

Reproductive health of teenagers as the research problem: the substantiation of methodology

Zdrowie rozrodcze nastolatków jako problem badawczy: uzasadnienie metodologii

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Cel pracy. Zbadanie medyczno-socjologicznej techniki badań nad zdrowiem rozrodczym nastolatków oraz współczesnego pojmowania zdrowia i jakości życia determinowanej stanem zdrowia.

Metoda. W wyborze danych zastosowano determinanty socjologiczne – analizę czynników istotnych dla zdrowia nastolatków zarówno z punktu widzenia dorosłych, jak i młodzieży.

Wyniki. Zdrowie nastolatków koreluje z czynnikiem wieku. Jakość życia w korelacji ze zdrowiem można uznać za kryterium oceny stanu zdrowia dzieci. Jednak podstawowym problemem metodologicznym jest brak standardowego kwestionariusza i metodologii oceny wyników. Kwestionariusz opracowany przez autorów pozwala na badanie warunków życia nastolatków i wykrywa potencjalne czynniki ryzyka. Nasz kwestionariusz łączy kryteria obiektywne (aktywność fizyczna, funkcjonowanie społeczne) oraz subiektywne (stan emocjonalny, satysfakcja z możliwości realizacji potrzeb zdrowotnych). Badane są cele rozrodcze młodzieży. Włączyliśmy czynniki istotne dla jakości życia i zdrowia rozrodczego z punktu widzenia nastolatków, a także czynniki, które młodzież ignoruje, a które wpływają istotnie na jakość życia i rozrodczość. Kwestionariusz został przetestowany i zastosowany w badaniu grupy białoruskich nastolatków.

Słowa kluczowe: zdrowie rozrodcze nastolatków, jakość życia determinowana stanem zdrowia, kwestionariusz, metodologia badań

Aim. To prove the medical-sociological technique of research of reproductive health of teenagers with the account of modern approaches to the understanding of health and the health-related quality of life.

Method. Two ways of data selection are allocated in its frame: the analysis of factors, significant for health of teenagers from the point of view of adults; and research of factors, significant from the point of view of teenagers.

Results. It was revealed that research of health of teenagers has the specificity connected with age factor. The social approach is the core from the positions of sociology of health. Quality of life connected with health can become the criterion of an estimation of state of health of children. But the basic methodological problem is the absence of a uniform questionnaire and methodology of estimation of results, which is crucial for reproductive health. The questionnaire developed by us allows to study factors of teenagers' ways of life and life conditions, to reveal potential risk factors. The technique unites objective (physical activity, social functioning) and subjective (emotional status, teenager's satisfaction with realization of health-related needs) criteria. Reproductive objectives of teenagers are investigated. We have included factors important for quality of life and reproductive health from the teenager's point of view, and the factors which are not significantly important from the teenager's point of view, but with real value for teenage reproductive health. The questionnaire passed preliminary test and was applied on the republican sample of teenagers.

Key words: reproductive health of teenagers, health-related quality of life, questionnaire, methodology of research

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Modern approaches to understanding health and methodological peculiarities of its studying

Modern definitions of health consider health as «The condition providing the realization of biological and social functions in full volume». The principle of completeness of realization of functions in the definition of health has been put at the heart

of the functional approach. Its founder was the famous sociologist T. Parsons, who defined health as «Optimum possibilities of the individual to carry out effectively the roles and problems for which he/she has been socialized».

Changes in modern approaches to understanding health are reflected in the methodology of its studying.

The sociological method becomes the integral and basic method at the present stage.

Priorities in methodology of studying health of teenagers from a position of sociology of health have changed in parallel with the change of accent of researches from biological factors to psychological and, at last, to social. Biological, cognitive, psychosexual and social approaches have been developed [1, p. 10].

The social approach to health of teenagers prevails during recent years in the sociology of health. It is directed towards the research of ability of teenagers to understand social relations and to understand other people. Complexity and duration of process of acquisition of social knowledge is underlined. The approach is based on physical, psychological and social peculiarities of a teenager: active hormonal processes, dependence on the big number of micro-social factors of environment (family, school, immediate environment) and macro-social factors (society, culture), active knowledge of a personal role in the society and ways of its realization, perception of vital values and behavioral norms into various spheres, including the sphere of health. Not being able to estimate objective processes, the teenager is rather vulnerable to the influence of social and informational environment [2, 3].

Within the limits of the social approach to health (in the frameworks of sociology of health) we can allocate two ways of data selection [8, p. 19]. The first consists of the selection and the analysis of factors, significant for health of teenagers from the point of view of adult people – parents, relatives. It is characteristic that conclusions, as a rule, are connected with teenagers' indifference in care about health and insufficient sensibleness of factors negative for health. The second way provides the research of factors significant for health from the point of view of teenagers themselves. With the reference to reproductive health, I. V. Zhuravlyova includes in such factors the teenagers' knowledge about reproductive and sexual health, the data about the place of the teenager in the society, in the adult life, about ways of adaptation to it. The understanding and support of the teenager by parents, contemporaries (in other words, social support) plays an important role [4, 5].

Methodological approaches to studying the health of teenagers in the clinical medicine are characterized in modern conditions by the increase of social orientation.

Traditionally the health of teenagers is estimated in the clinical practice in Belarus by the technique of complex estimation of state of health of children, at mass preventive medical examinations. The technique was developed more than 30 years ago by the Institute of Hygiene of children and teenagers of the Ministry of Health of the USSR under management of S.M. Grombah

[6]. By S.M. Grombah's technique, indicators of health of children are the following: the absence of diseases, normal condition of the basic functions, timely and harmonious development, high reactance of an organism. According to the condition of indicators revealed at a complex medical-preventive survey, the child qualifies for one of five groups of health.

The author of the methodology S.M. Grombah noticed later that biological estimation alone is not enough for the complex approach to the problem, as many children who from purely medical positions cannot be considered healthy, in the practice are quite sufficient in the social functions and, hence, are quite high-grade members of the society. S.M. Grombah specified that there was a necessity of more detailed characteristics of health, the estimation of its level should be based on the degree of realized possibilities, i.e. on the degree of social capacity, or social adaptation. For the first time the scientists had a chance to divide children into social groups of health which can not coincide with traditional clinical groups.

In the last years, leading pediatricians of different countries stated the necessity of inclusion of research of quality of life for an estimation of state of health of children. As V.J. Albitsky and I.V. Vinjarskaja mark: «The indicator of quality of life which values a person's judgment of own physical, psychological and social well-being can become the new criterion of health of children» [7, p. 16]. The concept «the quality of life connected with health» opens a concept of health with the functional approach developed in the sociology of health. So, V.J. Albitsky specifies that: «Introduction of an indicator of quality of life as the additional criterion will allow to modify an existing technique of complex estimation of state of health of children and to make it at a new, modern level with the application of the international approaches, and use of a standard toolkit will make research comparable in any territory» [7, p. 17].

Health-related quality of teenage life: toolkit requirements. Peculiarities of reproductive health

The analysis of quality of life in pediatrics allows to investigate not only clinical, but also such social aspects of health of children, as perception of surrounding world by the child, the attitude of the child to disease and treatment, rules of occurrence of psychological and social problems in the family because of the disease at the child, condition of «optimum health» from the point of view of the child and his parents [8].

It is especially important in the estimation of reproductive health, because the account of knowledge of teenagers, of social and behavioral factors of risk of early sexual experience are necessary.

However, the introduction of the social approach to studying health in public health service practice encounters methodological problems. The most significant problems in studying the teenage quality of life connected with health contain the absence:

- of uniform Russian-speaking questionnaire,
- of the unified methodology of an estimation of results,
- and of the account of specificity of studied aspects of health (reproductive health, teen age).

Any technique for studying health-related quality of life of teenagers developed by domestic scientists has not received the standard status till now. At the same time, a number of works as, for example, developed in the Belarusian Medical Academy of Postgraduate Education «The Method of estimation of individual quality of life» [9], deserve more steadfast studying and wide circulation. The results received by I.V.Mashchenko (with the help of the Method) at research of quality of life of 14-18-year-old teenagers of Minsk and Molodechno have shown that the average index of quality of life is low and makes 23.5%. Leading factors of poor quality of life of teenagers are a concern for health and quality of socialization. Self-estimation of health is one of the major factors determining an indicator of quality of life [9].

As E.V.Bahadova notes: «There is an important aspect for an individual in the definition of quality of life: it is a subjectivity of indicators from the adult or the child. The person can take an active or passive position in the dyad «Health-Illness», and can regulate subjective perception of quality of life. For the child this is much more difficult as it is still strongly dependent on external and family factors. A child is not in a condition to regulate many processes, including social and psychological. The child's subjective perception of peculiarities of the functioning, health and quality of life is a serious moment for revealing of peculiarities of medical-biologic and social adaptation ... The best perspective is the approach to the decision of question of health and degree of illness from the positions of estimation of quality of life – by the subjective perception of its indicators from the child or his parents» [10].

The data about research of quality of life for the whole population submit the big value for various institutes of a society [11, p. 107]. Such standard indicators are available in all developed countries of the world from the end of 1990s that became possible by working out and introduction of the questionnaire SF-36 [12]. This questionnaire is applicable for an age category from 15 till 85 years. Thus the consent of parents and their interrogation for teenage respondents are not provided. The basic lack limiting possibilities of application of the questionnaire SF-36 for teenagers is the absence of sensitivity to specificity

of teen age, and, as a consequence – the insufficient account of peculiarities of teenagers and their reproductive health as the subject and the object of research. At the same time it is known that a display of each of components of quality of life depends on the age of the child: in particular, at school age questions of a component of social functioning are based on the activity of the child at school and connected with his/her adaptation in the collective, skill to communicate [11, p. 233]. Reproductive health and its influence on the quality of life of the teenager is highly specific, and that should be reflected in the questionnaire.

The questionnaires applied in the pediatric practice reflect specificity of child and teen age. At the same time, they (in an overwhelming majority) assume participation in the research as children and parents, namely the complex approach considering in aggregate opinion of the child (self-report) and parents (proxy-report) [11, p. 232]. Impossibility of application of the standard international questionnaires (most known among them are «Child Health Questionnaire» and «PedsQL») in our research «Teenager: reproductive health and behavior» is connected first of all with the methodology of research. It is not assuming the participation of parents because that would lower the reliability of the information received from the teenager concerning behavioral factors of reproductive health – as unconditional display of a «proxy-problem» or a «cross-informant variance» phenomenon [13, 14]), but also with the fact that the given questionnaires do not allow to receive the required information about reproductive health in full volume. Besides, the cultural and language adaptation and subsequent validation of questionnaires from another language is a rather difficult and expensive procedure.

In generalizing techniques of research of the health-related quality of life of teenagers, it is necessary to notice that they unite two types of criteria and are directed towards studying the physical, psychological and social functioning with their interrelations. Objective criteria include physical activity, the factors connected with social functioning – study, adaptation in the collective. Subjective criteria contain factors of the emotional status, satisfaction with various aspects of life, the state of health and self-estimation of health-related factors – in other words, degrees of teenage perception of to what degree his/her requirements for health are satisfied and to what degree the possibilities necessary for it are given.

The basic questionnaire requirements for the research of quality of life in medicine include reliability (accuracy of measurement), validity (ability to measure authentically the characteristics in the questionnaire) and sensitivity (ability to reveal change in dynamics) [11, p. 40-41]. The requirements for the questionnaires

applied in pediatrics are similar [15, p. 28]. Hence, the account of the specified requirements by the author's questionnaire will allow to provide its suitability for objectives of the research.

The questionnaire «Teenager: reproductive health and behavior» (fig. 1) contains the sections allowing to characterize factors of way of life of teenagers (nutrition, dreams, physical activity, a psycho-emotional background, prevalence of smoking, peculiarities of behavior in relation to alcohol); life conditions of teenagers (such social characteristics as family type, quantity of children, residing, education of parents, financial conditions of family); presence of potential risk factors (familiarizing with drugs and other psychoactive substances, risk of crisis psychological conditions, of risky sexual behavior (contraceptive behavior, pregnancies); medical activity of teenagers (attitudes to medical aid, including gynecological or urological), knowledge about possibilities of medical aid use).

Reproductive objectives are studied quantitatively. By mark scales are investigated such factors as: estimation and self-estimation of state of health, self-estimation of nutrition, physical activity, psycho-emotional status, financial position of family, possibilities of social realization in the future, knowledge about reproductive health.

We have included factors important for quality of life and reproductive health from the point of view of the teenager, and the factors which are not significantly important from the teenager's point of view, but with real value for reproductive health of teenagers (vital values, sources of information about reproductive health, some factors connected with the organization of medical and psychological help).

Thus, advantages of both ways of selection of data in a sociological research of health of teenagers are used, subjective and objective criteria of research of quality of a life are united, specificity of indicators of behavior in the field of reproductive health is considered.

The questionnaire is balanced by the quantity of questions (58 closed and half-closed questions), made with the account of staging of interview, has passed a preliminary test at carrying out a "flight" research. Recommendations about the necessity of „an understanding position" when the maintenance of questions should consider values dominating among respondents are taken into consideration at the formulation of questions [16].

Probation of the questionnaire: "flight" research, design of the republican sample of teenagers

The questionnaire probation in the research of 100 teenagers who visited the Grodno Center of health of teenagers was made in 2009. The results

have confirmed the reliability and validity of the questionnaire. The basic interview was made in the spring of 2010. We used a casual selection of respondents in the points of data gathering.

According to the report of the WHO research group «Health of youth is the care of society» (Geneva, 1989), the "teen age" is the period from 10 till 19 years, the term „youth" is used concerning people of 15-25 years, „young men" – persons of 10-24 years [17, 18, p. 5]. The Law About Marriage and Family of the Republic of Belarus defines the person from the moment of birth until 18 years of age as "the minor", until 14 years - as "juvenile", the person at the age between 14-18 years - as "the teenager" [19]. It is necessary to notice that the early teen age (10-14 years) is closer socially and psychologically to children's age, and considerably differs from more adult age groups. The group of persons of early teen age (10-14 years) in the sample designing has been lowered, as the potential medical-sociological information received from this group of respondents cannot be generalized with the research data from more mature persons, besides, the discussion of questions of reproduction and sexuality at children's and early teen age should be strictly regulated psychologically and pedagogically.

We generated the sample reflecting representatively the general teenage population for sexual and territorial distribution. The calculated volume of the sample corresponds to a raised reliability of research.

So, the data about the mid-annual population of the Republic of Belarus have allowed to define parities in the sample between the city and country populations, between cities with a different number of population (cities with the population of more than 50 thousand people and cities with the number of population of less than 50 thousand people), between parts of the sample from separate administrative and territorial units. According to the official statistical data about distribution of resident population of the republic by the gender, the parity of 1,05 boys to 1,0 girls has been established.

The design procedures offered by U.Kokren are used. The volume of the sample for definition of the share of some sign X in the general totality is calculated under the formula [20, p. 90]:

$$n = \frac{1}{t^2 v(1-v)} + \frac{1}{N} \quad (1)$$

Where N is the volume of general totality, n – the volume of the sample, t – the factor corresponding to confidential probability p (is defined under Student's tables, for p=0.95, t=2), v – the proportion of the sign X in the general totality, Δ – the size of an admissible error.

Our research «Teenager: reproductive health and behavior» assumed to investigate the complex of

АНКЕТА

Пожалуйста, внимательно прочитай вопрос и обведи нужный ответ; при необходимости вынеси его в специальную графу.

- ОЦЕНИ, ПОЖАЛУЙСТА, СОСТОЯНИЕ ТВОЕГО ЗДОРОВЬЯ:
 - 1 - плохое
 - 2 - удовлетворительное
 - 3 - ближе к хорошему
 - 4 - хорошее
 - 5 - отличное
- ЗНАЕШЬ ЛИ ТЫ, ЧТО ТАКОЕ РЕПРОДУКТИВНОЕ ЗДОРОВЬЕ?
 - 1 - да
 - 2 - нет (вопрос 3 пропустить)
 - 3 - не уверен (а)
- СЧИТАЕШЬ ЛИ ТЫ ДОСТАТОЧНЫМИ СВОИ ЗНАНИЯ О РЕПРОДУКТИВНОМ ЗДОРОВЬЕ?
 - 1 - да
 - 2 - нет
 - 3 - не уверен (а)
- ИЗ КАКИХ ИСТОЧНИКОВ ТЫ ПОЛУЧАЕШЬ ОСНОВНУЮ ИНФОРМАЦИЮ ПО ВОПРОСАМ ПОЛОВОГО ВОСПИТАНИЯ (отметь верные варианты):
 - 1 - От сверстников
 - 2 - Из телевизора и прессы
 - 3 - Из печатной и наглядной информации учреждений здравоохранения, книг
 - 4 - От учителей
 - 5 - От родителей
 - 6 - На приеме гинеколога/урола
 - 7 - От знакомого врача
 - 8 - Из личного опыта
 - 9 - От родителей, в семье
 - 10 - Другое: ВИДЯЩИ И НЕМЕЦКОЕ ПРОВО
- ОЦЕНИ, ПОЖАЛУЙСТА, ПОЛНОЦЕННОСТЬ ТВОЕГО ПИТАНИЯ:
 - 1 - плохое
 - 2 - удовлетворительное
 - 3 - ближе к хорошему
 - 4 - хорошее
 - 5 - отличное
- СКОЛЬКО ЧАСОВ В СУТКИ ТЫ ОБЫЧНО СПИШЬ? 9-10-11
- КУРИШЬ ЛИ ТЫ?
 - 1 - нет
 - 2 - да (с какого возраста: _____ лет; сколько сигарет в день в настоящее время выкуриваешь: _____)
- ЕСТЬ ЛИ У ТЕБЯ ЗНАКОМЫЕ, УПОТРЕБЛЯЮЩИЕ НАРКОТИЧЕСКИЕ ВЕЩЕСТВА?
 - 1 - нет
 - 2 - да
- ПРОБОВАЛ(А) ЛИ ТЫ ТАКИЕ ВЕЩЕСТВА?
 - 1 - нет
 - 2 - да
- УПОТРЕБЛЯЛ(А) ЛИ ТЫ КОГДА-ЛИБО СОЗНАТЕЛЬНО, ПО СВОЕМУ ЖЕЛАНИЮ, АЛКОГОЛЬНЫЕ НАПИТКИ?
 - 1 - нет
 - 2 - да (в возрасте: _____ лет)
- ИСПЫТЫВАЛ(А) ЛИ ТЫ КОГДА-ЛИБО СОСТОЯНИЕ АЛКОГОЛЬНОГО ОПЬЯНЕНИЯ?
 - 1 - нет
 - 2 - да
- КАК ЧАСТО ТЫ УПОТРЕБЛЯЕШЬ:

	Слабоалкогольные напитки (менее 20°, например, пиво)	Алкогольные напитки крепче 20°
Не употребляю	*	*
Раз в полгода и реже		
Несколько раз в полгода		
Реже 1 раза в неделю, но чаще 1 раза в месяц		
Один раз в неделю и чаще		
- ИМЕЕШЬ ЛИ ТЫ ОПЫТ ПОЛОВОЙ ЖИЗНИ?
 - 1 - нет (вопросы 14-18 пропустить)
 - 2 - да (с возраста: _____ лет)
- ИСПОЛЪЗУЕШЬ ЛИ СРЕДСТВА ПРЕДОХРАНЕНИЯ ОТ НАСТУПАЮЩИХ БЕРЕМЕННОСТИ?
 - 1 - да (какие: РЕЗИНА(ЛЕТУСА))
 - 2 - нет (вопрос 15 пропустить)
- 2 - обращаюсь, когда в течение нескольких дней плохо себя чувствую
- 3 - обращаюсь только в случае тяжелой болезни
- 4 - обращаюсь, когда нужно освобождение от занятий (работы)
- 5 - к врачам по своей инициативе не обращаюсь, но прохожу обязательные диспансерные обследования
- 6 - к врачам никогда не обращаюсь
33. ОРГАНИЗОВЫВАЛИСЬ ЛИ В ТВОЕЙ ШКОЛЕ БЕСЕДЫ С ВРАЧАМИ: ГИНЕКОЛОГОМ (отвечают девушки), УРОЛОГОМ (отвечают юноши)?
 - 1 - да
 - 2 - нет (вопросы 34,35 пропустить)
34. О ЧЕМ БЫЛИ(А) ЭТИ БЕСЕДЫ?
 - 1 - о личной гигиене
 - 2 - о строении и функциях половой системы
 - 3 - о предохранении от беременности
 - 4 - о передаваемых половым путем болезнях
 - 5 - о подготовке к будущему родительству и рождению ребенка
 - 6 - о последствиях аборта
 - 7 - об особенностях проведения аборта
 - 8 - о половой жизни
 - 9 - Другое: ДЫК НЕ БЫЛО ИК. УВЫД И АК!
35. В КАКОМ КЛАССЕ БЫЛА ОРГАНИЗОВАНА ВСТРЕЧА С ВРАЧОМ ГИНЕКОЛОГОМ (УРОЛОГОМ)?
 - 1 - 5-6 класс
 - 2 - 7-8 класс
 - 3 - 9-11 класс
36. БЫЛ ЛИ ОРГАНИЗОВАН У ВАС В ШКОЛЕ ПРОФИЛАКТИЧЕСКИЙ ОСМОТР ГИНЕКОЛОГОМ (отвечают девушки), УРОЛОГОМ (отвечают юноши)?
 - 1 - Нет (вопросы 37-38 пропустить)
 - 2 - Да, ТЕБЕ БЫЛО: _____ лет
37. ЧТО ВКЛЮЧАЛ ДАННЫЙ ОСМОТР?
 - 1 - только осмотр врачом
 - 2 - только ответы на вопросы врача
 - 3 - осмотр врачом и ответы на вопросы врача
 - 4 - осмотр врачом, ответы на вопросы врача и профилактическую беседу
 - 5 - Другое: _____
38. ЧЕМ БЫ ТЫ ХОТЕЛ(А) ДОПОЛНИТЬ ДАННЫЙ ОСМОТР? Рильмом
39. ПОСЕЩАЛ(А) ЛИ ТЫ КОГДА-НИБУДЬ ГИНЕКОЛОГА (отвечают девушки), УРОЛОГА (отвечают юноши) САМОСТОЯТЕЛЬНО?
 - 1 - да
 - 2 - нет
40. БЫЛИ ЛИ У ТЕБЯ КОГДА-ЛИБО ПРОБЛЕМЫ МЕДИЦИНСКОГО ХАРАКТЕРА, СВЯЗАННЫЕ С ПОЛОВОЙ СФЕРОЙ?
 - 1 - нет
 - 2 - да
41. ЗНАЕШЬ ЛИ ТЫ О МЕДИЦИНСКИХ ЦЕНТРАХ ДОБРОЖЕЛАТЕЛЬНОГО ОТНОШЕНИЯ К ПОДРОСТКУ?
 - 1 - да
 - 2 - нет (вопросы 42-43 пропустить)
42. ОБРАЩАЛСЯ (ЛАСЬ) ЛИ ТЫ В ТАКОЙ ЦЕНТР?
 - 1 - да
 - 2 - нет (вопрос 43 пропустить)
43. ЕСЛИ ДА, ТО ПО КАКОЙ ПРИЧИНЕ?
 - 1 - Профилактический осмотр
 - 2 - Получить консультацию
 - 3 - Возможная беременность
 - 4 - Пройти обследование и лечение
 - 5 - Другие причины: _____
44. КАКАЯ ФОРМА МЕДОБСЛУЖИВАНИЯ ДЛЯ ТЕБЯ НАИБОЛЕЕ УДОБНА?
 - 1 - Медицинский Центр доброжелательного отношения к подростку
 - 2 - Специальный медицинский центр для подростков, в котором бы работали следующие врачи: _____
 - 3 - Детская поликлиника
 - 4 - Территориальная (взрослая) поликлиника
 - 5 - Другое: _____

- СОВЕТОВАЛАСЬ ЛИ ТЫ (ТВОЯ ДЕВУШКА) С ВРАЧОМ ПРИ ВЫБОРЕ ТАКИХ СРЕДСТВ?
 - 1 - да
 - 2 - нет
- БЫЛА ЛИ У ТЕБЯ (ТВОЕЙ ДЕВУШКИ) БЕРЕМЕННОСТЬ?
 - 1 - нет (вопросы 17-18 пропустить)
 - 2 - да (в каком возрасте: _____ лет)
- ЧЕМ ЗАКОНЧИЛАСЬ БЕРЕМЕННОСТЬ?
 - 1 - роды (вопрос 18 пропустить)
 - 2 - аборт
 - 3 - выкидыш
- В СЛУЧАЕ ПРЕРЫВАНИЯ БЕРЕМЕННОСТИ ПОЛУЧИЛА ЛИ ТЫ (ТВОЯ ДЕВУШКА):
 - Консультацию гинеколога по вопросам предохранения от наступления беременности ДА НЕТ
 - Консультацию гинеколога о предохранении от заражения заболеваниями, передающимися половым путем ДА НЕТ
 - Консультацию гинеколога о профилактике осложнений ДА НЕТ
 - Консультацию психолога ДА НЕТ
 - Консультацию сексолога ДА НЕТ
 - Последующее наблюдение гинеколога ДА НЕТ
- БЫЛ ЛИ У ТЕБЯ СЕКСУАЛЬНЫЙ ОПЫТ?
 - 1 - нет (вопросы 20-21 пропустить)
 - 2 - да (впервые в возрасте ... лет) 3 - затрудняюсь ответить
- ЧТО ТЕБЯ ПОБУДИЛО К ПОЛУЧЕНИЮ ТАКОГО ОПЫТА?
 - 1 - любовь
 - 2 - страх потерять партнера
 - 3 - желание угодить партнеру
 - 4 - настойчивое давление партнера
 - 5 - любопытство
 - 6 - сексуальное влечение
 - 7 - чтобы не отстать от сверстников
 - 8 - состояние опьянения
 - 9 - изнасилование
 - 10 - другое
 - 11 - другое
- БЫЛИ ЛИ У ТЕБЯ СЛУЧАЙНЫЕ ПОЛОВЫЕ СВЯЗИ?
 - 1 - нет
 - 2 - да
- ЕСТЬ ЛИ В ТВОЕЙ ШКОЛЕ ПСИХОЛОГ?
 - 1 - да
 - 2 - нет
 - 3 - не знаю
- ОБРАЩАЛСЯ (ЛАСЬ) ЛИ ТЫ К НЕМУ?
 - 1 - да
 - 2 - нет
- БЫЛА ЛИ В ТВОЕЙ ЖИЗНИ СИТУАЦИЯ, КОГДА БЫЛ(А) ГОТОВ(А) ПОКОНЧИТЬ С СОБОЙ ОТ ОТЧАЯНИЯ?
 - 1 - нет (вопрос 25 пропустить)
 - 2 - да
- КТО ПОМОГ ТЕБЕ В ЭТОЙ СИТУАЦИИ?
 - 1 - сам (сама)
 - 2 - священник
 - 3 - родители
 - 4 - друзья
 - 5 - школьный психолог
 - 6 - психолог центра доброжелательного отношения к подростку
7. другой вариант: _____
- КАК ЧАСТО ТЫ (по каждой строке выбери один ответ):

	Ежедневно	Часто	Иногда	Никогда
26. ЗАНИМАЕШЬСЯ ФИЗКУЛЬТУРОЙ	1	2	3	4
27. ССОРИШЬСЯ С ОКРУЖАЮЩИМИ	1	2	3	4
28. ИСПЫТЫВАЕШЬ НЕПРИЯТНЫЕ ЭМОЦИИ	1	2	3	4
29. ИСПЫТЫВАЕШЬ ПОЗИТИВНЫЕ ЭМОЦИИ	1	2	3	4
30. БЫВАЕШЬ В ПЛОХОМ НАСТРОЕНИИ	1	2	3	4
31. БЫВАЕШЬ В ХОРОШЕМ НАСТРОЕНИИ	1	2	3	4
- КАКАЯ ИЗ СЛЕДУЮЩИХ СИТУАЦИЙ ОБРАЩЕНИЯ ЗА МЕДИЦИНСКОЙ ПОМОЩЬЮ НАИБОЛЕЕ ХАРАКТЕРНА ДЛЯ ТЕБЯ (один ответ):
 - 1 - обращаюсь сразу при недомогании
45. КАК ТЫ ДУМАЕШЬ, СКОЛЬКО ДЕТЕЙ БУДЕТ В ТВОЕЙ СЕМЬЕ (реальное оцениваемое количество)? 2.....
46. КАКОЕ КОЛИЧЕСТВО ДЕТЕЙ В СЕМЬЕ ЯВЛЯЕТСЯ ИДЕАЛЬНЫМ? 2.....
47. КАК ТЫ СЧИТАЕШЬ, БУДЕТ ЛИ У ТЕБЯ ВОЗМОЖНОСТЬ ИМЕТЬ СВОЮ ПОЛНОЦЕННУЮ СЕМЬЮ?
 - 1 - да
 - 2 - нет
 - 3 - не уверен (а)
48. ЧТО ДЛЯ ТЕБЯ НАИБОЛЕЕ ВАЖНО В БУДУЩЕМ (1-3 ответа):
 - 1 - семья
 - 2 - дети
 - 3 - здоровье
 - 4 - благосостояние страны
 - 5 - стать профессионалом в своем деле
 - 6 - получить хорошее образование
 - 7 - наиболее полно раскрыть и реализовать свои способности
 - 8 - материальный достаток
 - 9 - престижное положение в обществе
 - 10 - высокооплачиваемая работа
 - 11 - быть честным и порядочным человеком
 - 12 - другое: ЗДОРОВЬЕ
49. ЕСТЬ ЛИ У ТЕБЯ ВОЗМОЖНОСТЬ РЕАЛИЗОВЫВАТЬ СВОИ ЖИЗНЕННЫЕ ПЛАНЫ?
 - 1 - да
 - 2 - нет
 - 3 - затрудняюсь ответить
50. ЕСЛИ НЕТ, ОТКУДА ЧУВСТВУЕШЬ ПРЕГРАДУ?
 - 1 - Родители
 - 2 - Материальное положение
 - 3 - Учитель
 - 4 - Сверстники
 - 5 - Родственники
 - 6 - Особенности характера
 - 7 - Другое: _____
51. УКАЖИ, ПОЖАЛУЙСТА, ТВОЙ ПОЛ?
 - 1 - мужской
 - 2 - женский
52. ТВОЙ ВОЗРАСТ? 16 лет
53. ИМЕЕШЬ ЛИ:
 - 1. родную сестру (сколько)
 - 2. родного брата (сколько)
 - 3. родных братьев, сестер не имею
54. УКАЖИ, ПОЖАЛУЙСТА, ТВОЯ СЕМЬЯ:
 - 1. Полная (мама и папа)
 - 2. Неполная:
 - a. живешь с мамой
 - b. живешь с папой
 - c. живешь с бабушкой
 - d. другое: _____
55. ГДЕ СЕЙЧАС ПРОЖИВАЕТ ТВОЯ СЕМЬЯ:
 - 1 - в городе
 - 2 - в селе
56. КАКОВЫ УСЛОВИЯ ПРОЖИВАНИЯ ТВОЕЙ СЕМЬИ:
 - 1 - в собственной квартире
 - 2 - в собственном доме
 - 3 - в съемном жилье
 - 4 - в общежитии блочного (мало-семейного) типа
 - 5 - в общежитии коридорного типа
 - 6 - совместно с бабушкой/дедушкой, родственниками
57. КАКОЕ ОБРАЗОВАНИЕ ИМЕЮТ ТВОИ РОДИТЕЛИ?
 - МАМА:
 - 1 - начальное
 - 2 - неполное среднее
 - 3 - среднее
 - 4 - профессиональное
 - 5 - высшее
 - ПАПА:
 - 1 - начальное
 - 2 - неполное среднее
 - 3 - среднее
 - 4 - профессиональное
 - 5 - высшее
58. КАК ТЫ ОЦЕНИВАЕШЬ МАТЕРИАЛЬНОЕ ПОЛОЖЕНИЕ ТВОЕЙ СЕМЬИ?
 - 1 - очень хорошее
 - 2 - хорошее
 - 3 - среднее
 - 4 - трудное
 - 5 - очень трудное
 - 6 - не могу оценить

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Fig. 1. Author's questionnaire «Teenager: reproductive health and behavior»

factors, value of which is not known. The information about the size of sign $\{v$ in the formula (1) $\}$ in the general totality are not present for the majority of them.

In the situation of importance of such a factor as the economic efficiency of the sample, it is recommended «to be guided by achievement of accuracy first of all for the most important signs from the point of view of the research objectives» [21, p. 463]. At the same time, it is difficult to range studied factors in advance on the importance for purpose achievement at the search character of research. So, it is obvious, that at $v=0.5$ the size of v ($1-v$) is maximum, hence, n is maximum also. Therefore, if v is equal to value 0.5 in the formula (1), we will receive the formula which can be used at any values of the proportion of the sign in the general totality [22, p. 81].

Results of the medical-statistical research are authentic at the value of confidential probability of p not less than 0,95 (thus $t=2$). Having applied the specified values, we will receive the formula recommended for calculation of the volume of casual sample:

$$n = \frac{1}{\Delta^2 + \frac{1}{N}} \quad (2)$$

where N – is the volume of the general totality, n – the volume of the sample, Δ – the size of an admissible error.

V.V.Paniotto specifies that at the sample planning it is necessary to have in mind that the formula (2) allows to receive the set accuracy at the sample analysis as a whole, when it will not be divided into parts [22, p. 82]. Considering the necessity of account of the gender factor influence on the studied signs, at the planning of research we start with the principle, that parts of the sample of teenagers, allocated on the basis of the gender, should be sufficient on the volume.

At the confidential probability of p not less than 0.95, the size of an admissible error Δ should make no more than 0,05. Having applied the specified value, and also using data about the number of young men and girls on 01.01.2009 as values N , we will receive that volume of the sample of boys, included in the subsequent analysis, should make not less than 400 persons. According to the parity of boys and girls, a sample of girls, whose data will be included in the subsequent analysis, should have the volume of not less than 420 persons. Hence, the volume of the whole sample of teenagers that representatively reflects the general totality of Belarusian teenagers makes not less than 820 persons.

According to A.V.Reshetnikov, as much as possible an admissible percent of return of questionnaires should be not less than 85%, otherwise the sample structure is broken [23, p. 213; 24]. Having the maximum percent of „safety factor” of the sample (15%), we receive that its planned volume should make 943 persons

Table I. Sample of Belarusian teenagers, whose questionnaire data are used in the further analysis

Administrative-territorial part of the republic	Settlement	Girls	Boys	Teenagers, total
Minsk and Minsk area	Minsk	88	91	179
	Borisov	13	14	27
	Kopyl, Volozhin	25	26	51
	Country population	31	33	64
Brest and Brest area	Brest	15	16	31
	Kamenets, Pinsk	30	31	61
	Country population	24	25	49
Vitebsk and Vitebsk area	Vitebsk	16	18	34
	Orsha, Dubrovno	27	28	55
	Country population	17	18	35
Gomel and Gomel area	Gomel	23	25	48
	Rogachev, Zhlobin	28	28	56
	Country population	20	21	41
Grodno and Grodno area	Grodno	16	17	33
	Lida, Volkovysk	20	21	41
	Country population	17	17	34
Mogilev and Mogilev area	Mogilev	17	19	36
	Bobrujsk, Gorki	23	24	47
	Country population	13	14	27
Teenagers, total		463	486	949

(460 boys and 483 girls). Considering the specificity of teenagers as the object of studying [1, p. 5], an additional „safety factor” for questionnaires filled carelessly has been added. Thus, the volume of the sample planned for the questionnaire has made 1052 persons.

The percentage of return of questionnaires appeared maximum (about 100%) in the Gomel area, minimum (less than 85%) – in Minsk and Vitebsk. In this connection 100 questionnaires for Minsk and Vitebsk were duplicated. The percentage of questionnaires filled carelessly and not included in the further analysis has made about 10%.

The sample of teenagers reflecting representatively the general totality of Belarusian teenagers, whose data are included in the further analysis, has made 949 persons: 463 girls and 486 boys (table I).

Thus, the sample representatively reflecting the general sample of teenagers according to gender and territorial distribution has been generated. The sample allows to investigate studied factors with the results accuracy corresponding with the probability of error by less than 0.05. The calculated volume of the sample corresponds with the raised reliability of the research.

Conclusions

Validity of toolkit, use of a “flight” questionnaire and its subsequent probation in scales of a carefully designed sample allow to assume the validity of the methodology developed by us for the research of reproductive health of teenagers.

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