulation. This could reflect a general disposition to quickly react with fears, worries and somatic symptoms to the unforeseen or to stress (see also: Hinton et al., 2005b).

The World Health Organization has estimated that women are 50 to 100% more likely to suffer from these disorders (WHO, 2011c) and in fact, in the present study incidence rates were much higher for women compared to men. Therefore the oversampling of female respondents has to be considered and data should be compared by gender- subpopulations where possible. Still also the scores for men were high. Compared with global figures from WHO (2011c) the point prevalence for depression found in this study is 5 times higher than the one for unipolar depression in women worldwide, although these figures are not totally comparable. The point prevalence for probable anxiety in the present study is nearly as high as the lifelong prevalence for anxiety mentioned by WHO (2011c). In the following table prevalence rates of probable anxiety and depression from major studies in Cambodia are compared.

	The present study (2011) Cambodia nationwide N= 2690 using HSCL-25	de Jong (2001/ 2003) three different Cambodian communes N=610 in Cambodia using CIDI	Dubois (2004) population from Kampong Cham province N=1320 using HSCL-25
Anxiety	27.4%	40%	53%
Depression	16.6%	11.5% (mood disorders)	42.4%

Table 17: prevalence rates of anxiety and depression in comparison with other studies conducted in Cambodia

Compared with the two major previous studies conducted in Cambodia seven to ten years earlier the rates for anxiety have diminished by 30 to 50%, and depression rates lie in between the two previous findings (see above). This could be an effect of time with an increasingly healthier second generation or due to especially high rates in the particularly badly affected province of Kampong Cham during the CW and by flooding (Dubois et al., 2004), which cannot be verified directly as this province was not randomly included in the present study. The findings by de Jong et al. (2001) measured with the CIDI (Composite International Diagnostic Interview) are closer to the findings from this study.

Studies conducted in various countries among primary care patients show that psychiatric disorders, in particular depression and anxiety, are associated with high rates of psychosocial and physical disability (Ormel et al., 1994), social deficit and loss of working capacity (Mintz, Mintz, Aruda & Hwang, 1992; Sherbourne et al., 1996).

In the study by Dubois et al. (2004) in Cambodia 25.3% reported being socially impaired: regression analysis showed that psychiatric symptomatology was most strongly associated with social impairment.

IV Symptom scales and demographics

All of the symptom scales correlated significantly with sex (women more affected) and age (population > 36 more affected). Within these the anxiety scale showed the greatest difference between men and women and the C-SSI showed the greatest differences between the younger and older population. This was expected from previous statistics (WHO, 2011 c) as women are known to have a higher predisposition for worries and the C-SSI incorporates many bodily symptoms which tend to increase with age. For sex and age the HTQ-Symptoms scale showed the least differences. This can be explained via the trauma related component which makes scores more dependent of external factors (e.g. intensity and duration of traumatic experience) and less dependent of intrinsic factors (age...) than other scales. Generally it can be said that gender is an important determinant of poor mental health (especially anxiety and depression) and influences help-seeking behaviour (Oliver, Pearson, Coe & Gunnell, 2005).

Highly significant differences for marital status were observed for all four symptom scales. In all categories single respondents were least affected probably due to their lower age which has to be verified by regression analysis. Widowed respondents had the highest scores for culture bound symptoms, anxiety and depression whereas divorced respondents scored highest with HTQ-Symptoms scale which may be due to the fact of probable (re-)traumatization through partner-violence.

The amount of savings per respondent correlated significantly negatively with all the symptom scales (-.106 with depression, -.063 with HTS, -.083 with anxiety, -.059 with C-SSI). The more savings the respondents have, the fewer symptoms they experience or vice versa the more respondents suffer from symptoms the less they can earn. The strongest correlation was found with depression. This again confirms findings from previous studies (Patel et al., 1998; Harpham, Snoxell, Grant & Rodriguez, 2005; Araya, Rojas, Fritsch, Acuna & Lewis, 2001) and the urgent need for poverty reduction as a means of prevention of mental illnesses.

The relationship between poverty and mental illnesses has also been described in a meta-analysis conducted by Patel and Kleinmann (2003). They reported an average of 20-30% prevalence rates of mental disorders in developing countries. In their meta-analysis 10 out of 11 studies found a statistically significant relation between poverty (especially low education) and mental disorders.

All symptom scales correlated significantly with educational level. Overall respondents with no or primary education have highest scores in all of the symptom scales; the highest differences were found for C-SSI and anxiety, the least for HTQ. Epidemiological data from four different low-income and middle-income countries independent of cultural differences showed a higher vulnerability for common mental disorders for people with low education and low income than for those in upper quintiles (Patel, Araya, Lima, Ludermitz & Todd, 1999). Thus relative poverty was found to be a risk factor for common mental disorders (Lund et al., 2010). However, not all studies have found a link between poverty and mental illness (Saxena et al., 2007).



Summary of outcomes and discussion of experiences and symptoms

- Traumatic events during CW were experienced by 92.3% of all respondents above 36 years old. There seem to be differences in clusters of different experiences between provinces. Traumatic events after CW were experienced by 70.2% of respondents in lower percentages than in previous studies for the single events. 86% of respondents suffered from financial worries. The majority of respondents were multiply traumatized.
- The prevalence rate of probable PTSD for the total population over age 21 was 2.7% (when calculated using a cut-off score of 2.5) which is 7 times higher than in the general population worldwide (WHO, 2001) and 7.6% using the newly recommended cut-off score of 2.0, still lower than previous findings. Women were significantly more frequently affected than men. In contrast to other studies that found high symptoms of re-experiencing, the most prominent symptoms in the present study were 'trouble sleeping' and avoidance behaviours.
- The mean for the C-SSI was 1.76 out of 4.29, again with a significant gender difference (women: 1.81 versus men: 1.67). The most prominent symptoms belonged to the subscale of cultural syndromes linked to a wide spectrum of cultural beliefs, which can be regarded as a confirmation of the importance of these beliefs and associations. The rural population suffered significantly more from these somatic and culture bound symptoms.
- The point prevalence rates of 27.4% for probable anxiety and 16.7% for probable depressive disorders were high. WHO reports a point prevalence for unipolar depression of 1.9% for men and 3.2% for women and around 30% of the population suffering from depression, anxiety or somatic complaints. The findings here are in line with or exceed findings from other low-income countries. Compared with the two major previous studies conducted in Cambodia seven to ten years earlier, the rates for anxiety have diminished by 30 to 50%, the ones for depression lie in between the two previous findings. This could be an effect of time with an increasingly healthier second generation or due to especially high rates in the particularly badly affected province of Kampong Cham. These facts are alarming as psychiatric disorders, in particular depression and anxiety, are associated with high rates of psychosocial and physical disability (Ormel et al., 1994), social impairment (Dubois et al., 2004) and loss of working capacity (Mintz et al., 1992; Sherbourne et al., 1996).
- All of the symptom scales correlated significantly with the sex (women more affected) and age (population > 36 more affected), marital status (singles least affected, widowed or divorced most) and educational level (respondents with no or primary education had highest scores) and negatively with savings per capita (the more savings respondents have the less affected they are). These findings confirm findings from many other studies (Lund et al., 2010, Patel et al., 1998; Patel et al., 1999; Harpham, Snoxell, Grant & Rodriguez, 2005; Araya, Rojas, Fritsch, Acuna & Lewis, 2001) and demonstrate the need for investment in education, mental health literacy, gender balance and poverty reduction. The relationship between poverty and mental illnesses has been described already in a meta-analysis conducted by Patel and Kleinmann (2003).



V Domestic violence

DV committed

‘Knocking on the head, slapping or spanking, kicking, biting, shaking, pulling hair, punching’ and ‘throwing something at the other, pushing or shoving, or grabbing’ were more severe acts committed by around 10% of the respondents. Around 3% each admitted to ‘threaten their spouse or relative with a knife or a gun (axe or machete)’ and/or ‘tie them up, hit or beat them up’. These results lie 1.5 to 3.5 times higher than results from a follow-up survey on violence against women that the MoWA conducted in 2009 which asked for violence committed against the spouse whereas the present survey also explored violence towards other family members. Similar to our study the results from MoWA (GTZ, 2009) also found that more women committed physical violence than men, but with a less extreme difference. According to the 2009 MoWA report, emotional violence was committed slightly more frequently by men towards their spouses. The present study found that women were more frequently (18-50%) committing emotional violence towards family members. This again can be explained by acts of DV towards other family members such as children which have more contact with their mothers than fathers.

According to the present study’s findings sexual and financial violence was committed more frequently by men than women. Some of the findings from the present study correspond well to findings in the U.S. concerning child abuse. Here van der Kolk et al. (2001) found that among substantiated cases of maltreated children 65% were victimized by a female, but sexual abuse was committed by males 89% of the time .

DV experiences

DV experiences were about half as frequent in this survey as DV committed. This may be due to violence committed against children, who are mainly only victims. Percentages of DV experiences in the present study were 50% below to 25% above the experiences of emotional and physical DV in the study by MoWA (GTZ, 2009).

Experiences of DV had already decreased between the two surveys conducted by MoWA in 2005 and 2009.

In the present study around 3.1% of the respondents said a family member had previously ‘thrown something at them, pushed, shoved or grabbed them’ and /or ‘knocked on their head, slapped, spanked, bit, shook, punched them or pulled their hair’. Therefore the trend downwards found by MOWA (GTZ, 2009) for these experiences with on average 15% in 2005 and 5% in 2009 seems to have continued in spite of the larger frame of DV addressed (all family members instead of only spouses). In the present study the ratio of female/ male victims of DV was about 4/1, in the survey by MOWA (2009) 2.2-2.8/1. The higher percentage of DV experiences for women may be one of the reasons for their higher percentage of DV acts as a form of transmitted violence with traumatization leading to higher violent behaviour towards weaker family members (e.g. children). This is a well-known phenomenon (Anda et al., 2006).

Physical DV was experienced in total by 5.2% of the respondents as opposed to 13% of women reporting being victims of DV by their husbands in 2005 (National Institute of Public Health, 2006).

Emotional DV in the present study was experienced in total by 37.4% from family members which is around 50 to 60% less frequently compared to results from the MoWA survey (2009), but higher than the 19% of women that experienced emotional DV from their husbands in the demographic health survey (National Institute of Public Health, 2006).

Sexual DV was experienced by 1% in the present study as opposed to 3% of women experiencing inter-spousal sexual DV in 2005 (National Institute of Public Health, 2006).

According to a survey in the U.S. 25% of women experience DV in their lifetime and 85% of DV victims are women (Tjaden & Thoennes, 2000).

In total the above findings suggest that DV is not limited to inter-spousal violence but that around

50% of the cases concern other family members including children and that most of these events seem to occur between women (e.g. mothers-in-law towards their daughters-in-law or daughters to mothers and vice versa). Many forms of DV seem linked to traditional moral codes and rules in Cambodia such as the *Chbab Srey*, a code of conduct for women. Campaigns to raise awareness of this issue seem already to have some positive effects, but efforts should continue and include a broader reflection of these moral codes.

DV acceptability and influence of alcohol

In the present study 14.7% of respondents thought that DV they had committed was acceptable, but only 7.7% thought that DV they had experienced was acceptable. In contrast to other studies on domestic violence in Cambodia in the present survey there was no differentiation between the different forms of DV and their acceptability. Results are therefore difficult to compare. A study by PSF (Rifa & Franco, 2011) comparing indigenous and Khmer people showed that, on average, only 3.6% of the indigenous population found different kinds of emotional and physical DV committed by a husband towards his wife acceptable. In the Khmer population however on average 28.3% found different forms of physical DV and 88% emotional DV committed by husbands towards their wives acceptable.

In the present study, 15.2% of the respondents believed that the member of the household committing DV against them was drunk during the event (19% of women versus 5.9% of men), whereas only 3.1% of respondents (1.2% of women versus 7.8% of men) declared they were drunk while committing DV themselves. These numbers were probably due to the wider framework of DV in the present study far below findings from a survey on interspousal DV conducted by PSF, in which Rifa and Franco (2011) report that women associated 43% of DV incidents with spousal alcohol consumption, whereas men recognized this connection in 21% of cases. Also results from a master's thesis by Khann (2010) using demographic data from the 2005 Cambodia Demographic and Health Survey and other stu-

dies (Woods, 2008; Fals-Stewart, 2003) showed that husband's drinking alcohol was strongly associated with DV.

According to the findings on alcohol consumption with only 0.2% of women suffering from probable alcohol problems DV's association with alcohol use seems mainly related to male perpetrators. It is common evidence that as a facilitator alcohol increases the readiness to commit violence for men that tend towards violent acts. It doesn't however cause violent behaviour by itself without any predisposition in the perpetrators (see also Rifa & Franco, 2011; Fox, 2008).

Many factors seem to contribute to the problem of DV in Cambodia. Some studies have shown links between DV and poverty (The Cambodian Women's Crisis Centre, 2002). "Strains brought on by financial insecurity are believed to lead to heightened stress and desperation, which in turn can stimulate a predisposition to domestic violence." (LICADHO, 2004, p.8). Also a connection between three decades of CW in Cambodia and overt violence in the domestic sphere (LICADHO, 2004) can be drawn. "In 1996 LICADHO estimated that women who came of age during the KR period reported significantly higher rates of domestic abuse." (LICADHO, 2004, p.8).

Summary: Domestic Violence

- Physical DV against family members was committed by 10% of respondents, and in especially severe forms by 3%
- In accordance with other studies, in recent years rates of DV appear to be decreasing
- Emotional DV was experienced by 37.4%, physical DV by 5.2%, and sexual DV by 1%
- Although most studies have focused on interspousal violence, here we found DV was not limited to interspousal violence
- There seems to exist an association between DV and alcohol consumption which was found to higher degrees in other studies focusing more on interspousal DV
- Some studies have shown links between DV and poverty as well as CW

VI Help seeking behaviour

Alarming only 24.1% of the respondents reported that someone was providing help for mental health problems. In the present study most respondents sought help from a health center (including probably very small ones) or their family members. For this question multiple answers were allowed and 20.7% of the respondents stated to contact traditional healers (and nearly 50% traditional and spiritual resources) whereas a study by Dubois (2004) apparently allowed only single answers. In Dubois's study, around 30.7% sought help in the private network, 30% in public network and 12.5% in traditional medicine. The survey by MoWA (GTZ, 2009) found that in 14.7% of the communes there were agencies or NGOs offering general counseling or support, but only 0.9% of the inhabitants had sought help from these. Here the importance of mental health literacy and the problem of discrimination become visible.

Compared to official numbers of mental health services (only offered in 18 out of 967 health centers and in 9 out of 24 provinces) the numbers of services mentioned seem very high, perhaps because respondents confuse lower level services with mental health services.

Needs

In this study 97.3% of the respondents wished to have a psychological service at their health center and it could be concluded that 35.7% would go and see a psychologist if they had the opportunity. Knowledge of the scientific field of psychology and the true nature of the work of psychologists seems very low (qualitative results will follow).

In summary it is very obvious in this study that there is a great need for more counselling and mental health services in Cambodia. Many different issues need to be addressed in a sensitive, culturally appropriate and fitting way that utilizes existing resources (see also recommendations).

VII Counselling and psychotherapeutic options for Cambodian clients

Generally Cambodians are not familiar with counseling. Most clients, especially in rural areas, have the expectation that they will get advice and medication from a psychiatrist. Similar expectations exist when seeing a psychologist.

- Psycho-education seems highly necessary and suitable as it serves the expectation of a kind of lesson or teaching.
- Also some of the more structured psychotherapeutic approaches, applying exercises, homework and using handouts, such as cognitive behavioural (CBT) or solution focused therapy, seem to meet these kinds of expectations.

Hinton et al. (2005b) have adapted CBT for treatment of traumatized Cambodian refugees in the USA: treatment includes (among other things) introducing the TCMIE model of panic, muscle relaxation and diaphragmatic breathing procedures, performing a culturally appropriate visualization, cognitive restructuring of fear networks (Clark & Ehlers, 2004; Foa & Rothbaum, 1998), interoceptive exposure to anxiety-related sensations, narrativization of trauma-related memories (Brewin, Dalgleish, & Joseph, 1996; Clark & Ehlers, 2004) and shifting from acknowledgment of the traumatic event's occurrence, to self and other pity, to loving kindness, and to mindfulness (Hinton et al., 2005b). This adapted CBT was proven efficacious in a controlled study of traumatized, treatment resistant Cambodian refugees on all applied measures (Hinton et al., 2005b).

- Another very promising approach is found in several more recently developed (so called third wave) cognitive behavioural therapies that include Buddhist concepts (e.g. radical acceptance and working with a non-judgemental attitude, awareness and mindfulness exercises) such as DBT (dialectic behavioural therapy) (Mc Cay, Wood & Brantley, 2007) and ACT (acceptance and commitment therapy) (Harris, 2009a/ 2009b). These therapeutic approaches are part of the DP's master course curriculum.

- There are two more trauma focused intervention models derived from CBT that seem to show good success rates. Both are widely addressed in the DP's Master curriculum of Clinical Psychology and Trauma Treatment:

⇒ EMDR (eye movement desensitization and reprocessing), which several master-students and other psychologists have been trained in by the Human Assistance Program (HAP) Germany and others

⇒ Trauma focused CBT (TfCBT) (Cohen & Mannarino, 2006) has been successfully applied by HAGAR international, World Vision Cambodia, AFESIP and others over the past years. It includes the ten following components: psycho-education, parenting skills, relaxation, affective expression and modulation, cognitive coping and processing I, trauma narrative, cognitive coping and processing II, in vivo mastery, conjoint child-parent sessions and enhancing future safety.

- In addition, different narrative forms of short term interventions have been found to be successful by TPO (Herbst, 1992):

⇒ Testimony Therapy (TT) was originally developed in Chile for the treatment of victims of the Pinochet regime (van Dijk, Schoutrop & Spinhoven, 2003). Along with Narrative Exposure Therapy (NET) (Schaal, Elbert & Neuner, 2009), these have been found to be effective therapy models in Cambodia.

⇒ TT, NET and trauma-focused CBT aim to reestablish explicit memory of traumatic events thus transferring information from the brain stem to the cortex and linking different bits and parts of the experience together, creating a coherent testimony that can be shared with others. They work with repeated controlled confrontation and habituation to emotional and physiological reactions.

Along with TT and NET, TPO has added Buddhist cultural rituals and a testimony ceremony, rendering the intervention even more effective and meaningful for the parti-

cipants. The above mentioned intervention models are all introduced and some taught as part of the Master's program at the DP.

- Group Therapies may be especially successful in Cambodia (Somasundaram & van de Put, 1999).

⇒ First of all, especially concerning the KR history, many people above the age of 37 have similar experiences and the comfort they can give each other is enormous, which in turn strengthens their self-esteem and helps to "cope with traumatic memories, to support each other in new ways, and, consequently to take care of their children and overcome social isolation." (Somasundaram & van de Put, 1999, p. 275). Secondly, Cambodians seem more comfortable in a group setting. Thirdly, it makes therapy available for more people at one time and conserves counselling efforts.

⇒ The concept of group work has also been applied for survivor- and perpetrator groups of domestic violence (e.g. by Project against Domestic Violence (PADV)).

⇒ Group concepts can also be useful for prevention of mental disorders and reconciliation. NGOs such as Youth for Peace (YFP) and Youth Resource Development Project (YRDP), e.g. conduct village group discussions to enhance a dialogue between the elderly and younger population.

⇒ A more specific setting of group work is the family as seen in family- or systemic therapeutic settings which also bear many advantages for the improvement of family interactions and of parenting skills so urgently needed in Cambodia (Field, 2011).

- Suitable therapeutic approaches for addictive disorders are currently being explored in a joint project by FHI, the Center for Mental Health and Drug Dependence, and the DP.



Limitations & Conclusions

Limitations

- The most important limitation is the overrepresentation of women in this survey: This study was conducted during the rice planting season, which led to considerably more women (67.5%) being available for interviews in the households compared to men. However there also exists a ratio of 94.2 men to 100 women in the Cambodian population as measured by the general population Census (National Institute of Statistics, 2008) and also other studies have had this tendency (MOWA, 2009 with 57% women, de Jong, 2003 with 56.9% women).

The overrepresentation of women in this study was taken into account when analyzing the data and most results are presented separately for the female and male population. For future research it is advisable to ensure a more equal gender distribution.

- Data from this survey have to be considered as only approximating the real amount of problems as many interviews (approximately 50% according to a post-study survey among the data collectors) couldn't ensure enough privacy for the respondents while answering. Data collectors tried their best to ensure privacy but often listeners would return after being asked to leave.

Traditionally privacy cannot be obtained in many circumstances in Cambodia and most life events are shared in public especially in rural areas. Information e.g. about diseases spreads quickly around communities. Data especially concerning the respondent's family members may be only approximating real rates because often relatives were present during interviews or respondents may have feared that they would return unexpectedly and hear what they were reporting.

- Holding back complete information does persist even in private interview settings. A general mistrust in unfamiliar interviewers and fears of breach of confidence or spying can be possible. This is a general problem faced by most research surveys.
- The completion of self-assessment questionnaires depends on the respondents' level of honesty (as in most such studies) since this research did not include psychiatric and somatic clinical examinations. Prevalence rates therefore estimate probable diagnoses, not clinical diagnoses.
- The estimated suicide rate is based on indirect information by relatives. Respondents may have referred to a more extended family rather than just those family members counted in the biographic data.
- Concerning the assessment tools threshold scores used in HSCL-25 and HTQ were established on clinical populations of refugees living in the USA. Thus, interpretation of results in a community sample should be examined carefully (Dohrenwend, 1990).
- Several terms such as child abuse, torture, gambling, aggressive behaviour or school problems were not further defined, so there may be a broader spectrum of interpretations that may have distorted some findings.

Conclusions

It is not astonishing that mental disorders are widespread in Cambodia considering its traumatic recent history and the adverse living conditions and poverty of its population.

- However mental health services remain dwarfed, the mental health budget hasn't adequately been raised for decades and the population's needs still go largely unaddressed (McLaughlin & Wickeri, 2012). Poor mental health is proven to hinder economic development and the thriving of

the development of whole nations and many studies have stressed the economic benefit of investments in a population's mental health (McDaid, Knapp & Raja, 2008).

- The results from the present study demonstrate a high need for more ample services for children, psychotic and addictive disorders, domestic violence, suicide prevention, anxiety, depression and PTSD.
- Much more research should be done in order to properly adjust programmes and to learn more about the causes and effects in the field of mental health in Cambodia.
- In order to face all these challenges for services and treatments a strong joint multidisciplinary effort is required. At the practitioner level insufficient knowledge of mutual abilities and resources and the existence of a professional hierarchy and lack of professional respect (with psychiatrists being of higher status than counsellors and social workers) have thwarted cooperation and collaboration in many cases (Stewart, 2010).
- “The repressive nature of keeping thoughts and feelings to oneself is believed to be linked with higher incidences of mental health problems, as well as higher rates of violence.” (Stewart, 2010, p. 29). So far only a few individuals in Cambodia have acquired high level clinical and counselling skills to ensure appropriate treatment of mental disorders. Many others lack training, lack constant supervision and lack experience in the field of mental health. A tendency to overprescribe drugs in order to please the client and make up for the lack of psychosocial interventions has been reported (Stewart, 2010; McLaughlin & Wickeri, 2012).
- In response to a general discrimination and misinterpretation of mental disorders that in turn hinder the urgently needed acceptance of and access to mental health services the government should advance and support advocacy and education on mental health (WHO, 2004 b; WHO, 2004c).

Appendix

	Carlson (1991) Cambodian refugee population in the USA <i>n=50</i> <i>using DES</i>	Mollica (1993) Cambodian refugee population in Thai border refugee camps <i>n=993</i> <i>using HTQ</i>	de Jong (2001) Data from three different Cambodian communes <i>n=610</i> <i>using CIDI</i>	Dubois (2004) population from Kampong Cham province <i>n=1320</i> <i>using Hopkins</i> <i>HTQ</i> <i>Indochinese</i>	Sonis (2009) national sample of adults, Cambodian residents (oversampled for old age) <i>n=1017</i> <i>using PTSD</i> <i>Checklist</i>
Anxiety			40%	53%	
Depression	80%	55%	11,5% (mood disorders)	42,4%	
PTSD	86%	15%	28,4%	7,3 %	11,2% 14,2 % of first generation 7,9% for younger groups
Intrusive symptoms			72.8%	47.8%	33.6%
Avoidance symptoms			59.3%	45,4%	12%
Psychosocial impairment		15-20% health impairments limiting activities		25%	mental disability for > 35: 16,0 % for < 35: 4,2 %

Table 1: Previous research findings about mental disorders in different samples of Cambodian population

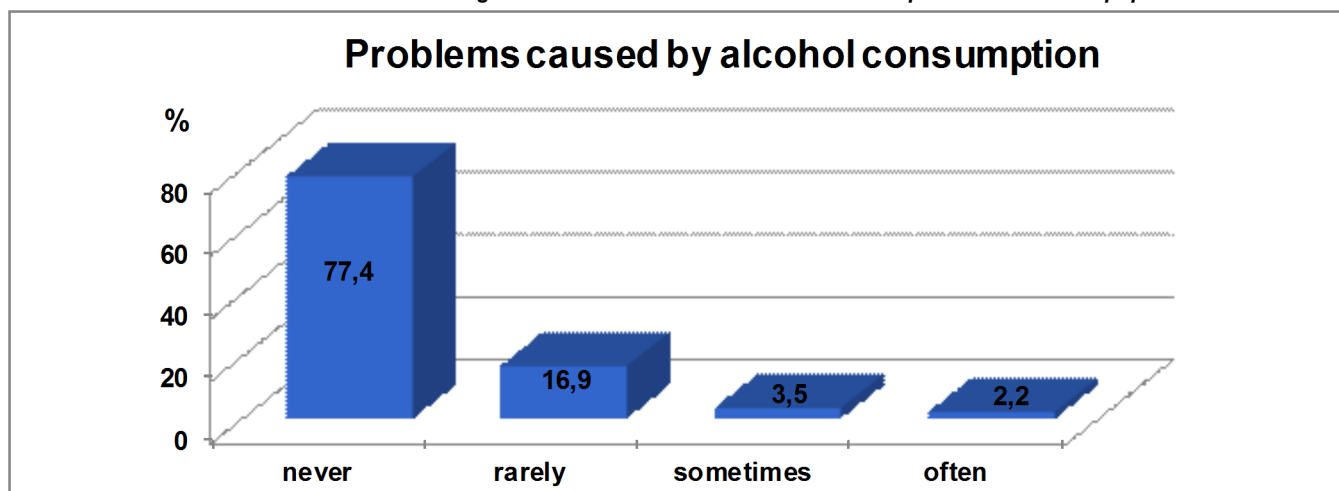


Fig.1: Percentage of respondents having problems of different frequency with family, friends or their health caused by their drinking habits (N=922)

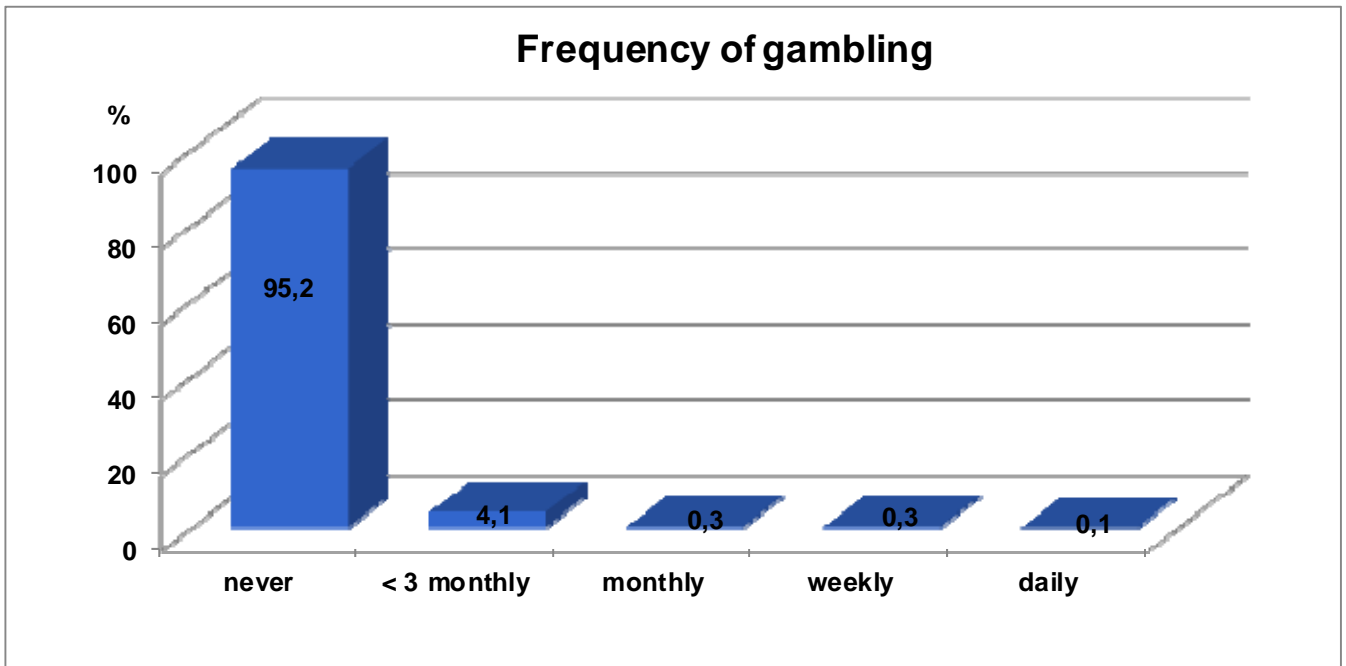


Fig. 2: Percentage of respondents gambling in given time periods (N = 2683)

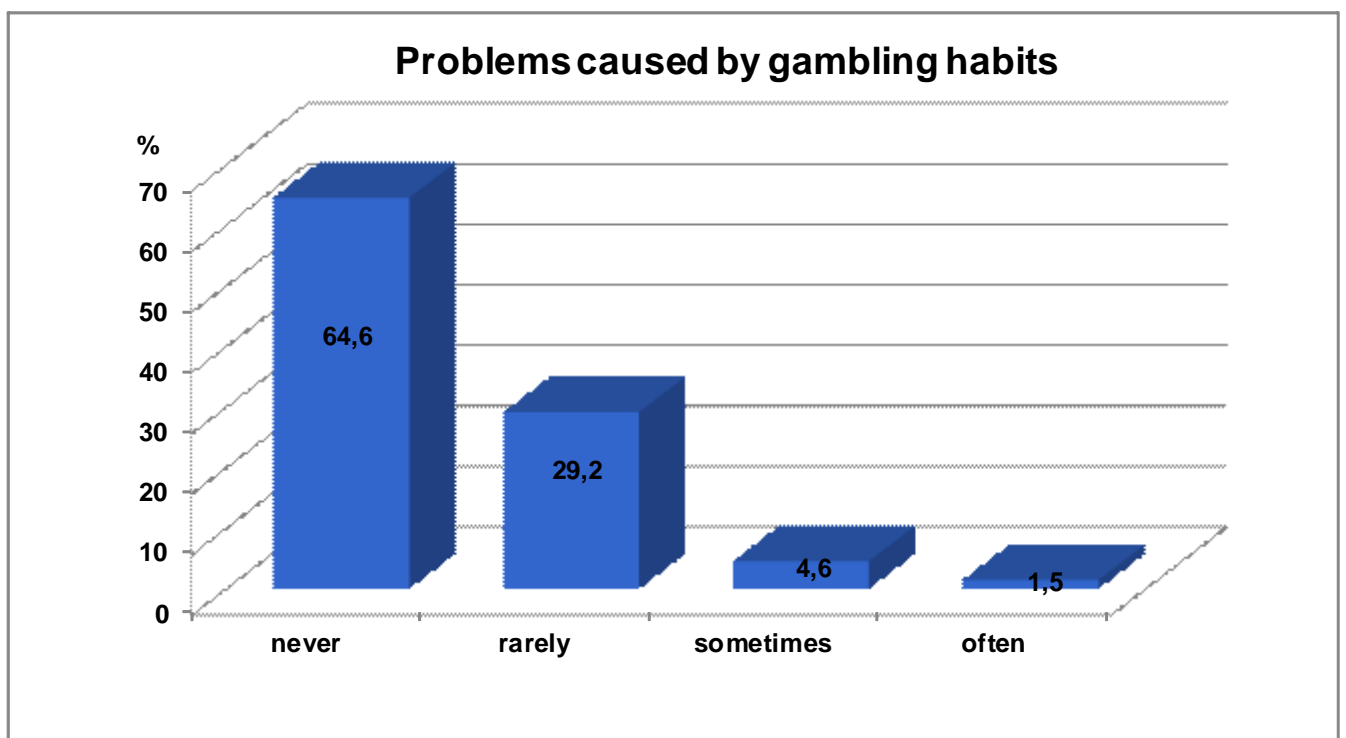


Fig. 3: Percent of respondents having problems with family or friends caused by their gambling (N=143)

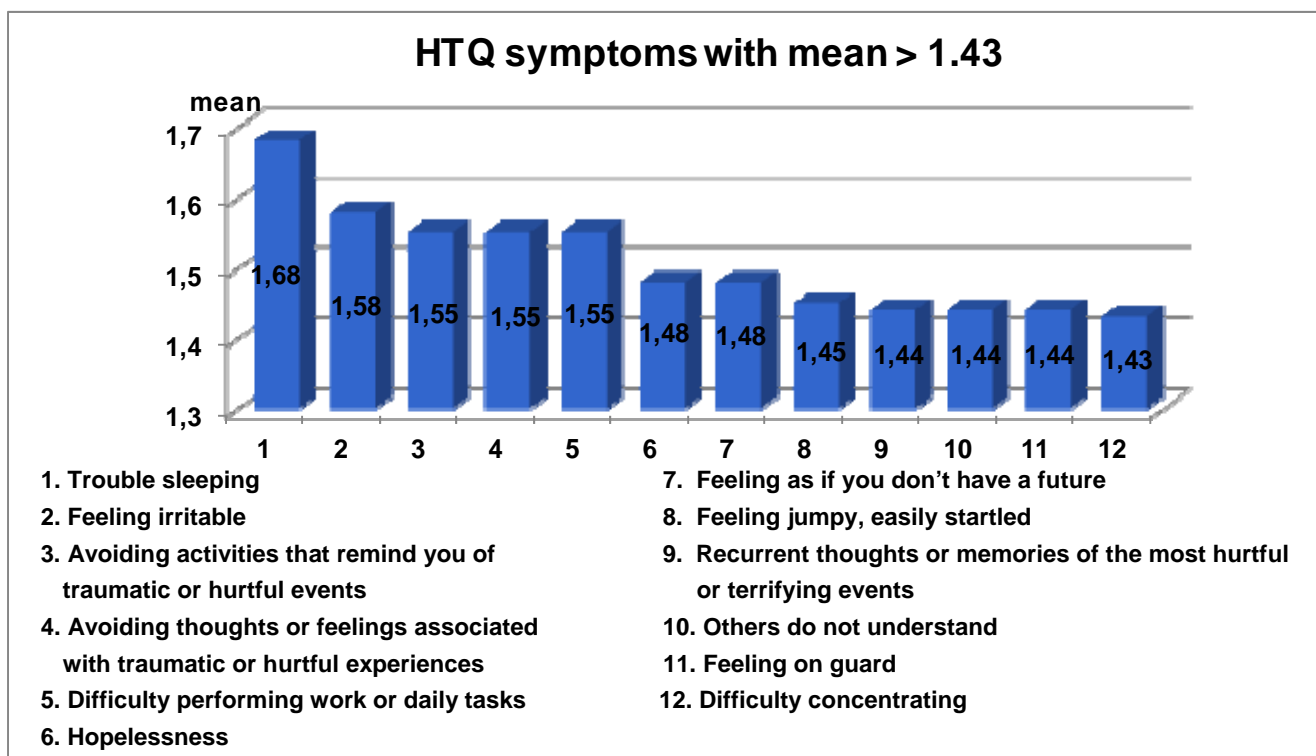


Fig. 4: HTQ-Symptoms experienced by respondents with means > 1.43 (N = 2681-2689)

- The symptom with the highest mean score was 'trouble sleeping' followed by 'feeling irritable', 'avoidance of activities and thoughts associated with traumatic experiences' and 'difficulty performing work or daily tasks'
- Feelings of emotional numbing (M = 1.21), shame (M = 1.28) and dissociative experiences (loss of memory) (M = 1.29), feeling detached (M = 1.28), feeling split (M = 1.23)) were least experienced

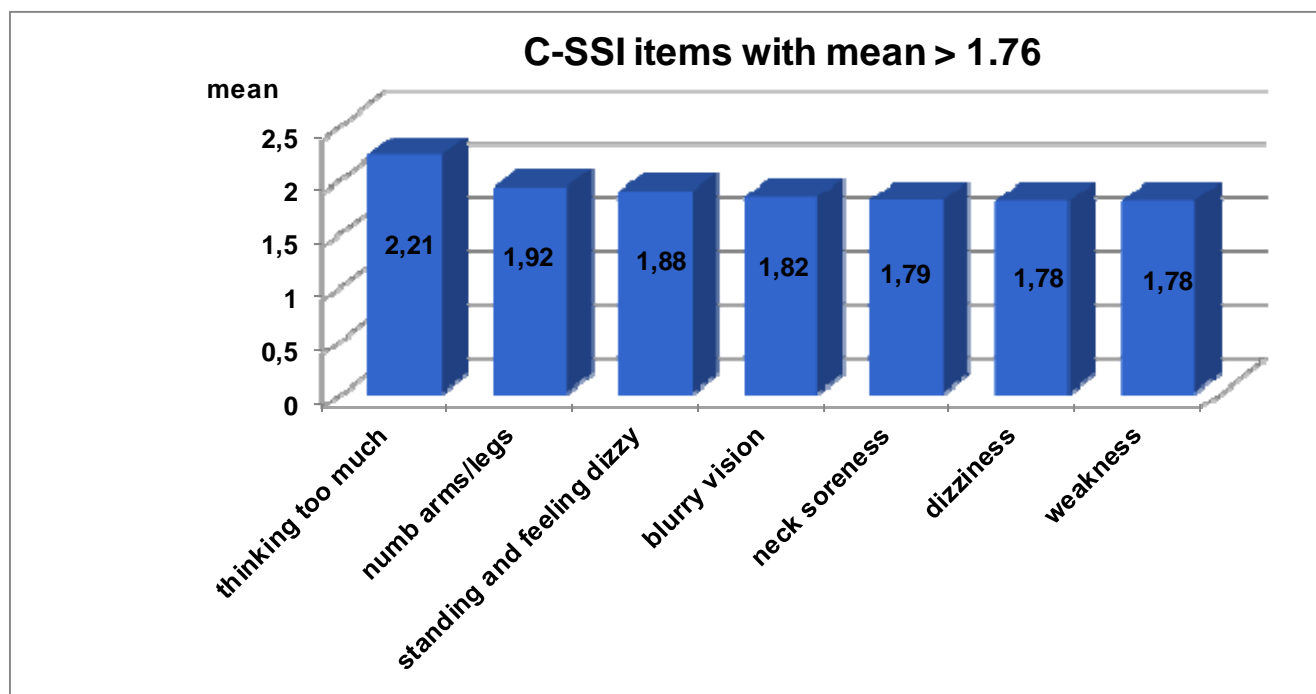


Fig. 5: C-SSI items experienced by respondents with a mean > 1.76 (N = 2683-2689)

- The most prominent item from the C-SSI was the syndrome of 'thinking too much', followed by the syndrome of 'numb arms and legs' and the symptom of 'standing and feeling dizzy'
- 'Sleep paralysis' (M = 1.16), 'poor appetite' (M = 1.43) and 'cold hands and feet' (M = 1.48) were the least frequent items

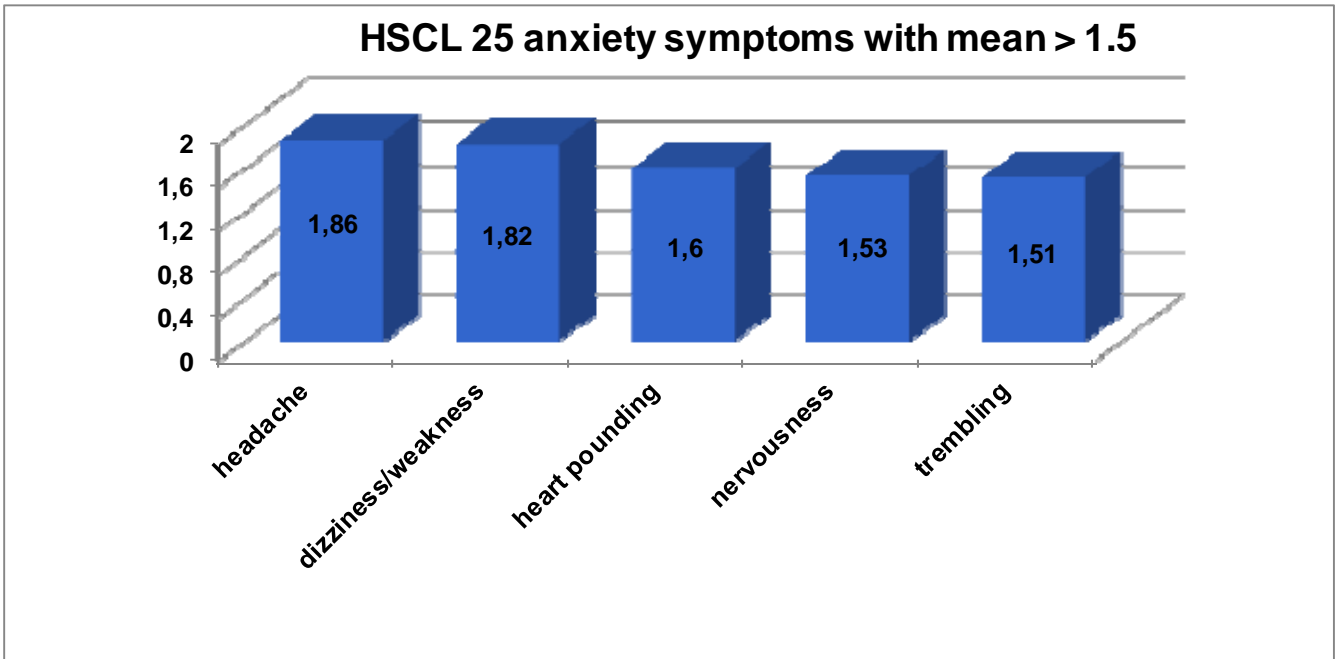


Fig. 6: Most prominent HSCL 25 anxiety symptoms with mean > 1.51 (N = 2687-2689)

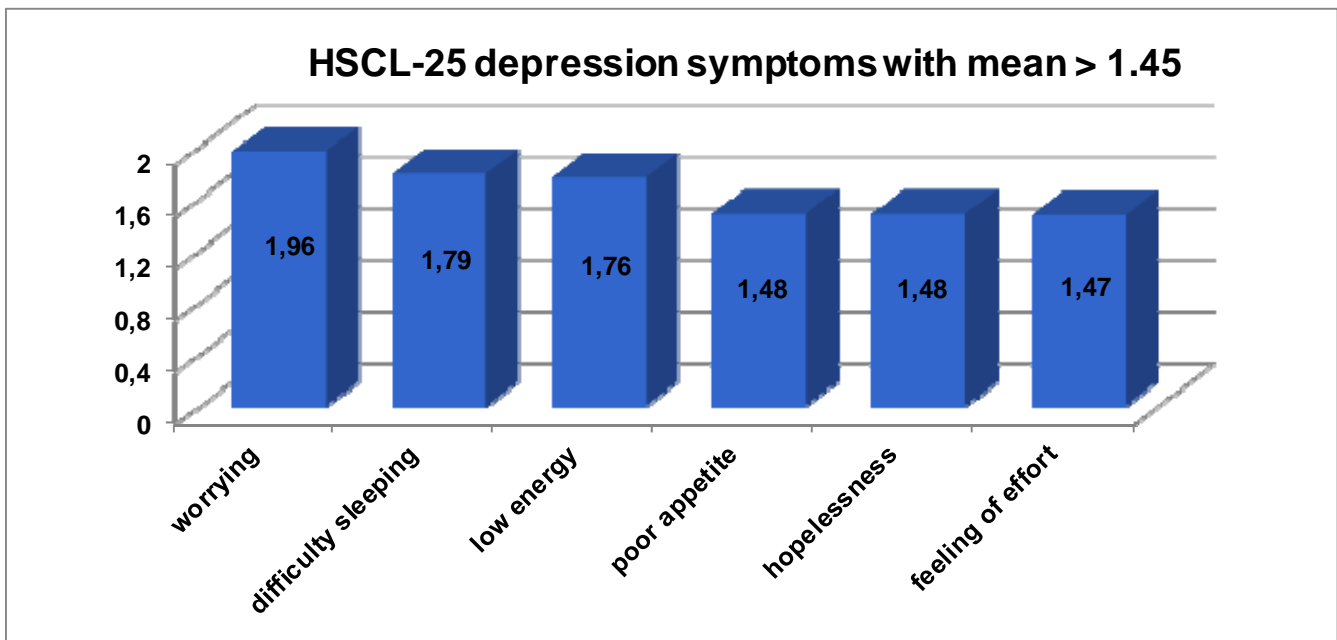


Fig. 7: HSCL-25 symptoms of depression with means > 1.45 (N = 2686-2689)

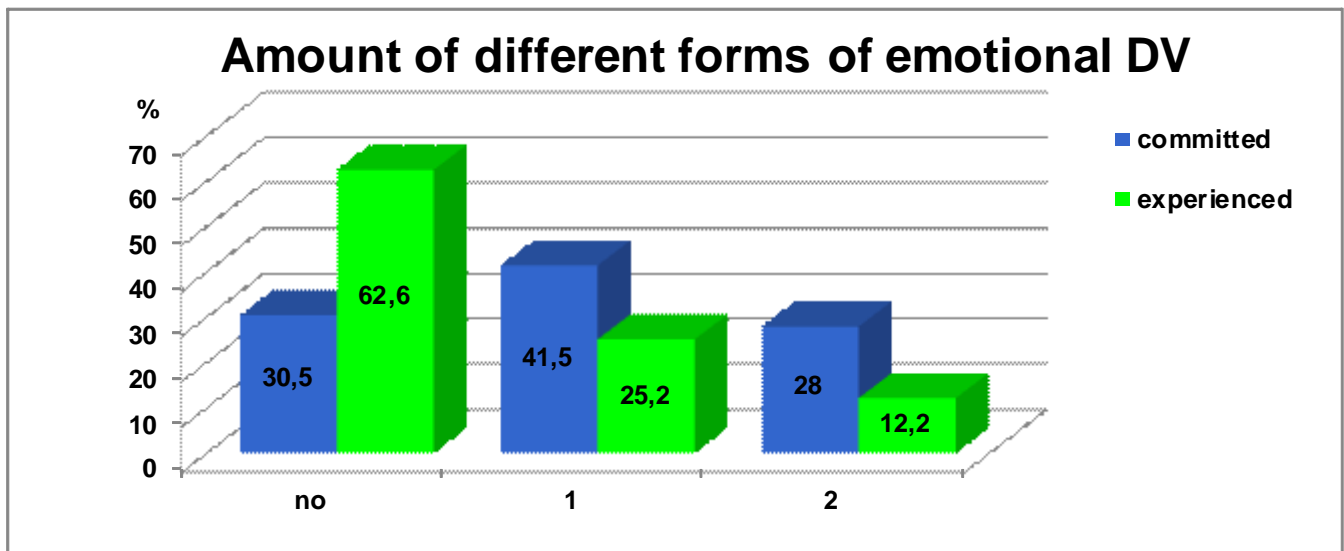


Fig.8: Percentage of respondents having experienced or committed no to two forms of emotional DV (N = 2683-2687)

- Roughly a third of the respondents who reported emotional DV committed/experienced both forms of emotional DV

The following graph shows 'yelling' and 'cursing or insulting' committed and experienced in frequencies of daily, weekly, monthly and per year separately (not cumulated).

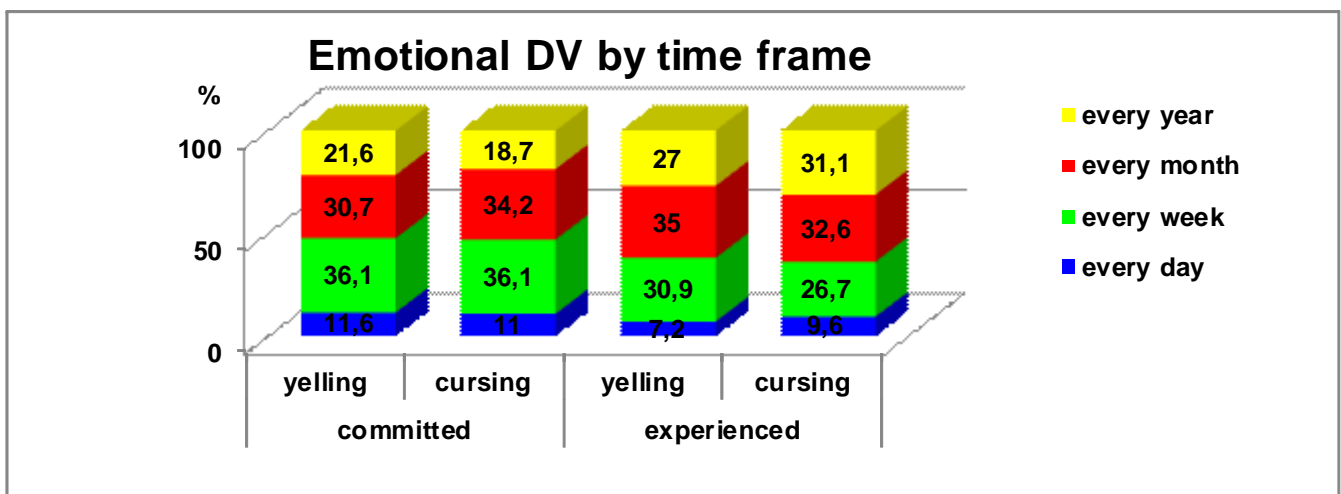


Fig. 9: Frequencies of 'yelling' and 'cursing or insulting' committed and experienced (N = 344-1805)

- 'Yelling' was committed more frequently daily than 'cursing', but 'cursing' was experienced more frequently daily than 'yelling'
- 'Yelling' and 'cursing' were committed by around 80% and experienced by around 70% with an at least monthly frequency

The following graph shows the percentage of respondents who have experienced or committed no DV or one to six forms of physical DV.

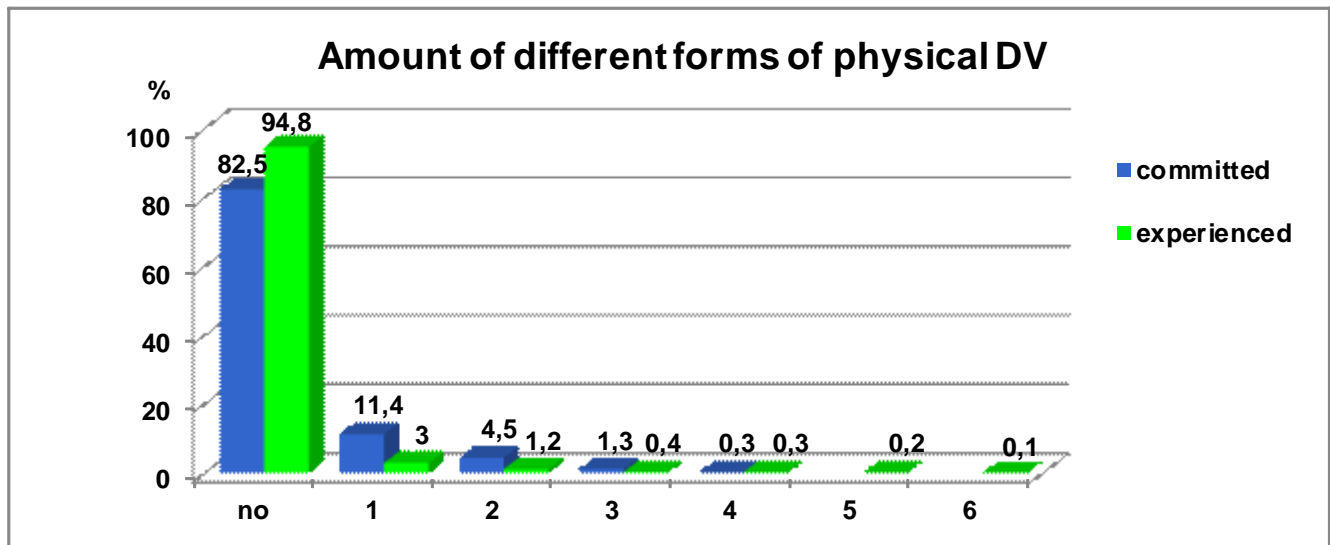


Fig. 10: Percentage of respondents having experienced or committed no to six forms of physical DV (N = 2685)

- 17.5% of respondents had committed and 5.2% experienced some form of physical DV
- Low amounts of different forms of physical DV were committed more frequently than experienced, very high amounts of five to six different forms of physical DV were only experienced

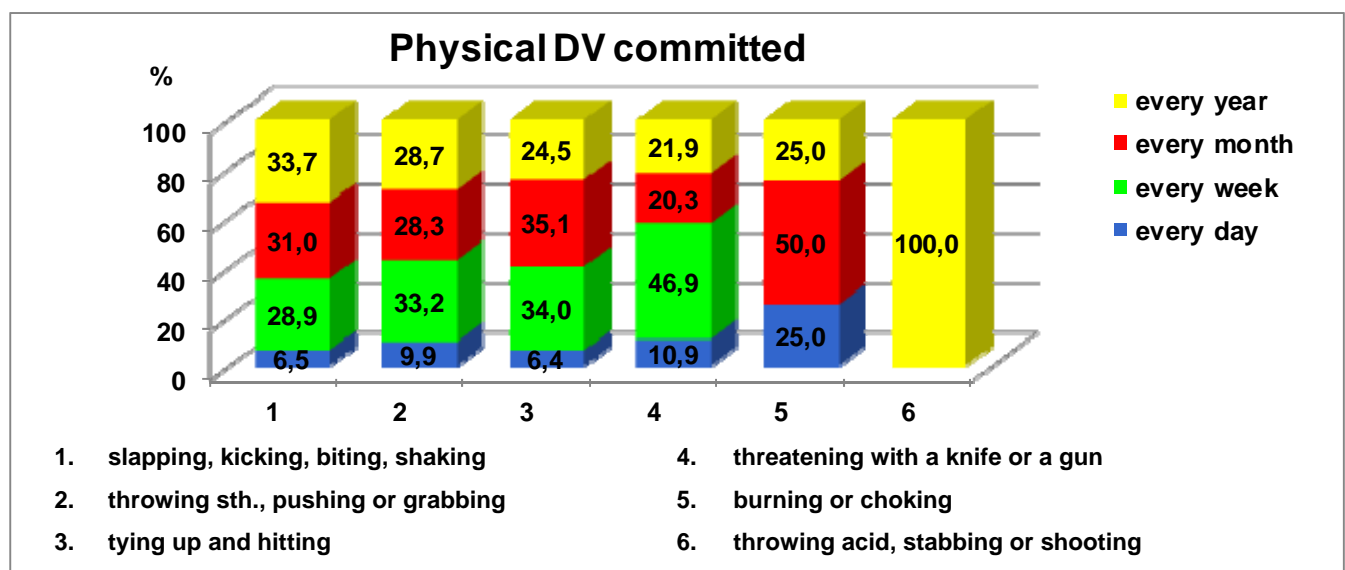


Fig. 11: Percentages of physical DV committed at different time periods (N = 1-294)

- Physical DV was mostly committed weekly or monthly
- With the exception of `throwing acid`, `stabbing or shooting` (N = 1) the frequency at which physical DV is committed seems to increase with increasing severity of the form of physical DV committed
- With 78.1% of the cases being committed at least monthly, `threatening with a knife or gun` had the highest frequency rate within a month
- `Burning or choking` was committed at the highest daily rate, but with low case- numbers (N = 4)

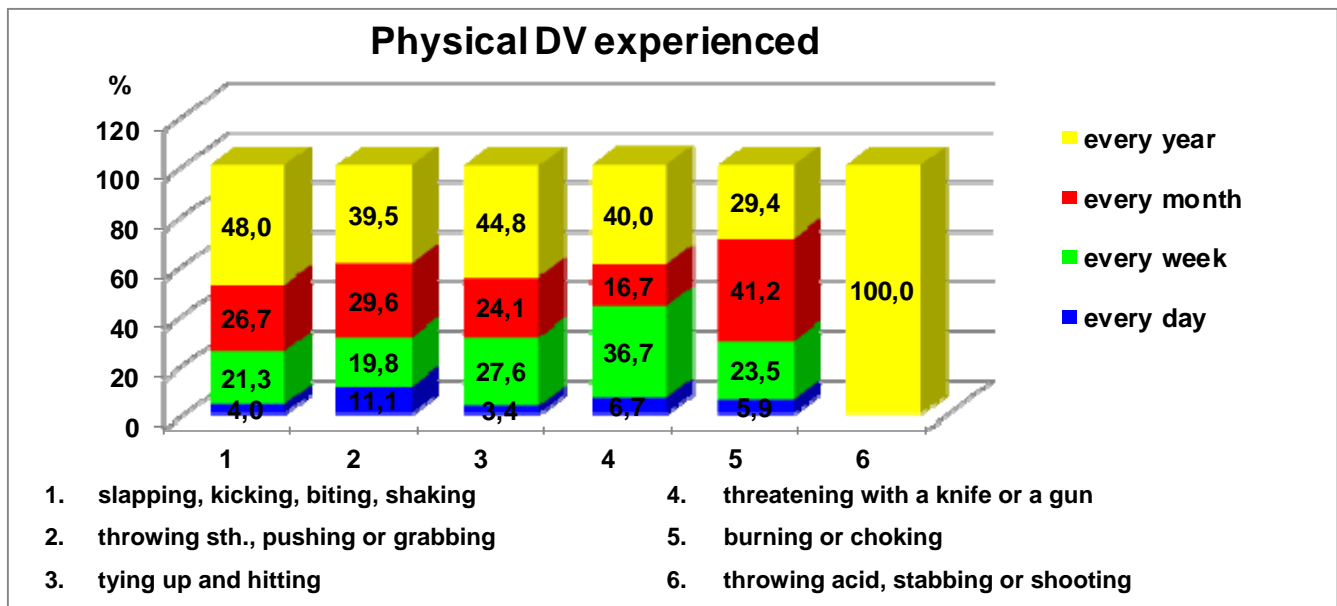


Fig. 12: percentages of physical DV experienced within different time periods (N = 3-81)

- ‘Throwing something, punching or grabbing’ was experienced by the highest percentage of respondents daily (11.1%), ‘threatening with a knife or gun’ weekly (36.7%) and ‘burning or choking’ monthly (41.2%)
- ‘Throwing acid stabbing or shooting’ was experienced by 3 respondents on a yearly basis
- ‘Burning or choking’ was experienced by the highest percentage of respondents (70.6%) with the highest frequency within a month



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