World Health Organization
REGIONAL OFFICE FOR Europe

Survey on the prevalence of adverse childhood experiences among young people in the Russian Federation

Report

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SURVEY ON THE PREVALENCE OF ADVERSE CHILDHOOD EXPERIENCES AMONG YOUNG PEOPLE IN THE RUSSIAN FEDERATION

REPORT

ABSTRACT

The survey on the prevalence of adverse childhood experiences (ACE) in Russia was conducted in a sample of young adult students (N=1580) in higher education institutions and colleges (640 men and 940 women). The average age of men was 20.75 ± 2.73 years, women 20.55 ± 2.54 years. The survey aimed to describe the magnitude of ACE, to identify sociodemographic characteristics and find the association between ACE and health risk behaviours. Results showed that the prevalence of child maltreatment in this population is high: sexual abuse 5.7%, physical abuse 14%, emotional abuse 37.9% and emotional neglect 57.9%. Household dysfunction was also common, and among these 11.1% observed their mother being treated violently. ACEs were common and 84.6% reported at least one, and respondents most often faced two ACEs (28.2%) and as many as 17.5% reported at least four or more ACEs. The findings show that the odds of developing health risk behaviours such as smoking, alcohol, illicit drugs, multiple sexual partners and suicide attempts increased with the ACE score. Strategies are needed for the prevention of child maltreatment and other adversity in childhood.

Keywords
Accident and injury prevention
Child abuse
Child advocacy
Child welfare
Community health services
Health surveys

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CONTRIBUTORS

The report was written by:

Professor Margarita A. Kachaeva
Medical Doctor, Doctor of Medical Science

Serbsky National Research Center for Social and Forensic Psychiatry

Ministry of Health of the Russian Federation

Dr Dinesh Sethi MSc MD MRCP FFPH
Programme Manager Violence and Injury Prevention

Division of Noncommunicable Diseases and Life-Course

WHO Regional Office for Europe

Dr Valentina D. Badmaeva
Medical Doctor, PhD

Chief of the Department of social and forensic problems of adolescents

Serbsky National Research Center for Social and Forensic Psychiatry

Ministry of Health of the Russian Federation

Dr Alexey V. Novozhilov
PhD, Professor assistant

Head specialist of international collaboration department

Federal Research Institute for Health Organization and Informatics

Ministry of Health of the Russian Federation

Dr Alexey V. Ivanov
PhD, Head specialist

Federal Research Institute for Health Organization and Informatics

Ministry of Health of the Russian Federation

ACKNOWLEDGEMENTS

Dr. Grigory Fastovtsov
Medical Doctor, Doctor of Medical Science, First Moscow State Medical University
Ministry of Health of the Russian Federation

Professor Nazim Y.Orudzhev
Medical Doctor, Doctor of Medical Science, Head of the department of psychiatry, addictology and psychotherapy, Volgograd State Medical University, Russian Federation

Dr. Nikolay S. Mozharov
Medical Doctor, Professor Assistant of the department of psychiatry, addictology and psychotherapy, Volgograd State Medical University, Russian Federation

Dr. Natalya G. Batueva
Medical Doctor, PhD, Head of the Department of Forensic Psychiatry, Inpatient Psychiatric Services at the Federal Institution of Public Health Regional Psychoneurological Health Centre, Ulan-Ude, Buryatia Republic, Russian Federation

Dr. Snezhana M. Dukten-ool
Medical Doctor, Chief Doctor of Republican Psychiatric Hospital, Chief Psychiatrist of the Ministry of Health of Republic of Tuva, Russian Federation

Dr. Tatiana P. Kolpakova
Medical Doctor, Deputy Director, WHO Country Office, Moscow, Russian Federation

Mr Francesco Mitis
Technical Officer, Violence and Injury Prevention, Division of Noncommunicable Diseases and Life-Course, WHO Regional Office for Europe

Professor Mark E Bellis
B.Sc., PhD., UKPHR, FFPH, Director, Center for Public Health, Liverpool JMU, A WHO Collaborating Center for Violence Prevention

Professor Karen E Hughes
B.Sc., PhD., UKPHR, FFPH, Director, Center for Public Health, Liverpool JMU, A WHO Collaborating Center for Violence Prevention

EXECUTIVE SUMMARY

Background

The problem of family violence in the Russian Federation is very urgent. Members of Russian society have repeatedly drawn attention to the problem of family violence and in particular child maltreatment in the Russian Federation, and have emphasized the lack of scientific research. An assessment of the current situation with regard to violence and child maltreatment in the Russian Federation shows that specialist services are usually directed primarily to work with child victims to reduce the consequences of abuse, rather than to work on primary prevention. However, the recent international evidence including that in the *World report on violence and health* argues that violence is preventable.

Aims

With this in mind, a survey of adverse childhood experiences (ACE) was carried out in young people with the aim of studying the prevalence of maltreatement and other adverse experiences in childhood (age 18 years), and to explore associations with health harming behaviours.

Methods

The adverse childhood experiences (ACE) survey in Russia involved 1580 respondents (640 men and 940 women) who were students in higher education institutions (universities and colleges). Respondents were purposefully selected to represent both the European and Asian parts of the Russian Federation, from fifteen higher education institutions in five distinct regions: Moscow, Volgograd, Tuva, Republic of Buryaita and Khabarovsk. Students were recruited on a voluntary basis, all data were collected on an anonymised basis and the Ministry of Health Ethics Committee approval was obtained. The average age of men was 20.75 ± 2.73 years, and women 20.55 ± 2.54 years. Data were collected using the ACE Questionnaire, after its translation into Russian, piloting and adaptation to local contexts. Prevalence of health harming behaviours, and ACEs were described and the association between these was tested using logistic regression analysis after adjusting for sociodemographic variables.

Results

Results showed that the prevalence of reported child maltreatment in this population is high: sexual abuse 5.7%, physical abuse 14%, emotional abuse 37.9%, physical neglect 53.3% and emotional neglect 57.9%. Household dysfunction was also common, and among these 11.1% observed their mother being treated violently. ACEs were common and 84.6% reported at least one, and respondents most often faced two ACEs (28.2%) and as many as 17.5% reported at least four or more ACEs.

Emotional abuse was significantly more common among women (40.3%) than men (34.4%). The most common type of household dysfunction was parental divorce, reported by 17.3% of the respondents (20.5% women and 12.5% men, $p < 0.001$). The proportion of respondents who reported that the mother was treated violently was 11.1% (12.9 % women and 8.4% men, $p = 0.006$). Interestingly, 76.6% respondents reported witnessing violence.

The prevalence of health harming behaviours was high. 83.8% of respondents used alcohol. Among users 12.2% started drinking alcohol at the age of 14 or earlier. 8.2% of men and 12.8% of women (among drinkers) indicated that they lived the first 18 years of their life with an alcoholic. There is a high level of statistical significance of differences ($p \leq 0.001$) between sexual abuse and having witnessed violence and the subsequent use of alcohol.

Only female respondents (4.8%) reported suicide attempts. There was a significant association ($p \leq 0.001$) between respondents reporting suicide attempts and the following ACEs: experiencing physical, sexual and emotional abuse, emotional neglect, living with family members with mental illness, parental divorce, mother treated violently, and incarceration of family members. This risk was increased six fold in association with the mother being treated violently or if there was a history of mental illness in the family, and was 12 fold if a family member was imprisoned.

78.9% of respondents had had sexual experience (83.8% men and 75.6% women), with about 40% of all respondents reporting this at an early age (before 16 years). In general, male respondents showed more risky sexual behavior than women.

Bivariate analysis showed significant association ($p \leq 0.001$) between emotional abuse and all the risk behaviours. It was associated with a thrice increased probability of drug and alcohol abuse, and an almost 12-fold increased chance of attempted suicide. Physical violence increased the chances of drug use by four times and the chances of suicide attempts by three times. Sexual violence increased the chances three fold for having had multiple sexual partners, of trying to commit suicide, and of problem alcohol use.

Household dysfunction was also associated with increased risks of health harming behaviours. For example, having a household member with substance abuse increased the chances of early alcohol by 5.5 times, of drug use by 8.5 times and increased the risk of smoking by 2.5 times. Violence against the mother was associated with a doubling of the chance of early use of alcohol, a thrice increased chance of unwanted pregnancy and a 6-fold increased chance of attempted suicide. Having a family member who was in jail increased the chance of early alcohol use by three times and led to a 13 fold increase in trying to commit suicide. Parental separation or divorce doubled the likelihood of drug abuse, increased by 1.5 times the likelihood of smoking, and by 4.5 times of attempted suicide.

Analysis also showed that after adjusting for sociodemographic variables, the risks of health harming behaviours increased with the number of ACEs. Compared to no ACEs, having 4 or more ACEs was associated with the following increased risks: smoking 2.1 times, harmful alcohol use 10.4 times, drug abuse 11.9 times, risky sexual behavior 1.7 times, unwanted pregnancy 7.9 times, and attempted suicide 23.2 times.

Conclusions

This survey has shown that in a purposefully selected study population of students in the Russian Federation the prevalence of maltreatment and other adverse experiences in childhood is very high. These results are similar to those published in other countries in Europe and elsewhere. Importantly, the results also show that after adjusting for sociodemographic variables, there is a strong association between ACEs and health harming behaviours such as smoking, substance misuse, risky sexual behavior and self-harm. The likelihood of health harming behaviours increases with the number of ACEs, implying a causal relationship. These findings suggest that, maltreatment and other adverse experiences in childhood may have grave and far-reaching health consequences in the Russian Federation, in keeping with the international literature. The study supports calls that emphasise the importance of taking policy action to respond to this societal and public health threat.

Evidence in the international literature suggests that child maltreatment can be prevented through several effective interventions which primarily focus on training in positive parenting through nurse visitation, health and welfare support to families with household dysfunction, as well as broader interventions such as fiscal and legal interventions that reduce access to alcohol, drugs and the use of violent disclipine. Investing in these preventive programmes is more cost-effective than responding to the costly consequences of maltreatment. In the Russian Federation as in many countries in Europe the response to date has mainly been on child protection services and providing care and therapeutic support to children. Whereas these are important, there are increasing calls by advocates and policy makers throughout Europe for intersectoral and coordinated action to prevent child maltreatment from occurring in the first place, which includes investment in early childhood development.

1. INTRODUCTION

1.1 Background

The abuse and neglect of children is a global challenge, which is receiving growing policy attention in the world (Pinheiro, 2006). It is increasingly recognized that these early years are critical and that maltreatment and other adverse childhood experiences lead to far reaching mental and physical health, social and developmental consequences (Felitti et a,l 1998; Krug et al, 2002; Sethi et al, 2013). Evidence shows that adversity in childhood affects brain development, leading to cognitive and behavioural changes, which in turn influence risk taking behaviour, and health, educational and social outcomes. Maltreatment will therefore not only affect the immediate health and social outcomes of children, but will also have an impact throughout the life course affecting adult health and also the intergenerational transmission of violence (Butchart et al, 2006; Sethi et al, 2013). Children are vulnerable throughout their development, and whereas this is particularly so in early childhood, this is also the case in teenage years and adolescence. The *World report on violence and health* and the *European report on preventing child maltreatment* have highlighted the plight of children, and have also presented evidence that child maltreatment is preventable through the organized efforts of society (Krug et al, 2002; Sethi et al, 2013). In this respect there is a growing evidence base of actions which can be taken to prevent maltreatment from occurring in the first place, and investing in these is more cost-effective than dealing with the consequences of abuse (Olds et al, 2004; Sethi et al, 2013).

The protection of children from any form of abuse, violence and exploitation is enshrined in the United Nations Convention of the Rights of the Child, which the vast majority of countries in Europe are signatories (1989). In this respect the response in many countries to date has been on protecting the rights of children and in providing medical and social support to victims of the different forms of violence. Few countries have developed a comprehensive response to preventing child maltreatment (Krug et al, 2002).

The *World report on violence and health* defines child maltreatment as physical, sexual or emotional abuse, and/or deprivation and neglect of children resulting in harm in the context of a relationship of responsibility, trust or power (Krug et al, 2002). Child maltreatment is prevalent in every society. Most often it is a hidden form of violence and may go undetected for many years with serious and far-reaching consequences, and may not come to the notice of carers and professionals. Few countries have reliable systems for the detection and surveillance of child maltreatment and, reports suggest that even amongst those that do, 90 % of child maltreatment goes unnoticed (Gilbert et al, 2009; Krug et al, 2002). The full scale of the problem is therefore only realised by conducting population based surveys using standardised instruments.

Child maltreatment is one of a series of ACEs. Maltreatment, whether it is due to physical, sexual or mental abuse or physical or mental neglect, may often occur in association with other ACEs associated with household dysfunction. This may be due to parental violence or separation, or due to a household member having an alcohol or drug problem, being incarcerated, or suffering from a mental illness. When taken collectively, adverse childhood experiences are even more prevalent than child maltreatment. It is generally thought that many of the factors comprising household dysfunction are risk factors for child maltreatment (Felitti et al, 1998). Recently it has been considered that witnessing community violence is also an adverse childhood experience.

Increasing attention is being given to the problem of family violence in the Russian Federation, and there are calls for an urgent response. It is felt that, if left unchecked, family violence and, in particular, child maltreatment will pose a threat to the Russian society, in view of the negative health, demographic and socio-economic consequences.

In the Russian Federation, 40% of all serious violent crimes are committed within the family. Every year, more than 14 000 women die at the hands of their husbands or other relatives. According to official statistics from the Ministry of Internal Affairs of the Russian Federation, 84 500 children a year are victims of crime, of whom about 2000 are killed, and 8000 are injured. Also each year about two thousand children and teenagers fleeing from abuse by parents, end up committing suicide. According to official data from the Ministry of the Interior in 2012, police records show that 138 000 parents are negligent in the proper upbringing of their children. In 2012, 596 600 parents and other legal representatives of the rights of minors, brought 2.9 million cases of child

abuse to the attention of administrative authorities; this resulted in 17 800 parents being deprived of their parental rights.

However, it should be noted that in the Russian Federation there is no uniform system for collecting information on cases of domestic violence, and official statistics are not routinely available. This is compounded by the fact that the problem often does not come to the attention of authorities.

1.2 Literature review

Analysis of the corresponding literature shows that children and adolescents have a high suicide rate. There is also a high prevalence of deviant, aggressive and anti-social behaviour and there is also concern about the widespread use of alcohol and drugs, and other psychoactive substances. According to the All-Russian Suicidology Centre, 52% of suicides among children are due to family conflict. We present an analysis of the Russian and world literature on the subject.

Modern studies in the field of child psychiatry and psychology require the use of social sciences as well as epidemiology and public health. Researchers believe that the most important factor influencing a child's optimal development is their family environment which impacts on the ability of children to develop emotionally, cognitively and socially. A disadvantaged family with household dysfunction may lead to disorders of a child's emotional and mental development, and if severe can lead to the development of psychiatric disorders, including deviant, delinquent and addictive behaviors along the life-course. Since the second half of the 20th century, researchers have highlighted the important association between family deprivation and various forms of mental illness in juveniles. In the Russian Federation, this problem was further explored by child psychiatrists (Kovalev, 1995; Vostroknutov, 2000; Makushkin, 2009).

Family influences on childhood development have been studied by health carers, sociologists and educators. The child-parent relationship is of great significance and scholars have highlighted the importance of parental (especially, maternal) care of children, particularly in the first three years of life. According to Bowlby, Spitz, Goldfarb and Vostroknutov, a child who lacks emotional warmth and is not attached to his or her mother, may develop serious mental health disorders. These are classified in the Chapter on Mental and Behavioural Disorders in the International Statistical Classification of Diseases and Related Health Problems 10th Revision (ICD-10, 1993) as separation anxiety disorders of childhood (code F 93.0). Such children might show signs of behavioural problems, truancy from school, antisocial behavior combined with early alcohol intake, substance abuse, sexually risky behaviour, aggression and may become perpetrators or victims of violence (Shipitsina, 2001).

There is evidence that deviant behavior in adolescence can be attributed to poor material conditions, and low educational and cultural levels of the family (Guriev, 2001). Some scholars have attempted to classify families where children and adolescents have various behavioral problems. Usanova and Shahovskaya (1995) state that dysfunctional families are a source of negative emotions and continuous discomfort for the child. Constant family conflicts and arguments, a high level of repression and even violence in the upbringing lead to neurotic disorders in children. Noack & Puschner (1999) analysed the connection of depression in early adolescence with different parental attitudes to adolescents, such as lack of parental attention and emotional rejection. Zakharov (1988) identified psychologically traumatic factors in the home environment that affect the mental health of children as: 1) parental conflict (29.6%); 2) parental alcohol abuse (27.4%); and 3) authoritarian parenting verging on despotism (18.3%).

Recently, child sexual abuse has become a matter of growing concern for society. Sexual violence can lead to severe psychological trauma. Numerous studies prove that sexual assault has a damaging effect on the emotional and psychological development of the child, adversely affecting their self-esteem, development and interpersonal behavior in the future. Sexual violence can also lead to specific disorders defined as "rape trauma syndrome". In children, the negative effects of sexual abuse can vary in severity: from short-term depression, to post-traumatic stress disorder, self-harm, emotional and developmental problems, and the likelihood of relationship difficulties and personality problems (Goodman & Scott, 2008).

Country statistics on the prevalence of sexual abuse of children and adolescents are unreliable and extremely controversial. The literature suggests that this type of violence is largely hidden. Official statistics are believed to underestimate its severity, independent observers may overestimate it, and the true scale of the situation may be unknown because of social pressures that repress children and families from revealing abuse. This is compounded by the fact that definitions may vary and or may be vague.

Official data from the Russian Federation show increased rates in child sexual abuse over the last decade. Some of this increase in sex crimes can be attributed to changes in the law, enhanced enforcement and better reporting. Child sexual abuse was formerly regarded as a 'latent crime', not being subject to criminal proceedings and was thus not reported in judicial statistics. Every fourth victim of rape in the Russian Federation, and almost every second victim (42%) of sexual assault, is a minor. In 2003, there were 42 985 crimes committed against children and adolescents. 4628 of those involved sexual assault. By 2010, these rates were twice as high and amounted to 97 159 and 9524, respectively. According to the Office of the Children's Rights Commissioner for the President of the Russian Federation, in 2011, 93 200 children became victims of crime, 1,671 children died due to criminal assault; 17 900 children went missing, and 1,500 of these have not been found so far (statistics provided by the RF Ministry of the Interior). In the first 6 months of 2012, 5000 sexual assaults were committed against minors in the Russian Federation.

The problem of sexual abuse against children in the last decades has become even more urgent since the emergence of "modern" methods. These include the commercial exploitation and trafficking of children for sex, child pornography on the internet and on-line abuse. The growing prevalence of these phenomena requires a timely and appropriate response, with the involvement of all sectors, including those possessing expertise in public health, child and adolescent health, psychology and psychiatry.

In concusion the review of literature shows that adverse childhood experiences lead to the psychosocial, emotional and mental maldevelopment of children and teenagers.

1.3 National policy development

The current administrative, criminal and criminal procedure law of the Russian Federation does not cover the prevention of child maltreatment and working with families at risk, including potential perpetrators.

1.3.1 Domestic violence prevention

The Coordinating Council on gender problems established by the Russian Federation Ministry of Labour and Social Development is reported to have drafted and submitted for consideration a bill on domestic violence prevention. The legal basis of this draft legislation is the Constitution of the Russian Federation, which proclaims that human dignity shall be protected by the state and no one shall be subject to torture, violence or other severe or humiliating treatment or punishment, and follows the provisions of the UN Convention on the Elimination of All Forms of Discrimination against Women.

The main objectives of the draft legislation include:

(a) creation of a system of social and legal protection from domestic violence;

(b) holding perpetrators administratively, criminally and civilly liabile; and

(c) protection of victims.

There is a definition of the rights of domestic violence victims. The draft legislation sets out the powers for federal authorities to prevent domestic violence, defines forms of participation of social services, health carers and educational institutions. It provides for social and legal protection of victims. For example, it establishes the obligation of the governing bodies of the Russian Federation to provide victims with immediate access to temporary shelter in a specialized institution of social protection. This bill is awaiting ratification in parliament. In view of the overlap between domestic violence and child abuse, the passage of such a law is critical.

1.3.2 The principles of prevention of torture and ill-treatment of children in Russia

The Russian Federation is a signatory to the United Nations Convention on the Rights of the Child since 2001. This was ratified in 2008. The existing policies involve:

a) child protection; and

b) a strategy for child health

a) Norms and regulations on child protection currently exising in the Russian Federation

The law enhanced criminal liability of persons over 18 years of age who have committed sexual offenses against persons under the age of fourteen. To this effect, penalties were increased and it provided for the compulsory treatment of those who were diagnosed with paedophilia (through a forensic psychiatric assessment, which by law, is obligatory for this category of criminal cases). Compulsory treatment of convicted paedophiles is provided as outpatients as part of their sentence. Additionally, for the first time, the national criminal law provides that compulsory outpatient treatment of perpetrators after they have served their sentence (this

would be by court order based on a forensic psychiatric assessment). This law also enhanced criminal liability for other types of offences against minors, for instance, for child pornography. The various laws are summarised in Box 1.

Box 1. Norms and regulations on child protection currently existing in the Russian Federation

1. "On Additional Guarantees of Social Support for Orphans and Children Left without Parental Care." Federal Law No. 159-FZ, 21.12.1996[1].

2. "On Basic Guarantees of the Rights of the Child in the Russian Federation." Federal Law No. 124-FZ, 24.07.1998[2]

3. "On Prevention of Orphancy and Crimes Committed by Minors." Federal Law No. 120-FZ, 24.06.1999[3]

4. "On the Children's Rights Commissioner for the President of the Russian Federation." Decree of the President of the Russian Federation No. 986, 01.09.2009[4]

5. "On Protection of Children against Information Deleterious to their Health and Development." Federal Law No. 436-FZ, 29.12.2010[5]

6. "On Amendments to the Criminal Code of the Russian Federation and Certain Legislative Acts of the Russian Federation in Order to Enhance Liability for Offenses of Sexual Nature Committed against Minors." Federal Law No. 14-FZ, 29.02. 2012[6]

b) Russian National Children's Strategy for 2012-2017
This was approved by Presidential Decree No. 761, 01.07.2012 (Russian National Children's Strategy for 2012-2017, 2013), and covers, in particular:

- family policy of childhood protection;
- reducing poverty among families with children;
- providing safe and comfortable family environments;
- preventive measures against removal of the child from the family and against social orphanhood;
- accessibility of quality education and up-bringing, cultural development and information on child safety;
- child-friendly health care and healthy life-style;
- equal opportunities for children in need of special care provided by the state; and
- creating a child rights protection system and child-friendly justice.

1.4 Rationale

In view of the international literature and national concern in the Russian Federation, this study was undertaken with the support of the Ministry of Health, to identify the scale of the problem of maltreatment and other adverse experiences in childhood in the Russian Federation. This is to inform the existing policy debate on how to prevent and respond to the problem of child maltreatment.

1.5 Objectives

The objectives of the survey are to study a purposefully selected sample of university and college students in order to estimate the prevalence of child maltreatment and other ACEs, to measure the prevalence of health harming behaviours and to test whether there is an increased risk of health harming behaviours after exposure to ACEs in childhood.

[1] http://www.rg.ru/2012/03/02/siroty-dok.html
[2] http://www.consultant.ru/document/cons_doc_LAW_155182/
[3] http://www.consultant.ru/document/cons_doc_LAW_161264/
[4] http://www.rg.ru/2009/09/04/ukaz-dok.html
[5] http://www.rg.ru/2010/12/31/deti-inform-dok.html
[6] http://www.consultant.ru/document/cons_doc_LAW_126735/

2. METHODOLOGY

The survey was conducted in line with the methods described in "Preventing Child Maltreatment: A guide to take action and generation evidence" (WHO, 2006).

2.1 Ethical issues of the survey

The study was approved by the Ethical Committee of the Ministry of Health of the Russian Federation. The students were recruited on a voluntary basis, their constitutional rights were respected; they gave informed consent and were free to withdraw from the survey. Questionnaires were self-completed after an introductory explanation, and all the data were collected and stored anonymously.

2.2 Study population

The data for the ACE survey were collected during the period June 2012 - December 2012. The study involved 1580 respondents (640 males and 940 females) - students of higher education institutions and colleges. The average age was 20.75 ± 2.73 years among male respondents and 20.55 ± 2.54 among female respondents.

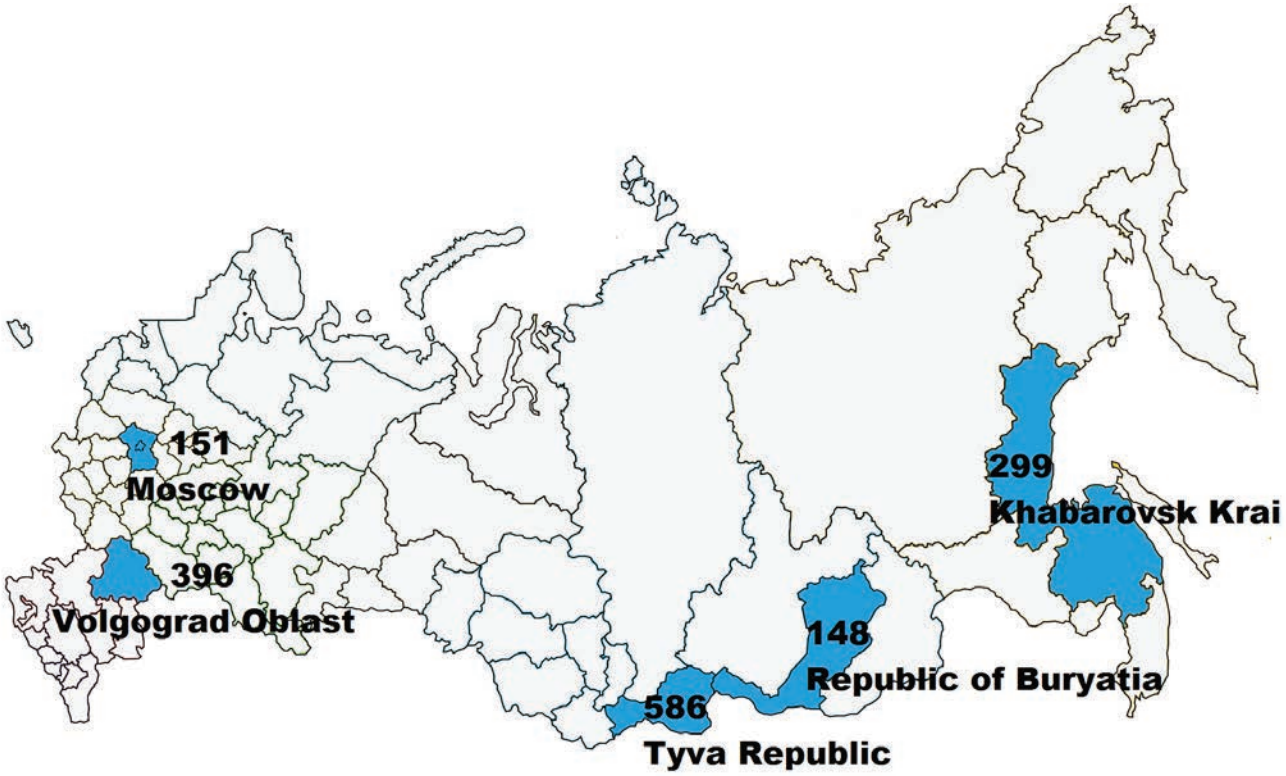
Respondents were purposefully selected to represent both the European (Moscow and Volgograd) and Asian parts (Tuva, Republic of Buryaita and Khabarovsk) of the Russian Federation, from 15 institutions of higher education from five distinct regions: Moscow, Volgograd, Tuva, Republic of Buryaita and Khabarovsk (Figure 1 and Box 2). The response rate of the survey was 86%.

In Moscow, 151 respondents were surveyed. The study was conducted at Sholohov Moscow State University for the Humanities, Moscow State University of Psychology & Education, I.M. Sechenov First Moscow State Medical University and Moscow State University of Medicine and Dentistry.

In Volgograd, 396 respondents were surveyed. The survey was carried out in Volgograd State Socio-Pedagogical University, Volgograd State Technical University, Volgograd State Academy of Physical Education and Volgograd State Agricultural Academy.

586 respondents were surveyed in the Republic of Tyva. The survey was carried out in the following Tyva institutions

Figure 1. Geographical distribution of the study participants



Box 2. Geographical description of districts

Moscow: the capital of the Russian Federation, the largest city in the Russian Federation and one of the largest cities in the world with a population of nearly 12 million people, is located in the center of the European part of the Russian Federation. It is the political, economic, scientific and cultural center of the country, characterized by a high standard of living.

Volgograd: a city in the southeast of the European part of the Russian Federation, with a population of over one million people, is located on the banks of the Volga River, which is part of the transport system of the European part of the Russian Federation. The city houses Europe's largest hydroelectric power plant, which determines the city's major position in the socio-economic development of the Russian Federation. Volgograd is a cultural city, with many research centers and institutions of higher education.

Republic of Tyva is located in the center of the Asian continent, on the border of Mongolia. The population of Tuva is 309 300 people. Racial type: Mongoloid. The proportion of Tuvinians is 82%, of Russians - 16.3%. The choice of this region was influenced by the fact that the Republic of Tuva is a region with very high suicide rates.

Buryatia is located in the Asian part of the Russian Federation (Eastern Siberia). The population is 971 391 people. The urban population is about 60%, the rural - 40%. The native population of the republic are Buryats. Despite a long and close interaction with other cultures, they have kept their way of life and family foundations. The core religion is Buddhism. Buryatia is the center of Buddhism in the Russian Federation. Suicide rate in Buryatia is very high.

Khabarovsk Krai is one of the largest in size and one of the most economically developed areas of the Russian Federation, which explains its relatively high standard of living. Khabarovsk Krai is one of the most multicultural regions in the Russian Federation. A special ethnographic area is formed by indigenous peoples of the North: the Yakuts, Nanai, Evenk and others. Russian population, however, prevails.

of secondary and higher education: Tuvan State University, Republican Medical College, Tuva Agricultural College and Kyzyl Transport College.

148 respondents were surveyed in the Republic of Buryatia. The study was conducted in three universities - East-Siberian State University of Technology and Management; Buryat State Pedagogical University; East-Siberian State Academy of Culture and Arts. Two secondary educational institutions were also included (legal, engineering and teacher training), as well as urban and rural schools.

299 respondents were surveyed in Khabarovsk. This city is located in the Far East of Russia. Students of the Far Eastern State Medical University were surveyed.

2.3 Study Instruments

The Family Health History study instruments used were the Adverse Childhood Experiences (ACE) Study Questionnaires for men and women as published in *Preventing child maltreatment: a guide to taking action and generating evidence* (Butchart et al, 2006). They were translated into Russian, back-translated, piloted and adapted for the needs of the study in the frames of the cultural context (some questions concerned alcohol consumption). Before survey implementation, a pre-study pilot was conducted which involved 56 students from the I.M. Sechenov First Moscow State Medical University.

The data collection consisted of anonymous and self-administered structured questionnaire (The Family Health History), which consists of 68 questions examining various types of child maltreatment, child adversities rooted in household dysfunction, risk factors and health harming behaviours. The questionnaires had separate versions for male and female respondents to account for gender specific health areas.

The questions asked reflected different types of possible maltreatment and adversity in childhood and are shown in Box 3.

2.4 Data analysis

Data input and data analysis were done in the SPSS-20 programme. Means, standard deviations, prevalence of health harming behaviours, and ACEs were described, and the association between these was tested using logistic regression analysis after adjusting for sociodemographic variables.

Box 3. Questionnaire items on the different types of child maltreatment and household dysfunction which comprise adverse childhood experiences

Physical abuse
Did a parent or other adult in the household...
- Sometimes, often or very often push, grab or slap you?
- Sometimes, often or very often hit you so hard that you had marks or were injured?

Corporal punishment
How often were you spanked (as a form of discipline)?
- Sometimes, often or very often spanked?

Emotional abuse
Did a parent or other adult in the household...
- Often or very often swear at you, insult you or put you down?
- Sometimes, often or very often act in a way that made you afraid that you would be physically hurt?

Emotional neglect
You never felt loved
- Rarely, sometimes, often or very often you thought your parents wished you had never been born?
- Rarely, sometimes, often or very often you felt that someone in your family hated you?

Sexual abuse
Questions: Did an adult or older relative, family friend or stranger at least 5 years older than yourself
- Touch or fondle your body in a sexual way?
- Have you touch their body in a sexual way?
- Attempt to have any type of sexual intercourse with you?
- Actually have any type of sexual intercourse with you?

Physical neglect
- Did you ever have to wear dirty clothes?
- There was never someone to take you to a doctor if you needed it?
- Sometimes, often or very often you didn't have enough to eat, even when there was enough food?

HOUSEHOLD DYSFUNCTION BY CATEGORY

Substance abuse
Did you...
- Live with anyone who was a problem drinker or alcoholic?
- Live with anyone who used street drugs?

Mental illness
- Was a household member depressed or mentally ill?
- Did a household member attempt suicide?

Domestic violence - Violent treatment of mother
- Sometimes, often or very often pushed, grabbed or slapped, or did she have things thrown at her?
- Sometimes, often or very often kicked, beaten, hit with a fist, or with a hard object?
- Ever hit repeatedly, for a period of at least a few minutes?
- Ever threatened with, or hurt by a knife or gun?

Criminal behaviour in household
- Did a household member ever go to prison?
- Did anyone in your household ever commit a serious crime?

Parental separation or divorce
- Were your parents ever separated or divorced?

3. RESULTS

3.1 Distribution of socio-demographic and socio-economic characteristics of respondents and their parents

The study involved 1580 respondents (Table 1). Among them, 640 respondents (40.5%) were men and 940 (59.5%) were women. The average age of men was 20.75 ± 2.73 years, of women 20.55 ± 2.54 years. Among all respondents, 34.6% were born in the Central Federal District, 19.0% were born in the Far Eastern Federal District, and 46.4% were born in the Siberian Federal District.

3.2 Distribution of behavioral factors referring to respondents' lifestyle

Table 2 shows the distribution of behavioral/lifestyle factors among the respondents included in the study. The prevalence of smoking was significantly higher among male respondents than in women (29.7% vs. 15.1%). The average number of cigarettes smoked per day was higher in men than in women (3.1% vs. 1.1%; $p < 0.001$). Over 80% of respondents reported using alcohol, 87.4% females and 78.4% males ($p < 0.001$).

Table 1. Distribution of survey participants by demographic and socio-economic characteristics

Characteristics	Male		Female		Total	
	N	%	N	%	N	%
	640	*40.5*	940	*59.5*	1580	*100*
Age in years. Mean:						
Average age	20.75		20.55		20.6	
± SD	2.73		2.54		2.62	
< 16	7	*0.4*	17	*1.1*	24	*1.5*
17-18	112	*7.1*	137	*8.7*	249	*15.8*
19-20	212	*13.4*	351	*22.2*	563	*35.6*
21-22	179	*11.3*	311	*19.7*	490	*31.0*
23-24	74	*4.7*	79	*5.0*	153	*9.7*
25 and>	56	*3.5*	45	*2.8*	101	*6.4*
Place of birth:						
Central Federal District	241	*15.3*	306	*19.4*	547	*34.6*
Far Eastern Federal District	116	*7.3*	184	*11.6*	300	*19.0*
Siberian Federal District	283	*17.9*	450	*28.5*	733	*46.4*
Parents' education:						
Mother:						
Primary school	13	*0.8*	21	*1.3*	34	*2.2*
Lower secondary	31	*2.0*	65	*4.1*	96	*6.1*
High School graduate or equivalent	90	*5.7*	146	*9.2*	236	*14.9*

Table 1. Continued

Characteristics	Male		Female		Total	
	N	%	N	%	N	%
Specialized secondary / lower university*	145	*9.2*	318	*20.1*	463	*29.3*
College or University graduate	361	*22.8*	390	*24.7*	751	*47.5*
Father:						
Primary school	27	*1.7*	42	*2.7*	69	*4.4*
Lower secondary	61	*3.9*	103	*6.5*	164	*10.4*
High School graduate or equivalent	119	*7.5*	184	*11.6*	303	*19.2*
*Specialized secondary / lower university	200	*12.7*	276	*17.5*	47	*30.1*
College or University graduate	233	*14.7*	335	*21.2*	568	*35.9*
Employment of parents:						
Mother:						
Working full time (35 hours or more)	412	*26.1*	555	*35.1*	967	*61.2*
Hourly job (1-34 hours)	88	*5.6*	171	*10.8*	259	*16.4*
Unemployment	140	*8.9*	214	*13.5*	354	*22.4*
Father:						
Working full time (35 hours or more)	347	*22.0*	461	*29.2*	808	*51.1*
Hourly job (1-34 hours)	112	*7.1*	201	*12.7*	313	*19.8*
Unemployment	181	*11.5*	278	*17.6*	459	*29.1*

*Primary courses of the University (College) or specialized secondary

The distribution of respondents by alcohol use (question: Have you ever had a problem with alcohol use?) shows that it was not much higher among men than women (10.0% vs. 8.9%, respectively, but this difference was not statistically significant ($p = 0.476$). However, only 3.4% of men and 2.2% of women considered themselves to be alcoholics (question: Have you ever considered yourself to be an alcoholic?). The difference, again, was not statistically significant ($p = 0.149$).

When asked about drug use 6.4% of men and 3.2% of women responded positively ($p = 0.002$). Only 0.5% of men reported that they had ever had problems with their use of drugs ($p = 0.036$).

Only female respondents reported that they had ever tried to commit suicide. They accounted for 8.1% ($p < 0.001$). The prevalence of sexual experience (Have you ever had sexual intercourse?) was higher among men than among women (83.8% vs 75.6%, respectively; $p < 0.001$).

Among the respondents who reported having sexual experience, the percentage of men who had had sexual intercourse before the age of 16 was significantly higher

Table 2. Distribution of behavioral / lifestyle factors among the respondents included in the survey

Characteristics	Male (n=640)		Female (n=940)		p	Total (n=1580)	
	N	%	N	%		N	%
Current smoking	190	*29.7*	142	*15.1*	≤ 0.001	332	*21.0*
Use of alcohol	502	78.4	822	87.4	≤ 0.001	1324	*83.8*
Problem with use of alcohol	64	*10.0*	84	*8.9*	= 0.476	148	9.4
Alcoholic	22	*3.4*	21	*2.2*	= 0.149	43	*2.7*
Use of street drugs	41	*6.4*	30	*3.2*	= 0.002	71	*4.5*
Problem with use of street drugs	3	*0.5*	0	*0.0*	= 0.036	3	*0.2*
Attempts to commit suicide	0	*0.0*	76	*8.1*	≤ 0.001	76	*4.8*
Sexual experience	536	*83.8*	711	*75.6*	≤ 0.001	1247	*78.9*
Early sex (≤ 16 years)	345	*53.9*	247	*26.3*	≤ 0.001	592	*37.5*
Lifetime sexual partner number (> 3)	226	*35.3*	*78*	*8.3*	≤ 0.001	*304*	*19.2*
Unwanted pregnancy	-		98	*10.4*		98	*10.4*

than among women (53.9% vs 26.3%, respectively, $p < 0.001$). The average number of sexual partners among men (5.28) was higher than among women (2.11) ($p < 0.001$). 35.3% of male respondents reported having had more than 3 sexual partners. Among female respondents the corresponding number was 8.3% ($p \leq 0.001$). The prevalence of unwanted pregnancies among female respondents was 10.4%.

There was no significant difference between the number of days missed due to stress among men compared with among women ($p = 0.174$).

Table 3 shows the correlation between behavioural / lifestyle factors and demographic and socio-economic characteristics of respondents. The total number of respondents who reported smoking was 21.0%. Among the respondents, there were more male than female smokers (57.2% vs. 42.8%, respectively), the statistical significance is very high ($p < 0.001$). Among smokers, 16.8% men and 12.7% women reported that they started smoking at the age of 14 or younger. The average age when they started smoking regularly was 16.3 ± 2.7 years among men, and 16.8 ± 2.2 years among women. Smokers were more often brought up in families where fathers (85.2%) ($p < 0.001$), or mothers (14.8%) ($p < 0.001$) smoked. A high level of statistical significance was revealed as a link between tobacco smoking and age. Tobacco use correlated with the level of maternal education (high school graduate) ($p = 0.042$). The same was the statistical significance of correlation between the respondent's smoking and their father's employment (working full time) ($p < 0.001$) and mother's employment (working full time) ($p = 0.0218$). A high level of statistical significance ($p \leq 0.001$) was revealed referring to the correlation between problems with alcohol use and age, place of birth, father's and mother's education. A relatively high level of statistical significance showed the correlation between alcohol consumption and mother's employment status ($p = 0.027$)

A relatively high level of statistical significance was revealed referring to the association between drug use and age ($p = 0.025$). There is a high statistical significance ($p < 0.001$) between drug use and place of birth. There is also a correleation between drug use and the level of father's education: primary ($p = 0.011$) a college graduate and higher ($p = 0.008$), as well as the level of employment of the father ($p = 0.044$).

There is a significant association between attempted suicide and place of birth ($p < 0.001$). There is also a significant association between the level of drug use and father's education ($p = 0.047$), father's employment ($p = 0.02$) and mother's employment ($p = 0.014$).

There is a significant correlation between sexual experience and the age of respondents ($p \leq 0.001$). There is a high

Table 3. Association of behavioral / lifestyle factors with demographic and socioeconomic characteristics of the respondents and their parents

Socioeconomic characteristics	Smokers		Drinking problem		Use of drugs		Attempts to commit suicide		Sexual intercourse	
Total number	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
1580	332	21	148	*9.4*	71	*4.5*	76	*4.8*	1247	*78.9*
Sex:										
Male	190	*57.2*	64	*43.2*	41	*57.7*	0	*0*	536	*43*
Female	142	*42.8*	84	*56.8*	30	*42.3*	76	*100.0*	711	*57*
Age-group:										
16	10	*3*	4	*2.7*	2	*2.8*	2	*2.6*	10	*0.8*
17-18	63	19	20	*13.5*	7	*9.9*	14	*18.4*	142	*11.4*
19-20	100	*30.1*	43	*29.1*	17	*23.9*	23	*30.3*	442	*35.4*
21-22	96	*28.9*	42	*28.4*	25	*35.2*	23	*30.3*	429	*34.4*
23-24	42	*12.7*	19	*12.8*	13	*18.3*	8	*10.5*	135	*10.8*
25 and>	21	*6.3*	20	*13.5*	7	*9.9*	6	*7.9*	89	*7.1*
Place of birth:										
Central Federal District	137	*41.3*	40	*27*	40	*56.3*	7	9.2	426	*34.2*
Far Eastern Federal District	4	*1.2*	2	*1.4*	2	*2.8*	0	0	277	*22.2*
Siberian Federal District	191	*57.5*	106	*71.6*	29	*40.8*	69	90.8	544	*43.6*
Father's education:										
Primary school	17	*5.1*	18	*12.2*	4	*5.6*	5	*6.6*	51	*4.1*
Lower secondary	42	*12.7*	25	*16.9*	4	*5.6*	13	*17.1*	119	*9.5*
High School graduate or equivalent	68	*20.5*	24	*16.2*	11	*15.5*	20	*26.3*	236	*18.9*
Specialized secondary / lower university	92	27.7	32	*21.6*	16	*22.5*	18	*23.7*	391	*31.4*
College or University graduate	113	*34*	49	*33.1*	36	*50.7*	20	*26.3*	450	*36.1*
Mother's education:										
Primary school	6	*1.8*	9	*6.1*	1	*1.4*	1	*1.3*	20	*1.6*
Lower secondary	21	*6.3*	18	*12.2*	5	*7*	7	*9.2*	75	*6*
High School graduate or equivalent	64	*19.3*	23	*15.5*	15	*21.1*	14	*18.4*	174	*14*
Specialized secondary / lower university	85	*25.6*	38	*25.7*	14	*19.7*	25	*32.9*	375	*30.1*
College or University graduate	156	*47*	60	*40.5*	36	*50.7*	29	*38.2*	603	*48.4*

Table 3. Continued

Socioeconomic characteristics	Smokers		Drinking problem		Use of drugs		Attempts to commit suicide		Sexual intercourse	
Total number	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Father's employment status:										
Working full time (35 hours or more)	134	*40.4*	51	*34.5*	28	*39.4*	27	*35.5*	657	*52.7*
Hourly job (1-34 hours)	80	*24.1*	37	*25*	19	*26.8*	20	*26.3*	242	*19.4*
Unemployment	118	*35.5*	60	*40.5*	24	*33.8*	29	*38.2*	348	*27.9*
Mother's employment status:										
Working full time (35 hours or more)	182	*54.8*	65	*43.9*	42	*59.2*	35	*46.1*	784	*62.9*
Hourly job (1-34 hours)	63	*19*	33	*22.3*	10	*14.1*	15	*19.7*	193	*15.5*
Unemployment	87	*26.2*	50	*33.8*	19	*26.8*	26	*34.2*	270	*21.7*

level of statistical association between sexual experience, place of birth, and father's education (incomplete secondary) ($p = 0.035$), educational level of the mother ($p = 0.007$), the employment of the father (working 35 hours or more, $p = 0.017$) and mother's employment (working 35 hours or more, $p = 0.008$).

3.2.1 Alcohol use

The prevalence of alcohol use was higher in women (87.4%) than in men (78.4%) ($p < 0.001$) (Table 4). The level of alcohol consumption, by the number of drinks and by the amount of consumed alcohol, in men and in women was quite similar. It should be noted that only 2.7% of respondents who used alcohol considered themselves to be alcoholics. About 10% of respondents, men and women, started to consume alcohol at the age of 14 or earlier. 8.2% of men and 12.8% of women said they lived with an alcoholic for the first 18 years of their life.

3.2.2 Street drugs use

4.5% of the respondents claimed to have used street drugs (Table 5); men (6.4%) reporting this more often than women (3.2%) ($p = 0.002$). The average age when they started to use street drugs was 17 years for both men and women. Among the respondents who admitted to having used drugs, most did so 1 or 2 times (2.7%). Only 1.4% of men and 0.1% of women believed that they had

Table 4. Alcohol use among respondents, by sex

Characteristics	Male (N = 640)		Female (N = 940)		Total	
	N	**%**	**N**	**%**	**N**	**%**
Consumed alcohol	502	*78.4*	822	*87.4*	1324	*83.8*
Consumed alcohol < 1 time in the last 30 days	103	*16.1*	153	*16.3*	256	*16.2*
Had < 3 drinks per day within the last 30 days	166	*25.9*	222	*23.6*	388	*24.6*
Problems with alcohol	64	*10.0*	84	*8.9*	148	*9.4*
Problem drinker or alcoholic	22	*3.4*	21	*2.2*	43	*2.7*
Started consuming alcohol at age 14 or earlier*	65	*12.9*	96	*11.7*	161	*12.2*
Lived with someone who was alcoholic*	41	*8.2*	105	*12.8*	146	*11.0*

* Percentage of drinkers

Table 5. Illicit drug use among respondents, by sex

Characteristics	Male (N = 640)		Female (N = 940)		Total	
	N	%	N	%	N	%
Illicit drug use	41	*6.4*	30	*3.2*	71	*4.5*
Illicit drug use 1-2 times	23	*3.6*	19	*2.0*	42	*2.7*
Illicit drug use 3-10 times	13	*2.0*	7	*0.7*	20	*1.3*
Illicit drug use more than 10 times	6	*0.9*	4	*0.4*	10	*0.6*
Problems with drug use	9	*1.4*	1	*0.1*	10	*0.6*
Considered themselves to be addicts	3	*0.5*	0	*0.0*	3	*0.2*
Lived with someone who used drugs*	4	*9.8*	5	*16.7*	9	*12.7*

* Percentage of drug users

a drug-use problem, and only 0.5% of men considered themselves to be addicts. 9.8% of the male respondents and 16.7% of female respondents used to live with someone who used street drugs.

3.2.3 Suicide attempts

Only female respondents reported suicide attempts (4.8%). The average age of the first suicide attempt was 16.6 ± 2.8 years. 0.9% of respondents did so at the age of 14 or earlier. The suicide attempt led to serious injury or poisoning in 2.8% of respondents. 2.3% of respondents attempted suicide more than once. There was a significant association between suicide attempts, sexual abuse and physical neglect ($p \leq 0.05$), which was higher with physical abuse, emotional abuse, emotional neglect, and in respondents living with family members suffering from mental illness, parental divorce, or incarceration ($p \leq 0.001$).

3.2.4 Sexual experience

In general, 78.9% of respondents had sexual experience (83.8% of men and 75.6% of women; $p \leq 0.001$). The average age of sexual debut was lower in men (15.9 years ± 1.8), than in women (17.2 ± 1.6). Among male respondents, more (53.9%) had an early sexual experience (≤ 16 years) than among female respondents (26.3%, $p \leq 0.001$). 35.3% of men and 8.3% of women ($p \leq 0.001$) had a sexual relationship with more than three partners. In general, male respondents showed more risky sexual behavior.

19.9% of the female respondents reported having been pregnant, and in 9.4% of the male respondents sexual relationship ended in pregnancy. 10.4% of the women reported unwanted pregnancies.

3.3 Prevalence of Adverse Childhood Experiences

Table 6 shows the prevalence of different types of ACE, both child maltreatment and household dysfunction, by sex. It also shows the distribution of the ACE scores by sex and the results of significance testing.

The most common adverse childhood events reported by respondents were emotional neglect (57.9%) and physical neglect (53.3%), this being reported more often in men than in women ($P \leq 0.001$). Among household dysfunction, parental divorce or separation (17.3%) and violence against the mother (11.1%) were the most commonly reported adverse childhood experiences. In most cases, respondents had to face two adverse childhood experiences (28.2%). Approximately 17.5% of the respondents reported at least four or more ACEs, and this was more often reported by women than by men (20.6% versus 12.8%).

3.3.1 Correlation of the four types of reported Adverse Childhood Experiences with demographic and socioeconomic characteristics of respondents and their parents

Table 7 shows the demographic and socio-economic characteristics and lifestyle and behavioral factors of respondents who have reported four types of adverse childhood experiences during the first 18 years of life. There is a statistically significant correlation between

Table 6. Distribution of Adverse Childhood Events (during the first 18 years of life)

ACE	Male (n=640)		Female (n=940)		P	Total (n=1580)	
	N	%	N	%		N	%
Childhood abuse and neglect:							
Physical abuse	99	*15.5*	122	*13.0*	= 0.161	221	*14.0*
Emotional abuse	220	*34.4*	379	*40.3*	= 0.017	599	*37.9*
Sexual abuse	28	*4.4*	62	*6.6*	= 0.062	90	*5.7*
Physical neglect	419	*65.5*	423	*45.0*	≤ 0.001	842	53.3
Emotional neglect	437	*68.3*	478	*50.9*	≤ 0.001	915	57.9
Household dysfunction:							
Mother treated violently	54	*8.4*	121	*12.9*	= 0.006	175	*11.1*
Household substance abuse	15	*2.3*	23	*2.4*	= 0.896	38	*2.4*
Household mental illness	30	*4.7*	109	*11.6*	≤ 0.001	139	*8.8*
Parental Separation or Divorce	80	*12.5*	193	*20.5*	≤ 0.001	273	17.3
Incarcerated household member	1	*0.2*	92	*9.8*	≤ 0.001	93	*5.9*
Number of ACEs:							
0	52	*8.1*	191	*20.3*	≤ 0.001	243	*15.4*
1	137	*21.4*	219	*23.3*		356	*22.5*
2	246	*38.4*	199	*21.2*		445	*28.2*
3	123	*19.2*	137	*14.6*		260	*16.5*
4	47	*7.3*	86	*9.1*		133	*8.4*
5	20	*3.1*	58	*6.2*		78	*4.9*
6	9	*1.4*	23	*2.4*		32	*2.0*
7	5	*0.8*	17	*1.8*		22	*1.4*
8	1	*0.2*	8	*0.9*		9	*0.6*
9	0	*0.0*	1	*0.1*		1	*0.1*
10	0	*0.0*	1	*0.1*		1	*0.1*
≥ 4	82	*12.8*	194	*20.6*		276	*17.5*

physical violence and place of birth (p ≤ 0.001), level of father's education (p = 0.034), father's employment (p = 0.014) and mother's employment (p = 0.008). There is a significant association between physical violence and all the behavioral factors (p ≤ 0.001).

There is a statistically significant correlation between emotional abuse and place of birth (p ≤ 0.001) but no correlation with age.

There was a significant correlation between sexual abuse and alcohol use (p < 0.001) and with a suicide attempt (p = 0.004), but not with age. No statistically significant correlation between sexual abuse in the first 18 years of life and unsafe sexual behaviour was observed.

There is a statistically significant correlation between sexual experience and the level of father's education

Table 7. Correlation between Adverse Childhood Experiences (during the first 18 years of life) and demographic and socioeconomic characteristics of the respondents and their parents

Socioeconomic characteristics	Physical abuse		Emotional abuse		Sexual abuse		Witnessed violence	
Total number	**N**	**%**	**>**	**%**	**N**	**%**	**N**	**%**
1580	221	*14.0*	599	*37.9*	90	*5.7*	1210	*76.6*
Sex:								
Male	99	*44.8*	220	*36.7*	28	*31.1*	459	*37.9*
Female	122	*55.2*	379	*63.3*	62	*68.9*	751	*62.1*
Age-group:								
< 16	2	*0.9*	11	*1.8*	1	*1.1*	17	*1.4*
17-18	33	*14.9*	87	*14.5*	19	*21.1*	177	*14.6*
19-20	76	*34.4*	203	*33.9*	33	*36.7*	438	*36.2*
21-22	65	*29.4*	187	*31.2*	18	*20*	397	*32.8*
23-24	26	*11.8*	68	*11.4*	11	*12.2*	115	*9.5*
25 and>	19	*8.6*	43	*7.2*	8	*8.9*	66	*5.5*
Place of birth:								
Central Federal District	105	47.5	215	35.9	13	14.4	424	35.0
Far Eastern Federal District	6	2.7	76	12.7	0	0	254	21.0
Siberian Federal District	110	49.8	308	51.4	77	85.6	532	44.0
Father's education:								
Primary school	10	*4.5*	38	*6.3*	10	*11.1*	40	*3.3*
Lower secondary	18	*8.1*	63	*10.5*	11	*12.2*	118	*9.8*
High School graduate or equivalent	51	*23.1*	113	*18.9*	17	*18.9*	238	*19.7*
Specialized secondary / lower university	50	*22.6*	165	*27.5*	28	*31.1*	360	*29.8*
College or University graduate	92	*41.6*	220	*36.7*	24	*26.7*	454	*37.5*
Mother's education:								
Primary school	4	*1.8*	12	*2*	2	*2.2*	17	*1.4*
Lower secondary	10	*4.5*	33	*5.5*	6	*6.7*	64	*5.3*
High School graduate or equivalent	41	*18.6*	110	*18.4*	19	*21.1*	178	*14.7*
Specialized secondary / lower university	63	*28.5*	157	*26.2*	37	*41.1*	365	*30.2*
College or University graduate	103	*46.6*	287	*47.9*	26	*28.9*	586	*48.4*

Table 7. Continued

Socioeconomic characteristics	Physical abuse		Emotional abuse		Sexual abuse		Witnessed violence	
Total number	**N**	**%**	**>**	**%**	**N**	**%**	**N**	**%**
Father's employment status:								
Working full time (35 hours or more)	94	*42.5*	280	*46.7*	30	*33.3*	623	*51.5*
Hourly job (1-34 hours)	56	*25.3*	121	*20.2*	27	*30*	235	*19.4*
Unemployment	71	*32.1*	198	*33.1*	33	*36.7*	352	*29.1*
Mother's employment status:								
Working full time (35 hours or more)	112	*50.7*	350	*58.4*	41	*45.6*	775	*64*
Hourly job (1-34 hours)	46	*20.8*	103	*17.2*	26	*28.9*	181	*15.0*
Unemployment	63	*28.5*	146	*24.4*	23	*25.6*	254	*21*
Witnessed violence during the first 18 years of life:								
Yes	177	*80.1*	485	*81*	63	*70*	*NA*	*NA*
No	44	*19.9*	114	*19.0*	27	*30*	*NA*	*NA*
Lifestyle/behavioral factors								
Current smoking:								
Yes	74	*33.5*	148	*24.7*	23	*25.6*	254	*21*
No	147	*66.5*	451	*75.3*	67	*74.4*	956	*79*
Problems with alcohol:								
Yes	34	*15.4*	89	*14.9*	19	*21.1*	110	*9.1*
No	147	*66.5*	510	*85.1*	71	*78.9*	1100	*90.9*
Using alcohol:								
Yes	189	*85.5*	525	*87.6*	85	*94.4*	1050	*86.8*
No	32	*14.5*	74	*12.4*	5	*5.6*	160	*13.2*
Using street drugs:								
Yes	27	*12.2*	44	*7.3*	7	*7.8*	61	*5*
No	194	*87.8*	555	*92.7*	83	*92.2*	1149	*95*
Suicide attempts:								
Yes	21	*9.5*	66	*11.0*	10	*11.1*	67	*5.5*
No	200	*90.5*	533	*89*	80	*88.9*	1143	*94.5*

Table 7. Continued

Socioeconomic characteristics	Physical abuse		Emotional abuse		Sexual abuse		Witnessed violence	
Total number	**N**	**%**	**>**	**%**	**N**	**%**	**N**	**%**
Lifetime sexual experience:								
Yes	173	*78.3*	473	*79*	78	*86.7*	974	*80.5*
No	48	*21.7*	126	*21*	12	*13.3*	236	*19.5*
Early sex:								
< 16 years	138	*62.4*	336	*56.1*	47	*52.2*	698	*57.7*
> 16 years	83	*37.6*	263	*43.9*	43	*47.8*	512	*42.3*
Number of lifetime sexual partners:								
> 3 partners	66	*29.9*	138	*23*	29	*32.2*	233	*19.3*
< 3 partners	155	*70.1*	461	*77*	61	*67.8*	977	*80.7*

(primary) ($p = 0.001$), the level of mother's education (college graduate or higher) ($p \leq 0.001$), father's employment ($p = 0.002$) and mother's employment ($p = 0.001$).

There was a high prevalence of witnessing violence. There was an association with age ($p = 0.003$), place of birth ($p \leq 0.001$), father's educational level ($p = 0.001$), mother's educational level ($p \leq 0.001$), and mother's employment ($p \leq 0.001$).

3.3.2 Prevalence of physical abuse

In general, 14.0% of respondents were subjected to various forms of physical violence (15.5% men and 13.0% women). 13.4% of men and 9.1% of women reported having been punished by adults in the first 18 years of their life ($p \leq 0.001$) (Table 8). Severe forms of physical violence were less common: being pushed, grabbed or having had an object thrown at them in 6.3% and physical violence resulted in injury in 3.5% respondents.

3.3.3 Prevalence of physical neglect

In general, 53.3% of respondents reported having experienced physical neglect. Men were exposed to physical neglect more often than women (65.5% vs. 45.0%). Men more often than women wore dirty clothes (34.2% vs. 12.0%) ($p = 0.004$) (Table 9). However, men more often than women were taken to the doctor when they needed it (40.9% men vs. 36.1% women, $p \leq 0.001$).

3.3.4 Prevalence of emotional abuse

Emotional abuse was reported by 37.9% of respondents, more often by women (40.3%) than by men (34.4%, $p = 0.017$). 29.7% of women and 22.8% of men reported having heard hurtful things in the first 18 years of life (Table 10). Emotional humiliation was reported by 12.8% of respondents (15.0% women and 9.5% men, $p \leq 0.01$). All other differences were not statistically significant.

Table 8. Prevalence of physical abuse, by type and sex

Characteristics	Male (N = 640)		Female (N = 940)		Total	
	N	**%**	**N**	**%**	**N**	**%**
Being pushed, grabbed or having object at	34	*5.3*	66	*7.0*	100	*6.3*
Being hit so hard that you had marks or were injured	21	*3.3*	34	*3.6*	55	*3.5*
Being spanked	86	*13.4*	86	*9.1*	172	*10.9*

Table 9. Prevalence of experienced physical neglect, by type and sex

Characteristics	Male (N = 640)		Female (N = 940)		Total	
	N	%	N	%	N	%
Having not enough to eat	63	*9.8*	75	*8.0*	138	*8.7*
Seeing parents too drunk to take care of the family	23	*3,6*	38	*4.0*	61	*3,9*
Wearing dirty clothes	219	*34.2*	113	*12.0*	332	*21.0*
Taken to the doctor when necessary (never, almost never, sometimes)	262	40.9	339	36.1	601	38.0

Table 10. Prevalence of emotional abuse, by type and sex

Characteristics	Male (N = 640)		Female (N = 940)		Total	
	N	%	N	%	N	%
Being called names	100	*15.6*	174	*18.5*	274	*17.3*
Hearing hurtful things from family members	146	*22.8*	279	*29.7*	425	*26.9*
Being emotionally humiliated	61	*9.5*	141	*15.0*	202	*12.8*
Being sworn at or insulted (by adults)	9	*1.4*	26	*2.8*	35	*2.2*
Being threatened to hit (by adults)	16	*2.5*	25	*2.7*	41	*2.6*
Being made scared (by adults)	30	*4.7*	42	*4.5*	72	*4.6*

3.3.5 Prevalence of emotional neglect

Emotional neglect was reported by 57.9% of respondents, and was more common in men (68.3%) than in women (50.9%, $p \leq 0.001$). 11.1% of respondents reported that their parents wished they had never been born. 10.6% respondents reported being hated by family members (Table 11); women reported it more often than men (13.4% and 6.4%; $p \leq 0.001$). Emotional neglect was counted if a response of 'never', 'almost never' or 'sometimes' was given to the questions "You knew there was someone to take care of you and protect you", "There was someone in the family who helped you feel special or important", "You felt loved" and "Your family was a source of strength and support".

3.3.6 Prevalence of sexual violence

5.7% of respondents reported being subjected to sexual violence, with more women than men reporting so (6.6% vs. 4.4%). More often, sexual violence was experienced in the form of fondling (5.0% women, 3.4% men) (Table 12). Penetrative sexual abuse was reported by 1.3% of respondents (1.6% women and 0.9% men).

The perpetrator commiting the abuse was an entrusted person (41.9% women, 25.0% men), and, less commonly, a stranger (32.3% inwomen, 32.1% in men) (Table 13). 22.2% of respondents were sexually abused by relatives (24.2% women and 17.9% men).

Sexual violence was perpetrated by physical coercion (19.4% women, 3.6% men), by the use of alcohol or drugs (12.9% women, 7.1% men), and by the use of threats (12.9% women and 3.6% men) (Table 14).

3.3.7 Prevalence of having witnessed violence

Overall 76.6% reported having witnessed violence. 67.8% respondents reported having witnessed – seen or heard - someone being beaten. This was more often reported by women than by men (77.4% vs. 53.8%, Table 15). 14.6% had witnessed someone being killed (19.5% men, 11.3% women). Witnessing someone threatened at gunpoint was commoner among men (32.5%) than among women (23.2%). All these differences are statistically significant ($p \leq 0.001$).

Table 11. Prevalence of emotional neglect, by type and sex

Characteristics	Male (N = 640)		Female (N = 940)		Total	
	N	%	N	%	N	%
Being aware that there is someone to take care of you and protect you (never, almost never, sometimes)	270	*42.2*	227	*24.1*	497	*31.5*
Having someone in the family who helped to feel important or special	215	*33.6*	263	*28.0*	478	*30.3*
Feeling loved (never, almost never, sometimes)	185	*28.9*	144	*15.3*	329	*20.8*
Thinking that parents wished you had never been born	67	*10.5*	109	*11.6*	176	*11.1*
Being hated by family members	41	*6.4*	126	*13.4*	167	*10.6*
Seeing your family as a sourse of strength and support (never, almost never, sometimes)	166	*25.9*	215	*22.9*	381	*24.1*

Table 12. Kinds of sexual abuse experienced by respondents, by sex

Characteristics	Male (N = 640)		Female (N = 940)		Total	
	N	%	N	%	N	%
One's body being touched or fondled in a sexual way	22	*3.4*	47	*5.0*	69	*4.4*
Touching your body in a sexual way	11	*1.7*	15	*1.6*	26	*1.6*
Being attempted to have sexual intercourse with	4	*0.6*	21	*2.2*	25	*1.6*
Being actually subjected to sexual intercourse	6	*0.9*	15	*1.6*	21	*1.3*

Table 13. Relationship between the perpetrator and the victim, by sex

Characteristics	Male (N = 28)		Female (N = 62)		Total (N = 90)	
	N	%	N	%	N	%
A relative who lived in your home	3	*10.7*	9	14.5	12	*13.3*
A non-relative who lived in your home	3	*10.7*	10	16.1	13	*14.4*
A relative who didn't live in your home	2	*7.1*	6	9.7	8	*8.9*
A family friend or person whom you knew	3	*10.7*	9	14.5	12	*13.3*
Unknown person	9	*32.1*	20	32.3	29	*32.2*
Someone who was supposed to be taking care of you	6	*21.4*	16	25.8	22	*24.4*
Someone you trusted	7	*25.0*	26	41.9	33	*36.7*

Table 14. Methods employed by perpetrator to commit sexual abuse

Characteristics	Male (N = 28)		Female (N = 62)		Total (N = 90)	
	N	%	N	%	N	%
Trickery, verbal persuasion	2	*7.1*	3	*4.8*	5	*5.6*
Being given alcohol or drugs	2	*7.1*	8	*12.9*	10	*11.1*
Threats to harm	1	*3.6*	8	*12.9*	9	*10.0*
Being physically forced	1	*3.6*	12	*19.4*	13	*14.4*

3.3.8 Prevalence of household dysfunction

The most common type of household dysfunction was divorced parents, which was reported by 17.3% of the respondents (20.5% women and 12.5% men, $p \leq 0.001$). The proportion of those who reported witnessing that their mother was abused in the family was 11.1% (12.9 women, 8.4% men, $p = 0.006$). There was also a gender difference in those reporting someone in their household being mentally ill or having attempted suicide (11.6% women, 4.7% men, $p \leq 0.001$). 5.9% of respondents' parents had been incarcerated (9.8% women, 0.2% men, $p \leq 0.001$).

3.4 Relationship between ACEs and health harming behaviours

Table 16 shows the prevalence of different adverse childhood experiences and the associated health harming behaviours. The relationship between the different types of ACEs is shown in Table 17.

Table 18 shows the correlation between the ACE type and reported health harming behaviours among young people. The adjusted odds of adopting health harming behaviours by type of ACE are presented, and show an increase in odds after exposure to ACE. For example, emotional abuse is associated with a three fold increase in the probability of drug and alcohol abuse, and an almost 12 times increased chance of attempted suicide. Physical abuse increased the chances of street drug use by four times, and increased the likelihood of attempted suicide by three times. Sexual abuse three times increased the chances of multiple sexual partners, three times of attempted suicide, and three times increased the risk of alcohol abuse.

Household dysfunction also affected health-harming behaviours. For example, violence against the mother, living with a household member with a mental illness or attempted suicide or incarceration increased the likelihood of attempted suicide by between six and 12 times. Substance abuse in the family was associated with a 5.4 fold increase in the chance of early alcohol use and a 8.7 fold increase in street drug use. Substance use in a family increased the chance of first use of alcohol by 5.5 times, 8.5 times onset of drug use and 2.5 times increased the chance of smoking and attempted suicide. Violence against the mother doubled the chance of early alcohol use, three times increased the chance of unwanted pregnancy and meant six fold increased chances of attempted suicide. Having a family member who was in jail, increased the chances of early alcohol use by three times, and increased by 13 times the risk of attempted suicide. Parental separation or divorce increased the likelihood of drug abuse by nearly twice, of smoking by 1.5 times, and of attempted suicide by 4.5 times.

Table 15. Prevalence of having witnessed violence

Characteristics	Male (N = 640)		Female (N = 940)		Total	
	N	%	N	%	N	%
Seen / heard someone being beaten	344	*53.8*	728	*77.4*	1072	*67.8*
Seen someone	125	*19.5*	106	*11.3*	231	*14.6*
Seen someone threatened at gunpoint	208	*32.5*	218	*23.2*	426	*27.0*

Table 16. Relationship between health harming behaviours and different types of maltreatment and household dysfunction

	Physical abuse	Emotional abuse	Sexual abuse	Physical neglect	Emotional neglect	Mother treated violently	Household substance abuse	Household mental illness	Parental separation or divorce	Incarcerated household member
N	221	599	90	842	915	175	38	139	273	93
Smoker	74	148	23	171	206	50	15	44	92	25
	33.5%	24.7%	25.6%	20.3%	22.5%	28.6%	39.5%	31.7%	33.7%	26.9%
Alcohol use	34	89	19	105	107	29	13	38	37	22
	15.4%	14.9%	21.1%	12.5%	11,7%	16.6%	34.2%	27.3%	13.6%	23.7%
Drug abuse	27	44	7	35	46	13	10	17	24	6
	12.2%	7.3%	7.8%	4.2%	5.0%	7.4%	26.3%	12.2%	8.8%	6.5%
Early sex < 16yrs	90	210	35	327	331	54	17	46	94	17
	40.7%	35.1%	38.9%	38.8%	36.2%	30.9%	44.7%	33.1%	34.4%	18.3%
Multiple partners> 3	66	138	29	165	193	37	14	32	51	10
	29.9%	23.0%	32.2%	19.6%	21.1%	21.1%	36.8%	23.0%	18.7%	10.8%
Unwanted pregnancy	17	54	13	52	63	25	3	17	27	15
	7.7%	9.0%	14.4%	6.2%	6.9%	14.3%	7.9%	12.2%	9.9%	16.1%
Suicidal	21	66	10	49	60	32	4	36	35	28
	9.5%	11.0%	11.1%	5.8%	6.6%	18.3%	10.5%	25.9%	12.8%	30.1%

Table 17. Relationship between different types of abuse and household dysfunction

	Physical abuse	Emotional abuse	Sexual abuse	Physical neglect	Emotional neglect	Mother treated violently	Household substance abuse	Household mental illness	Parental separation or divorce	Incarcerated household member
N	221	599	90	842	915	175	38	139	273	93
Physical abuse	-	165	23	123	160	64	14	51	71	27
	-	27.5%	25.6%	14.6%	17.5%	36.6%	36.8%	36.7%	26.0%	29.0%
Emotional abuse	165	-	53	357	403	130	29	113	158	57
	74.7%	-	58.9%	42.4%	44.0%	74.3%	76.3%	81.3%	57.9%	61.3%
Sexual abuse	23	53	-	66	72	29	6	22	28	10
	10.4%	8.8%	-	7.8%	7.9%	16.6%	15.8%	15.8%	10.3%	10.8%
Physical neglect	123	357	66	-	629	108	23	83	138	62
	55.7%	59.6%	73.3%	-	68.7%	61.7%	60.5%	59.7%	50.5%	66.7%
Emotional neglect	160	403	72	629	-	133	25	105	164	64
	72.4%	67.3%	80.0%	74.7%	-	76.0%	65.8%	75.5%	60.1%	68.8%

Table 18. Prevalence and adjusted relative odds of health harming behaviours, by type of ACE

	Smoker		Alcohol use		Drug abuse		Early sex < 16yrs		Multiple partners > 3		Unwanted pregnancy *		Suicidal	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
	332	21.0%	148	9.4%	71	4.5%	592	37.5%	304	19.2%	98	10.4%	76	4.8%
	OR	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**
Physical abuse	2.15	1.31-3.00	1.99	1.31-3.00	4.16	2.52-6.87	1.17	0.88-1.57	2.02	1.46-2.78	1.74	0.99-3.08	2.49	1.47-4.21
Emotional abuse	1.42	1.93-3.86	2.73	1.93-3.86	2.80	1.72-4.57	0.85	0.69-1.05	1.48	1.15-1.91	2.73	1.73-4.32	12.02	6.13-23.58
Sexual abuse	1.31	1.65-4.83	2.82	1.65-4.83	1.88	0.84-4.23	1.07	0.69-1.65	2.11	1.33-3.35	2.93	1.52-5.66	2.70	1.34-5.44
Physical neglect	0.91	1.59-3.33	2.30	1.59-3.33	0.85	0.53-1.36	1.13	0.92-1.39	1.06	0.82-1.36	1.99	1.27-3.13	1.63	1.01-2.63
Emotional neglect	1.24	1.39-2.93	2.02	1.39-2.93	1.36	0.82-2.23	0.88	0.71-1.08	1.35	1.04-1.75	2.88	1.76-4.74	2.85	1.62-4.99
Mother treated violently	1.59	1.38-3.33	2.15	1.38-3.33	1.86	1.00-3.48	0.72	0.51-1.01	1.15	0.78-1.69	3.21	1.92-5.35	6.92	4.25-11.26
Household Substance Abuse	2.52	2.71-10.84	5.42	2.71-10.84	8.67	4.03-18.65	1.36	0.71-2.60	2.53	1.29-4.95	1.51	0.44-5.19	2.40	0.83-6.95
Household Mental Illness	1.85	2.99-6.93	4.55	2.99-6.93	3.58	2.01-6.36	0.81	0.56-1.17	1.29	0.85-1.96	2.05	1.15-3.63	12. 24	7.48-20.04
Parental Separation or Divorce	2.26	1.14-2.51	1.69	1.14-2.51	2.58	1.55-4.30	0.85	0.65-1.12	0.96	0.69-1.34	1.90	1.17-3.09	4.54	2.83-7.28
Incarcerated Household	1.41	2.01-5.58	3.35	2.01-5.58	1.51	0.64-3.58	0.35	0.21-0.61	0.49	0.25-0.96	2.14	1.17-3.91	12.91	7.62-21.90

3.5 Relationship between the number of ACEs and the adjusted odds of health harming behaviours

Table 19 shows the increased prevalence and adjusted relative odds of health harming behaviours as the number of ACEs increase. The general trend indicates that there is a relatively strong graded relationship between health-risk behaviours and the number of ACEs. Significantly, illicit drug use was found to be 11.9 times more likely with four or more ACEs (OR=11.9, 95% CI=2.8–50.5). The odds of alcohol use increased with 4 or more ACEs (OR=10.4, 95% CI=4.1–26.31) as did attempted suicide (OR=23.2, 95% CI=7.18–75.05).

Table 19. Prevalence and odds of health-risk behaviours by number of ACEs

Type of health-risk behaviour	Number of adverse childhood exposures					
		0	1	2	3	≥ 4
	N (1580) (%)	243 (15.4)	356 (22.5)	445 (28.2)	260 (16.4)	276 (17.5)
Smoker	%	15.2%	18.3%	18.9%	21.9%	32.2%
	OR (95% CI)		1.2 (0.78-1.85)	1.2 (0.82-1.88)	1.4 (0.92-2.27)	2.1* (1.39-3.22)
Alcohol use	%	2.1%	3.9%	7.0%	15.0%	21.4%
	OR (95% CI)		1.9 (0.68-5.37)	3.4* (1.3-8.81)	7.3* (2.83-18.8)	10.4* (4.1-26.31)
Street drug use	%	0.8%	3.4%	3.4%	5.8%	9.8%
	OR (95% CI)		4.1 (0.91-18.46)	4.1 (0.93-18.06)	7.0* (1.59-30.97)	11.9* (2.8-50.5)
Early sex < 16y	%	36.6%	39.9%	39.3%	38.8%	30.8%
	OR (95% CI)		1.1 (0.8-1.49)	1.1 (0.8-1.45)	1.1 (0.76-1.48)	0.8 (0.7-1.19)
Multiple partners> 3	%	12.3%	16.9%	19.6%	26.5%	20.7%
	OR (95% CI)		1.4 (0.86-2.18)	1.6* (1.02-2.47)	2.2* (1.35-3.42)	1.67* (1.04-2.69)
Unwanted pregnancy	%	1.6%	2.2%	4.7%	6.5%	13.0%
	OR (95% CI)		1.4 (0.41-4.58)	2.9 (0.97-8.44)	4.0* (1.32-11.97)	7.9* (2.78-22.58)
Suicidal	%	0.0%	0.8%	2.2%	3.5%	19.6%
	OR (95% CI)			2.7 (0.73-9.76)	4.1* (1.1-15.32)	23.2* (7.18-75.05)

*p< 0.05

4. DISCUSSION AND CONCLUSION

This survey has shown that in a purposefully selected study population of students from both the European and Asian parts of the Russian Federation the prevalence of maltreatment and other adverse experiences in childhood is very high. The study involved 1580 respondents (640 men and 940 women) students in higher education institutions and colleges with an average age of 20.6 years and the response rate to the survey of 86%.

These results are similar to those published in other countries, in Europe and elsewhere. Importantly, the results also show that after adjusting for sociodemographic variables, there is a strong association between ACEs and health harming behaviours such as smoking, substance abuse, risky sexual behaviour and self-harm. The likelihood of health harming behaviours increases with the number of ACEs, implying a causal relationship. These findings suggest that, maltreatment and other adverse experiences in childhood may have grave and far reaching health consequences in the Russian Federation, in keeping with the international literature. The study supports calls in the Russian Federation and elsewhere that emphasize the importance of taking policy action to respond to this societal and public health threat.

Evidence in the international literature suggests that child maltreatment can be prevented through several effective interventions which primarily focus on training in positive parenting through nurse visitation, health and welfare support to families with household dysfunction, as well as broader interventions such as fiscal and legal interventions that reduce access to alcohol, drugs and the use of violent discipline. Investing in these preventive programmes is more cost-effective than responding to the costly consequences of maltreatment. In the Russian Federation as in many countries in Europe the response to date has mainly been on child protection services and providing care and therapeutic support to children. Whereas these are important, there are increasing calls by advocates and policy makers throughout Europe for intersectoral and coordinated action to prevent child maltreatment from occurring in the first place, which includes investment in early childhood development. The results presented in this report provide an opportunity for stakeholders to consider which actions are suitable and necessary in the Russian Federation. The evidence base has been systematically collated in the *European report on preventing child maltreatment* (Sethi et al, 2013).

4.1 Adverse childhood experiences

Adverse childhood experiences were common, and approximately 85% of respondents reported at least one type with 17.5% who reported four or more types. The most common adverse experiences of childhood were emotional neglect (57.9%) and physical neglect (53.3%). Men reported these significantly more than women. 14.0% of respondents were subjected to various forms of physical abuse, leading to injury in 3.5% of respondents. The abuse was in the form of punishment by adults in 13.4% of men and 9.1% of women. Emotional abuse was reported by 37.9% of respondents (40.3% women and 34.4% men). Mental humiliation was significantly higher in women (15.0%) than in men (9.5%). 11.1% of respondents reported that their parents regretted their birth and 10.6% reported being hated by family members. Sexual violence was reported more frequently by women (6.6%) than men (4.4%), with 1.6% of women and 0.9% men reporting coercive sexual intercourse. Most often for both males and females, the perpetrator was an entrusted male. The percentage of respondents that reported having witnessed violence was high (62.1%), being reported more often by women (76.6%) than men (37.9%). The proportion who witnessed someone being killed was high (men 19.5%, women 11.3%). These differences between genders emphasize the importance of ascertaining and reporting different types of maltreatment for both genders separately.

The most common type of household dysfunction was parental divorce reported by 17.3% of respondents (20.5% women, 12.5% men). Witnessing parental violence was also high, and 11.1% reported violence against their mother (12.9 women, 8.4% men). Suicide attempts in the family were reported by 8.8% of the respondents (11.6% women, 4.7% men) and parental incarceration was also high (9.8% women, 0.2% men).

Results also showed a strong association between the different types of maltreatment (and other ACEs) and health harming behaviours and are in keeping with other studies from Europe and elsewhere (Fellitti et al, 1998; Ramiro et al, 2010; Raleva et al, 2013; Quirjako et al, 2013; Baban et al, 2013; Bellis et al, 2013). This was true for physical and emotional abuse which increased the likelihood of all the risk behaviors. Emotional abuse increased by 3 times the probability of drug and alcohol

misuse, and by almost 12 times the chances of attempted suicide. Physical violence increased the chances of street drug use by four times and increased the chances of suicide attempts by three times. Sexual violence increases the chances three fold for risky sexual behavior (multiple partners), trying to commit suicide, and alcohol abuse.

Household dysfunction also significantly influenced health harming behaviours. Having a household member with substance misuse increased the chances of early alcohol use by 5.5 times, by 8.5 times street-drug use, and by 2.5 times the chances of smoking and attempting to commit suicide. Violence against the mother doubled the chance of first use of alcohol and three times the chance of unwanted pregnancy and 6-fold increased chances of attempts to commit suicide. Having a family member who was incarcerated increased the chance of early alcohol use by three times and by 13 times the chances of attempted suicide. Parental separation or divorce increases the likelihood of drug abuse by nearly twice, smoking by 1.5 times and attempted suicide by 4.5 times.

A high prevalence of health harming behaviours has also been reported in this survey. Suicide is an important cause of premature mortality in the Russian Federation. This survey reports that ACEs are critical risk factors for self-harm; the likelihood of attempted suicide increased by between 6 and 12 times with witnessing violence against the mother, if there was a household member with a mental illness or incarceration. Mental health services should therefore take these risk factors into account in developing preventive strategies.

The association between the number of ACEs and health harming behaviors was incremental, suggesting a causal relationship (Felliti et al, 1998; Butchart et al, 2006; Sethi et al, 2013; Ramiro et al, 2010). For example, exposure to 4 or more ACEs was associated with a 23-fold increased odds of self-harm, 12 fold odds of substance misuse, 10 fold odds of alcohol misuse, 8 fold of unwanted pregnancy and 2 fold odds of smoking. This survey therefore confirms the far-reaching and grave health consequences of child maltreatment and other adverse childhood experiences. The recent emphasis on early childhood development and safe nurturing relationships is therefore an important way forward, (Chan, 2013; Sethi et al, 2103) which is also relevant to the life-course approach to improved population health in the Russian Federation (World Health Organization Regional Office for Europe, 2012).

4.2 Prevention of maltreatment and other adverse childhood experiences

The study of the problem of violence and child maltreatment shows that prevention efforts are usually directed primarily to work with child victims to reduce the consequences of abuse or neglect once it has occurred and if detected or reported. However, the public health approach to violence prevention as proposed by the *World report on violence and health,* which argues that violence is preventable (Krug et al, 2002). This requires an understanding of the scale of the problem, an assessment of the underlying risk factors and social determinants, reviewing the evidence of what can be done for prevention, and then implementing these programmes at a wider level (World Health Organization, 2007). In this respect the ecological model is used to better understand the risk factors and the evidence of what works at the level of the individual, relationship, community, and society. These factors have been reviewed in the *European report on preventing child maltreatment* (Sethi et al, 2013).

Primary level interventions should be aimed at the prevention from violence arising in the first case. Secondary level prevention is concerned with reducing the potential harm in at-risk groups. Tertiary level prevention is concerned with the detection and the provision of various forms of medical, psychological and welfare support to prevent violence from recurring and to treat the consequences of violence for rehabilitation. These measures may be directed at the individual, families, victims, perpetrators, communities, or may be at the societal level (Krug et al, 2002, World Health Organization, 2007). Much of the response in Europe has been focused on protecting the rights of children through legislative measures and at dealing with the consequences of abuse and neglect once this has occurred. There are increasing demands for a greater focus on prevention and such an approach is also called upon in the Russian Federation.

As discussed in the *European report on preventing child maltreatment* (Sethi et al, 2013), universal measures are those applied to the population as a whole in order to prevent child abuse. These include sexual abuse prevention programmes, media-based public awareness, abusive head trauma programmes, changing social norms, reducing the availability of alcohol, reducing poverty and preventing exposure to intimate partner violence, though the evidence base for these needs to be improved. Selective measures are those targeted at higher risk groups

and include home visiting, parenting programmes, multicomponent preschool programmes, and enhanced pediatric care (Mikton & Butchart, 2013). Many of these programmes are multi-sectoral (inter-ministerial) and multi-disciplinary in character, because they require the intervention of different sectors of the state (health, social, legal, etc.). These work towards promoting factors that reduce the risks of child maltreatment such as supportive family environments, strong social networks, nurturing parenting skills and improving children's social competence, and the improved outcomes are noticed not only in children, but along the life course in keeping with WHO's policy approach in Health 2020.

Indicated interventions are those where abuse has been identified and include rehabilitative care through counselling to improve psychological readjustment and also multicomponent approaches to reduce child maltreatment from recurring by providing counselling and intensive welfare support. Such an approach has also been developed in the Russian Federation and is described below.

4.3 The program of remedial and rehabilitative care for children subjected to family violence in Russia

There is a program of rehabilitation for child victims of domestic violence in the Russian Federation. It has been devised by Russian psychiatrists (Makushkin et al, 2009) under the guidance of the Russian Ministry of Health and recommended for use in the Centers of Social Assistance, organized under the structure of Social Care Services. They are being implemented in several towns of the Russian Federation. In such Centers, social and psychological support and rehabilitation for children from troubled families is provided through family counselling and support by multidisciplinary teams.

The programme includes:

1. Phase of diagnostic aid

Diagnostic work is complex, interdisciplinary and focuses on obtaining information about the social and psychological status of the child, their physical and mental health profile, and social and personal development. The information related to the child provides the baseline for recommendations to the Center of Social Assistance experts, enabling them to choose a proper course of remedial and rehabilitation work. The optimum level of remedial and rehabilitation care for child victims of violence can be achieved only through complex, multi-disciplinary and inter-agency system of activities involving educational, health and social protection sectors, with the priority given to team work.

2. Phase of comprehensive remedial and rehabilitation work with children subjected to family violence

Areas of rehabilitation work include:

a) devising an individual program of rehabilitation;

b) dealing with the aftermath of stressful factors, which have affected the child; and

c) creating conditions for the child to adapt to the new situation.

Russian scientists in the field of psychiatry (Vostroknutov, 1996; Makushkin, 2009) showed that emotional disorders in children, caused by family deprivation, require comprehensive multidisciplinary assistance (involving social workers, school psychologists, social protection experts, and child psychiatrists), and clinical evaluation should take into consideration the corresponding social component.

4.4 Limitations

This study is not without its limitations. These include the cross-sectional design, which will limit conclusions about causality which are better inferred from longitudinal designs. Nevertheless, the study results are in keeping with other published literature. Proportionately more women than men were recruited into the study, and the possibility of non-responder bias needs to be entertained. The study population of university students means that the results cannot be generalized to the whole population of the Russian Federation. Of interest, even in this relatively privileged population, is the fact that the prevalence of ACEs and health harming behaviours is high, implying that these may be higher still in more deprived populations. There may also be limitations in self-response questionnaires such as reporting socially acceptable answers and under-reporting of sensitive issues such as sexual abuse. The retrospective design may also be influenced by recall bias.

4.5 Recommmendations

On the basis of the study results showing the high prevalence of ACEs and strong association with health harming behaviours, and taking into account the recommendations of the *World report on violence and*

health and the *European report on preventing child maltreatment* the following points for action are recommended in the Russian Federation.

1. Develop national policy for prevention based on multisectoral action

In the Russian Federation there is a preponderance of child protection and victim services over prevention programmes. The lack of prevention programmes calls for the developing of national action plan with multisectoral approach, which will coordinate the activities of health professionals and specialists from educational, justice and social welfare agencies. The Ministry of Health should take a leadership role in ensuring that a national plan for preventing child maltreatment is developed. This should be multidisciplinary, involving sectors such as education, social welfare, justice and stakeholders representing local authorities, and practitioners, and take the views of children into account.

2. Promote primary pr evention

Prevention programmes that have been shown to be cost-effective should be implemented. Key approaches include reducing risk factors by providing parenting support through home-visitation and parenting programmes. Changing awareness that violence is not a private matter and to educate parents about non-violent ways of disciplining children is also important. Preventive approaches should be multidisciplinary and involve the education, justice, and welfare sectors.

3. Strengthen health systems' response for prevention and rehabilitation

Health systems should provide high-quality detection, recording, treatment, support, and rehabilitation services in coordination with other sectors. Primary care teams, school health services, mental health services, and paediatricians are uniquely placed to assess and support children and families at risk, and to refer for parenting support.

4. Build capacity and exchange good practice

Child maltreatment prevention needs to be mainstreamed into the curricula of health and other professionals.

5. Improve data collection for monitoring and evaluation

Prevention policies at local, national, and regional levels need to be monitored and evaluated. This is the first ACE survey in the Russian Federation and should be repeated in a more representative sample. Standardized approaches for the collection and sharing of routine information should also be promoted.

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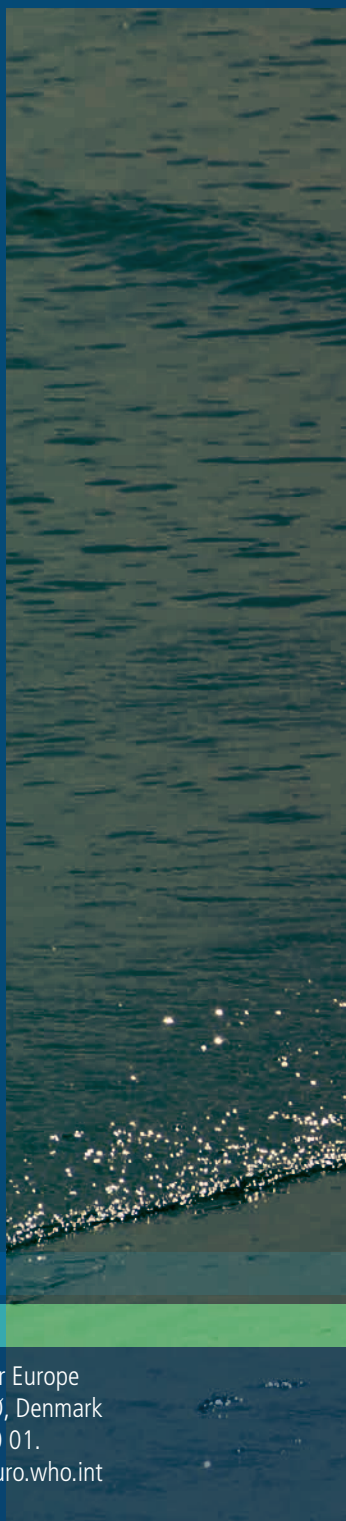

World Health Organization, Regional Office for Europe
UN City, Marmorvej 51, DK-2100 Copenhagen Ø, Denmark
Tel.: +45 45 33 70 00. Fax: +45 45 33 70 01.
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