The aim of this study was to identify risk sexual behavior in students aged 12-18 in Veliko Turnovo region. A cross-sectional study was carried out in 2014. Three hundred and ten students attending seven schools filled in a self-administered questionnaire. The questionnaire included 48 questions, sixteen of which collected information about sexual behaviour, regarding contraception, casual sex with different partners, sexually transmitted diseases (STD), hygiene after sex, etc. The data were processed with SPSS v.19. Parametric and non-parametric statistical methods were applied. Over 50% of the students reported being sexually active, most of them since they turned 16. Almost half of the respondents had had casual sexual partners and 46 percent had had sex within a week after initiation of a new relationship. Less than one third of the students reported safe sex behaviour. Seven percent of the students had a history of STDs, and one in six did not practice proper hygiene after sex. Identification of all aspects of risk sexual behavior in students aged 12-18 provides an opportunity to study the problem systematically and comprehensively. Planning and implementation of effective health education programs in schools require the application of an integrated approach with the participation of students, teachers, parents, health professionals and policy makers.

Key words: risk sexual behavior, student
Some of the consequences are connected with the process of maturing, with manifestations of deprivation and difficulties in socializing, early dropping out of, etc.

**Materials and Methods**

A cross-sectional study was carried-out in 2014. Three hundred and ten students attending seven schools in the region of Veliko Turnovo filled in a self-administered questionnaire. The questionnaire included 48 questions, sixteen of which collected information about sexual behavior, regarding contraception, casual sex with different partners, STD, hygiene after sex, etc. The socio-demographic characteristics of the persons are presented in Table 1. The data were processed with SPSS v.19. Parametric and non-parametric statistical methods were applied.

**Results**

Over 50% of the students reported being sexually active, most of them since turning 16 (Figure 1). Significant gender-related differences were found: the mean age for the girls was 15.56±1.18 and 16.50±1.11 for the boys (F=19.33; p=0.001).

In the majority of respondents (58.4%), the first sexual partner was older; the same was approved by 40.4 percent of the girls and in 12.2 percent of the boys (Figure 2). About one-third of the respondents had not used condoms during their first sexual intercourse.

The interval between initiating a new relationship and having a sexual intercourse was very short in the majority of the respondents (Figure 3). Almost one-fifth had had sex the same evening they started a relationship and the proportion of boys was 3 times as high as that of the girls (χ²=29.798; p=0.001).

At the time of the study, 48% of the students did not rely on steady emotional relationships, and the boys (65.6%) fell into a risk group (χ²=11.490; p=0.001), (Figure 4).

Only 30 percent of responders practiced safe sex. The majority (55.6%) reported using condoms accidentally, and 11.3% had never used condoms (Figure 5). A higher frequency of regular contraception (60%) was reported by students at St Cyril and St Methodius School. The frequency was relatively lower among students of the other schools. The differences were significant (p<0.05).
Over 52% of adolescents reported having sexual intercourse after alcohol or drug use. Casual sex and sex with prostitutes were also aspects of risk sexual behavior. Over 1/5 of respondents had had casual sex, and fifteen (6.1%) had had sex with prostitutes. The boys fell into a risk group; some of them had had such sexual experience, others said they would do it if they had an opportunity (Figure 6). We established age-related differences: students aged 12, 14 and 15 reported having had casual sex, while those aged 15-16 had had sex with prostitutes (p<0.05).

Prevention of risk sexual behavior also requires maintaining after-sex hygiene. Nearly 70% of the students had proper hygiene skills. Village residents (38.1%) and students from St Cyril and St Methodius school (83.3%) were the risk group because they did not consider it necessary to stick to hygiene rules – p<0.05.

Over 7 percent of the students reported history of STD; the frequency in the girls (10.3%) was 4 times higher than that in boys (2.5%) – Figure 7.

Almost 50% of the girls did not see a gynecologist. The majority of them were village residents, students from St Cyril and St Methodius school or were younger – 12-14-year-old, respectively (p<0.05).

Figures 1 and 2. The age at the beginning of sexual life and the age of the first sexual partner by sex of the students (%)
**Figure 3.** Gender differences as to having a steady sex partner (%)

<table>
<thead>
<tr>
<th></th>
<th>Girls</th>
<th>Boys</th>
</tr>
</thead>
<tbody>
<tr>
<td>With a steady sex partner</td>
<td>62.8%</td>
<td>34.4%</td>
</tr>
<tr>
<td>Without a steady sex partner</td>
<td>37.2%</td>
<td>65.6%</td>
</tr>
</tbody>
</table>

**Figure 4.** Time between initiation of a relationship and having sexual intercourse (%)

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Same evening</td>
<td>19.2%</td>
<td>13.9%</td>
</tr>
<tr>
<td>Up to 3 days</td>
<td>13.2%</td>
<td>13.2%</td>
</tr>
<tr>
<td>Up to a week</td>
<td>25.2%</td>
<td>65.6%</td>
</tr>
<tr>
<td>Up to 2 weeks</td>
<td>13.2%</td>
<td>65.6%</td>
</tr>
<tr>
<td>Up to a month</td>
<td>13.2%</td>
<td>65.6%</td>
</tr>
<tr>
<td>More than a month</td>
<td>15.2%</td>
<td>65.6%</td>
</tr>
</tbody>
</table>

**Figure 5.** Distribution of respondents by use of contraception during sex (%)

- Never: 11%
- Sometimes: 56%
- Always: 33%
Figure 6. Proportion of girls and boys who had sex with a casual sex partner or with a prostitute (%)

Figure 7. Proportion of girls and boys with STDs (%)

Figure 8. Proportion of respondents not discussing sexual education issues with parents and not seen by a gynecologist (%)

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Discussion

Our study established that 50.7% of the students had sexual relationships, and the mean age of initiation of sexual activity was 15.99±1.21 years. Fifty respondents (33.1%) had had sexual intercourse earlier in life. Similar results were reported in a previous study of ours [1], as well as in some other publications [2, 3]. Age differences, with regard to the first sexual intercourse, are ethnically and culturally determined [4-7] and the girls were reported as having had earlier sexual intercourse (15.56±1.18). Our findings were contrary to those of other authors. It is disputable whether earlier sexual activity in girls coincides with earlier pubescence [2, 6, 8, 9]. Some scholars found significant correlation between the earlier sexual activity in girls and their higher self-esteem [7]. A retrospective study was conducted during 2001-2003 in Estonia, which identified a number of personal and family factors associated with teenage pregnancy, including earlier onset of sexual activity, insufficient knowledge of contraception and reproductive health, alcohol and physical abuse in the family [10]. Unfortunately, the age of onset of sexual activity in Bulgaria has lowered to 11 years [8] which increases the probability of accidental condom use in adolescents, a larger number of sexual partners [11], poorer mental health and poorer school performance [7].

Bulgaria ranks third in Eastern Europe (after Ukraine and Russia) in registered abortions and is among the countries with the highest frequency of abortions in the age group 10-19. Only 20% of all pregnancies in our country are planned, as compared to 60-70% in EU countries [10]. These data correlate with ineffective contraception: only 35% of Bulgarian adolescents aged 17-18 use condoms, and about 6% of girls use oral contraceptives. The data are similar to those for Croatia, Georgia, Macedonia, and significantly lower than those of the USA, Australia, Netherlands, the Czech Republic and Poland [5, 7, 12]. Only 30% of our respondents always used contraceptives during sexual intercourse. Similar data were published by Cherkesov (2013), who found that 40 percent of persons rarely or never using condoms were not aware of the consequences of their risk sexual behavior [8]. The risk for a repeated abortion is higher in girls who have been victims of sexual abuse, and so is risk for STDs [12]. Unfortunately, the data about STDs among adolescents in Bulgaria are insufficient, and we can use only sample statistics [5]. Among all our responders, 7.3% had had experience with STDs; the proportion of affected girls was several times higher than that of boys (p<0.05). Similar data were found in a study we conducted in the region of Plevn in 2010 [1]. One of the factors contributing to increased susceptibility to STDs in girls is physical immaturity [7]. The risk of STDs or unwanted pregnancy increases after use of psychoactive substance due to loss of self-control, refusal to use contraceptives and sexual abuse [7]. Many people erroneously believe that alcohol increases potency [7]. In adolescence, alcohol intake often correlates with social immaturity. The majority of our respondents (52.7%) had had sex after using alcohol or narcotic some drug.

Unfortunately, most respondents (over 70%) „consumed“ their intimate relationship within 1-2 weeks after starting a relationship, and almost half of them did not have steady intimate partners. More than one-fifth reported having had casual sex. Similar results have been reported by other authors [1, 2, 9, 11], though their hypotheses are different and often contradictory. According to some experts the lack of knowledge about the consequences of adolescent risk sexual behavior is more important, while others believe that underestimation of risks by young people is associated with their idea of “invulnerability”. When compared to adults, adolescents have limited abilities to make an effective decision, which limits their ability to solve problems, although some researchers would not agree with such a statement. They state that risk behaviour engagement is based on personal risk assessment, in which three cognitive factors are important: responsibility, perspective and moderation [13].

As regards the level of awareness and opportunities to seek medical advice, e.g. regular check-ups by a gynecologist, medical advice on reproductive and sexual health problems, the differences between children living in the city and rural areas should be taken into account. In our study, most of the girls had not undergone gynecological check-ups and those who did not maintain proper after-sex hygiene were village residents (p<0.05). The same results have been reported by other researchers [1, 9]. Village children live in smaller and close-knit communities. They receive information mostly from their friends and the media. Their access to
health services is often limited. The majority of such children continue their education in the city at the age of 14-15. The lack of parental control and unawareness of risks of life in a city makes them more susceptible to negative influences.

Conclusions

The girls and boys were affected by similar behavioural risk factors during adolescence, but they experienced them differently. Girls showed earlier onset of sexual activity, and higher frequency of STDs. Boys constituted a risk group for having sex with casual partners or prostitutes, and expressed positive attitudes toward such sexual experiences. Most of them had had sex with new partners 1-2 weeks after initiation of relationships. Students form rural places more often lacked skills for maintaining proper after-sex hygiene and did not undergo gynecological check-ups.

Identifying all aspects of risk sexual behavior in students aged 12-18 provides an opportunity to study the problem systematically and in depth. Planning and implementing effective health education programs at schools require an integrated approach with the participation of students, teachers, parents, health professionals and policy makers.

Acknowledgments

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References


