

MORBIDITY AND MORTALITY TRENDS ASSOCIATED WITH THE USE OF ALCOHOL AND PSYCHOACTIVE SUBSTANCES (PAS) IN THE YOUNG PEOPLE (AGED 15-19) IN RUSSIA

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Abstract: The paper presents the results of the analysis of 2013 and 2018 morbidity and mortality due to mental disorders and behavior disorders associated with the use of psychoactive substances (PAS) – drugs and alcohol – in persons of the young age (15-19 years old) in the federal districts of Russia. It is shown that over this period, there has been a 1.5 times decrease in alcoholism morbidity among adolescents in Russia, while the drugs-induced morbidity and mortality has increased by 1.5 times. Social and historical causes of change in the quantity of the young people using alcohol and drugs have been considered from the standpoint of forecasting the dynamics of socially determined diseases in the Russian Federation.

Keywords: adolescents, morbidity, mortality, mental disorders, psychoactive substances, drugs, alcohol, federal districts of Russia.

1 Introduction

At present, keeping and building up health of the population is a strategic task of the state policy in Russia. Saving and multiplying the people is a national priority (Population of Russia according to the UN forecasts, 2017). The future health of the country's population is closely associated with indices characterizing the present-day condition of health of children.

The generation born in the mid- and late 1990s was formed under "shock therapy reforms" that were considered by the vast majority of families as derogatory intolerable due to miserable income.

The reforms are known to have been accompanied by extensive alcohol involvement and high mortality of the population, and, as a consequence, die-off of those who could and was to have had children (Budaev et al., 2020; Incidence Rate of Mental Disorders..., 2018). In the early 21st century, the situation began to change towards a more optimistic side. In Russia, the 2000s, unlike the 1990s, are not associated with radical political or economic transformations. On the contrary, this period was the stabilization one. At the beginning of the 2000s, there was a change in worldviews, and a generation of the young people having other behavioral preferences was formed. A characteristic feature of the lifestyle of adolescents is all-round IT penetration into all aspects of life which leads to expanding the communications and a particular information behavior that frequently limits direct personal contacts. The computer has become not only a means for obtaining information but also a source of sensory impressions the consumption of which turns into a standalone activity (Safronova & Verbitskaya, 2014). For many, the computer screen has replaced physical exercise, subject and productive activity, direct personal communication outside social networks. The young people born after 2000 are characterized as the "digital" generation.

On the other hand, the present-day active propaganda of healthy lifestyle has also had its influence on the young people's preferences and fashion trends in the formation of healthy lifestyle. The changes having taken place promote broader inculcation of healthy lifestyle, physical culture, and sports into the young people's minds, which contributes to keeping up health (Vygotsky, 1984; Kutarev & Igumnov, 2019; Pochitaeva & Lyutsko, 2015).

2 Literature Review

The adolescents' and young people's use of psychoactive substances is a characteristic trend for many countries, which is confirmed by studies of both Russian and foreign scientists

(World Drug Report 2018, 2019; Presidential Address to the Federal Assembly, 2020; Vishnevsky, 2011; Smirnova, 2018; The Average Number of Population..., 2020; Serrano et al., 2017; Shedler & Block, 1990; Scalese et al., 2014). In particular, this is characteristic of the young living in the urban settlements and rural areas, belonging to the well-off class and to the poorest strata of the population (Madrugá, 2012). Almost "each fourth (26,0%) schoolchild has gotten acquainted with psychoactive substances at the age of under 13, and practically each second one has at 13-14 years old" (Presidential Address to the Federal Assembly, 2020).

In studies dealing with these issues, there is no shared opinion about the leading causes provoking the use of psychoactive substances. As a rule, they mention a complex of conditions and factors: social tension (Gromova & Olifirovich, 2018; The Average Number of Population..., 2020), family problems (Grigorieva, 2019), difficulties in communication with classmates and/or teachers (Presidential Address to the Federal Assembly, 2020), social environment (Presidential Address to the Federal Assembly, 2020; Martinotti, 2015), searching for new experiences (Rumpold, 2006). Another group of authors note that manifestations of the young people's inclination to the use of psychoactive substances are associated with changes occurring both in the individual and the public consciousness. They single out uniting factors that provoke an increase in the quantity of drug addicts in particular periods of history (Distribution of the Deceased..., 2019).

This has the following consequences: shrinkage of positive communicative relations among the young and between different generations, the young people's loss of control over their own actions, the onset of a depressive or aggressive condition, a disorder of behavior manifesting itself in the risky sexual behavior and neglect of contraceptive culture (Bryuno, 2016; Serrano et al., 2017), self-destructive actions (Presidential Address to the Federal Assembly, 2020), potentiation of suicidal behavior, higher quantity of attempted and actual suicides among the young people aged 15 to 24 (Presidential Address to the Federal Assembly, 2020), and other mental disorders (Izmerov & Tikhonova, 2011).

3 Research Methodological Framework

The objective of this work is to analyze morbidity of socially significant diseases (mental disorders and behavior disorders associated with the use of psychoactive substances: alcohol and drugs), and mortality due to them in adolescents aged 15-17 and 15-19, i.e. ones born at the end of the 1990s (teenagers as of 2013) and in the 21st century (the 2018 teenagers).

The tasks of the work were as follows:

1. Analyzing the morbidity of mental disorders and behavior disorders associated with the use of psychoactive substances (alcohol and addictive substances) in adolescents aged 15-17 in Russia and its FD for 2013 and for 2018.
2. Analyzing the mortality of the young people aged 15-19 due to causes of death associated with the use of psychoactive substances (alcohol and addictive substances) in Russia and its FD for 2013 and for 2018.

For analyzing the situation reflecting morbidity of mental disorders and behavior disorders associated with the use of psychoactive substances and mortality due to these causes in the age group of 15-19 years old, the following methods were used: the statistical one, the retrospective analysis one, and the comparative one.

The database consisted of the materials of the Federal State Statistics Service (Rosstat) and the Ministry of Health of Russia:

- the data on the number of children diagnosed with drug addiction and alcoholism: table 3.11 – the number of children having mental disorders and behavior disorders associated with the use of psychoactive substances, (quantity of people) (Derstuganova et al., 2013);
- forms of the state statistical monitoring of the Federal State Statistics Service (form No. S51 for the years 2013 and 2018), with the number of the deceased due to individual causes distributed according to the age, gender, region of residence, as well as with residence in the urban or rural areas specified (Radaev, 2018);
- the data on the number of the population broken down to ages, with the region of residence, urban and rural areas taken into account (Socially Significant Diseases of the Population of Russia, 2019).

According to ICD-10, the alcohol-associated causes included the diseases from category F10-F19 Mental disorders and behavior disorders associated with the use of psychoactive substances (Matveev et al., 2017).

The following causes of death were included into the group of ones due to the use of alcohol: acute alcohol intoxication, alcohol abuse, alcohol-induced addiction syndrome (chronic alcoholism), other and unspecified mental behavior disorders due to the use of alcohol, alcoholic psychoses, encephalopathy, dementia, alcohol-induced degeneration of the nervous system, alcoholic polyneuropathy, alcoholic cardiomyopathy.

The group of drugs-induced causes of death included: mental disorders resulting from drug abuse, accidental poisoning by and effect of drugs and psychotomimetics (hallucinogens), poisoning by and effect of drugs and psychotomimetics (hallucinogens) not classified in other categories with doubtful intentions.

Based on these data, indices of morbidity and mortality of the urban and rural population of Russia and its FD aged 15-19 (per 10 000 people of the relevant age group) have been calculated.

4 Results and Discussion

In the work, morbidity and mortality indices associated with the use of alcohol and addictive substances are considered for the generations of adolescents born in the late 20th century and in the early 21st century. By generation, the authors mean not so much the age cohort but first of all a group of people having experienced important events of history together and due to this showing the uniformity of perceptions and behavioral practices. These generations are separated by conditions in which the process of their moving into adulthood took place. The experience accumulated during socialization in the early teen age produces a forming impact on the remainder of life, because people become less receptive to changes as they grow up (Safronova & Verbitskaya, 2014).

The changes in the condition of health of persons aged 15-19 born in the 21st century, as compared to the generation born at the end of the 20th century, are a trend marker of the processes emerging in health of the future generations. First of all, these are social diseases: in particular, diseases associated with the use of alcohol and psychoactive substances, including drugs. In Table 1, the indices of morbidity of 15-17 years old adolescents calculated by the authors based on the data of the Ministry of Health of Russia and the data of the Federal State Statistics Service (Derstuganova et al., 2013; Socially Significant Diseases of the Population of Russia, 2019) are presented.

The data of Table 1 state that in the period from 2013 to 2018, adolescent morbidity of alcoholism and alcoholic psychoses went down considerably almost in all federal districts (FD) of Russia and, accordingly, in Russia as a whole. It was the NCFD (North Caucasian FD) that was an exception, with its alcoholism levels among adolescents growing five-fold. However, the growth of morbidity indices in an individual federal district is an exception, and it can reflect real changes not in all cases. This is because frequently the population morbidity levels largely depend on healthcare reforms, the quantity of doctors, and,

therefore, they influence the more complete or, conversely, incomplete detectability of diseases as a result.

Table 1 Mental disorders and behavior disorders morbidity associated with the use of psychoactive substances in adolescents aged 15-17, per 10 000 people of the relevant age*

Causes of diseases	year	RF, federal districts								
		RF	CFD	NWFD	SFD	NCFD	PFO	NFD	UFO	FFD
Alcoholism and alcoholic psychoses	2013	1,57	1,05	1,11	0,57	0,01	1,2	2,2	4,7	2,74
	2018	0,43	0,42	0,27	0,34	0,05	0,32	0,44	1,1	0,48
Drug addiction	2013	1,03	0,97	1,2	0,27	0,017	0,6	1,74	2,24	1,79
	2018	1,29	1,15	1,02	1,13	0,26	1,4	1,9	2,44	0,56

* Calculated by the authors based on the above listed sources of the Rosstat official statistics (Derstuganova et al., 2013; Socially Significant Diseases of the Population of Russia, 2019)

Simultaneously with alcoholism morbidity decreasing almost in all FD (except the North-Western FD (NWFD) and the Far-Eastern FD (FFD)), in the said period, there emerged a growth trend in morbidity of mental disorders and behavior disorders associated with the use of drugs (Table 1). These trends are similar to the changes in the indices of mortality due to this group of social diseases in the urban and rural areas of the RF (Figures 1, 2). For calculating the indices, the authors used the data of forms No. S51 (2013 and 2018), the average annual number of adolescents aged 15-17 and 15-19 (2013 and 2018) by the Federal State Statistics Service, 2013, 2019.

From 2013 to 2018, there was a 1,5 times decrease in mortality of the Russian young people due to causes associated with the use of alcohol; notably, this was the case both in the urban environment and in the rural areas. As the leading cause, accidental alcohol poisoning (58,0%) was registered. In the same period, literally within 5-6 years (2013-2018), the level of mortality of the RF young people due to drugs abuse increased both in the urban settlements and in the rural areas: it almost doubled in the urban environment, and it grew by 1,5 times in the rural areas (Figure 2).

Figure 1 – Alcoholism mortality in people aged 15-19 in urban settlements and rural areas of Russia in the years 2013 and 2018 (per 10000 people of the relevant age group). (Calculated by the authors based on the above listed sources of the Rosstat official statistics (Radaev, 2018; Socially Significant Diseases of the Population of Russia, 2019))

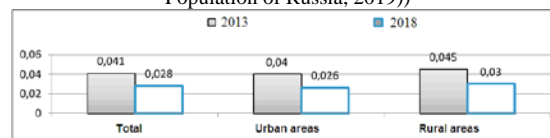
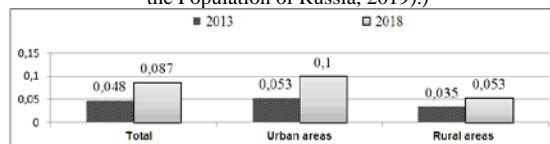


Figure 2 – Drug addiction mortality in people aged 15-19 in urban settlements and rural areas of Russia in the years 2013 and 2018 (per 10000 people of the relevant age group). (Calculated by the authors based on the above listed sources of the Rosstat official statistics (Radaev, 2018; Socially Significant Diseases of the Population of Russia, 2019).)



The highest levels of mortality due to the use of drugs and psychoactive substances are observed in the NWFD, exceeding the similar indices of other FD several times.

Table 2 Drug addiction mortality of adolescents (aged 15-17) in 2018 per 100000 people of the relevant age*

RF, federal districts								
RF	CFD	NWFD	SFD	NCFD	PFO	NFD	UFO	FFD
0,6	0,6	3,8	0,43	0	0	0,19	0,53	0

*Calculated by the authors based on the above listed sources of the Rosstat official statistics (Radaev, 2018; Socially Significant Diseases of the Population of Russia, 2019).

5 Conclusion

Thus, in the latest two decades, the change in health condition indices of the total population of Russia was favorable on balance by 2018: mortality at all ages was going down, and longevity was growing (Gromova & Olifirovich, 2018; International Classification of Diseases of the 10th review, 2019). However, as the forecast data show, in Russia, the structure of the population will go on changing as follows: the global demographic trend – ageing of the population – will be manifested clearly. All forecasts predict noticeable changes in the age composition of the population to have occurred by 2030. The percentage of persons aged 65 and over will go 60% up, and together with it, so will the demographic load on the employable population. Almost each fifth citizen of the country will be over 65 years old in 2030. The percentage of persons younger than the employable age will be decreasing in Russia for more than one decade: from 18,8% in 2020 down to 14,6% (low forecast) or to 17,0% (high forecast) by 2030 (Grigorieva, 2019; International Classification of Diseases of the 10th review, 2019; Vishnevsky, 2011).

Under these conditions, health of the young people and changes in indices characterizing it gain particular relevance. The adolescent period of life is the most vulnerable and receptive to the effects of various events that may have adverse consequences, too. Among them, self-injurious behavior (SIB) and the use of PAS are socially important problems. With regard to this, the latter can act both as a variant of autoaggressive behavior and as an independent substance addiction problem (Bryuno, 2016; Budaev et al., 2020). Against this background, the groups and classes of diseases which are conditioned by social factors draw attention to themselves: namely, social diseases associated with the use of alcohol and drugs (PAS) and closely connected to lifestyle.

In the WHO reports, they point out quicker expansion of the use of drugs and other psychoactive substances (PAS) in the 18–25 age group (Incidence Rate of Mental Disorders..., 2018; Zinoviev & Sofronov, 2008) throughout the world. It follows from this that for preventing morbidity and, therefore, mortality, it is not only more careful diagnostics (which is certainly important) but also the prevention work at school and in the family at the earlier stages of formation of the young people that is necessary.

The country's new social conditions are the foundation for other levels and structure of social diseases as well as mortality due to them to form on. The consequences of social transformations tell on children and adolescents as one of the most vulnerable category of citizens. It is not always that the changes lead to desirable results, and in a number of cases, they can be the cause of mental health problems, create prerequisites for the development of so-called social diseases, including the addiction diseases (Derstuganova et al., 2013; Zinoviev & Sofronov, 2008; Katan & Karpets, 2018). Among the factors having a negative impact on socialization of the rising generation, blurred values and ideals, and complicated economic situation of families are noted the most frequently. Without downgrading the importance of these causes, it should be pointed out that other aspects of social dynamics, for example, escalating migration, instability of the economic space, play one of the major roles in the development of the diverse negative phenomena, too. In their total, they lead to the efficiency of currently existing in practice measures for protecting one as a personality being weakened and

leveled out; they are clearly insufficient for overcoming disadaptation of the children making up the risk group (Bryuno, 2016; World Drug Report 2018, 2019; Presidential Address to the Federal Assembly, 2020).

In fact, the authors' studies have shown that against the background of social and economic changes having taken place in the country in the early 21st century, essential shifts in indices of the young people's condition of health have occurred. Definite positive changes in the condition of health of adolescents born at the beginning of the 21st century as compared to those born in the late 20th century (2013 to 2018) are reflected in 1,5 times lower morbidity and mortality due to causes associated with the use of alcohol among the young people aged 15-17 both in the urban and rural areas; the decrease in alcoholism morbidity of the young people aged 15-17 was characteristic for all FD of Russia. These processes are most probably associated with extensive propaganda of healthy lifestyle, sports, change of infrastructure in urban settlements (the availability of sports complexes and facilities).

However, one cannot yet speak about only positive reassuring changes having taken place. The flip side to social and economic transformations of the society is the growth of drug addiction morbidity in the young people (aged 15-17) in a number of Russia's federal districts; the North-Western federal district and the Far Eastern federal districts were an exception.

There is an emerging negative trend of growing mortality of the young people due to the use of drugs. Among 15-19 years old persons, there has been a 1,5 times increase in mortality both in the urban environment and in the rural areas: from 0,48 up to 0,87 per 100 000 of the population of the relevant age.

Given the identified trends in the Russian young people's condition of health, searching for causes of the negative phenomena at the current stage and ways of preventing morbidity due to the use of psychoactive substances and alcohol among the young people becomes an urgent question.

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