



## **Report**

**On key findings from the Health Behavior in School-aged Children (HBSC) random sampling survey among secondary school students of Turkmenistan**

**Ashgabat 2015**

**This report combines findings from the survey conducted among 15-year-old students in Turkmenistan in 2011 and the survey conducted among 13-year-old and 17-year-old students in 2013. Both surveys have been conducted by the Ministry of Health and Medical Industry of Turkmenistan (MOHMI) with support of the United Nations Population Fund (UNFPA) in the framework of the Annual Workplans for 2011 and 2013-2014 respectively of the project Disaggregated Data for National Development Planning. The surveys have been carried out in collaboration with the Ministry of Education of Turkmenistan (MOE).**

**The Health Behavior in School-Aged Children (HBSC) studies have been conducted using a methodology approved by the World Health Organization (WHO), which enables to carry out a comparative analysis of findings with the data received in other countries. Such surveys based on this methodology are conducted every 4 years in more than 43 countries of Europe and North America.**

**The employees of the Ministry of Health and Medical Industry, the Ministry of Education, the Scientific-Clinical Center of Mother and Child Health Care named after Gurbansoltan Eje, the State Medical University, and the Ashgabat Healthcare Department have been in the process of development and adaptation of the questionnaires, data collection and processing.**

## EXECUTIVE SUMMARY

The WHO identifies adolescence as the period in human growth and development from ages 10 to 19. It is a period of sexual development starting from appearance of secondary sexual characters up to onset of sexual maturation; a period of behavior characteristic for adults is formed; a period of transition from full social and economic dependence on adults towards relative independence.

Until recently, health of adolescents has not been a priority for public healthcare as they have been considered to be a relatively healthy age group. But since the end of the 20<sup>th</sup> century the attitude to this issue has been changing. Data has been accumulated on the adolescent bad health status and the presence of problems such as traumas, sexual and reproductive health, mental health, psychoactive substance use, chronic diseases. Currently, adolescents comprise about 20 percent of the world's population and share about 15 percent of the disease burden according to the DALY scale (DALY, disability-adjusted-life-years).

On the other hand, due to the increasing prevalence of non-communicable diseases among adults, it has been proved that adolescence plays an important role in giving rise to risk factors for mortality prevalence in the adult age as well: about 60 percent of adult early deaths and one-third of the adult disease burden are associated with behavior or illnesses that have raised or begun in adolescence. Accordingly, reducing the adult disease burden is directly related to improvement of adolescents' health and behavior. The important role that is given to adolescent health is justified by elaboration of a European strategy for child and adolescent health and development, approved by the WHO Regional Office for Europe in 2005. In the strategy, adolescent health is a separate priority, and it specifies the main goals, objectives and directions for actions.

The Health Behavior in School-Aged Children (HBSC) survey is an international study under the auspices of the WHO Regional Office for Europe. The adolescent health in this survey is considered in a comprehensive context, i.e. rather as a state of physical, social and emotional well-being than only as absence of any disease; in other words, health is considered as a resource ensuring everyday life activities. In this context, high importance is given to analysis of factors that both directly affect health of an adolescent and form the behavioral style that an adolescent further demonstrates in adult age.

As of today, the HBSC survey covers 37 European countries and the USA, Canada, Israel and Turkey as well. Out of post-Soviet countries, all Baltic States, Russia, Ukraine and Armenia

participate in the survey. In 2013, Moldova submitted its application for participation in the survey.

The survey covers 3 age groups: 11-, 13- and 15-year-old children; a standard sampling includes 1 500 children from each age group. The survey is conducted at schools, including minimum 60 schools, where in average 25 school students are involved from each school. The international report, which is written and produced by the HBSC Research Network and is published every four years by the WHO Regional Office for Europe, presents the world's most comprehensive picture of young people's health and well-being. The latest report was issued in May 2012.

The objective of this pilot survey was to identify basic behavioral characteristics concerning health issues, state of health and knowledge of 13-, 15- and 17-year-old adolescents of Turkmenistan. The survey was conducted using the methodology of anonymous questioning of the adolescent representative target group of Turkmenistan (in accordance with the standard HBSC methodology). Based on the agreement with the Ministry of Health and Medical Industry of Turkmenistan, the pilot study was conducted in Ashgabat city, Mary and Dashoguz provinces.

The 17-year-old adolescents are not covered by the generic methodology of the HBSC study. The objectives of the survey among that age group were: a) assessment of their health and behavior with regard to health issues, b) assessment of changes that undergo in adolescence, c) study of issues related to sexual behavior, reproductive health, knowledge of adolescents on sexually transmitted infections, i.e. the issues that are covered by the Mandate of UNFPA. In this regard, the obtained data allow assessing a range of problems with the aim of subsequent development of relevant policies.

The questionnaire for the survey in Turkmenistan included 134 items for 13-year-olds, 138 items for 15-year-olds and 176 items for 17-year-old adolescents. In addition to the standard HBSC questions, it included items specific to Turkmenistan. The content of the questionnaire was agreed with the Ministry of Health and Medical Industry of Turkmenistan and translated into Turkmen; the Turkmen and some Russian variants of the questionnaire were used at schools. The survey was conducted in 2 phases: in the first place, data on 15-year-old adolescents were collected in October-December 2011 and analyzed in 2012. Students of the 9<sup>th</sup> grades, represented mainly by 15-year-old adolescents, were selected as a target group. In April-May 2013, based on the initiative of the Ministry of Health and UNFPA, the survey was conducted among 13- and 17-year-olds, among students of 6<sup>th</sup> and 10<sup>th</sup> grades respectively; in June-November 2013 the data were entered into the database.

Based on the objectives of the survey and schools from 3 selected regions a representative school sampling was held at both phases using the HBSC methodology of “probability depending on size” and included 62 schools of all regions in the above mentioned provinces. The survey was carried out by specially trained interviewers. School administrations, surveyed children and their parents were notified in advance in order to get their consent for interviewing. Interviews were conducted in the presence of interviewers during the lessons. As a result, 1 568 questionnaire forms were collected from 15-year-olds, 1 574 questionnaire forms from 13-year-olds and 1 632 forms from 17-year-olds. The data were analyzed through SPSS 20 software. As a result of excluded incomplete forms<sup>1</sup> unfit for the survey, the analysis included ultimately 1 429 questionnaires from 61 schools for 15-year-olds, 1 494 questionnaires from 13-year-olds and 1 546 questionnaires from 17-year-olds. Statistical validity with 95% confidence interval assumption was observed. In general, sampling included 4 469 adolescents. In many cases the data of Turkmenistan obtained from 13- and 15-year-old adolescents were compared with the published indicators of the international HBSC study conducted in 2010 / 2011.

## Generalized data

### ■ Family

The overwhelming majority, more than 93 percent of the interviewed, have reported about residing in the house with their mothers. Contrary to that, only three quarters answered affirmatively to the question on residing with their fathers, and every fifth respondent, more often those are boys, answered “no” to the question. Speaking of other relatives, more often children live together with their siblings and grandmothers. The analysis of data by regions shows that the biggest households reside in Dashoguz province and, as expected, in the rural area, whereas families in Ashgabat are relatively small. Responding to the question on communication with their relatives, children have reported that, in general, communication with their mothers is “easy” and “very easy” (77%); it is rather difficult to communicate with their fathers (50%). Eleven percent of the interviewed adolescents have responded that communication with their mothers is “difficult” or “very difficult”, and 28 percent reported the same about their fathers. It is particularly difficult for 17-year-old girls to communicate with their fathers, whereas in assessment of confidence to mothers there are no specific changes depending on the respondents’ age, and very few differences between gender, boys communicate with their mothers and fathers equally.

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<sup>1</sup> Questionnaire forms were considered inadequate where the whole sets of questions were skipped and the respondent’s age exceeded the required age limit of +/- 6 months.

After the parents, it is easier for children to communicate with their elder sisters. At the same time, in contrast to the brothers, with age their relations with their sisters do not change. As of other relatives, the closest relationships of adolescents are with their grandmothers, while this attitude is similar irrespective of sex, regions, and does not change with age.

Comparison with the international HBSC data shows that data on Turkmenistan on the degree of positive communication of 13- and 15-year-olds with their mothers are close to international average data, whereas contacts with fathers are slightly lower.

## ■ Social and economic data

Two thirds of adolescents have reported that it is their fathers who work; less than half of adolescents have indicated that their mothers work. In all age groups, the employment indicator is lower among the residents of Dashoguz province. More than half of families have vehicles; families from Ashgabat and in general urban population own more cars. Nearly 9 percent of children have reported on having two and more cars in their families. On the question regarding having a separate bedroom, every third child has answered affirmatively. The majority of children have travelled with their family on vacation or during holidays. In all age groups less than 10 percent of adolescents have not travelled. No any regularity is observed by age, gender, place of living and region. While the majority of respondents have travelled on holidays, only every fifth child has spent his/her holidays in the children's summer camps. About 70 percent of children have got no computers at home. More computers are owned by families from Ashgabat city and by urban population in general; families in Dashoguz have got fewer computers. Comparison of age groups shows that more computers are available among the 17-year-olds.

The majority of respondents (nearly 70%) characterize material/financial well-being of their families as "very high" or "high". However, the number of children confident in this is slightly decreasing with age, at the same time less confident in their well-being are 17-year-old adolescents from Ashgabat, whose families, in particular, have more computers and cars.

## ■ Peers

Adolescents have been interviewed on the issue of a number of close friends. More than half of boys have reported on having 3 and more friends. About one percent of girls and every sixth boy have no friends. Similar to boys, more than half of girls have 3 and more friends. Absence of friends has been relatively seldom reported by children from Dashoguz; more often – by 17-year-old adolescents from Ashgabat. Despite of having friends, about half of children indicate that it is difficult or very difficult to confide in with their best friends. In elder age group, 17-year-old adolescents from Ashgabat relatively more often have reported on communication

difficulties, least of all – children from Dashoguz. 13-year-olds communicate more at ease with the same age friends, than 17-year-olds. The interviewed children meet their peers rather often; frequency of such meetings is higher in boys of all age groups. Percentage of children who meet 4 and more days per week (extent of direct contacts with peers) in Turkmenistan is 50 percent, which is considerably higher than the average indicator in HBS countries (28%). It is interesting that communication between Turkmen peers is not decreasing with age. One quarter of adolescents communicate daily with their peers by telephone, SMS or Internet. Male adolescents, residents of Ashgabat and cities in general communicate this way. Adolescents from Dashoguz have reported the least indicator which relates to the extent of computer prevalence. Media contact with peers is significantly increasing with age.

## ■ **School**

More than 70 percent of the interviewed children have reported that in their opinion teachers rate their performance as “good” and “very good”. Nearly 20 percent of the interviewed have indicated that their performance is “average” or “below average”. Compared to 13- and 15-year-olds, 17-year-old respondents rate their school performance higher. In all age groups, girls think about their school performance significantly much better. In general, urban children evaluate themselves more strictly. Nearly 71 percent of students rate their attitude as “I like it very much”; 26 percent - as “I like it”. Girls like school slightly more than boys. Children from Mary like school to a greater degree, in Dashoguz this indicator is lower, followed by Ashgabat. Nearly 88 percent of students have indicated that they “agree” or “fully agree” with the statement that “they enjoy being together”. This indicator is practically not changing with age. About 20 percent of the interviewed from all age groups have reported that doing their school tasks is “slightly difficult”, “quite difficult” or “very difficult”. It is more difficult to do schoolwork for 13- and 15-year-old boys, but by the age of 17 years this difference is smoothed over. In all age groups it is much more difficult to study for students from Ashgabat.

## ■ **Somatic health, traumas**

The interviewed adolescents have reported rather high level of complaints on somatic health. About one third of adolescents complain on regular headaches occurred at the frequency from “once a month” to “every day”. In all age groups, headaches more often occur in girls, residents of Ashgabat and cities. Nearly one quarter of children from Ashgabat have had headaches “once per week” or more often. 196 respondents have reported that they have had headaches “almost every day”, which indicates that they have a rather serious health problem. About 18 percent of children complain on stomach ache “once per month” or more often. Nearly 1.5 percent of children complain on daily stomach ache, i.e. they are very likely have a rather

concerning problem. Toothaches occur in different frequencies in 15 percent of adolescents; 2 percent have had toothache every day. About 15 percent of respondents have reported dizziness, more often these are 13-year-old girls. Frequency of trauma occurrence is the highest among 13-year-old boys.

## ■ **Chronic diseases**

Presence of a chronic disease has been reported by 7 percent of children. Such response has been given more by girls, residents of cities, in particular the residents of Ashgabat. About 8 percent of respondents have reported on regular medicine intake, more often these are residents of Ashgabat, girls.

## ■ **Mental health**

Complaints on change of mood have been reported by nearly 30 percent of the respondents; one in four complains on irritation; and every fourth indicates nervousness. Complaints on insomnia have reported by nearly 15 percent of children; 13-year-olds have insomnia more often. Of those interviewed, 18 percent of adolescents have stated that over the previous year they have had periods of dramatically depressed mood. With age, this indicator is steadily increasing. Girls experience this twice more often. About a quarter of respondents report that with varying frequency they have experienced feelings of loneliness. There is a clear trend towards increasing this indicator from 13 to 17 years of age. This indicator accounts for 36.6 percent in girls and 20.4 percent in boys.

## ■ **Multiple complaints**

Out of all interviewed students, 14 percent, i.e. every seventh respondent, have had multiple complaints on their health state more than once per week. With age, the number of such children is increasing. Girls and residents of Ashgabat have had more complaints.

## ■ **Self-rated health and life satisfaction**

Residents of Ashgabat and girls rate their health much worse. Positive rate to their life has been given by 82 percent of the interviewed children. About 11 percent are not satisfied and 7.5 percent are extremely not satisfied with their life. At the same time the percentage of the satisfied is slightly increased by the age of 17 years. Despite many “negative” responses of girls shown in the previous chapters (higher frequency of complaints, bad mood, etc.), girls are more positive in rating their life than boys (the difference is not very big).

## ■ **Visiting doctors**

In the past year or two years only one fourth of the respondents have visited dentists. Two thirds of the interviewed have reported that they have “never” visited a dentist. Only 23 percent visited a family doctor in the past year or two years. With age this indicator is practically not changing. There is no difference by gender. Only 3.7 percent of girls have visited a gynecologist.

## ■ **Eating behavior**

Of all interviewed students 5 percent do not consume breakfast at all, 13 percent – do it seldomly. In total, every fourth child does not consume breakfast from time to time. With age, the number of those “not having breakfast” is increasing. Consumption of fruit once per day or often has been reported by 49 percent of respondents. More often fruit are consumed by 13- and 15-year-old girls (compared to boys, among 17-year-olds this difference is smoothing over). Vegetable consumption indicator in general is almost similar to fruit. About half of children consume sweets every day or even more often, several times a day. With age this indicator is increasing. Girls are more “keen on” sweets.

About 25 percent of children consume soft drinks every day, once or more often per day. Children of all age groups more often consume soft drinks in Ashgabat. There is no significant difference in consumption between girls and boys. About 19 percent of adolescents consume chips, rusks or sunflower seeds every day or more often. About 10 percent of adolescents consume shaurma, doners, hamburgers, and hotdogs every day or more often. Nearly one quarter of children do not consume these types of food at all, or consume them less than one day a week.

## ■ **Dieting (weight control)**

Nearly 70 percent of children are satisfied with their weight; 7 percent of students have reported that they diet to lose their weight; 12 percent of adolescents have stated that they want to diet; whereas 8 percent of students have indicated that they want to increase their weight. Nearly two thirds of adolescents consider their weight as satisfactory, more often these are boys.

## ■ **Body mass index (BMI)**

Based on information received as a result of available anthropometric data, 11.5 percent of 13-year-old boys and 6 percent of 17-year-old boys are overweight (BMI above the 85<sup>th</sup> percentile); at the same time there is quite high percentage of children with marked

underweight. In girls, the picture is as follows: BMI above the 85<sup>th</sup> percentile in 13 percent of 13-year-olds and 10 percent in 17-year-olds; low body mass is observed as well.

## ■ Physical activity

About 35 percent of the surveyed children have reported on their daily physical activity. With age, physical activity is decreasing. In all age groups, boys, residents of Mary and Dashoguz are more active. Watching TV for 2 hours or more during the day has been reported in general by 56 percent of respondents; with age, time spent on watching TV is steadily increasing, though not much difference in gender is noted in all age groups. About 7 percent of respondents have reported that they watch TV every day for 5 hours or more. About 18 percent have stated that they are playing for 2 hours on the computer or game device, more often these are boys and residents of Ashgabat. Nearly 2 percent of children play games for 5 hours or more, which indicates a certain psychological addiction.

Ten percent of children spend 2 or more hours per day at the computer. With age, the percentage of children is increasing, similarly the number of computers in households is increasing. Residents of Ashgabat use computers ten times more. The highest percentage of students spends 1-2 hours to prepare for lessons. About a quarter of children spend on the lessons 3 hours or more. As expected, girls do their school tasks longer. More time is spent by residents of Mary and Dashoguz than of Ashgabat.

## ■ Use of tobacco, alcohol, drugs

Answering the question on “some time” use of cigarettes, tobacco, smoking pipe or hookah, 0.7% of boys and girls among 13-year-old adolescents have responded positively; respectively, 5.9 percent and 1 percent among 15-year-olds; 6.9 percent and 1.2 percent among 17-year-olds. In all age groups, a higher frequency is among the residents of Ashgabat, significantly lower prevalence of smoking is among the population of Dashoguz and Mary. Overall, the prevalence of smoking in the cities exceeds the rural population by 4 times. About 1.5 percent of respondents have “ever” used *nas*. By the age of 17 years the number of adolescents interested in *nas-tobacco*, is decreasing. Twenty respondents (0.5%), mainly 15- and 17-year-old boys have reported that they use *nas-tobacco* every day. The interviewed adolescents consume relatively often beer and champagne, seldom wine, and stronger alcohol. There are several single cases of affirmative responses to the question related to use of marijuana, cannabis and opium. Indicators on use of tobacco, alcohol and other psychoactive substances are the lowest in the international HBSC study.

## ■ **Fighting, bullying**

Regarding the question on participation in fighting in the previous year, affirmative answers have been given by about 10 percent of 13-year-olds, 8 percent of 15-year-olds and 6 percent of 17-year-olds. More boys than girls have been involved in fighting; with age, percentage of affirmative responses is significantly reducing, especially among girls. Residents of Ashgabat and towns in general report more often on participation in fighting. Under the international HBSC study, on average, 15 percent of 15-year-old boys have been involved in fighting during last year 3 times or more often, while for Turkmenistan this indicator is 2 percent.

About 11 percent of 15-year-old respondents and 10 percent of 17-year-olds report that during the last 2 months they have faced bullying at school at least once. Slightly more often girls, residents of Ashgabat and towns in general have responded affirmatively. Slightly more often this fact is mentioned by residents of Ashgabat. In the urban area affirmative responses have been received from 14 percent of respondents, whereas in rural area – from 9 percent. This indicator is significantly lower than the international ones. Among 15-year-olds 8 percent admit that they have bullied their schoolmates; by the age of 17 years this indicator is sharply decreasing. In Ashgabat this indicator is significantly higher: 16 percent against 7 percent in Dashoguz and 5 percent in Mary. About 17 percent of 13-year-olds, 13 percent of 15-year-olds, and even several 17-year-old adolescents report that due to their fear they have missed classes at least 1 time during the previous month. At the same time 96 adolescents - 39 boys and 57 girls – have missed school four or more times. 22 percent of 15-year-olds report that over the last year they have been subjected to physical punishment in the family: more often 1-3 times; this percentage is less among 13-year-olds and significantly lower among 17-year-olds. Overall, about 14 percent of all adolescents report that they have been subjected to physical punishment in the family. Difference by gender is more observed among 13- and 15-year-olds: more affirmative responses have been received from boys. No significant differences are observed between urban and rural areas. The fact of concern is that a certain number of children are subjected to physical punishment on a daily basis.

## ■ **Awareness of healthy behavior basics and sources of information**

The exact marriage age adopted in Turkmenistan (18 years old) has been indicated by slightly more than half of the interviewed 15-year-olds and 72 percent of 17-year-olds. More than one- third of respondents acknowledge that they do not know from what age it is allowed to marry. Adolescents from Ashgabat and Mary are less informed compared to adolescents from Dashoguz who are better informed. In general, girls are informed not less than boys.

About three-quarters of the interviewed adolescents have reported on the fact of learning about the harm of tobacco, alcohol and drugs during the current or previous academic year; about one in five state that he/she has not been taught on these issues. In this category, the answer "do not know" in both age groups has been chosen more frequently by boys compared to girls (17%). More often adolescents from Dashoguz and Ashgabat have reported on the teaching of these issues, less often – students from Mary. The difference between rural and urban areas is not high.

Among 15- and 17-year-olds, 84% respond that they have been taught the issues on danger of the human immunodeficiency virus (HIV) and sexually transmitted infections (STIs). More than three-thirds of respondents report that at school they have been informed on dangers of early pregnancy; as expected, girls more often recall such lessons. 95 percent indicate lessons of healthy life style basics.

About half (47.7%) of respondents believe that a person can get HIV infection through everyday contact. Only about one quarter of respondents have given the correct answer, at the same time 17-year-olds are almost the same as 15-year-olds on the degree of awareness. Girls, residents of cities and 17-year-olds from Ashgabat are slightly better informed.

Adolescents have been asked on the sources where they get information on such issues as HIV, sexually transmitted infections, unwanted pregnancy. The largest number of respondents indicates that such source has been the school (56.2%), followed in descending order and with a wide margin by TV/radio (7.5%), health workers (6.4%), newspapers and magazines (5.0%). Only 3 percent indicate the Internet as a primary source of information. It should be noted that family and friends play an extremely low information role – 2 percent and 0.4 percent, respectively. Girls get information more at school than boys (60% vs. 50%), while boys mention TV, radio, Internet, and partly newspapers and magazines as a source of information. In both age groups school has been more often mentioned by adolescents from Mary; newspapers and magazines – by Dashoguz adolescents; Internet – by 17-year-olds from Ashgabat.

On the question of compliance with adolescent-friendly principles at health institutions, adolescents report on the possibility to choose a physician of the same sex, and friendly attitude; they rarely mention observance of anonymity principles. Slightly less than half of adolescents have not visited medical institutions during previous several years. Various symptoms of sexually transmitted infections have been indicated up to 5 percent of 17-year-olds, which shows low level of respondents' awareness. The majority of adolescents do not know where, if necessary, they can be tested and receive necessary advice on the above mentioned issues.

## ■ Reproductive health <sup>2</sup>

On the question related to having sexual intercourse, 5 percent of 17-year-olds report affirmatively: about 9 percent of boys and 2 percent of girls. There are more affirmative responses among respondents from Ashgabat (9%), followed by Mary (5%) and the least of all – by Dashoguz (3%). Adolescents have a significant lack of knowledge about the symptoms of the possible STIs and contraception methods.

The majority of respondents (60%) are undecided and not sure when they want to marry. Among the suggested options the most popular variant (25%) is “18-24” years. Adolescents are also not sure how many children they want to have. The most popular variant is “2 children”, mostly more often among girls, residents of Ashgabat and Mary.

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<sup>2</sup> These questions were included only in the questionnaire for 17-year-olds

# INTRODUCTION AND BACKGROUND

## Health of adolescents as a public healthcare priority

The WHO identifies adolescence as the period from ages 10 to 19 when sexual development occurs, starting from appearance of secondary sexual characters up to onset of sexual maturation, psychological child processes are transformed into behavior characteristic for adults, and transition from full social and economic dependence on adults towards relative independence takes place. During adolescence, rapid change in growth and neuroendocrine of the whole organism come over. The specific feature at this period is instability of hormonal, neurogenic and vegetative regulation of the internal organs, leading to functional disorders, borderline states.

The importance of adolescence for human life was estimated by mankind rather long time ago. The adolescence period was very vividly and fully described by Jean-Jacques Rousseau, the French philosopher of the 18<sup>th</sup> century, who called it “the second birth of a human being”. However, such thoughtful attitude to adolescence to a greater degree referred to human socialization, his/her education, and less to the health aspects.

Until recently, health of adolescents has not been an actual priority for public healthcare, attitude to problems of adolescents has been more “medical” and narrow. But since the end of the 20<sup>th</sup> century the attitude to this issue has been changing. In particular, this has been supported by the spread and adoption of a more tangible form of the concept that health is not just the absence of disease, but as defined by WHO is “a state of physical, mental and social well-being”. Accumulated scientific data enable to rethink the determinants of health. To date, it is considered that 10 percent of health of a person depend on healthcare system; 20 percent - on biological (genetic) factors; 20 percent – on external environment. The remaining 50 percent are the factors related to human health behavior.

Focus on determinants has started to change. Globalization and urbanization plays more important role. Despite economic progress in general, the role of socio-economic factors has not diminished at all, in particular, the trend towards polarization of society is under way, both between and within many countries. Cultures actively interpenetrate each other; global telecommunications systems, including the Internet, have been developed. The basic unit of society - the family – starts to change, family values are under changes. In many countries, education system directly related to adolescents is under reforming in contradictory ways. All these have a direct impact on human behavior, particularly on immature organism of a child and adolescent.

During the last decades the significance of non-communicable diseases has sharply increased. Today, the most common causes of morbidity and mortality, including early adult mortality, are cardiovascular diseases, neoplasms, diseases of the respiratory and digestive organs, diabetes, neuropsychiatric diseases. The life cycle concept, which establishes the principle of interdependence of different periods of human life, is under development and being introduced. In particular, it has been proved that adolescence age plays an important role in giving rise to risk factors for mortality prevalence in the adult age. About 60 percent of adult early deaths and one-third of the adult disease burden are associated with behavior or illnesses (state) that raised or began in adolescence. If today the problem of mental health comes more and more to the fore, it should be remembered that nearly half of all adults with mental health problems have had some symptoms by the age of 14 years. On the other hand, it is obvious that such objective as infant mortality reduction requires improvement of mothers' and fathers' health, and such improvement is impossible without active prevention of health problems among adolescents, who are future mothers and fathers.

It is important that data on unfavorable state of adolescents are being accumulated. In accordance with the WHO assessment, about 1 700 000 adolescents die globally every year, including 90 000 adolescents who commit suicide. Main health problems at adolescent age are traumas, sexual and reproductive health, mental health, psychoactive substance use. Prevalence of chronic diseases/conditions, such as asthma, diabetes, an arterial hypertension, excess weight, problems of musculoskeletal system, is increasing.

All above-mentioned factors have led to the situation when adolescent health has gradually become an actual priority of the public healthcare system. This was justified by the development of a European strategy for child and adolescent health and development, approved by WHO Regional Office for Europe in 2005. The strategy provides for a separate priority to adolescent health, specifies main goals and objectives and priority areas for action. At the same time, the health of adolescents is directly related to other priorities of this strategy, in particular, such as "eating", "traumas and violence", "psychosocial development and mental health". Following the recommendations of the WHO, many countries have begun to develop and implement their own strategies to support the health and development of children and adolescents.

With increased activity in the area of adolescent health it has become urgent to develop the tools enabling to assess the factors which affect the health and behavior related to health issues ("health behavior"). Routine statistics is often unable to reflect the actual trends, not to mention the fact that it does not cover a number of health determinants. In these circumstances,

it has become necessary to carry out a targeted research, such as the HBSC (Health Behavior in School-aged Children, HBSC) survey.

## **Health Behavior in School-aged Children survey**

The Health Behavior in School-Aged Children (HBSC) survey is an international study under the auspice of the WHO, and is aimed at exploring health-related behaviors of school-aged children. It was launched in 1983, when researchers from a number of European countries started to coordinate their research in that area. Later, WHO recognized HBSC as an international / cross-national study conducted every 4 years. Currently, the HBSC survey covers 37 European countries and the USA, Canada, Israel and Turkey as well. Out of post-Soviet countries, all Baltic States, Russia, Ukraine and Armenia participate in the survey.<sup>3</sup> One of its main advantages is a standard methodology which enables to compare the findings of different countries in a reliable way. At the same time a questionnaire, in general, is similar: there are “mandatory” approaches and possibility to adapt it for specific conditions.

The survey covers 3 age groups: 11-, 13- and 15-year-old children; a standard sampling includes 4 500 children, 1 500 children from each age group. The survey is conducted at schools, including minimum 60 schools, which are determined through “probability proportionate to size” methodology.

Statistical data collected in each country are then thoroughly checked and shared with the international centers located in Scotland and Norway. After verification and “refinement” of the materials the report preparation process starts. The international report drawn up by the HBSC Network and published by the WHO Regional Office for Europe presents the most currently existing comprehensive picture of adolescent health and well-being state in the world. The HBSC methodology is actively used in other countries.

The adolescent health in this survey is considered in a comprehensive context, i.e. rather as a state of physical, social and emotional well-being than only as absence of any disease; in other words, health is considered as a resource ensuring everyday life activities. The HBSC study provides for not only monitoring of adolescent health and behavior in a time range and in different countries, but consideration of various components of their health in a much wider context as well. In order to understand what factors affect adolescent health and hygienic behavior, both their social-economic environment and conditions specific to their life at home, at school, in peer groups are studied. The survey ensures wide and thorough information inaccessible in conducting many monitoring surveys. In the framework of this project a special

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<sup>3</sup> By the time of writing this report Moldova submitted its application.

research methodology has been developed, which has a strong conceptual basis and includes an agreed set of social and individual health determinant indicators as well as health and behavioral outcomes.

## **Analysis of some health and demographic indicators in Turkmenistan**

This section contains some statistical indicators from the WHO database and some other sources which directly or indirectly refer to the subject of this survey.

The population of the country is more than 6 million. Less than half of the population belongs to the urban population. Turkmenistan has one of the highest birth rates in the region of WHO Europe, which is reflected in a number of demographic characteristics. According to the WHO database, the number of live births was 29 per 1 000 people in 2009. Children aged under 15 accounted for about 29 percent of the population (the average for the WHO European Region was 17 percent). In recent years, the birth rate in the country and in all regions has been increasing. Within the period of 2005-2010, the birth rate has increased more than 50 percent.

Estimated life expectancy at birth was 66 years that is slightly lower than the average indicator in the region (75 years). Probability of death occurrence before attainment of 5 years of age has been estimated as 53 per 1000 live births (average 10 per 1000). According to the WHO estimates, the maternal mortality rate was 77 / 100 000, which nearly 10 times exceeded the official data. There were 275 abortions per 1000 live births. This indicator was higher in the age category of under 20 and amounted to 835 abortions (both indicators are higher than average ones).

More than half of the deaths were associated with non-communicable diseases. About 20% of the population aged over 15 years regularly smoked. The death rate from coronary heart disease was 440 per 100 000, which was 2 times higher than in the European Region. Likewise, mortality from cerebrovascular diseases was higher. Mortality rate from diabetes was also higher than the average and amounted to 20 per 100 000 against 12 per 100 000 on average for the region.

It was estimated that the prevalence of mental disorders was 1.5 percent, well below the European average indicator of 2.8 percent. Mortality from road accidents in the age group from 0 to 65 years was 8 per 100 000 persons (average by WHO Regional Office for Europe was 11 per 100 000 persons). Suicide and self-mutilation rate was low amounting to 11 per 100 000, whereas the rate of homicide and intentional mutilation was 9 per 100 000. The level of alcohol consumption was 4 times less than European rate. The reported AIDS occurrence in the country was low (one of the lowest in the region) and amounted to 1 case per 100 000 persons.

The total number of calories consumed on average in Turkmenistan was 2878 kcal, while the European average amounted to 3488 kcal. Of the total amount, fat generated 26 percent of energy, whereas in other countries it amounted to 36 percent (WHO Database Health for All, 2012).

According to the WHO data, a relatively high level of glucose and high arterial hypertension occurred in population.

It is obvious, that a number of the above mentioned indicators (high level of cardiovascular disorders, diabetes, smoking-related diseases) are directly related to behavioral norms, including those ones which are established in adolescent period.

Several issues related to adolescent reproductive health were covered in the study Needs of Youth in Adolescent Reproductive Health Services, conducted by the MOHMI, the Scientific-Clinical Center of Mother and Child Health Care named after Gurbansoltan Eje (SCC MCHC) and UNFPA Turkmenistan in 2008. The findings showed a rather high level of adolescent knowledge on contraceptives, whereas knowledge on protection means from HIV/AIDS/STIs was not sufficient.

The Government of Turkmenistan pays great attention to the protection of health of children and adolescents. The Strategy of Economic, Political and Cultural Development for the Period till 2020 provides for a lot of activities, including those related to strengthening the healthy life style skills, overall literacy, as well as the issues of their own health. Development of a healthcare policy is reflected in the Programme of the President of Turkmenistan “Health”, as well as in various national programs, such as Prevention and Fight against Anemia among Women and Children, Salt Iodization, Fortification of Flour with Iron and Folic Acid, HIV/AIDS/STI Prevention, etc.

Access to health care for children, including primary healthcare, is ensured by a wide network of healthcare institutions, including those ones in rural areas. In particular, outpatient family-type care for children is provided by 26 urban and 1643 rural health houses and health centers of district hospitals, where monitoring and medical care for children is provided by family doctors, medical assistants, family nurses. The country has 87 medical adolescent rooms (units). The successful addressing of family planning issues is supported by the strategy on reproductive health of women of Turkmenistan. One of the most important achievements in the implementation of measures to protect women's health is a steady trend in maternal mortality reduction.

Various activities are organized and carried out to educate the public on the issues of strengthening health and developing healthy lifestyles: TV programs, publications in mass media,

round tables, workshops, distribution of information materials on healthy eating, sport, prevention of harmful habits, prevention of drug addiction, HIV, AIDS, STIs, and on other most urgent health-related problems. Healthcare workers are involved in teaching at secondary schools on selected topics (on various diseases and their prevention, hygiene, sexual and other characteristics of adolescents.) of the subject “Principles of Social and Personal Safety”, which is conducted from 1<sup>st</sup> to 10<sup>th</sup> grades.

With the support of UNFPA, “Youth Centers” have been established, which train volunteers and trainers to work with youth, to conduct workshops, “peer-to-peer” trainings, raise awareness on adolescent reproductive health, gender equality, leadership development, HIV/ AIDS/STI prevention. Hotlines have been opened to provide socio-psychological assistance to adolescents and youth.

Further strengthening of health and development of children, especially adolescents, requires analysis of problems based on statistically verified data on health and healthy behavior of adolescents, which will enable to more accurately assess the current situation and develop a more informed and targeted policies and programs.

## **METHODOLOGY**

The objective of this pilot survey has been to identify basic behavioral characteristics, knowledge, behavior and attitude to health issues in 13-, 15- and 17-year-old adolescents, aimed at further development of the National strategy on protection of children’s and adolescents’ health.

The methodology of the survey is based on the standard HBSC methodology formulated in the relevant protocols and adapted to specific conditions, terms and capacities. The survey represents an anonymous questioning of the adolescent representative target group of Turkmenistan.

UNFPA and the MOHMI have decided to conduct the first phase of this survey in a pilot mode and cover only 15-year-olds<sup>4</sup>. Ashgabat city, Mary and Dashoguz provinces have been suggested as pilot areas for this survey. With the exception of these limitations, the HBSC “generic” methodology has been practically fully observed at the first phase. Upon obtaining the

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<sup>4</sup> The authors of the survey are fully aware of some methodological incompleteness in comparing 15-year-olds with 15- and 17-year-olds with a 1.5-year interval.

data among 15-year-olds, the MOHMI and UNFPA have decided to carry out the survey among other two age groups.

## **Questionnaire**

The questionnaire for the survey in Turkmenistan includes 134 items for 13-year-olds, 138 items for 15-year-olds and 176 items for 17-year-old adolescents. In addition to the standard generic HBSC questions, based on the discussions with the Working Group, it includes items specific to Turkmenistan, in particular, aimed at analyzing such questions as consuming a number of national cuisine meals, knowledge on how to prevent HIV-infection, classes on healthy lifestyle at schools, etc. The content of the questionnaire has been agreed with the Ministry of Health and Medical Industry of Turkmenistan. It has been translated into Turkmen and tested at schools of Ashgabat city. Besides the Turkmen language a small percent of children have been able to respond in Russian as well.

## **Sampling**

It has been mentioned above that the MOHMI and UNFPA Country Office have suggested Ashgabat city, Mary and Dashoguz provinces as target areas for the pilot survey. The Ministry of education has provided a complete list of schools and grades of the indicated regions, including the number of students in each grade.

At the first stage the 9<sup>th</sup> grades have been chosen, where mainly 15-year-olds study. For other two groups the 6<sup>th</sup> and 10<sup>th</sup> grades have been selected, where students of the relevant age groups study. Based on the objectives of the survey and schools from 3 selected regions a representative school sampling has been held at both phases using the BHSC methodology of “probability depending on size” and included 62 schools (a list of schools and grades is attached) of all regions in the above mentioned provinces. Grades in the specified schools have been randomly selected.

## **Interviewers**

The survey has been conducted by specially trained interviewers from employees of the SCC MCHC and the Medical University. The training has included piloting and testing in classes.

## **Interviewing process**

School administrations, surveyed children and their parents have been notified in advance in order to get their consent for interviewing. Furthermore, taking into account that many children do not know their height and weight, the working group has proposed the

following protocol: with support of the local health centers and school nurses to measure the students' physical parameters – their height and weight - on the day of the survey or the day before it<sup>5</sup>. Interviews have been carried out in the presence of interviewers during the lessons in the classrooms or school assembly halls. Prior to filling in the questionnaires, the interviewers have introduced main information and objectives of the survey. Moreover, each questionnaire has come with a supplemented introductory information leaflet with the similar data in writing.

## **Term of the survey**

The survey was carried out in October-December 2011. Interviewing at schools was conducted in November-December 2011. Data entry, verification and statistical analysis were conducted in 2012.

## **Data entry and analysis**

Data have been entered and analyzed through a package of applied software SPSS 17, specifically modified for this survey. Data have been entered by skilled operators. Upon completion of data entry and prior to statistical analysis, the consultant has made an extra verification of the statistical data to exclude errors in data entry.

As a result of the first phase in 62 schools 1568 questionnaires have been received. Further analysis has excluded questionnaires: (a) with missing such basic indicator as “sex”; (b) where there have been significant omissions (data missed on the whole page and more), and (c) in which age of children exceeded 6 months at the moment of survey. In the end, 1429 questionnaires from 61 schools have been included into analysis<sup>6</sup>. The second phase has included 1494 questionnaires for 13-year-olds (out of 1574 ones) and 1546 questionnaires for 17-year-olds (out of 1632 ones) from 62 schools.

## **Statistical reliability of the material**

The HBSC methodology recommends a minimum sample size of 1536 students which ensures a 95% confidential interval assumption. The mean square deviation is defined by the formula  $se = \frac{\sqrt{pq}}{n}$ , where n is a total number of respondents, p is a share of respondents with the same characteristics and q = 1.0 – p.

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<sup>5</sup> This element for 15-year-olds has been carried out partially, data on nearly half of children have been missing, and therefore this element is not included into the present report.

<sup>6</sup> Data of one school have been excluded due to exceeding age threshold.

Reliability of data can be demonstrated by the following examples. So, if in the study 72 of 1429 children (5.0%) have reported that they never have had breakfast, then the reliability index is  $se = \frac{\sqrt{0.05 * 0.95}}{1429}$ , which accounts for 0.0058 (namely <0.05), or 0.58%. The confidentiality index is  $5 \pm 1.96 * 0.58 = 1.1$ , i.e. there is a probability that the reliability index range between 3.9% and 6.1% is 95%

At a smaller sampling the ratio changes, but reliability remains. So, if 24 of 283 children interviewed in Ashgabat have reported, that they "never have had breakfast" (8.5 %), the reliability index is,  $se = \frac{\sqrt{0.08 * 0.92}}{283}$  which accounts for 0.016 (again <0.05) or 1.6 %. The confidentiality index is  $1.96 * 1.6 = 3.1$ , i.e. there is 95 % reliability that the index ranges between 5.4 % and 11.6 %.

Thus, it is obvious that in this sample the obtained data, in general, as well as key characteristics of sub-groups (by gender, region of residence) are reliable. Comparing differences in characteristics of sub-groups, the report reflects those ones where the difference reliability (<0.05) is observed as well.

## Representation of findings in the report and their interpretation

The present report shows the majority of outcomes in the form of 109 aggregated tables, many of which contain absolute numbers and percentage ratio for 3 age groups. In the presence of substantial differences, additional tables are provided with a breakdown by sex (male, female), regions (Ashgabat city, Dashoguz and Mary provinces) and place of residence (urban, rural). All tables and actual data are provided in the annex.

In the beginning a text interpretation is provided to each question (in some cases to a cluster of questions) followed by the tables. The title of each table contains a number of the question in this report (from 1 to 109), a code of the question, which is provided for in the generic questionnaire (for instance, MQ 30). The questions excluded from the questionnaire by the working group are marked by code "TKM". Then, the title of the table includes the question how it is formulated in the questionnaire. The diagrams contain only percentage ratio. In many cases data of Turkmenistan on 13- and 15-year-old adolescents have been compared with the published indicators of the latest international HBSC study held in 2009/2010.

## FINDINGS

### ■ Personal data

*Distribution of sampling by gender (Table 1).* In the sample, the number of girls prevails (51.3%) over the number of boys (48.7%).

Table 1. MQ1. Sampling by gender

Sex	13		15		17		Total	
	Number	%	Number	%	Number	%	Number	%
Male	775	<b>51,9</b>	662	<b>46,3</b>	738	<b>47,7</b>	2175	<b>48,7</b>
Female	719	<b>48,1</b>	767	<b>53,7</b>	808	<b>52,3</b>	2294	<b>51,3</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

*Distribution of sampling by regions (Table 2.)* Approximately one-fifth of the respondents have been residents of Ashgabat, one-third – residents of Dashoguz province, and less than half – residents of Mary province. In general, this is proportional to the number of children population in these regions.

Table 2. PD01. Sampling by region

Region	13		15		17		Total	
	Number	%	Number	%	Number	%	Number	%
Ashgabat	284	<b>19,0</b>	283	<b>19,8</b>	316	<b>20,4</b>	883	<b>19,8</b>
Dashoguz	542	<b>36,3</b>	512	<b>35,8</b>	516	<b>33,4</b>	1570	<b>35,1</b>
Mary	668	<b>44,7</b>	634	<b>44,4</b>	714	<b>46,2</b>	2016	<b>45,1</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

*Distribution of sampling by the place of living (Table 3).* Out of all interviewed, 534 (38,9%) respondents consider themselves as urban residents, whereas the remaining 61,9% - as rural residents.

Table 3. PD02. Sampling by residing area

Area	13		15		17		Total	
	Number	%	Number	%	Number	%	Number	%
Urban	590	<b>39,5</b>	534	<b>37,4</b>	614	<b>39,7</b>	1738	<b>38,9</b>
Rural	904	<b>60,5</b>	895	<b>62,6</b>	932	<b>60,3</b>	2731	<b>61,1</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

## SOCIAL CONTEXT

### ■ Family

The most important for the development of a child and an adolescent is the family environment. It is in the family where the child begins to acquire norms of behavior, including health-related behavior. Influence of the family in the child's adolescence period is decreasing to some extent (in particular, in the context of age from early to late adolescence), but still it remains quite strong. At the same time, the family should be adequate to changes happening with the adolescent as well. Assessment of the environment in the family is essential for understanding the mechanisms of children's and adolescents' behavior and their emotional well-being.

*Having mother in the family (Table 4).* Out of all interviewed, about 93 percent have reported that they reside with their mothers. About 7 percent of respondents have skipped or found difficulty in answering this question. There is no difference in responses by regions or place of living.

Table 4. MQ33\_1. I live in the house with my mother

Region	13		15		17		Total	
	Number	%	Number	%	Number	%	Number	%
Yes	1409	<b>94,3</b>	1287	<b>90,2</b>	1469	<b>95,0</b>	<b>4165</b>	<b>93,2</b>
No answer or No	85	<b>5,7</b>	142	<b>9,8</b>	77	<b>5,0</b>	<b>304</b>	<b>6,8</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	<b>4469</b>	<b>100,0</b>

*Having father in the family (Table 5).* Compared to the question on residing with their mothers, fewer respondents answer in the affirmative to the question on residing with their

fathers. Nearly every fourth respondent, slightly more often these are boys, has answered “no” to that question.

Table 5. MQ33\_2. I live in the house with my father

	13		15		17		Total	
	Number	%	Number	%	Number	%	Number	%
Yes	1312	<b>87,8</b>	813	<b>56,9</b>	1326	<b>85,8</b>	3451	<b>77,2</b>
No answer or No	182	<b>12,2</b>	616	<b>43,1</b>	220	<b>14,2</b>	1018	<b>22,8</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

*Other relatives in the family (Table 6).* Nearly 12 percent of respondents reside with their grandfathers, 17 percent – with their grandmothers. As expected, in all age groups residents of Ashgabat live with them and other relatives more seldom than others. Households in Dashoguz province and rural houses are relatively the most numerous. One percent of children have reported they reside with step-fathers or step-mothers.

Table 6. MQ33\_3-10. Live in the house with other relatives...

	13		15		17		Total	
	Number	%	Number	%	Number	%	Number	%
Grandfather	263	<b>17,7</b>	126	<b>8,8</b>	148	<b>9,6</b>	537	<b>12,0</b>
Grandmother	352	<b>23,7</b>	175	<b>12,3</b>	230	<b>14,9</b>	757	<b>16,9</b>
Uncle	243	<b>16,4</b>	117	<b>8,2</b>	139	<b>9,0</b>	499	<b>11,1</b>
Daughter-in-law	256	<b>17,3</b>	139	<b>9,7</b>	237	<b>15,3</b>	632	<b>14,1</b>
Aunt	209	<b>14,1</b>	98	<b>6,9</b>	122	<b>7,9</b>	429	<b>9,5</b>
Stepfather	19	<b>1,3</b>	11	<b>0,8</b>	13	<b>0,9</b>	43	<b>0,9</b>
Stepmother	30	<b>2,0</b>	1	<b>0,1</b>	21	<b>1,4</b>	52	<b>1,1</b>

*Having siblings in the family (Tables 7, 8).* Data on a number of brothers in the family have been reported. They are a reflection of the current demographic situation in the country. Families from Ashgabat have the smallest number of children.

Table 7. MQ33\_11. Number of brothers in a family....

	13		15		17		Total	
	Number	%	Number	%	Number	%	Number	%
No brothers	483	<b>32,3</b>	488	<b>34,1</b>	536	<b>34,6</b>	1507	<b>33,7</b>
1	542	<b>36,3</b>	510	<b>35,7</b>	512	<b>33,1</b>	1564	<b>35,0</b>
2	259	<b>17,3</b>	280	<b>19,6</b>	310	<b>20,1</b>	849	<b>19,0</b>
3	134	<b>9,0</b>	93	<b>6,5</b>	103	<b>6,7</b>	330	<b>7,4</b>
4 and more	76	<b>5,1</b>	58	<b>4,1</b>	85	<b>5,5</b>	219	<b>4,9</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1564	<b>100,0</b>	4469	<b>100,0</b>

Таблица 8. MQ33\_11. Число сестер в семье.

	13		15		17		Total	
	Number	%	Number	%	Number	%	Number	%
No sisters	446	<b>29,9</b>	396	<b>27,6</b>	480	<b>31,0</b>	1322	<b>29,6</b>
1	618	<b>41,4</b>	584	<b>40,9</b>	635	<b>41,1</b>	1837	<b>41,1</b>
2	299	<b>20,0</b>	311	<b>21,8</b>	299	<b>19,3</b>	909	<b>20,3</b>
3	92	<b>6,2</b>	85	<b>6,0</b>	88	<b>5,7</b>	265	<b>5,9</b>
4 and more	39	<b>2,6</b>	53	<b>3,7</b>	44	<b>2,8</b>	136	<b>3,0</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

*Degree of communication with relatives (Tables 9 - 13).* To reflect relations between children and parents, as well as between children and other members of the family, the HBSC survey includes a question on how easy children confide in their relatives. Data on this are presented in Tables 9 - 13. With age, communication is gradually getting more difficult.

In general, less than half of adolescents report that it is easy for them to communicate with their fathers (*Table 9*).

Table 9. MQ35\_1. How easy you can speak /share things which you are worried about with your father?

	13		15		17		Total	
	Number	%	Number	%	Number	%	Number	%
No answer	230	<b>15,4</b>	217	<b>15,2</b>	156	<b>10,1</b>	603	<b>13,5</b>
Very easy	483	<b>32,3</b>	374	<b>26,2</b>	370	<b>23,9</b>	1227	<b>27,5</b>
Easy	342	<b>22,9</b>	268	<b>18,8</b>	357	<b>23,1</b>	967	<b>21,6</b>
Difficult	193	<b>12,9</b>	265	<b>18,6</b>	306	<b>19,8</b>	764	<b>17,1</b>
Very difficult	127	<b>8,5</b>	186	<b>13,0</b>	198	<b>12,8</b>	511	<b>11,4</b>
No father	119	<b>8,0</b>	117	<b>8,2</b>	159	<b>10,3</b>	395	<b>8,8</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

Considerably big number of children confide in their mothers (*Table 10*)

Table 10. MQ35\_1. How easy you can speak /share things which you are worried about with your mother?

	13		15		17		Total	
	Number	%	Number	%	Число	%	Число	%
No answer	112	<b>7,5</b>	146	<b>10,2</b>	109	<b>7.1</b>	367	<b>8,2</b>
Very easy	775	<b>51,9</b>	701	<b>49,0</b>	783	<b>50.6</b>	2259	<b>50,6</b>
Easy	409	<b>27,4</b>	372	<b>26,1</b>	421	<b>27.2</b>	1202	<b>27,0</b>
Difficult	99	<b>6,6</b>	118	<b>8,3</b>	124	<b>8.0</b>	341	<b>7,6</b>
Very difficult	49	<b>3,3</b>	40	<b>2,8</b>	57	<b>3.7</b>	146	<b>3,3</b>
No mother or do not meet her	50	<b>3.3</b>	52	<b>3,6</b>	52	<b>3.4</b>	154	<b>3,5</b>
Total	1494	<b>100</b>	1429	<b>100</b>	1546	<b>100</b>	4469	<b>100</b>

At the same time, girls' communication with fathers is much more difficult. In contrast to relations with fathers, there is no or little difference among boys and girls (Table 11).

Table 11. MQ35\_1. How easy you can speak /share things which you are worried about with your mother and father? (gender disaggregated, in %)

A) With mother

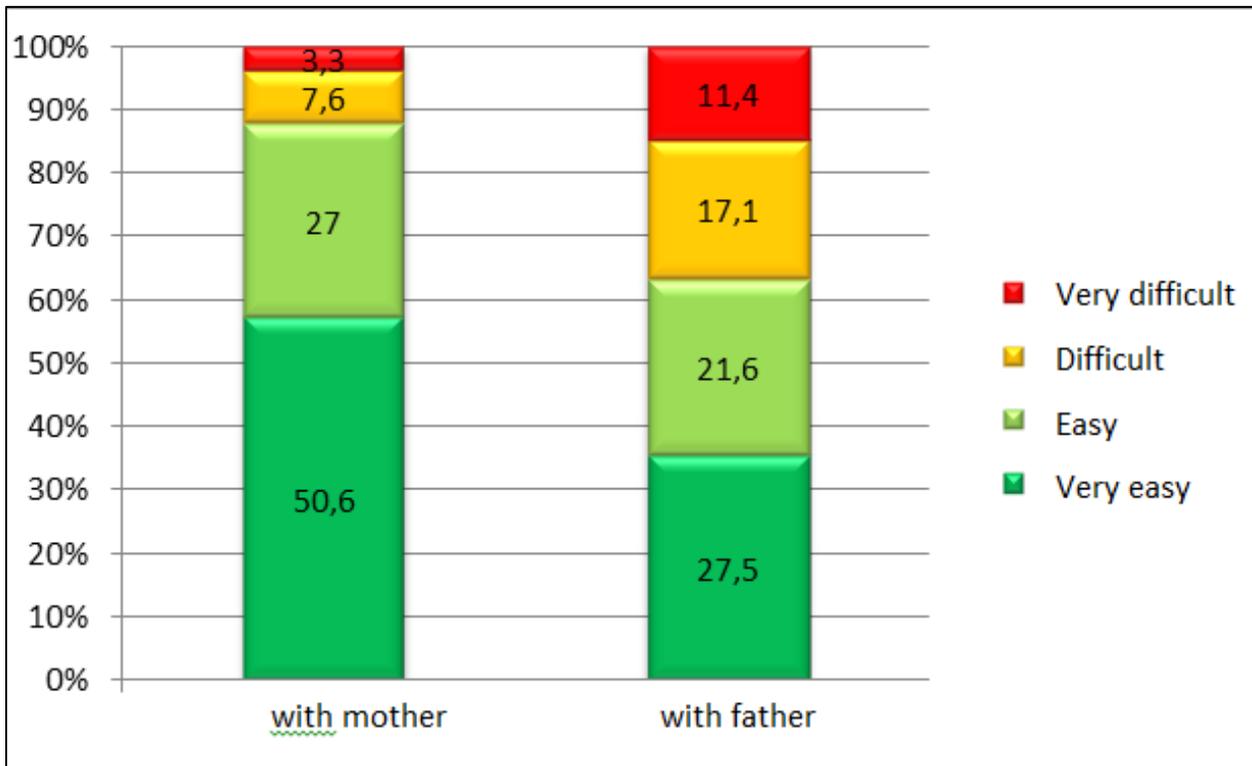
	13		15		17	
	Female	Male	Female	Male	Female	Male
No answer	21,7	9,5	19,1	10,7	11,8	8,2
Very easy	22,4	41,5	16,3	37,7	15,8	32,8
Easy	17,7	27,7	13,6	24,8	18,1	28,5
Difficult	17,1	9,0	22,3	14,2	23,7	15,5
Very difficult	12,4	4,9	18,3	7,0	18,5	6,6
No mother / do not meet her	8,8	7,2	10,4	5,6	12,0	8,4
Total	100,0	100,0	100,0	100,0	100,0	100,0

B) With father

	13		15		17	
	Female	Male	Female	Male	Female	Male
No answer	7,9	7,1	7,8	13,6	6,0	8,2
Very easy	52,9	51,0	52,8	44,6	54,2	46,8
Easy	24,3	30,2	25,3	26,9	25,5	29,1
Difficult	8,5	4,9	7,4	9,2	8,1	8,0
Very difficult	3,2	3,4	3,0	2,6	3,7	3,6
No father/ do not meet him	3,2	3,5	3,7	3,6	2,6	4,2
Total	100,0	100,0	100,0	100,0	100,0	100,0

Diagram 1 shows comparison of summarized data on relations with mothers and fathers. In general, the number of adolescents whose communication with their fathers is “difficult” or “very difficult” is three times higher compared to the adolescents for whom communication with mothers is more difficult.

Diagram 1. MQ35\_1\_2 How easy you can speak /share things which you are worried about with your mother and father? (in %, out of those who answered)



Out of other relatives, adolescents communicate rather confidentially with their elder brothers, as well as slightly better with their elder sisters (Tables 12 and 13). At the same time, the degree of confidence to brothers is decreasing with age, whereas it remains at the same level to their sisters.

Table 12. MQ35\_5. How easy you can speak /share things which you are worried about with your elder brother?

	13	15	17	<b>Total</b>
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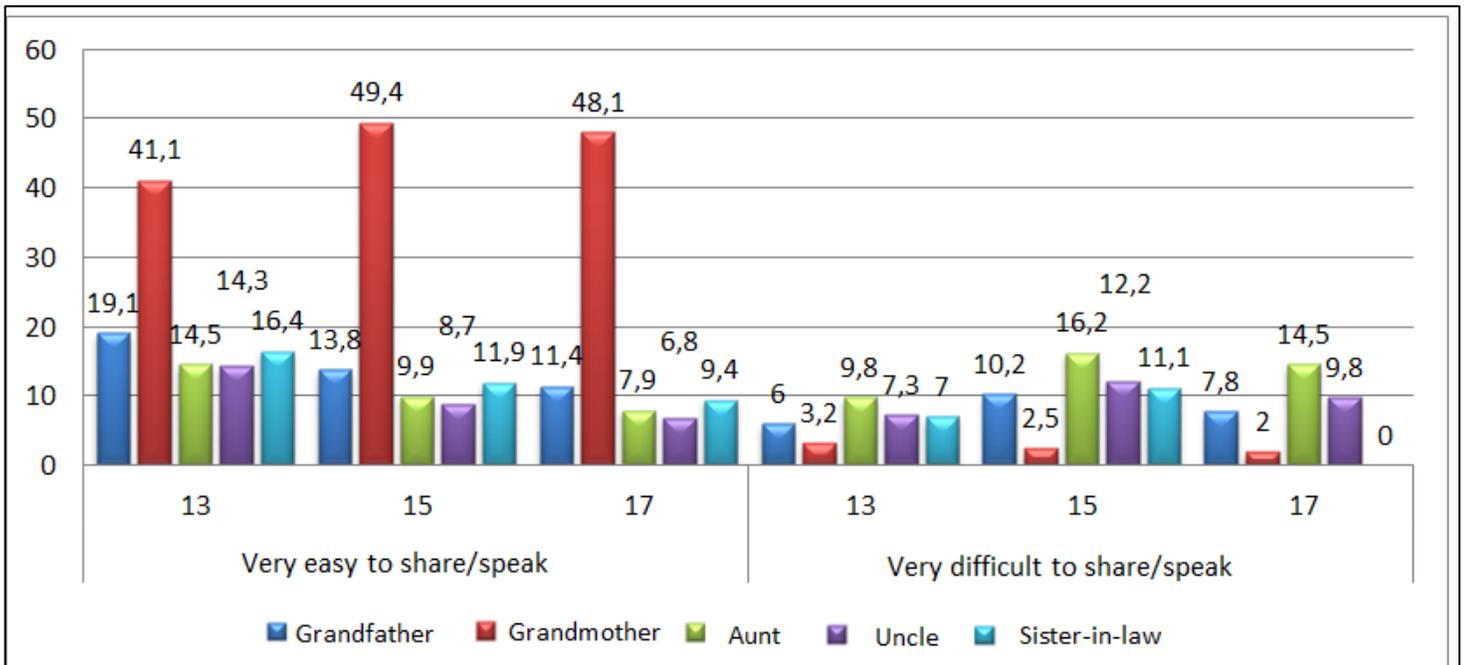
	Число	%	Число	%	Число	%	Число	%
No answer	429	28,7	406	28,5	270	17,5	<b>1105</b>	<b>24,7</b>
Very easy	314	21,0	219	15,4	252	16,3	<b>785</b>	<b>17,5</b>
Easy	240	16,1	159	11,2	281	18,2	<b>680</b>	<b>15,2</b>
Difficult	134	9,0	150	10,5	199	12,9	<b>483</b>	<b>10,8</b>
Very difficult	94	6,3	143	10,0	130	8,4	<b>367</b>	<b>8,2</b>
No brother/ do not meet him	283	18,9	348	24,4	414	26,8	<b>1045</b>	<b>23,4</b>
Total	1494	100,0	1425	100,0	1546	100	<b>4469</b>	<b>100</b>

Table 13. MQ35\_6. How easy you can speak /share things which you are worried about with your elder sister?

	13		15		17		Total	
	Число	%	Число	%	Число	%	Число	%
No answer	408	<b>27,3</b>	413	<b>28,9</b>	255	<b>16,5</b>	1076	<b>24,1</b>
Very easy	388	<b>26,1</b>	290	<b>20,3</b>	417	<b>27,0</b>	1095	<b>24,5</b>
Easy	283	<b>18,9</b>	227	<b>15,9</b>	341	<b>22,1</b>	851	<b>19,0</b>
Difficult	82	<b>5,5</b>	67	<b>4,7</b>	104	<b>6,7</b>	253	<b>5,7</b>
Very difficult	53	<b>3,5</b>	90	<b>6,3</b>	52	<b>3,4</b>	195	<b>4,7</b>
No sister/ do not meet her	280	<b>18,7</b>	342	<b>24,0</b>	377	<b>24,4</b>	999	<b>22,3</b>
Total	1494	<b>100,0</b>	1429	<b>100</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

Out of other relatives, the easiest communication of adolescents is with their grandmothers, sisters-in-law (a little easier, than with their uncles), whereas the most difficult communication is with their aunts (Diagram 2). At the same time the degree of high confidence to their grandmothers remains stable in all three age groups.

Diagram 2. MQ35\_11. 6-11. How easy you can speak /share things which you are worried about with your ...? (in %)



Comparison with the international HBSC data shows, that in the data of Turkmenistan on the degree of positive communication of 13- and 15-year-olds with their mothers the indicator for girls is equal to the mean indicator (78%), and the indicator for boys is a little lower than the European one: 71.5 percent against 78 percent in the European sampling. Comparison of indicator of communication with fathers shows the following picture: the Turkmen sampling on both genders demonstrates deficiency in relations: only 45 percent of cases of easy or very easy communication with fathers, whereas in the international report this indicator has been 50 percent on average.

*From the given responses the most alarming sign is certain disconnectedness of children with their fathers. In the analysis of the responses to this question it is necessary to take into account the fact that children see their fathers rarely, since they have to spend more time at their work. However, in the educational programs for young families special attention should be paid to work with fathers, focusing on the need for developing closer and more confident relationships with their children. It is*

important, that the relations are positive with their grandmothers, sisters, who can be a certain positive resource to influence the behavior of adolescents.

## ■ Socio-economic data

Importance of socio-economic determinants and impact on the health of population is well-known. Adolescents have been given a number of questions related to socio-economic status of their families.

*Employment of parents (Tables 14-16).* Only two-thirds of adolescents have reported that it is their fathers who work; in all age groups, the employment indicator is lower among the residents of Dashoguz province. The number of adolescents reporting the same in relation to their mothers is less than half (Tables 14, 15). As expected, the number of working mothers is more in cities and Ashgabat. The reasons for unemployment are not so clear for children (Table 16).

Table 14. MQ47\_1. Does your father work?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	17	<b>1,1</b>	43	<b>3,0</b>	30	<b>1,9</b>	90	<b>2,0</b>
Yes	1242	<b>83,1</b>	945	<b>66,1</b>	1221	<b>79,0</b>	3408	<b>76,3</b>
No	161	<b>10,8</b>	375	<b>26,3</b>	161	<b>10,4</b>	697	<b>15,6</b>
Do not know	11	<b>0,7</b>	7	<b>0,5</b>	16	<b>1,0</b>	34	<b>0,8</b>
No father / do not meet him	63	<b>4,2</b>	59	<b>4,1</b>	118	<b>7,6</b>	240	<b>5,4</b>
Total	1494	<b>100</b>	1429	<b>100</b>	1546	<b>100</b>	4469	<b>100,0</b>

Table 15. MQ47\_2. Does your mother work?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	51	<b>3,4</b>	48	<b>3,5</b>	33	<b>2,1</b>	132	<b>3,0</b>
Yes	613	<b>41,0</b>	686	<b>48,0</b>	706	<b>45,7</b>	2005	<b>44,9</b>
No	809	<b>54,1</b>	637	<b>44,6</b>	788	<b>51,0</b>	2234	<b>50,0</b>
Do not know	8	<b>0,5</b>	5	<b>0,3</b>	5	<b>0,3</b>	18	<b>0,4</b>

No mother / do not meet him	13	<b>0,9</b>	53	<b>3,7</b>	14	<b>0,9</b>	80	<b>1,8</b>
Total	1494	<b>100</b>	1429	<b>100</b>	1546	<b>100</b>	4469	<b>100,0</b>

Table 16. MQ47\_3. Why your farther does not work?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	1188	<b>79,5</b>	1045	<b>74,6</b>	1252	<b>81,0</b>	3485	<b>78,0</b>
He is sick, retired or on study	28	<b>1,9</b>	26	<b>1,9</b>	22	<b>1,4</b>	76	<b>1,7</b>
Looking for a job	85	<b>5,7</b>	77	<b>5,5</b>	74	<b>4,8</b>	236	<b>5,3</b>
He is busy about the house and takes care on other family members	90	<b>6,0</b>	161	<b>11,5</b>	76	<b>4,9</b>	327	<b>7,3</b>
Do not know	103	<b>6,9</b>	91	<b>6,5</b>	122	<b>7,9</b>	316	<b>7,1</b>
Total	1494	<b>100</b>	1429	<b>100</b>	1546	<b>100</b>	4469	<b>100,0</b>

*Family affluence (Tables 17 – 21).* In order to assess socio-economic status, the children have been suggested a number of questions.

*Availability and number of cars and trucks, and tractors in the family (Table 17).* More than half of families have got vehicles; more cars are owned by families from Ashgabat and urban population in general. Nearly 9 percent of children have reported on availability of two and more cars.

Table 17. MQ48. Is there a car or a lorry, own tractor in your family??

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%

No answer	7	<b>0,5</b>	15	<b>1,1</b>	11	<b>0,7</b>	33	<b>0,7</b>
No	732	<b>49,0</b>	674	<b>47,1</b>	650	<b>42,0</b>	2056	<b>46,0</b>
1	627	<b>42,0</b>	637	<b>44,6</b>	725	<b>46,9</b>	1989	<b>44,5</b>
2 or more	128	<b>8,6</b>	103	<b>7,2</b>	160	<b>10,3</b>	391	<b>8,7</b>
Total	1494	<b>100,0</b>	1429	<b>100</b>	1546	<b>100,0</b>	4469	<b>100</b>

*Availability of a separate bedroom in a child (Table 18).* On the question regarding a separate bedroom, every fifth adolescent has answered in the affirmative., residents of Ashgabat live separately more often and to some extent residents of Mary. This, in general, has been expected, as it corresponds to the composition of families.

Table 18. MQ49. Do you have a separate room /bedroom?

	13		15		17		Total	
	Число	%	Число	%	Число	%	Число	%
No answer	20	<b>1,3</b>	10	<b>0,7</b>	3	<b>0,2</b>	33	<b>0,7</b>
Yes	396	<b>26,5</b>	300	<b>21,0</b>	254	<b>16,4</b>	950	<b>21,3</b>
No	941	<b>63,0</b>	917	<b>64,2</b>	1139	<b>73,7</b>	2997	<b>67,1</b>
Together with brother or sister	137	<b>9,2</b>	202	<b>14,1</b>	150	<b>9,7</b>	489	<b>10,9</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1564	<b>100,0</b>	4469	<b>100,0</b>

*Frequency of travelling on vacation or other holidays (Table 19).* The majority of children have travelled with their family on vacation or during holidays. In all age groups less than 10 percent of adolescents have not travelled. No any regularity is observed by age, gender, place of living and region.

Table 19. MQ50. How often within 12 months did you go on vacation, holidays (for example, weddings )?

	13		15		17		Total	
	Число	%	Число	%	Число	%	Число	%
No answer	7	<b>0,5</b>	10	<b>0,7</b>	12	<b>0,8</b>	29	<b>0,6</b>

Did not go	157	<b>10,5</b>	112	<b>7.8</b>	161	<b>10,4</b>	430	<b>9,6</b>
1 time	347	<b>23,2</b>	385	<b>26.9</b>	417	<b>27,0</b>	1149	<b>25,7</b>
2 times	265	<b>17,7</b>	215	<b>15.0</b>	270	<b>17,5</b>	750	<b>16,8</b>
More than 2 times	718	<b>48,1</b>	707	<b>49.5</b>	686	<b>44,4</b>	2111	<b>47,2</b>
Total	1494	<b>100</b>	1439	<b>100.0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

*Frequency of going to summer camps (Table 20).* While the majority of respondents have travelled on holidays, only every fifth child has spent his/her holidays in the children's summer camps. More often 13-year-olds have holidays in the summer camps. A specific weight of "non-campers" is higher among residents of Ashgabat.

Table 20. TKM4. How often within 12 months did you do to camp?

	13		15		17		Total	
	Число	%	Число	%	Число	%	Число	%
No answer	14	<b>0,9</b>	21	<b>1,5</b>	13	<b>0,8</b>	48	<b>1,1</b>
Did not go	825	<b>55,2</b>	1051	<b>73,5</b>	1025	<b>66,3</b>	2901	<b>64,9</b>
1 time	406	<b>27,2</b>	261	<b>18,3</b>	323	<b>20,9</b>	990	<b>22,2</b>
2 times	121	<b>8,1</b>	55	<b>3,8</b>	91	<b>5,9</b>	267	<b>6,0</b>
More than 2 times	128	<b>8,6</b>	41	<b>2,9</b>	94	<b>6,1</b>	263	<b>5,9</b>
Total	1494	<b>100</b>	1439	<b>100.0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

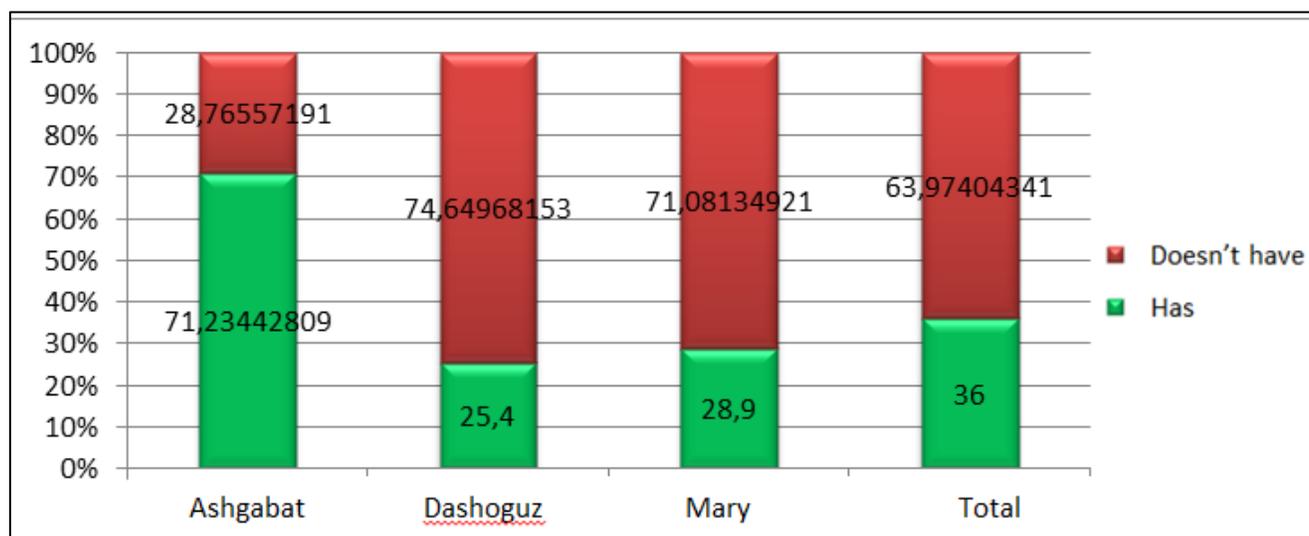
*Availability and number of computers in a family (Table 21).* About 70 percent of children have got no computers at home. As expected, more computers are owned by families from Ashgabat city and by urban population in general; families in Dashoguz have got fewer computers (Diagram 3). Comparison between age groups shows that more computers are available among the 17-year-olds.

Table 21.MQ51. How many computers are there in your family?

	13		15		17		Total	
	Число	%	Число	%	Число	%	Число	%
No answer	5	<b>0,3</b>	11	<b>0,8</b>	14	<b>0,9</b>	30	<b>0,7</b>
No computers	969	<b>64,5</b>	995	<b>69,6</b>	895	<b>57,9</b>	2859	<b>64,0</b>

1	395	<b>26,4</b>	343	<b>24,0</b>	493	<b>31,9</b>	1231	<b>27,5</b>
2	99	<b>6,6</b>	55	<b>3,8</b>	106	<b>6,9</b>	260	<b>5,8</b>
More than 2	26	<b>1,7</b>	25	<b>1,7</b>	38	<b>2,5</b>	89	<b>2,0</b>
Total	1494	<b>100</b>	1439	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

Diagram 3. Availability of computers in families (regions and all age groups, in %)



The majority of respondents characterize material/financial well-being of their families as “very high” or “high”. However, the number of children confident in this is slightly decreasing with age (Table 22). Less confident in their well-being are 17-year-old adolescents from Ashgabat.

Table 22.MQ52. What is your family’s financial situation?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	17	<b>1,1</b>	9	<b>0,6</b>	11	<b>0,7</b>	37	<b>0,8</b>
Very high	598	<b>40,0</b>	447	<b>31,3</b>	373	<b>24,1</b>	1418	<b>31,7</b>
High	515	<b>34,5</b>	542	<b>37,9</b>	625	<b>40,4</b>	1682	<b>37,6</b>
Average	347	<b>23,2</b>	413	<b>28,9</b>	514	<b>33,2</b>	1274	<b>28,5</b>
Below average	13	<b>0,9</b>	17	<b>1,2</b>	21	<b>1,4</b>	51	<b>1,1</b>

Vey low	4	<b>0,3</b>	1	<b>0,1</b>	2	<b>0,1</b>	37	<b>0,8</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

*This survey has not been aimed at studying social and employment issues, therefore, it does not claim to be accurate in the estimates. However, the fact that a significant share of children “thinks”, or is not sure that their parents work, is alarming. The data on the financial status of adolescents are to some extent satisfactory: a large majority of children have the opportunity to go on vacation or holidays, more or less they are provided in terms of housing. Compared to many countries where the study has been conducted, the number of computers in households is the smallest. From the point of view of social stability, it is important that students have reported a sufficiently high self-esteem. At the same time, there is dissociation between objective parameters indicating the relatively high well-being of Ashgabat students and their low self-esteem.*

## Peers

One of the most important determinants of behavior in adolescence is the relationship with peers. Peers have an undeniable influence on the behavior norms. A positive attitude on the part of their peers is extremely significant for the healthy development of young people. When isolated from them, especially in adolescence, the risk of symptoms of psychological distress is greatly increasing.

*Close friends (Tables 25 and 26).* Adolescents have been interviewed on the issue of a number of close friends. More than half of boys report on having 3 and more friends. About one percent of girls and every sixth boy have no friends. Similar to boys, more than half of girls have 3 and more friends.

Table 25. MQ36\_1. How many friends (boys) do you have at the moment?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	297	<b>19,9</b>	302	<b>21,2</b>	117	<b>8,0</b>	793	<b>17,7</b>
No	161	<b>10,8</b>	114	<b>8,0</b>	205	<b>14,0</b>	480	<b>10,7</b>
1	199	<b>13,3</b>	223	<b>15,6</b>	221	<b>15,1</b>	643	<b>14,4</b>
2	206	<b>13,8</b>	240	<b>16,8</b>	238	<b>16,2</b>	685	<b>15,3</b>

3 and more	631	<b>42,2</b>	548	<b>38,4</b>	687	<b>46,8</b>	1868	<b>41,8</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

Таблица 26. MQ36\_2. How many friends (girls) do you have at the moment?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	483	<b>32,3</b>	413	<b>28,9</b>	250	<b>17,8</b>	1285	<b>28,8</b>
No	118	<b>7,9</b>	75	<b>5,3</b>	136	<b>9,7</b>	329	<b>7,4</b>
1	170	<b>11,4</b>	166	<b>11,6</b>	202	<b>14,4</b>	538	<b>12,0</b>
2	208	<b>13,9</b>	222	<b>15,5</b>	210	<b>14,9</b>	641	<b>14,3</b>
3 and more	515	<b>34,5</b>	553	<b>38,7</b>	608	<b>43,2</b>	1676	<b>37,5</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

Absence of friends has been relatively seldom indicated by children from Dashoguz. In general, there is no big difference between urban and rural areas, however, 17-year-old adolescents from Ashgabat have reported more about lack of friends.

*Communication with friends (Tables 27, 28).* Despite the availability of friends, about half of children indicate that it is difficult or very difficult to confide in with their best friend. In elder age group, 17-year-old adolescents from Ashgabat relatively more often have reported on communication difficulties, followed by Mary and least of all – children from Dashoguz. In general, urban residents have reported slightly more on difficulties in communication. 13-year-olds communicate more at ease with the same age friends, than 17-year-olds, in general, this has been expected. With the same gender friend, girls from all age groups have been more in difficulty to communicate.

Table 27. MQ35\_13. How easy is it for you sharing personal things with your best friend?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	421	<b>28,2</b>	365	<b>25,5</b>	287	<b>13,2</b>	1073	<b>24,0</b>
Very easy	363	<b>24,3</b>	337	<b>23,5</b>	354	<b>24,4</b>	1054	<b>23,6</b>
Easy	333	<b>22,3</b>	419	<b>29,3</b>	468	<b>32,3</b>	1220	<b>27,3</b>

Difficult	114	<b>7,6</b>	135	<b>9,5</b>	123	<b>8,5</b>	372	<b>8,3</b>
Very difficult	73	<b>4,9</b>	58	<b>4,1</b>	77	<b>5,3</b>	208	<b>4,7</b>
No friend / do not meet him/her	190	<b>12,7</b>	115	<b>8,1</b>	237	<b>16,3</b>	542	<b>12,1</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

Table 28. MQ35\_14. How easy is it for you sharing personal things with your best friend of the same gender?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	421	<b>28,2</b>	411	<b>28,8</b>	213	<b>14,8</b>	1151	<b>25,8</b>
Very easy	363	<b>24,3</b>	135	<b>9,5</b>	148	<b>10,2</b>	646	<b>14,5</b>
Easy	333	<b>22,3</b>	198	<b>13,9</b>	273	<b>18,9</b>	804	<b>18,0</b>
Difficult	114	<b>7,6</b>	250	<b>17,5</b>	221	<b>15,3</b>	585	<b>13,1</b>
Very difficult	73	<b>4,9</b>	164	<b>11,5</b>	140	<b>9,7</b>	377	<b>8,4</b>
No friend / do not meet him/her	190	<b>12,7</b>	267	<b>18,7</b>	449	<b>31,1</b>	906	<b>20,3</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

*Frequency of meetings with friends (Table 29).* The interviewed children meet their peers rather often; frequency of such meetings is higher in boys of all age groups. In all age groups residents of Dashoguz and children from rural areas in general have fewer contacts with friends.

Percentage of children who meet 4 and more days per week (extent of direct contacts with peers) in Turkmenistan is 50 percent, which is considerably higher than the average indicator in HBSC countries (28%). It is interesting that communication between Turkmen peers is not decreasing with age.

Table 29. MQ37. How many days in a week do you usually meet your friend after school?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No single day	17	<b>1,1</b>	24	<b>1,7</b>	9	<b>0,6</b>	50	<b>1,1</b>
1	164	<b>11,0</b>	164	<b>11,5</b>	176	<b>11,4</b>	504	<b>11,3</b>
2	365	<b>24,4</b>	315	<b>22,0</b>	288	<b>18,6</b>	968	<b>21,7</b>
3	256	<b>17,1</b>	247	<b>17,3</b>	264	<b>17,1</b>	767	<b>17,2</b>
4	209	<b>14,0</b>	197	<b>13,8</b>	226	<b>14,6</b>	632	<b>14,1</b>
5	78	<b>5,2</b>	105	<b>7,3</b>	124	<b>8,0</b>	307	<b>6,9</b>
6	51	<b>3,4</b>	49	<b>3,4</b>	54	<b>3,5</b>	154	<b>3,4</b>
7	354	23,7	328	23,0	405	26,2	<b>1087</b>	<b>24,3</b>
Total	1494	100,0	1429	100,0	1546	100,0	<b>4469</b>	<b>100,0</b>

*Electronic communication with friends (Table 30).* One quarter of adolescents communicate daily with their peers through telephone, SMS or Internet. Male adolescents, residents of Ashgabat and cities in general communicate this way. Adolescents from Dashoguz indicate the least indicator which relates to the extent of computer prevalence. Media contact with peers is significantly increasing with age.

A comparison with the indicator of the international HBSC study 2010/2011 gives the following picture: daily media contact among 15-year-olds have been reported by 29 percent of Turkmen boys, while the European average indicator has been 50 percent; in girls, the ratio is 25 percent versus 65 percent on average in Europe.

Table 30. MQ39. How often you speak with the friends/girlfriends by phone, send SMS to them or communicate with them through the Internet?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	16	<b>1,1</b>	21	<b>1,5</b>	5	<b>0,3</b>	42	<b>0,9</b>
Seldom or never	663	<b>44,4</b>	427	<b>29,9</b>	406	<b>26,2</b>	1496	<b>33,5</b>
1-2 days	398	<b>26,6</b>	390	<b>27,3</b>	406	<b>26,3</b>	1194	<b>26,7</b>
3-4 days	144	<b>9,6</b>	136	<b>9,5</b>	170	<b>11,0</b>	450	<b>10,1</b>

5-6 days	39	<b>2,6</b>	69	<b>4,8</b>	86	<b>5,6</b>	194	<b>4,3</b>
Every day	234	<b>15,7</b>	386	<b>27,0</b>	473	<b>30,6</b>	1093	<b>24,5</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

*In general, these facts show that there is a certain percentage of children who in reality have difficulties in relationships with peers and consequently may be exposed to psychological risks that should be considered in the organization of support and counseling.*

## ■ School environment

School is an environment which is involved in formation of the child's behavior. Children spend about 10 years of their life at school being there about 6 hours a day or longer. A correlation between the adolescent's attitudes to school, his/her state of health and hygiene behavior has been proven earlier. Risk behavior is less common among adolescents who like school. In the long run, school is a factor of positive health resource, or in case of disadvantage is a risk factor.

*School performance self-rate (Table 31).* As has been identified by earlier studies the indicator of school performance self-rate refers precisely to positive health and well-being predictors, correlating with the low level of health complaints, with behavior, etc. In this survey more than 70 percent of the interviewed children have reported that in their opinion teachers rate their level of performance as "good" and "very good". Nearly 20 percent of the interviewed state that their performance is "average" or "below average". Compared to 13- and 15-year-olds, 17-year-old respondents rate their school performance higher. In all age groups girls think about their school performance to a considerable degree much better, whereas about 30 percent of boys among 13- and 15-year-olds and about 20 percent of 17-year-olds admit their school performance as "mean" or even "below mean". In all age groups, more "self-rated" students are from Ashgabat, followed by students from Dashoguz. Children from Mary rate their performance better than children from Dashoguz and 21.8 percent of children from Mary. In general, urban children rate themselves more strictly. These data, in general, are better than the indicators of peers from other countries where the HBSC studies have been conducted. The general indicator "I like it" and "I like it very much" has been indicated by 70 percent of Turkmen children, whereas the average indicator of other countries is 57 percent.

Table 31. MQ43. How, in your opinion, your teachers / teachers assess level of your progress comparing to your schoolmates?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	15	<b>1,0</b>	17	<b>1,2</b>	7	<b>0,5</b>	39	<b>0,9</b>
Very good	669	<b>44,8</b>	552	<b>38,7</b>	616	<b>39,8</b>	1837	<b>41,1</b>
Good	485	<b>32,5</b>	494	<b>34,6</b>	644	<b>41,7</b>	1623	<b>36,3</b>
Average	297	<b>19,9</b>	343	<b>24,0</b>	266	<b>17,2</b>	906	<b>20,3</b>
Below average	28	<b>1,9</b>	22	<b>1,5</b>	13	<b>0,8</b>	63	<b>1,4</b>
Total	1494	<b>100,0</b>	1428	<b>100,0</b>	1546	<b>100,0</b>	4468	<b>100,0</b>

*Attitude to school (Table 32).* On the question “How would you rate your attitude to school?”, nearly 71 percent of students have reported their attitude as “I like it very much”; 26 percent - as “I like it”. Only 2 percent of children do not like school. Girls like school slightly more than boys: the difference is utterly insignificant. Children from Mary like school to a greater extent, this indicator is lower in Dashoguz, followed by Ashgabat. With age, the attitude of children to school is slightly decreasing in Ashgabat students, whereas in other groups it is not changing. This indicator is similarly projected to the “urban - rural” ratio. Compared to the peers from other countries, Turkmen children like school most of all: 70 percent of 15-year-olds in Turkmenistan against 22 percent on the average in other countries, where the HBSC studies have been conducted. The Armenian indicator is slightly behind the indicator of Turkmenistan.

Table 32. MQ44. How is your attitude to school?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	15	<b>1,0</b>	16	<b>1,1</b>	3	<b>0,2</b>	34	<b>0,8</b>
I like it	1132	<b>75,8</b>	1008	<b>70,5</b>	1052	<b>68,0</b>	3192	<b>71,4</b>
I do not like it	315	<b>21,1</b>	383	<b>26,8</b>	450	<b>29,1</b>	1148	<b>25,7</b>
I do not	21	<b>1,4</b>	20	<b>1,4</b>	33	<b>2,1</b>	74	<b>1,7</b>

like it very much								
I do not like it at all	11	<b>0,7</b>	2	<b>0,1</b>	8	<b>0,5</b>	21	<b>0,5</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

*Mutual support and attitudes of peers (Tables 33 - 35).* Taking into account the significant role of peers in the life of adolescents, the mentioned indicators are important for understanding the degree of the students' socialization. Nearly 88 percent of students have responded that they "agree" or "fully agree" with the statement that "they enjoy being together". Nearly 5 percent of the interviewed "disagree" or "fully disagree" with this statement. This indicator is practically not changing with age. Boys are slightly more certain. The difference between the sub-groups is insufficient, except the group from Ashgabat, where, in particular, the percentage of the "disagreed" and the "uncertain" in this statement is the highest.

Table 33. MQ45\_1. Your classmates enjoy of being together.

	13		15		17		Total	
	Число	%	Число	%	Число	%	Число	%
No answer	64	<b>4,3</b>	45	<b>3,1</b>	44	<b>2,8</b>	153	<b>3,4</b>
Fully agree	950	<b>63,6</b>	885	<b>61,9</b>	934	<b>60,4</b>	2769	<b>62,0</b>
Agree	352	<b>23,6</b>	390	<b>27,3</b>	430	<b>27,8</b>	1172	<b>26,2</b>
I am not sure, yes or no	42	<b>2,8</b>	54	<b>3,8</b>	63	<b>4,1</b>	159	<b>3,6</b>
Do not agree	33	<b>2,2</b>	22	<b>1,5</b>	27	<b>1,7</b>	82	<b>1,8</b>
Totally disagree	53	<b>3,5</b>	33	<b>2,3</b>	48	<b>3,1</b>	134	<b>3,0</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

Almost similar regularities have been found in the responses on the question, whether they agree with the statement "The majority of students in our grade are kind and sympathetic." (Table

34). By age, these indicators change insufficiently. By gender, the indicators slightly differ. Ashgabat students are less certain, in particularly, 15- and 17-year-olds.

Table 34. MQ45\_2. Most of your classmates are kind and sympathetic...

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	172	<b>11,5</b>	140	9,8	104	<b>6,7</b>	416	<b>9,3</b>
Fully agree	708	<b>47,4</b>	669	<b>46,8</b>	678	<b>43,9</b>	2055	<b>46,0</b>
Agree	449	<b>30,1</b>	472	<b>33,1</b>	549	<b>35,5</b>	1470	<b>32,9</b>
I am not sure, yes or no	63	<b>4,2</b>	68	<b>4,8</b>	109	<b>7,1</b>	240	<b>5,4</b>
Do not agree	51	<b>3,4</b>	31	<b>2,2</b>	47	<b>3,0</b>	129	<b>2,9</b>
Totally disagree	51	<b>3,4</b>	48	<b>3,4</b>	59	<b>3,8</b>	158	<b>3,5</b>
Total	1494	<b>100,0%</b>	1428	<b>100,0</b>	1546	<b>100,0%</b>	4468	<b>100,0</b>

On the question “Other students perceive me as I am.” (Table 35), 83 percent of adolescents respond in affirmative. A specific weight of uncertain and disagreed children in Ashgabat is slightly higher, than in other regional groups. Therefore, relationships in the classes in Ashgabat are slightly different from relationships in schools of other regions. The indicator of Turkmen children on benevolence of their classmates is significantly higher, than on average in other countries: 83 percent in Turkmen study against 66 percent on average in other countries, where the HBCS studies have been conducted (for 15-year-olds).

Table 35. MQ45\_3. Other classmates accept me the way I am?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	182	<b>12.2%</b>	130	<b>9,1%</b>	95	<b>6.1%</b>	407	<b>9.1</b>
Fully agree	803	<b>53.7%</b>	804	<b>56,3%</b>	847	<b>54.8%</b>	2454	<b>54.9</b>
Agree	379	<b>25.4%</b>	395	<b>27,7%</b>	480	<b>31.0%</b>	1254	<b>28.1</b>

I am not sure, yes or no	41	<b>2.7%</b>	52	<b>3,6%</b>	64	<b>4.1%</b>	157	<b>3.5</b>
Do not agree	41	<b>2.7%</b>	15	<b>1,1%</b>	23	<b>1.5%</b>	79	<b>1.8</b>
Totally disagree	48	<b>3.2%</b>	32	<b>2,2%</b>	37	<b>2.4%</b>	117	<b>2.6</b>
Total	1494	<b>100.0%</b>	1428	<b>100,0%</b>	1546	<b>100.0%</b>	4468	<b>100.0</b>

*Difficulty in doing school lessons (Table 36).* Excessive pressure on adolescents, caused by school and additional lessons, can negatively affect the child resulting in occurrence of somatic complaints, change of behavior, etc. About 20 percent of the interviewed from all age groups have stated that doing their school tasks is “slightly difficult”, “quite difficult” or “very difficult”. It is more difficult to do schoolwork.

Table 36. MQ46. Is it difficult for you to do you classes in school and at home?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	15	<b>1,0</b>	36	<b>2,5</b>	11	<b>0,7</b>	62	<b>1,4</b>
Not difficult	1220	<b>81,7</b>	1102	<b>77,1</b>	1225	<b>79,2</b>	3547	<b>79,4</b>
A bit difficult	239	<b>16,0</b>	262	<b>18,3</b>	276	<b>17,9</b>	777	<b>17,4</b>
Quite difficult	11	<b>0,7</b>	18	<b>1,3</b>	18	<b>1,2</b>	47	<b>1,1</b>
Very difficult	9	<b>0,6</b>	11	<b>0,8</b>	16	<b>1.0</b>	36	<b>0,8</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

Interestingly, that it is more difficult to do schoolwork for 13- and 15-year-old boys, but by the age of 17 years this difference is smoothed over. In all age groups it is much more difficult to

study for students from Ashgabat, which is related rather to higher requirements at school. Percentage of children in the international HBSC study, who have reported that it is difficult for them to study, is almost twice higher than the indicator of Turkmen adolescents: the average indicator in international HBSC study 2010-2011 is 41 percent.

*From the presented data the most noteworthy is that the Turkmen children like their school, and the atmosphere in the school is quite friendly. Accordingly, this speaks in favor of the fact that school can play even more important role in the upbringing of healthy behavior of children and adolescents.*

## CHARACTERISTICS OF HEALTH

### ■ Somatic health

WHO defines health not as the absence of disease, but as a state of physical, mental and social well-being. In adolescence, poor health can have far-reaching negative consequences, as it is shown, that about two-thirds of the morbidity problems and early adult mortality are associated with the behavior and the problems of adolescence. It is well known that the main health indicators are morbidity and mortality rates. But during the adolescent period these indicators are relatively low. On the other hand, medical aid appealability at this age is also low, which does not reveal the true picture. Therefore, this study focuses on the subjective complaints, which, however, have quite objective behavioral consequences, such as self-intake of drugs or missing school classes.

*Complaints on headaches (Table 37).* About one third of adolescents complain on regular headaches occurred at the frequency from “once a month” to “every day”. In all age groups, headaches more often occur in girls, residents of Ashgabat and cities. It is an issue of concern that nearly one quarter of children from Ashgabat has had headaches “once per week” or more often. Of particular concern is the fact that 196 respondents report that they have had headaches “almost every day”, which indicates that they have a rather serious health problem.

Table 37. MQ40\_1. How frequent did you have headaches within last 6 months?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	78	<b>5,2</b>	72	<b>5,0</b>	41	<b>2,7%</b>	191	<b>4,3</b>
Almost every day	69	<b>4,6</b>	52	<b>3,6</b>	75	<b>4,9%</b>	196	<b>4,4</b>

More than once in a week	77	<b>5,2</b>	80	<b>5,6</b>	106	<b>6,9%</b>	263	<b>5,9</b>
Every week	150	<b>10,0</b>	105	<b>7,3</b>	130	<b>8,4%</b>	385	<b>8,6</b>
Every month	227	<b>15,2</b>	178	<b>12,5</b>	200	<b>12,9%</b>	605	<b>13,5</b>
Seldom or never	893	<b>59,8</b>	942	<b>65,9</b>	994	<b>64,3%</b>	2829	<b>63,3</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

*Complaints on stomach ache (Table 38).* About 18 percent of children complain on stomach ache “once per month” or more often. Trends in sub-groups are similar to those specified above. Nearly 1.5 percent of children complain on daily stomach ache, i.e. they are very likely have a rather concerning problem. Children from Ashgabat and cities have more complaints. A slight prevalence of girls is clear.

Table 38. MQ40\_2. How often did you have stomach pains within last 6 months?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	165	<b>11,0</b>	120	<b>8,4</b>	165	<b>11,0</b>	120	<b>8,4</b>
Almost every day	30	<b>2,0</b>	19	<b>1,3</b>	30	<b>2,0</b>	19	<b>1,3</b>
More than once in a week	44	<b>2,9</b>	25	<b>1,7</b>	44	<b>2,9</b>	25	<b>1,7</b>
Every week	75	<b>5,0</b>	33	<b>2,3</b>	75	<b>5,0</b>	33	<b>2,3</b>
Every month	180	<b>12,0</b>	161	<b>11,3</b>	180	<b>12,0</b>	161	<b>11,3</b>
Seldom or never	1000	<b>66,9</b>	1071	<b>74,9</b>	1000	<b>66,9</b>	1071	<b>74,9</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1494	<b>100,0</b>	1429	<b>100,0</b>

*Complaints on back ache (Table 39).* It is known, that diseases of musculoskeletal system refer to the most widely spread diseases among adolescents. Every 6<sup>th</sup> child has complained on back ache with a frequency of once per month or more often. Girls, residents of Ashgabat and cities have had complaints more often.

Table 39. MQ40\_3. How often did you have back pains within last 6 months?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	181	<b>12,1</b>	123	<b>8,6</b>	102	<b>6,6</b>	406	<b>9,1</b>
Almost every day	27	<b>1,8</b>	20	<b>1,4</b>	30	<b>1,9</b>	77	<b>1,7</b>
More than once in a week	27	<b>1,8</b>	18	<b>1,3</b>	39	<b>2,5</b>	84	<b>1,9</b>
Every week	48	<b>3,2</b>	33	<b>2,3</b>	47	<b>3,0</b>	128	<b>2,9</b>
Every month	114	<b>7,6</b>	158	<b>11,1</b>	191	<b>12,4</b>	463	<b>10,4</b>
Seldom or never	1097	<b>73,4</b>	1076	<b>75,4</b>	1137	<b>73,5</b>	3310	<b>74,1</b>
Total	1494	<b>100,0</b>	1428	<b>100,0</b>	1546	<b>100,0</b>	4468	<b>100,0</b>

*Complaints on toothache (Table 40).* Toothaches occur in different frequencies in 15 percent of adolescents; 2 percent have had toothache every day, i.e. they have had a rather serious problem. More complaints have had girls, and particularly 17-year-olds, residents of Ashgabat and cities.

Table 40. MQ40\_7. How often did you have toothache within last 6 months?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	196	<b>13,1</b>	124	<b>8,7</b>	101	<b>6,5</b>	421	<b>9,4</b>
Almost every day	33	<b>2,2</b>	44	<b>3,1</b>	28	<b>1,8</b>	105	<b>2,3</b>
More than once in a week	40	<b>2,7</b>	46	<b>3,2</b>	57	<b>3,7</b>	143	<b>3,2</b>
Every week	52	<b>3,5</b>	54	<b>3,8</b>	58	<b>3,8</b>	164	<b>3,7</b>
Every month	94	<b>6,3</b>	79	<b>5,5</b>	110	<b>7,1</b>	283	<b>6,3</b>
Seldom or never	1079	<b>72,2</b>	1082	<b>75,7</b>	1192	<b>77,1</b>	3353	<b>75,0</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

*Complaints on dizziness (Table 41).* About 15 percent of respondents report dizziness, more often these are 13-year-old girls.

Table 41. MQ40\_9. How often did you feel dizziness within last 6 months?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	163	<b>10,9</b>	125	<b>8,8</b>	93	<b>6,0</b>	381	<b>8,5</b>
Almost every day	23	<b>1,5</b>	13	<b>0,9</b>	21	<b>1,4</b>	57	<b>1,3</b>
More than once in a week	32	<b>2,1</b>	20	<b>1,4</b>	24	<b>1,6</b>	76	<b>1,7</b>
Every week	63	<b>4,2</b>	30	<b>2,1</b>	30	<b>1,9</b>	123	<b>2,8</b>
Every month	195	<b>13,1</b>	115	<b>8,0</b>	104	<b>6,7</b>	414	<b>9,3</b>
Seldom or never	1018	<b>68,1</b>	1126	<b>78,8</b>	1274	<b>82,4</b>	3418	<b>76,5</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

## ■ Traumas

Traumas are one of the main causes of adolescent morbidity and mortality. Frequency of trauma occurrence is one of the risk behavior indicators. Every fifth adolescent has had traumas, more often these are boys.

Table 42. MQ29. How often for the last 12 months you had injuries and had to apply for a medical aid?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	19	<b>1,3</b>	29	<b>2,0</b>	10	<b>0,6</b>	58	<b>1,3</b>
No traumas	1073	<b>71,8</b>	1153	<b>80,7</b>	1272	<b>82,3</b>	3498	<b>78,3</b>
1 time	282	<b>18,9</b>	197	<b>13,8</b>	188	<b>12,2</b>	667	<b>14,9</b>
2 times	67	<b>4,5</b>	34	<b>2,4</b>	43	<b>2,8</b>	144	<b>3,2</b>

3 times	31	<b>2,1</b>	11	<b>0,8</b>	17	<b>1,1</b>	59	<b>1,3</b>
4 and more times	22	<b>1,5</b>	5	<b>0,4</b>	16	<b>1,0</b>	43	<b>1,0</b>
Total	1494	100,0%	1429	100,0%	1546	100,0%	<b>44698</b>	<b>100,0</b>

## ■ Chronic diseases

One of the urgent issues of modern child healthcare is a problem of chronic diseases/states in children. Such diseases have a long, sometimes lifelong clinical course, requiring use of medicines for a long time, and quite often they result in disability. Presence of a chronic disease has been reported by 7 percent of children (Table 43). Such response has been given more by girls, residents of cities, in particular, residents of Ashgabat.

Table 43. PH3.1. Do you suffer of any disease diagnosed by doctor?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	6	<b>0,4</b>	37	<b>2,6</b>	13	<b>0,8</b>	56	<b>1,3</b>
No	1359	<b>91,0</b>	1290	<b>90,3</b>	1442	<b>93,3</b>	1510	<b>91,5</b>
Yes	129	<b>8,6</b>	102	<b>7,1</b>	91	<b>5,9</b>	2903	<b>7,2</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

*Medicine intake due to chronic disease (Table 44).* About 8 percent of respondents have reported on regular medicine intake, more often these are residents of Ashgabat, cities and girls. With age, the number of those who take medicines is decreasing.

Table 44. PH3.2. Do you intake any medicine prescribed because of this decease?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	13	<b>0,9</b>	30	<b>2,1</b>	18	<b>1,2</b>	61	<b>1,4</b>
No or do not intake	1359	<b>91</b>	1278	<b>89,4</b>	1456	<b>94,2</b>	4093	<b>91,6</b>

Yes	122	<b>8,2</b>	121	<b>8,5</b>	72	<b>4,7</b>	315	<b>7,0</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

## ■ Mental health

This section provides responses to the questions, showing the complaints on the nervous system, and indicating the psychological state. Mental health of people and the necessary aid in such cases is one of the most significant public health challenges of the 21<sup>st</sup> century. At the same time, adolescence is a period of the most significant psychological transformation in life. Accordingly, identification of problems related to mental / psychological status is crucial, whether it is done through direct or indirect questions. A number of issues, in particular, on the presence of sharp decline in the mood and loneliness during a rather long period, allow identifying early signs of depression.

*Complaints on change of mood (Table 45).* Nearly 30 percent of the interviewed have responded on this question in affirmative. Difference by age is insufficient. As in the previous cases these are girls, residents of Ashgabat and cities in general. Every fourth child has responded on this question in affirmative. Regularity of answers is similar as above: girls, residents of Ashgabat and cities. With age this indicator is slightly increasing.

Table 45. MQ40\_4. How often did you have very bad mood within the last 6 months?

	13		15		17		В целом	
	Число	%	Число	%	Число	%	Число	%
No answer	189	<b>12,7</b>	119	<b>8,3</b>	105	<b>6,8</b>	413	<b>9,2</b>
Almost every day	46	<b>3,1</b>	38	<b>2,7</b>	57	<b>3,7</b>	141	<b>3,2</b>
More than once in a week	72	<b>4,8</b>	86	<b>6,0</b>	131	<b>8,5</b>	289	<b>6,5</b>
Every week	127	<b>8,5</b>	117	<b>8,2</b>	124	<b>8,0</b>	368	<b>8,2</b>
Every month	187	<b>12,5</b>	166	<b>11,6</b>	179	<b>11,6</b>	532	<b>11,9</b>
Seldom or never	873	<b>58,4</b>	903	<b>63,2</b>	950	<b>61,4</b>	2726	<b>61,0</b>
Total	1494	<b>100,0</b>	1429	<b>100,0</b>	1546	<b>100,0</b>	4469	<b>100,0</b>

*Complaints of irritability (Table 46).* Every fourth child answered affirmatively. There is the same tendency on subgroups.

*Complaints on nervousness (Table 47).* Every fourth student has responded in affirmative. It is interesting, that 13-year-olds complain more often than the elder students. The remaining regularities are similar to the above.

*Complaints on insomnia (Table 48).* Nearly 15 percent of the students have responded in affirmative. It is interesting, that 13-year-olds sleep worse.

*Having long periods of bad mood and loneliness (Table 49).* Of those interviewed, 18 percent of adolescents report that over the previous year they have had periods of dramatically depressed mood. With age, this indicator is steadily increasing. Girls experience this twice more often. Slightly more often it occurs in residents of Ashgabat, followed by Mary and least of all in Dashoguz.

*Having long periods of loneliness (Table 50).* About a quarter of respondents report that with varying frequency they experience feeling of loneliness. There is a clear trend towards increasing this indicator from 13 to 17 years of age. This indicator amounts to 36.6 percent in girls and 20.4 percent in boys. It is also alarming, that 12 girls have responded that they are always alone, i.e. they are to some extent socially dysadapted.

*These facts suggest that the disorders in psychological status occur quite often. Accordingly, there is a need to expand the mechanisms and services, both at school and in health care institutions aimed at early detection and counseling of children and their families.*

## ■ **Multiple complaints**

*Having multiple complaints (Table 51).* In the previous sections we have assessed the present complaints on health, either mental or physical. Besides, the HBSC study assesses multiple, i.e. recurring complaints – 2 different complaints during one week or more often. Such data can indicate to a much more severe burden and to a greater extent affect general well-being, rather than single symptoms. Multiple complaints have been found in the questionnaires of 13.6 percent of respondents, at the same time the number of such children is increasing. Girls and residents of Ashgabat have had more complaints.

Therefore, adolescents have rather big number of complaints on their somatic and psychological status. Particularly alarming are cases when complaints occur every day or more often per week. Actually, such children get inadequate assistance and there is a need to improve

the activities of primary healthcare institutions, services for adolescents and introduce new forms of work.

## ■ Self-rated health and life satisfaction

*Self-rated health (Table 52).* Based on the HBSC methodology, the questionnaire includes a question of health self-rating, formulated in the following way: “Do you consider your health excellent, good, average or bad?”. In general, adolescents are prone to rate their health as good or excellent, therefore the “average” characteristic is already symptomatic.

Characteristic of health as average or bad has been reported by 12 percent of adolescents. It is obvious that with age health self-rating becomes worse. Residents of Ashgabat, girls rate their health worse. Comparison with international data shows that self-rating in Turkmen children is higher. On average, in other countries, percentage of 16-year-olds rating their health as average or bad amounts to 18 percent ( 23% for girls and 14% for boys), whereas in Turkmenistan this indicator is 11 percent (13% and 8%, respectively).

*Life satisfaction* has been identified through a measure known as “Cantil scale”. It has 10 steps: the top of the ladder indicated the best possible life and the bottom, the worst. Adolescents have been asked to indicate the step of the ladder at which they would place their lives at present. “High life satisfaction” has been defined as a score of “6” or more; 3-5 scores as “unsatisfactory” and 0-2 as “extremely unsatisfactory” score.

Positive rate to their life has been given by 82 percent of the interviewed children (Table 53). About 11 percent are not satisfied and 7.5 percent are extremely not satisfied with their life. At the same time the percentage of the satisfied is slightly increased by the age of 17 years. Despite many “negative” responses of girls shown in the previous chapters (higher frequency of complaints, bad mood, etc.), girls are more positive in rating their life than boys (the difference is not very big). It is interesting that contrary to the previous tables there is no significant difference among regions and places of residence.

Life satisfaction indicators in general population of Turkmenistan is slightly different than international average: 80 percent against 83 percent. But in girls this comparison is different: 83 percent in Turkmenistan and 79 percent international average. In boys this is different: 77 percent against 86 percent (among 15-year-olds).

## ■ Oral health

*Frequency of brushing teeth (table 54).* Oral health is crucial for overall health. Tooth decay and other dental and gum diseases are among the most common complaints at all ages. According to the principles of hygiene, teeth should be brushed at least twice a day. This practice has been reported by 49 percent of respondents, mostly by girls, residents of Ashgabat and cities. It worries that about 7 percent of respondents brush their teeth irregularly, or even never. At the same time, it should be noted that by the age of 17 years the level of hygiene is increasing. Indicators of the Turkmen population are significantly lower than the average for other countries of HBSC, where the average frequency of more than a single tooth brushing is 65 percent (for 15-year-olds).

## ■ Visiting doctors

The survey includes questions on the practices of consulting medical specialists about medical services, namely: a dentist, family doctor, pediatrician and gynecologist.

*Visit of a dentist (Table 55).* In the past year or two years only one fourth of the respondents visited dentists. Two-thirds of the interviewed have reported that they have “never” visited a dentist. There is a substantial difference by regions: children from Ashgabat and cities have visited dentists on average 1.5 – 2 times more often.

*Visit of a family doctor (Table 56).* Only 23 percent visited a family doctor in the past year or two years. With age this indicator is practically not changing. There is no difference by gender. But there is difference by regions: nearly half of adolescents from Ashgabat and nearly 70 percent in regions have reported that they have never visited a family doctor.

*Visit to pediatrician (Table 57).* Only 7% of 13-year-olds respond in affirmative.

*Visit to adolescent specializing doctor (Table 58).* In general, the indicator for the population is 10.4%; it is higher in Ashgabat.

*Visit to a gynecologist (Table 59).* Only 3.7 percent of girls have visited a gynecologist.

*These facts indicate that there are specific shortages in providing assistance to adolescents, given that they have enough multiple complaints on their health.*

## HEALTH BEHAVIOR CHARACTERISTICS

### ■ Eating habits

One of the most important preventive measures to avoid malnutrition is a balanced food consumption, which helps, inter alia, to “burn” calories during a day and therefore, to some extent prevents development of overweight. In this regard, it is important to strengthen the habit of eating breakfast already in adolescence. A balanced eating, the presence of fruit and vegetables in ration, minimization of food containing “empty calories”, such as “fast food”, carbonated soft drinks – all these are also important to prevent eating disorders. The children have been interviewed on their weekly diet.

*Frequency of having breakfast (Table 60).* As it is shown, of all interviewed students 5 percent do not consume breakfast at all, 13 percent – do it seldom. In total, every fourth child does not consume breakfast from time to time. With age, the number of those “not having breakfast” is increasing.

Girls, adolescents from Ashgabat and students from cities in general consume breakfast more seldom. However, comparison with the HBSC data shows that Turkmen 15-year-old boys consume breakfast more often than in any other country, whereas Turkmen girls “concede” only to their peers from the Netherlands. In general, this is a positive fact.

*Consumption of fruit (Table 61).* . Consumption of fruit once per day or more often has been reported by 49 percent of respondents. More often fruit are consumed by 13- and 15-year-old girls compared to boys - among 17-year-old this difference is smoothing over. In general, there is no significant difference in 3 regions, similar as in “urban-rural” breakdown. Comparison with the indicators of other countries, where the HBSC studies have been conducted, shows that by the indicator on daily fruit consumption Turkmenistan is slightly behind Armenia (50%) and significantly ahead of the average indicator (31%).

*Consumption of vegetables (Table 62).* Vegetable consumption indicator in general is almost similar to fruit. Girls consume vegetables slightly more often. Regarding the age, the number of children consuming vegetables every day is increasing by age. It is alarming that at the same time the percentage of children, whose ration includes insufficient amount of vegetables, is rather high which can cause significant shifts in the balance of various ingredients.

*Consumption of sweets (Table 63).* About half of children consume sweets every day or even more often, several times a day. With age this indicator is increasing. Girls are more “keen on” sweets. The difference by regions is not obvious but there is difference by place of residence: urban children like sweets more.

*Consumption of soft drinks (Table 64).* About 25 percent of children consume soft drinks every day, once or more often a day. Children of all age groups more often consume soft drinks in Ashgabat. Particularly high this indicator in children from Ashgabat. There is no significant difference in consumption between girls and boys. Big difference is obvious (1,5 – 2 times more)

between urban and rural populations. Comparison with the data from international HBSC study among 15-year-olds shows that the indicator of daily consumption is close to average international one (25%), and is close to the indicator of Russia (20%), Ukraine (17%) and Turkey (20%). It is interesting, that in the majority of countries consumption of soft drinks among boys is higher than among girls, with the exception of Armenia, Macedonia and Turkmenistan.

*Consumption of chips, rusks, sunflower seeds (Table 65).* About 19 percent of adolescents consume chips, rusks or sunflower seeds every day or more often. In general, the difference by age, region and “urban-rural” perspective is insignificant.

*Consumption of shaurma, doners, hamburgers, hotdogs (Table 66).* About 9 percent of adolescents consume them every day or more often. Nearly one quarter of children do not consume these types of food at all or consume them less than one day a week. They are consumed more by urban children, children from Ashgabat. It is interesting, that girls consume them practically in the same frequency in all age groups.

*Consumption of chebureks (mutton pies), somsa, fitchi (Table 67).* Nearly 15 percent of adolescents consume them every day or even more often. The indicator of consumption is rather high, at the same time girls are similar to boys in the amount of consumption and in 17-year-old groups even prevail.

*Thus, diet of Turkmen children have a specific picture. A positive fact is quite common practice of consuming breakfast, where indicators are significantly higher than European indicators. Fruit and vegetables are consumed sufficiently enough. At the same time, the degree of soft drinks consumption and some types of “fast food” is high, especially among girls and in Ashgabat.*

## ■ **Dieting (weight control)**

*Dieting for losing weight (Table 68).* Children have been interviewed on whether they follow some food limitations to reduce their weight. Nearly 70 percent of children are satisfied with their weight; 7 percent of students have reported that they diet to lose their weight; 12 percent of adolescents have reported that they want to diet; whereas 8 percent of students have stated that they want to increase their weight. No dynamics is observed by age. Girls to a greater degree seek to control weight, whereas boys seek to gain weight (this fact to a greater degree is associated with the difference in the rate of physical development and their variations in puberty age). Residents of Ashgabat are not satisfied with their weight most of all. Compared to international indicators, the number of 15-year-olds seeking to lose weight is not so high. In the HBSC study 2010/2011, in general, 15 percent were seeking to lose weight (in Turkmenistan – 6 percent).

*The notion of own body weight (Table 69).* Not only objective development indicators, but the notion of their own weight is also important for the prevention of dyspepsia, such as anorexia or bulimia. As the survey data show, nearly two-thirds of adolescents consider their weight as satisfactory, more often these are boys. Boys mostly consider themselves thin. In general, 2 times more girls consider themselves slightly or very plump, at the same time with age the number of such girls is increasing. There are more adolescents who consider themselves plump in Ashgabat and urban areas. Every fifth adolescent considers that he/she is thin or very thin. The difference between gender, urban and rural population is insignificant. In general, residents of Mary more often consider their weight normal.

## ■ **Body mass index (BMI)**

On the basis of the protocol discussed in the working group, the weight and height of the targeted group have been measured by a nurse prior to the survey. This has not been always carried out with the group of 15-year-olds, therefore data of both parameters are present only in 396 questionnaires of girls and 525 questionnaires of boys. In contrast, the data on 13- and 17-year-olds have been collected in most cases. Accordingly, the data below are presented only for these two age groups. Then body mass indices (BMI) have been calculated and compared with the age standards. Due to the fact that there are no regional standards, the WHO tables for ages of 13.5 and 17.5 years have been used.

According to information received as a result of available anthropometric data, 11.5 percent of 13-year-old boys and 6 percent of 17-year-old boys are overweight (BMI above the 85<sup>th</sup> percentile); at the same time, there is quite high percentage of children with marked underweight. In girls, the picture is as follows: BMI above the 85<sup>th</sup> percentile in 13 percent of 13-year-olds and 10 percent in 17-year-olds; low body mass is observed as well.

*Available data show a certain degree on body mass overweight as a priority, especially among girls.*

## ■ **Physical activity**

Physical activity is extremely significant for health. It is proved that in addition to physical health, physical activity also reduces the level of anxiety and depression in adolescents.

*Daily physical activity (Table 70)* has been reported by nearly 35 percent of respondents. With age, physical activity is decreasing. In all age groups, boys, residents of Mary and Dashoguz are more active.

*Watching TV (Table 70).* Watching TV for 2 hours or more during the day has been reported in general by 56 percent of respondents; with age, time spent for watching TV is steadily increasing, though not much difference in gender is noted in all age groups. More often residents of Ashgabat are keen on watching TV, followed by Mary and to less degree by Dashoguz. It worries, that about 7 percent of respondents have reported that they watch TV every day for 5 hours or more. Comparison with international indicators show that girls and boys are not very different from their peers from other countries, where the watching TV indicator during 2 hours and more accounts for 63 percent.

*Playing computer games, games on cell phones or game devices (Table 72).* About 18 percent have stated that they play for 2 hours on the computer or game device, more often these are boys and residents of Ashgabat. Based on the questionnaire data, nearly 2 percent of children play games for 5 hours or more, which indicates a certain psychological addiction.

*Use of computer (Table 73).* Ten percent of children spend 2 or more hours per day at the computer. With age, the percentage of children is increasing, similarly the number of computers in households is increasing. Residents of Ashgabat use computers ten times more.

*Doing school lessons or other supportive classes (Table 74).* The highest percentage of students spends 1-2 hours to prepare for lessons. About a quarter of children spend on the lessons 3 hours or more. As expected, girls do their school tasks longer. More time is spent by residents of Mary and Dashoguz than of Ashgabat.

*Going in for sport, music, dances (Table 75).* As presented in the table, only 23 percent of children are not involved in these activities. More time for these is spent by boys, residents of Dashoguz and Mary, who indicate high physical activity.

## ■ **Use of tobacco, alcohol, drugs**

Tobacco smoking refers to main causes of early mortality. In many cases smoking begins exactly in adolescence. Many adolescents perceive smoking as a symbol of “adult” life. This statement is similar to alcohol, which in many cases begins in adolescence. Alcohol consumption is widely spread in many countries of the WHO European Region. In many countries there are also cases of drug use among adolescents.

*Tobacco smoking (Table 76).* Answering the question on “some time” use of a cigarette, tobacco, smoking pipe or hookah, 5 boys (0.7%) and 5 girls (0.7%) among 13-year-old adolescents have responded positively; 39 boys (5.9%) and 8 girls (1%) among 15-year-olds; 51 boys (6.9%) and 10 girls (1.2%) among 17-year-olds. Such tendency and distribution by gender is quite expected. In all age groups, a higher frequency is among the residents of Ashgabat, significantly lower prevalence

of smoking is among the population of Dashoguz and Mary. Overall, the prevalence of smoking in the cities exceeds the rural population indicator by 4 times.

*Use of nas* (Table 77). About 1.5 percent of respondents have “ever” used *nas*. Boys use *nas* more often. No significant difference by region and place of residence is observed. Contrary to tobacco, by the age of 17 years the number of adolescents interested in *nas-tobacco*, is lower.

*Frequency of using nas / tobacco* (Table 78). Nearly 1.5 percent of respondents have reported on more or less regular use of tobacco and *nas* (once a week or more often). It is interesting, that contrary to tobacco, by the age of 17 years a number of regular users is not increasing but decreasing, i.e. smoking has not turned to habit but rather remains at the experimental level. Actually, there is no difference by regions. These indicators are the lowest compared to the international HBSC study.

*Alcohol consumption* (Tables 79 - 84). Beer is consumed with different regularity by 1.5 percent of 13-year-olds, nearly 7 percent of 15-year-olds and 7.5 percent of 17-year-olds (Table 79).

As expected, boys, residents of cities, in particular, of Ashgabat consume alcohol more often. *Wine* is consumed more seldom – this has been reported by less than half percent of 13-year-olds, nearly 1.5 percent of 15-year-olds and more than 2 percent of 17-year-olds (Table 80).

Approximately the same trend is observed among the very small number of consumers of *stronger spirits: vodka, brandy, liqueurs* (Table 81), as well as *low-alcohol cocktails* (Table 82), but the increase in the consumption of cocktails among 17-year-olds is more manifested. Consumption of homemade wine is not very popular (Table 83). Slightly more often respondents from 2 elder age groups have mentioned champagne (Table 84): this has been reported by 2.5 percent of 13-year-old boys and 4.7 percent girls; 7.2 percent and 4.7 percent boys and girls respectively among 15-year-olds; 8.3 percent and 4.0 percent among 17-year-olds. Indicators of alcohol consumption are the lowest in international HBSC study.

*Age of starting to use tobacco, nas and alcoholic drinks* (Table 85). Basically, the peak of consumption falls on the age of 15 years. These indicators of starting alcohol use are also the lowest in the international HBSC study.

*Drug use* (Tables 86, 87). The fact that they have ever used marijuana has been reported by 8 adolescents - 5 boys and 3 girls in a 15-year-olds sample, but such small number can be explained by mistake when filling the questionnaire. 17-year-old respondents have not indicated cases of drug use. In any case, percentage of use is the lowest of all the countries where the HBSC studies

have been conducted: the average number among the respondents in an international sample is 15 percent for girls and 20 percent for boys.

*Therefore, behavior standards of society, as well as efforts of the government substantially prevent impact of psychoactive substances on adolescent population in Turkmenistan.*

## ■ Fighting and bullying

Forms of violence include particularly humiliation / bullying peers, including verbal and physical actions against them. It is known that such actions put at risk those who are bullied and those who bully or humiliate. Aggression in childhood often leads to antisocial behavior in adulthood. Children who are bullied, in adult life can experience uncertainty, low self-esteem, depression.

*Participation in fighting in the streets or at school (Table 88).* Regarding the question on participation in fighting in the previous year, affirmative responses have been given by about 10 percent of 13-year-olds, 8 percent of 15-year-olds and 6 percent of 17-year-olds. More boys than girls have been involved in fighting; with age, percentage of affirmative responses is significantly reducing, especially among girls; affirmative responses of 17-year-old girls are almost nil. Residents of Ashgabat and towns in general more often report on participation in fighting.

Comparisons with the HBSC indicators of other countries shows that Turkmen boys and girls participate in fighting significantly less seldom than their peers. Thus, under the international HBSC study, on average, 15 percent of 15-year-old boys have been involved in fighting during last year 3 times or more often, while for Turkmenistan this indicator is 2 percent.; for girls this indicator is 5 percent and 1 percent correspondingly.

*Being bullied at school (Table 89).* About 11 percent of 15-year-old respondents and 10 percent of 17-year-olds have reported that during the last 2 months they have faced bullying at school at least once. At the same time, percentage of 17-year-olds, who have found difficulty in answering this question, is significantly high, thus, the objective judgment on age tendencies in this issue is impossible. Slightly more often girls, residents of Ashgabat and towns in general have responded affirmatively. These data are significantly lower than the international indicators. In Turkmenistan, among 15-year-olds, 2 percent of boys and 3 percent of girls have been bullied 2 times and more often, whereas the international average accounts for 10 percent and 7 percent respectively.

*Bullying others at school (Table 90).* Among 15-year-olds, 8 percent admit that they have bullied their schoolmates; by the age of 17 years this indicator is sharply decreasing – less than 1 percent (this does not allow to make any significant judgments). Among 15-year-old boys this indicator is 10 percent, among girls it is 6 percent. In Ashgabat, this indicator is significantly higher: 16 percent versus 7 percent in Dashoguz and 5 percent in Mary. Accordingly, this indicator is higher in urban population. This indicator is significantly lower than the average international: 2 percent among all population against 12 percent.

*Non-attendance of school due to fear (Table 91).* About 17 percent of 13-year-olds, 13 percent of 15-year-olds, and even several 17-year-old adolescents report that due to their fear they have missed classes at least 1 time during the previous month. At the same time 96 adolescents - 39 boys and 57 girls – have missed school four or more times. Relatively high percentage of girls worries – this issue should be thoroughly studied. Differences by regions and “urban-rural” areas are insignificant.

*Physical punishment in the family (Table 92).* The highest percentage - 22 percent of 15-year-olds report that over the last year they have been subjected to physical punishment in the family: more often 1-3 times; this percentage is less among 13-year-olds and significantly lower among 17-year-olds. Overall, about 14 percent of all adolescents report that they have been subjected to physical punishment in the family. Difference by gender is more observed among 13- and 15-year-olds: more affirmative responses have been received from boys. No significant differences are observed between urban and rural areas.

*Thus, among the Turkmen adolescents there are cases of fights, violence against each other, as well as physical punishment within the family. This should be reflected in the curriculum of educational work. This also should be taken into account by teaching staff, social services, and in some cases by law enforcement bodies. In particular, this refers to children who are subjected to regular punishments or do not regularly attend school due to fear.*

## **AWARENESS OF HEALTHY BEHAVIOR BASICS AND SOURCES OF INFORMATION**

Based on proposals and discussions with the working group, additionally to the HBSC generic questionnaire a number of questions have been included to assess the knowledge of adolescents on health behavior and information sources. These issues have been mostly addressed to 15- and 17-year-olds; some questions have been included only in the questionnaire for 17-year-olds.

*Knowledge of legal marriage age (Table 93).* The exact marriage age adopted in Turkmenistan (18 years old) has been indicated by slightly more than half of the interviewed 15-

year-olds and 72 percent of 17-year-olds. Six percent of adolescents have indicated the former age limit (16 years old). More than one third of respondents acknowledge that they do not know from what age it is allowed to marry. Adolescents from Ashgabat and Mary are less informed compared to adolescents from Dashoguz who are better informed. In general, the degree of knowledge among students from urban and rural areas is approximately similar; among 17-year-olds residents of cities are better informed. In general, girls are informed not less than boys.

*Training at school on the harm of tobacco, alcohol, nas and drugs (Table 94).* About three-quarters of the interviewed adolescents have reported on the fact of learning about the harm of tobacco, alcohol and drugs during the current or previous academic year; about one in five has stated that he/she has not been trained on these issues. In this category, the answer "do not know" in both age groups has been chosen more frequently by boys compared to girls (17%). By regions the situation is as following: more often adolescents from Dashoguz and Ashgabat have reported on the teaching of these issues, less often – students from Mary. The difference between rural and urban areas is not high.

*Training at school on the dangers of HIV and other sexually transmitted infections (Table 95).* Compared with smoking and alcohol, a slightly larger percentage of children (84%) respond that they have been taught the dangers of these infections. More often these lessons have been recalled in both groups by girls and urban residents. Regional differences are insignificant.

*Training at school on the dangers of early pregnancy (Table 96).* More than three thirds of respondents report that at school they have been informed on dangers of early pregnancy. More often adolescents from Dashoguz and Ashgabat have reported on the teaching of these issues, less often – students from Mary. Girls more often recall such lessons.

*Training at school on healthy lifestyle and proper nutrition (Table 97).* The highest percentage of children (95%) has reported on lessons of healthy life style basics. This number is similar in all sub-groups irrespective of age, gender, region and place of residence.

*Knowledge of image of HIV-infected persons (Table 98).* Despite the fact that nearly 75 percent of students report that they have been taught on HIV/AIDS issues, only 38 percent of 15-year-olds are sure that a healthy person can be HIV-infected. But the number of correct responses increases by the age of 17 years old, where already 95 percent are sure that a person whose appearance looks healthy can be infected.

*HIV infection through contacts (Table 99).* About half (47.7%) of respondents believe that a person can get HIV infection through everyday contact. Only about one quarter of respondents have given the correct answer, at the same time 17-year-olds are almost the same as 15-year-olds on the degree of awareness. Girls, residents of cities and 17-year-olds from Ashgabat are slightly better informed.

*HIV infection through a mosquito bite (Table 100).* Nearly one-third of respondents think that a mosquito bite can cause HIV infection. 40 percent of respondents acknowledge that they do not know. Residents of Ashgabat and cities in general are slightly better informed.

*Knowledge on institutions where it is possible to get medical aid (Table 101).* Adolescents have been asked on the sources where they get information on such issues. Slightly more number of adolescents know where it is possible to be examined for HIV or STIs. Unexpectedly, 17-year-old respondents have marked “don’t know” option more often than 15-year-olds (though, maybe the elder students have been more candid). Boys, residents of Dashoguz and Mary are slightly better informed.

*Sources of information (Table 102).* Adolescents have been asked on the sources where they get information on such issues as HIV, sexually transmitted infections, unwanted pregnancy. The students have to make only one choice, i.e. indicate the source of information which is most important for them. The largest number of respondents indicates that such source has been the school (56.2%), followed in descending order and with a wide margin by TV/radio (7.5%), health workers (6.4%), newspapers and magazines (5.0%). Only 3 percent indicate the Internet as a primary source of information. It should be noted that family and friends play an extremely low information role – 2 percent and 0.4 percent, respectively. 15 percent have had difficulty in indicating the main source of information.

Girls get information more at school than boys (60% vs. 50%), while boys mention TV, radio, Internet, and partly newspapers and magazines as a source of information. In both age groups school has been more often mentioned by adolescents from Mary; newspapers and magazines – by Dashoguz adolescents; Internet – by 17-year-olds from Ashgabat. More often residents of Ashgabat have had difficulty in indicating the main source of information.

## **ISSUES OF REPRODUCTIVE HEALTH AND BEHAVIOR**

17-year-old adolescents have been interviewed on a number of questions related to their sexual life.

*Sexual contacts (Tables 103, 104).* The questionnaire includes a question on the occurred sexual contact and a question on reasons for sexual continence (this question partially replicates

and controls the previous question). On the question related to having sexual intercourse, nearly 5 percent of 17-year-olds report in affirmative: about 9 percent of boys and 2 percent of girls. More affirmative responses have been given by residents of Ashgabat, adolescents from Mary and urban sampling in general. These affirmative answers have been given by residents of Dashoguz. Answering the question on sexual continence the respondents indicate a wish to wait “till I become elder”.

*Knowledge of STI symptoms and contraception methods (Tables 105, 106).* Adolescents have a significant lack of knowledge on the symptoms of the possible STIs. Girls, residents of Ashgabat and cities in general more openly acknowledge their lack of knowledge. Answering the question on the knowledge of main contraceptive methods, respondents have indicated condoms and hormonal pills in insignificant number of cases. Boys have slightly more knowledge.

*Assessment of the relationship of medical staff (Table 107).* Adolescents have been interviewed, whether key youth-friendly requirements for clinics are observed in health facilities. First of all, adolescents have indicated the possibility to choose the physician of desired sex and friendly attitude of the staff (mostly residents of cities). All other criteria (anonymity, accessibility, convenient working hours, etc.) have been reported by a small number of respondents, particularly in rural areas.

Table 107. TKM20. How would you characterize the work / attitude of personnel during your last visit of the health institution (several options are possible).

*The assumed age of marriage (Table 108).* Respondents have difficulty in answering this question, in particular, adolescents from Dashoguz who practically have skipped this topic. Those who have answered indicate option “18-24” years. These are mainly girls and residents of cities.

*Planning number of children (Table 109).* The majority of students have skipped this question or had difficulty in answering it. The most popular option is “2 children”, in particular, among girls from Ashgabat, cities.

## **RECOMMENDATIONS**

Such studies indicate the need of developing a national strategy for improving the health of school-aged children and adolescents, including the following areas (programmes):

In the healthcare system.

- Improvement of knowledge on the issues of adolescent health and behavior, as well as practical skills of the staff working with them at all levels.

- Introduction of adolescent-friendly principles and services.
- Optimization of services activities at all levels aimed at early identification, counseling, referral to the relevant specialized services, if required.
- Strengthening of advocacy/preventive activities among adolescents and parents as well.
- Introduction of a system aimed at continuous monitoring of adolescent health indicators and behavior.

In the education system:

- Improvement of teaching staff knowledge aimed at early identification and prevention of adolescent health and behavior.
- Optimization of curricula aimed at strengthening of healthy behavior of school students and adolescents.
- Use of schools to improve parental knowledge on specifics of adolescent health and behavior.
- Discussion of the possibilities to introduce “Health school” initiative

In the system of social services:

- Improvement of staff knowledge aimed at early identification and prevention of health problems and, in particular, cases of adolescent risk behavior.

At the level of family / adolescents

- Introduction of advocacy programmes among parents and children, strengthening of healthy lifestyle advocacy at all levels.
- Increase engagement of adolescents.

At the decision-making level

- Raising awareness of different rank managers from the systems of healthcare, education, social services and justice on the current issues and possible ways of addressing these issues, including the use of international experience.

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