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**ABSTRACT**

of the dissertation for the degree of Doctor of Philosophy

**FEATURES OF CONTRACEPTIVE BEHAVIOR OF WOMEN  
AND SOCIAL AND HYGIENIC MEASURES FOR ITS  
CORRECTION  
(on the example of Baku)**

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Applicant: **Kamala Humbat Habibova**

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The work was performed at the Department of Public Health and Health Organization, the Azerbaijan Medical University.

Scientific supervisor: doctor of medicine sciences, professor  
**Rafiq Anvar Chobanov**

Scientific consultant: doctor of medicine sciences, professor  
**İslam Sharif Maqalov**

Official opponents: doctor of medicine sciences, professor  
**Leyla Musa Rzaguliyeva**

doctor of medicine sciences,  
associate professor

**Rana Boukkishi Aghayeva**

doctor of philosophy

**Namig Alish Najafov**

FD 1.03 Dissertation Council of the Supreme Attestation Commission under the President of the Republic of Azerbaijan, operating at the National Ophthalmology Center named after academician Zarifa Aliyeva

Chairman of the

Dissertation council:

Corresponding member of ANAS,  
Honored Scientist, doctor of medical  
sciences, professor

**Elmar Mustafa Gasimov**

Scientific secretary of the  
Dissertation council:

doctor of medicine, associate professor

**Nazilya Mammad Rustamova**

Chairman of the scientific  
seminar:

doctor of medicine, associate professor

**Anar Azam Aghayev**



## GENERAL DESCRIPTION OF THE WORK

**Relevance of the topic.** Many countries have adopted and are implementing programs to protect women's reproductive health, increase population reproduction, effective family planning and, in general, improve the demographic situation <sup>1</sup>.

However, no country in the world has yet managed to achieve rational family planning, which leads to a high rate of unintended pregnancies. As a result, a high rate of abortions is observed world-wi<sup>2</sup> leading to infertility, irreversible reproductive disorders, maternal deaths and psychological trauma in women <sup>3</sup>. Abortion is the most common cause of maternal mortality (MM) <sup>4</sup>. According to the World Health Organization, every year globally, 200 million women become pregnant, and every year more than 500 thousand women had abortions<sup>5</sup>. The global average MM rate in 2007 was 430 deaths per 100,000 live births <sup>6</sup>.

At the same time, improving the effectiveness of pregnancy regulation and family planning can be achieved in a fairly effective

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<sup>1</sup> *Шувалова, М.П.* Направление современного развития первичного звена акушерскогинекологической помощи / М.П.Шувалова, Т.В.Письменная, М..А.Закрайлова // - Москва: Акушерство и гинекология, - 2017. №1, - с. 78-82

<sup>2</sup> *Дикке, Г.Б.* Профилактика повторной нежелательной беременности, выбор метода контрацепции // - Москва: Акушерство и гинекология - 2014. №4, - с.81-87

<sup>3</sup> *Алехина, А.Г.* Влияние искусственного прерывания беременности на репродуктивные возможности женщин. / Алехина, А.Г, Ю.А Петрова, А.Е Блесманович, Е.М. Галущенко // - Ростов-на-Дону: Медико-фармацевтический журнал «Пульс» - 2019 том 21 №1 - с.15-19

<sup>4</sup> *ВОЗ.* Безопасный аборт: рекомендации для систем здравоохранения по вопросам политики и практики. 2-е издание // Женева: ВОЗ, - 2012 – с.132

<sup>5</sup> *Прилепская, В.Н.* От аборта к сохранению репродуктивного здоровья: новое в контрацепции / В.Н. Прилепская, Э.Р.Довлетханова, П.Р.Абакарова // - Москва: Фарматека, - 2013. №12, - с. 46-49

<sup>6</sup> *Юсупова, А.Н.* 20 лет инициативе ВОЗ «Безопасное материнство» в России / А.Н.Юсупова, З.З.Токова // - Москва: Здравоохранене. Российской. Федерации, - 2009, №3, – с. 25-30

way - with the help of contraceptives<sup>7</sup>. Achieving mass use of contraceptives is recognized as a global challenge for the medical community<sup>8</sup>.

However, despite the wide range of effective modern contraceptives available, their use by women does not exceed 62%, especially at the age of 15-44<sup>9</sup>. The demand for contraceptives in other countries of the world is even lower<sup>10</sup>, and in Russia it does not exceed 23,3%, despite the fact that this country is among the leaders in abortion<sup>11</sup>. The reasons are women's distrust of contraceptives, lack of knowledge about their qualities, difficulties in choosing, as well as financial difficulties<sup>12</sup>.

Therefore, it is very important to consult with women on contraception issues<sup>13</sup>. But the most important thing is the correction of women's contraceptive behavior and, in general, their reproductive behavior. It is especially important among young people. The main goal is to achieve satisfaction with the quality of obstetric and gynecological care to achieve the desired pregnancy and safe delivery.

In our country, the contraceptive behaviour of women at the population level is practically not studied. By the way, according to

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<sup>7</sup> Дикке, Г.Б. Контрацепция: выбор открывает мир возможностей // - Москва: Акушерство и гинекология, - 2016. №10, - с. 115-120

<sup>8</sup> WHO. Medical eligibility criteria for contraceptive use, - 5 th ed.- Geneva: WHO. 2015. - 276 p.

<sup>9</sup> Jones, J. Current contraceptive use in the United States, 2006-2010, and changes in patterns of use since 1995 / J. Jones, W. Mosher, K.Daniles // National Health Statistics Reports. - 2012. №60, October 18.

<sup>10</sup> Huber, L.R. Contraceptive use and discontinuation: findings from the contraceptive history, initiation, and choice study / L.R. Huber, C.J. Houge, C. Drews [et al. ] // Am. J. Obstet. Gynecol. – 2012. vol.194 №5, - p.1290-1295

<sup>11</sup> Алесина, И.Л. Консультирование женщин как важный инструмент при индивидуальном подборе метода контрацепции // - Москва: Акушерство и гинекология - 2011. №6, - с. 120-124

<sup>12</sup> Дикке, Г.Б., Ерофеева, Л.В. Контрацепция в Современной России: применение и информированность (популяционное исследование) // - Москва: Акушерство и гинекология, - 2016. №2, - с. 108-113.

<sup>13</sup> Кудайбергенов, Т.К. Репродуктивное здоровье женщин. Планирование семьи / Т.К. Кудайбергенов, Ж.Е.Баттакова, Т.С.Хайдарова [и др.] // Методические рекомендации, - Алматы: - 2014. - 45 с.

the study " Demography and health, Final report, Azerbaijan " (DHS, Baku, 2011). the use of contraceptives by women varies by 41%. Over the past 3 years, 9.9% of women have had abortions, and 64.6% of women had an unwanted pregnancy, that is, the number of abortions is highly distorted. As can be seen, the study of the contraceptive behavior of women in the local population and the search for ways to correct it is very relevant and is a necessary basis for improving the effectiveness of women's reproductive health.

**Object and subject of research.** women's reproductive age.

**The purpose of the study:** The demand for contraception and the impact of contraception on family planning and women's reproductive health, and the development of social and hygienic approaches to correct their contraceptive behaviour.

**Objectives of research:**

1. The demand for contraceptives and the impact on it of a woman's age, sociocultural, educational and professional status.
2. Features and methods of using contraceptives by women and the reasons that reduce the demand for them
3. Influence of the characteristics of contraceptive use on the effectiveness of family planning, the frequency of abortions and the reproductive potential of women
4. Features of women's awareness of the benefits of contraception and selection of available methods to increase their knowledge of reproductive health and contraception
5. Development of social and hygienic approaches to the correction of women's contraceptive behavior and their experimental testing.

**Research methods.** The international standardized questionnaire The Women's Health Questionnaire, its and Scandinavian versions were used.

The Azerbaijani version of the questionnaire is supplemented with blocks of questions on the social and hygienic aspects of contraception. In the statistical processing the following statistical methods were used: weighted arithmetic mean, Student's test,  $\chi^2$  test, correlation coefficient, Van der Waerden test.

### **The main provisions of the dissertation to be defended:**

- Socio-demographic significance of contraception
- The role of contraceptives in regulating pregnancy and effective family planning
- Socio-personal reasons of low level of contraceptive use by women
- Comparative evaluation of measures to correct women's contraceptive behavior

### **Scientific novelty**

- The most effective way of cadaster were drafted for making contraceptives use affordable, and making them available to family planning and medical screening services for women;
- Reasons were revealed for the low demand of women for contraception in specific socio-economic and national-ethnic, local conditions and the spectrum of their impact on family planning and reproductive potential of women;
- The state of contraceptive motivation of women were studied and the cluster method of its assessment was offered;
- The influence of the social environment of women (age, family, partner, children, education, work) on their reproductive potential and contraceptive behavior was revealed;
- Socio-hygienic approaches to the correction of contraceptive behavior were drafted, during the study the tests demonstrated their role in increasing the effectiveness of family planning and the reproductive potential of women.

### **Practical significance of the research.**

As a result of the study, the following practically significant results were obtained: a list of the most efficient, cost-effective and convenient contraceptives sold in the pharmacy network was compiled; the reasons for the low demand for contraceptives and the mechanisms for its elimination have been identified; a cluster system was proposed for assessing the contraceptive motivation of women; Measures are proposed to improve the effectiveness of contraceptive services for women through counseling services for women; based on experimental testing, mechanisms are proposed to increase women's contraceptive awareness and correct their contraceptive behavior.

**Approbation of the dissertation work.** The materials of the dissertation work were presented at conferences:

Scientific conference dedicated to the 70th anniversary of Doctor of Medical Sciences Azam Teyyar Aghayev, Baku 2014; V Annual International Scientific-Practical Conference "Actual Questions of Medicine" April 29-30, Baku, Azerbaijan 2016; Conference dedicated to the 100th anniversary of the birth of an outstanding political and scientific figure, honored scientist, full member of the ANAS, professor Vali Yusif Akhundov, Baku 2016; European research: XVIII international scientific and practical conference (London, United Kingdom, 28-29 July 2016); All-Ukrainian scientific-practical conference "Medical Science in Health Care Practice, (Poltava, 9 breast 2016 year); Dedicated to the 25th anniversary of the restoration of the state independence of Azerbaijan, Actual problems of medicine - Scientific-practical conference, Baku 2017; Materials of the scientific-practical conference held at the AMU on the occasion of the 120th anniversary of Aziz Aliyev, memoirs dedicated to the outstanding statesman and scientist, Baku 2017; V All-Ukrainian Scientific Conference of Students and Young Physiologists with International Participation, May 16, 2018, Kharkiv. Materials of the dissertation were discussed at the meeting of Department of Public health and health organization of AMU (Minutes № 02, dated 12.03.2021); at the scientific seminar of the Dissertation council FD 1.03 operating at The National Ophthalmology Center named after academician Zarifa Aliyeva (Minutes № 08, dated 12.03.2021).

**Implementation of research results into practice.** The research results are used in the educational nprocess of the Azerbaijan Medical University in polyclinics and in women's consultations in Baku.

**Place of performance.** The work was carried out within the framework of the scientific program of the Department of Healthcare and Healthcare Organization of the Azerbaijan Medical University on the basis of polyclinics, women's polyclinics and related children's institutions and offices. For clarity, the materials and methods are presented in groups in accordance with the chapters of the research.

**Publications.** Based on the materials of the dissertation, 15 scientific papers were published, including 6 articles and 9 theses, including 3 articles and 3 dissertations published in foreign publications.

**The structure and scope of the dissertatio.**The thesis is outlined on 175 pages of a typewritten text and consists of an introduction (6 pages, 8317 characters), the first chapter being a literature review (25 pages, 41830 characters), the chapter "Research materials and methods", chapter II (8 pages, 12772 characters), chapter III (25 pages, 27753characters), chapter IV (31 pages, 32341characters), chapter V (24 pages, 25238 characters), chapter VI (11 pages, 12755 characters) of author's research, conclusion (13 pages, 21819 characters), outcome (3 pages, 3335 characters), practical proposals (1 pages, 1302 characters). The bibliographic list contains 241, 13 of them are azerbaijani, russian 111, and foreign authors 117. The thesis contains 19 tables, 17 graphs. The total number of characters is 190573.

### **Materials and research methods.**

For clarity, the materials and methods are presented in groups in accordance with the chapters of the research.

**First group.** The Azerbaijani version of the questionnaire is supplemented with blocks of questions on the social and hygienic aspects of contraception. 4000 questionnaires were distributed and 1577 questionnaires were answered. ( $39.4 \pm 0.8\%$ ). The results of the survey were analyzed by age groups of women, the frequency and nature of their use of different types (classes) of contraceptives. Awareness of contraception methods (CM) was low in 186 women, insufficient in 402, moderate in 631, and sufficient in 350. 12 personality and behavioral reasons were identified, as well as 15 shortcomings in the work of women's clinics that limit the motivation of women to use contraceptives. For an objective assessment of their motivation, a 5-point cluster system was developed.

**Second group.** The demand for CM among 1577 surveyed women was assessed depending on age, level of education,



professional and social orientation, marital status, financial status of the family, as well as the range of contraceptives in pharmacies and the state of consumer demand for contraceptives.

**Third group.** During the pre-questioning period, there were 7047 pregnancy episodes among 1577 women, of which 3636 were episodes of desired and 3411 episodes of unintended pregnancies. In 1194 women out of 1577 with whom they had contact for a long time, the effectiveness of family planning was assessed: 280 women planned the birth of 1 child, 734 women planned 2 children, 180 women - 3 or more children. The frequency of pregnancies far exceeded this planning and women had 1264, 3272 and 772 pregnancy episodes, respectively (5328 pregnancies in total): in 2515 cases, pregnancies were terminated by abortions, which led to various reproductive disorders.

**Fourth group.** A set of measures has been developed to correct the contraceptive motivation of women. The effectiveness of these measures was evaluated over a period of 23-27 months with constant contact with 946 women. Efficiency parameters at the start and finish of the work: organizational and explanatory measures, increasing contraceptive awareness and demand for the use of contraception, reducing unintended pregnancies and abortions, effective child planning, eliminating shortcomings in the work of women's clinics, streamlining the pharmacy market of contraception. In the statistical processing of the results obtained, the following statistical methods were used: weighted arithmetic mean, Student's test,  $\chi^2$  test, correlation coefficient, Van der Waerden test.

## **THE RESULTS OF THE STUDY**

Effective family planning is the basis for maintaining and improving women's reproductive health and plays a decisive role in positively addressing demographic problems. As you know, abortions cause significant damage to women's health, cause various reproductive disorders, infertility and maternal mortality MM. Contraception is the only most effective way to prevent unintended pregnancy and its consequences. From year to year, the

range of CM is expanding, more reliable and safe contraceptives are being produced, but most women continue to use less effective contraceptives, and not constantly, which does not prevent unintended pregnancies. Therefore, the study of the reasons for the low level of contraceptive use by women and the search for available effective approaches to correcting their contraceptive behaviour is the most urgent problem of our time.

To this end, we have carried out four syages of groups (studies).

**First group (stage).** “Urban women's use of contraception and coverage of contraceptive medical screening”. According to the results of the survey, contraceptives are used by 812 out of 1577 women ( $51.5\pm 1.3\%$ ), the frequency of their use in the age range of 20-34 years increases from  $28.5\pm 3.0$  to  $67.8\pm 2.6\%$  ( $t=9.90$ ;  $P<0.001$ ). In the age group of 35-40 years, this indicator decreases to  $61.4\pm 3.2\%$  ( $t=1.55$ ;  $P<0.001$ ), it decreases even more in the age group 40 years and older to  $20.0\pm 3.1\%$  ( $t=9.28$ ;  $P<0.001$ ). Only  $23.3\pm 1.5\%$  of women consistently used contraception, another  $31.4\pm 1.6\%$  of women used it frequently ( $t=3,70$ ;  $P<0,001$ ), and  $45.3\pm 1.7\%$  of women used it rarely ( $t=5,97$ ;  $P<0,001$ ).

The most commonly used natural methods of pregnancy prevention are lactation amenorrhea, calendar method, sexual intercourse interruption -  $24.3\pm 1.1\%$ , followed by barrier contraceptives -  $21.4\pm 1.8\%$  ( $t=2,62$ ;  $P<0,01$ ) and spermicidal –  $16.9\pm 0.9\%$  ( $t=2,62$ ;  $P<0,01$ ). The proportion of the use of modern, sufficiently effective contraceptives, hormonal combined oral contraceptives (COC's), hormonal non-oral contraceptives (injections, rings, patches) and emergency contraception does not exceed  $13.1\pm 0.8\%$  ( $t=3,17$ ;  $P<0.01$ ). The specific weight of intrauterine contraceptives (coils, rings, loops, plastic coil) is very low -  $7.7\pm 0.7\%$  ( $t=5.09$ ;  $P<0.001$ ). COC's are very effective when used continuously throughout the fertile period, but only  $29.6\pm 3.2\%$  of local women use them continuously.

Interviews with women have shown that they need information on contraception, classes and types of contraception, costs and standards. Information about contraception for women comes from advertising, television, radio, magazines, brochures and newspapers,

which does not cover their need. Therefore, only 22.7±1.1% had a sufficient level of awareness. However, as the birth of children increases to 4 and more, the level of sufficient awareness increases from 15.6±1.9 to 25.7±2.3% ( $\chi^2=11.09$ ;  $P<0.01$ ), that is, the more often pregnancy and childbirth occur, the more often women go to women's clinics and see doctors, which increases their level of contraceptive awareness.

Personality and behavioural traits that limit the use of contraceptives by women were identified. Most often, women noted such reasons as distrust in the effectiveness of contraception, lack of awareness about contraception, ignorance of the rules of using contraception, relative high cost of contraception, fear of side effects of contraception - from 30.3±1.2 to 35.8±1.2% of mentions ( $t=3.41$ ;  $P<0.001$ ). The rest of the reasons ( $t=2.88$ ;  $P<0.01$ ) are noted with less certainty - unpredictability of sexual intercourse, shortcomings in family planning, various morbidity, ethnic and religious prejudices, cohabitation with parents, unsatisfactory hygienic conditions, lack of advertising in the media - from 22.0±1.0 to 25.6±1.1% of mentions ( $t=2.42$ ;  $P<0.05$ ). All these reasons can be eliminated by conducting scientifically based organizational and consulting work among women, but only if they are highly motivated to correct their contraceptive behaviour.

To assess the level of motivation, we have developed for the first time a cluster system. Such systems have been developed in the field of pharmacology and neonatal health care. The proposed cluster system consists of 5 clusters, each of which is assigned the following points: 1st cluster (1 point) - "it is not necessary to use contraception", 2nd cluster (2 points) - "it is enough to use natural contraception"; 3rd cluster (3 points) - "it is advisable to use contraception as needed"; 4th cluster (4 points) - "if possible, use contraception all the time"; 5th cluster (5 points) - "it is necessary to constantly use contraception". In total, 5 points were scored by only 17.6±1.0% of women, 4 points, respectively, by 20.7±1.0% of women ( $t=2.20$ ;  $P<0.05$ ), 3 points - 26.3±1.1% of women ( $t=3.76$ ;  $P<0.001$ ), 2 points - 24.4 ± 1.1% of women ( $t=1.22$ ;  $P<0.05$ ) and 1 point - 11.1±0.8% of women ( $t=9.78$ ;  $P<0.001$ ). On the whole, the motivation of women to correct their own

contraceptive behaviour is very low. However, by addressing the aforementioned personality and behavioural causes, motivation for the necessary use of contraception can be increased.

The motivation of women is also influenced by the state of their visits to contraceptive medical examinations and women's consultations using a special technique, we have studied and determined the opinion of women in this regard. Thus, the accessibility of medical services by women was assessed at  $26.6 \pm 1.1$  points, satisfaction - at  $34.7 \pm 1.2$  points, awareness at  $33.5 \pm 1.2$  points, while the norm was 45 points. In total, women noted 15 shortcomings in the activities of women's clinics, each woman noted an average of  $3.95 \pm 0.21$  shortcomings. The list of all identified shortcomings was passed to the management of women's clinics, a plan and a time frame for their elimination were drawn up.

**Second group (stage).** "Features of personal and behavioural characteristics of women's demand for contraception". The largest share of contraceptive use falls on women aged 30-34, reaching  $67.8 \pm 2.6\%$ . At this age, many women have 1-2 children, so they protect themselves from re-pregnancy. For the same reason, the proportion of contraception use is also high among women aged 35-39 years –  $61.4 \pm 3.2\%$  ( $t=1.55$ ;  $P>0.05$ ). After the birth of the first child, the proportion of contraceptive use is small and amounts to  $22.1 \pm 1.0\%$ , since women are planning to give birth to another child. After the birth of the second child, the proportion of contraceptive use increases to  $48.6 \pm 1.3\%$  ( $t=15.89$ ;  $P<0.001$ ), which is associated with the reluctance of women to give birth to more children. After the birth of the third child, the proportion of contraceptive use decreases to  $18.7 \pm 1.0\%$  ( $t=18.23$ ;  $P<0.001$ ), it decreases even more after the birth of the fourth child - to  $10.6 \pm 0.8\%$  ( $t=6.33$ ;  $P<0.001$ ). This is most likely due to the fact that women give birth to so many children by the end of their fertile period and they no longer need to use CM.

**Dependence on educational qualifications.** The proportion of women with incomplete secondary education is  $7.3 \pm 0.7\%$ , with secondary education -  $34.4 \pm 1.2\%$  ( $t=19.50$ ;  $P<0.001$ ), with secondary specialized education -  $21.9 \pm 1.0\%$  ( $t=8.01$ ;  $P<0.001$ ) and with higher

education -  $36.4 \pm 1.2\%$  ( $t=9.29$ ;  $P<0.001$ ). Women with incomplete secondary education used contraception least of all -  $16.5 \pm 3.5\%$ , their number is higher among women with secondary education -  $34.9 \pm 2.0\%$  ( $t = 4.57$ ;  $P<0.001$ ) and women with secondary specialized education -  $48.6 \pm 2.7\%$  ( $t=3.10$ ;  $P<0.01$ ). Women with higher education use contraception most often -  $78,0 \pm 1,8\%$  ( $t=8,46$ ;  $P<0,001$ ). It is important to note that among the first mentioned group contraception was not used on a permanent basis by any woman, among the second their number was  $4.1 \pm 0.9\%$  of women, among the third -  $11.0 \pm 1.7\%$  ( $t=3.59$  ;  $P<0.001$ ), among the fourth -  $22.5 \pm 1.7\%$  ( $t=4.79$ ;  $P<0.001$ ). But even this indicator shows a low level of contraceptive behaviour of women, which does not insure them from unintended pregnancy. However, it should be emphasized that the higher the level of educational qualification of women.

**Dependence on professional and social position.** The socio-professional structure of the surveyed women is very diverse. The share of housewives is quite high -  $17.6 \pm 1.0\%$ . This is a rather different educational and cultural group of women. Among them, although there are women with higher and secondary specialized education, they mostly have secondary and incomplete secondary education. The share of teachers is quite high -  $12.0 \pm 0.8\%$  ( $t=4.75$ ;  $P<0.001$ ), and the share of kindergarden teachers in preschool institutions is  $11.7 \pm 0.8\%$  ( $t=0.27$ ;  $P>0.05$ ). The share of doctors is  $10.6 \pm 0.8\%$  ( $t=0.47$ ;  $P> 0.05$ ), nurses -  $10.2 \pm 0.8\%$  ( $t=0.22$ ;  $P>0.05$ ) . The share of other social and professional groups of women does not exceed  $5.9 \pm 0.6\%$  ( $t=5.80$ ;  $P<0.001$ ).

The influence of vocational and social orientation, requiring special vocational and educational training on contraceptive behaviour, is quite clearly visible in the group of women who constantly use CM during the fertile period. Representatives of such professions as educators, service personnel, as well as housewives very rarely use CM, on an ongoing basis their frequency does not exceed  $7.5 \pm 2.7\%$ .

In general, occupational and social status have an impact on contraceptive behaviour.

**Dependence on marital status.** A visible restructuring is taking place in the contemporary marital status of women. It is quite clear

that the largest share falls on women who are married, the indicator of which is  $56.9 \pm 1.2\%$ . If we take into account that the survey was conducted among women of reproductive age and for social, natural reasons and the vast majority of them should be married, then this indicator should be considered low. In the future, such a state of marriages can reduce the rate of population reproduction, and this will lead to unfavorable socio-economic consequences in the country. The positive rates of population reproduction are currently largely associated with the birth of unplanned children, which occurs as a result of the low efficiency of family planning, due to the fact that most women do not use contraception, or use them in violation of regulatory prescriptions and recommendations.

The proportion of women who did not marry significantly increased  $22.4 \pm 1.1\%$  ( $t=21.17$ ;  $P<0.001$ ). Usually women in our country get married at the age of 18-24. In our observations, their specific weight is only  $15.7 \pm 1.9\%$ . At the same time, the proportion of women aged 25-29 who did not marry increased to  $27.9 \pm 2.3\%$  ( $t=4.09$ ;  $P<0.001$ ). Especially in this respect, the proportion of women aged 30-34 stands out, which increased to  $29.8 \pm 2.4\%$  ( $t=0.57$ ;  $P>0.05$ ). Another  $12.0 \pm 1.7\%$  of women aged 35-39 years ( $t=5.51$ ;  $P<0.001$ ) and  $6.5 \pm 1.3\%$  of women aged 40 years and older did not marry ( $t=2.57$ ;  $P<0.05$ ).

As you can see, modern women postpone marriage at a later age. For instance,  $51.7 \pm 2.6\%$  of them noted the need for higher education and further career growth, etc. as the highest priority reasons.

The share of divorced women also increased - up to  $12.9 \pm 0.8\%$  ( $t=8.46$ ;  $P<0.001$ ). Single-parent families are socially disadvantaged, the maintenance of children and their upbringing is difficult, financial difficulties are experienced, etc. Surveys conducted among 234 divorced women revealed the reasons for the dissolution of their marriages. Most often, they noted such reasons as extramarital affairs of the husband, alcohol addiction, cohabitation with his parents, unsatisfactory financial situation of the family, etc. Another  $7.7 \pm 0.7\%$  of women were widows ( $t=4.91$ ;  $P<0.001$ ) who lost their husbands.

Women's marital status also influences their contraceptive behaviour. Widowed women use contraception least of all -

51.5±1.3%, their number is higher among divorced women - 60.3±3.3% (t=3.30; P<0.001), as well as women who are not married - 64.5±2.4% (t=1.05; P>0.05). At the same time, among women who are married, this indicator is lower - 44.5±1.7% (t=4.39; P<0.001). Being married, many women do not worry about pregnancy and therefore do not use contraceptives. According to the data above, when developing and implementing measures to increase the demand for contraception among women, their status must be taken into account.

**Dependence on the financial condition.** According to the survey, 11.2±0.8% of women assessed their financial condition as “poor”, 18.2±1.0% - respectively, “relatively satisfactory” (t=5.47; P<0.001), 36.0±1.3% of women - “satisfactory” (t=10.85; P<0.001), 25.6±1.1% of women - “sufficient” (t=6.12; P<0.001) and 9.1±0.7% of women - “comfortable” (t=12.69; P<0.001). Different preferences of women for the use of contraception were revealed, depending on the financial condition, which to a large extent determines the consumer demand for CM.

Studies in 8 city pharmacies identified 54 types of contraception produced in 22 countries and determined the cost of 623 copies. The share of contraception with a cost of less than 5 manat was 23.6±1.7%, with a cost of 5-9 manat, respectively 26.2±1.8% (t=1.05; P>0.05), with a cost of 10 -14 manat - 24.7±1.7% (t=0.60; P>0.05), with a cost of 15-19 manat - 14.9±1.4% (t=4.45; P<0.001) and with a cost of 20 manats and more - 10.6±1.2% (t=2.34; P<0.05).

Sales of CM in pharmacies, according to their employees, are very weak and significantly inferior to sales of other groups of medications, which affects the range of contraceptives in pharmacies. The vast majority of buyers prefer to purchase contraception with a cost of no more than 15 manats. The analysis of 513 purchases showed that the consumer demand for contraception with a cost of less than 5 manats was 18.1±1.7%. The greatest demand fell on contraception with a cost of 5-9 manats - 40.4±2.2% (t=8.02; P<0.001). Subsequently, as the cost of contraception increases, consumer demand for them consistently decreases. For contraception with a cost of 10-14 manats, it was 22.8±1.9% (t=6.74; P<0.001), for contraception with a cost of 15-19 manats, respectively, 13.3±1.5% (t=3.92; P<0.001), on

contraception with a cost of 20 manats and more -  $5.5 \pm 1.0\%$  ( $t = 4.33$ ;  $P < 0.001$ ).

The financial situation of women, according to the above results, has a significant impact on their contraceptive behaviour, as most of them prefer relatively cheap CM. Therefore, it is necessary to assess the true effectiveness of contraception and to make recommendations to the services that import contraceptives into the republic, and pharmacies in which contraceptives are sold to women. It is also important to consider not only consumer demand for contraceptives, but also their relevance to their purpose, effective family planning and prevention of unwanted pregnancies, etc.

**Third group (stage).** "The effectiveness of contraception in the regulation of pregnancy and rational family planning". The main goal of CM is the regulation of pregnancy by women, which is necessary for effective family planning, solving demographic problems and, most importantly, reducing the high rate of abortions.

For the entire previous and current survey periods, 1577 women had a total of 7,047 episodes of pregnancy, or  $4.47 \pm 0.58$  episodes per woman. Of these,  $54.0 \pm 0.6\%$  of episodes occurred in women who did not use contraceptives,  $41.4 \pm 0.6\%$  of episodes, respectively, in women who rarely or often use contraceptives ( $t = 14.82$ ;  $P < 0.001$ ) and only  $4.6 \pm 0.2\%$  episodes in women who constantly use contraception during the fertile period ( $t = 59.35$ ;  $P < 0.001$ ).

The desired pregnancy accounted for 3636 out of 7047 pregnancy episodes ( $51.6 \pm 0.6\%$ ), or  $2.31 \pm 0.36$  episodes per woman. If we consider that each of these episodes will end with the birth of a viable child, then this is within the framework of international demographic standards.

However, a desired pregnancy is not always desirable. Thus, in 427 out of 3636 pregnancy episodes ( $11.7 \pm 0.5\%$ ), women admitted that for a number of subjective and objective reasons, pregnancy occurred beyond their desire and they were forced to keep it and subsequently give birth to a child.

It is quite understandable that with such a low contraceptive behaviour of women, when a small number of them pay attention to



pregnancy regulation, the pregnancy rate reaches high rates. In particular, 3411 out of 7047 pregnancy episodes for the period preceding the survey were related to unintended pregnancies ( $48.4\pm 0.6\%$ ), or  $2.16\pm 0.31$  episodes per 1 woman, which is almost identical to the episodes of desired pregnancies.

The most frequent episode of unwanted pregnancy occurred in women who did not use contraception -  $52.4\pm 0.9\%$  of episodes, then in women who used contraception but did not follow standard prescriptions -  $40.6\pm 0.8\%$  of episodes ( $t=9.83$ ;  $P<0.001$ ) and the least among women using contraceptives according to normative prescriptions -  $7.1\pm 0.4\%$  of episodes ( $t=37.64$ ;  $P<0.001$ ).

Although modern contraception with constant use reliably prevents unintended pregnancy, however, they were in demand only in  $6.8\pm 0.7\%$  of the observed women. Thus, the low level of contraceptive use among women contributed to a large number of unplanned pregnancies and, consequently, abortions.

During the period preceding the survey and during 23-27 months of observation, 1134 women as a result of an unintended pregnancy performed 2515 abortions, which is  $47.2\pm 0.7\%$ , or  $2.55\pm 0.43$  abortions per woman. As expected, the highest abortion rate was in women who did not use contraception -  $53.0\pm 0.9\%$  of cases and in women who periodically use traditional methods of contraception -  $52.1\pm 1.2\%$  of cases ( $t=0.60$ ;  $P<0.05$ ), followed by women who also periodically use, but this time, modern contraceptives -  $21.5\pm 1.7\%$  of cases ( $t=14.71$ ;  $P<0.001$ ). Abortions occurred even among women who constantly use traditional contraception -  $12.4\pm 2.7\%$  of cases ( $t=2.85$ ;  $P<0.01$ ). Only with the constant use of modern contraception, abortions were not observed.

The level of abortions, as well as the levels of desired and unwanted pregnancies, are age-related. Thus, in the age group younger than 20 years, their frequency is  $46.0\pm 2.0\%$ . Some women of this age, having given birth to one child, no longer want to have a second child in a small age range and have abortions.

Whereas in women of the age groups 20-24 and 25-29 years, the frequency of abortions decreases, respectively, to  $43.5\pm 1.8$  and  $43.1\pm 1.7\%$ , which is associated with the preservation of pregnancy for

the birth of the next children. In the age group of 30-34 years, the frequency of abortions increases to  $46.0 \pm 1.6\%$ , which in older age groups reaches  $50.6 \pm 1.5\%$ , the difference between the extreme values indicators are reliable ( $t=3.30$ ;  $P<0.01$ ).

The high rate of abortions is typical for many countries of the world, especially in those countries where the problems of family planning and contraception among women are still far from a positive outcome. Unfortunately, this problem is not solved in our country.

1577 respondents had 2515 abortions, which made it possible to identify 8 groups of reproductive disorders. The more abortions are performed, the more often these disorders occur. For example, if after 1-2 abortions each woman, on average, had no more than  $1.09 \pm 0.19$  cases of reproductive disorders, then after 3-5 abortions their number increased to  $2.08 \pm 0.13$  cases and more ( $t=3.81$ ;  $P<0.001$ ).

Thus, modern contraceptives, subject to regulatory prescriptions for use, reliably prevent women from unwanted pregnancies. Thereby, contraception preserves the reproductive health of women.

**Fourth group (stage).** "Development of measures to increase the contraceptive motivation of women and their approbation of the population". During the 23-27 months, awareness-raising activities were carried out among women and organizational measures were taken to eliminate the identified shortcomings in the work of women's consultations. The control examinations covered 946 out of 1577 women. At the end of the work, the sufficient contraceptive information of women increased from  $22.7 \pm 1.1$  to  $47.3 \pm 1.6\%$  ( $t=24.02$ ;  $P<0.001$ ). The frequency and reasons for limiting the use of contraceptives by women decreased on average from  $3.26 \pm 0.27$  to  $0.84 \pm 0.17$  units, and the number of shortcomings in the work of basic women's consultations, respectively, from  $3.95 \pm 0.21$  to  $1.26 \pm 0.18$  units per woman ( $t=9.61$ ;  $P<0.001$ ). In general, the availability of contraceptive care increased from  $26.6 \pm 1.1$  to  $37.4 \pm 2.5$  points ( $t=3.96$ ;  $P<0.001$ ), and satisfaction with this help increased from  $34.7 \pm 1.2$  to  $41.6 \pm 2.2$  points ( $t=2.75$ ;  $P<0.01$ ). And  $84.5 \pm 1.2\%$  of women began to use contraception at the finish of work, against  $51.5 \pm 1.3\%$  at the start ( $t=18.64$ ;  $P<0.001$ ). Most importantly, the cluster motivation of

women to use contraception increased - from  $3.09 \pm 0.14$  to  $4.18 \pm 0.17$  points ( $t=4.95$ ;  $P<0.001$ ).

As a result of the measures taken, the frequency of unwanted pregnancies within 23-27 months decreased from  $47.3 \pm 0.8$  to  $32.4 \pm 1.0\%$  ( $t=11.64$ ;  $P<0.001$ ), and in terms of per woman - from  $2.21 \pm 0.27$  to  $0.82 \pm 0.25$  cases ( $t=3.75$ ;  $P<0.001$ ). Moreover, the use of modern hormonal contraception increased from  $31.2 \pm 1.5$  to  $77.9 \pm 1.3\%$  ( $t=23.59$ ;  $P<0.001$ ). And as a consequence of this, the number of abortions per woman decreased from  $2.02 \pm 0.31$  to  $0.73 \pm 0.17$  cases ( $t=3.69$ ;  $P<0.001$ ).

Thus, on the basis of socio-hygienic population studies, approaches for the correction of women's contraceptive behaviour were developed for the first time. These measures are based on evidence-based, accessible awareness-raising activities that increase women's motivation to use CM.

Women systematically perceive the importance of contraception in maintaining reproductive health, regulating pregnancy, which allows preventing unwanted pregnancies and abortions caused by it. According to the results of the pilot testing, women believe that the combination of awareness-raising works with the elimination of the shortcomings of contraceptive services through women's consultations is especially important for correcting their contraceptive behavior.

However, the proposed measures to increase the contraceptive motivation of women and improve the functioning of women's clinics do not require additional human, material and technical resources.

## CONCLUSIONS

1. The frequency of use of CM by the local population of women is  $51.5 \pm 1.3\%$ , with  $23.3 \pm 1.1\%$  of women using them rarely,  $16.2 \pm 0.9\%$  quite often and only  $12.0 \pm 0.8\%$  - during the entire fertile period. Natural methods of contraception are most often used -  $24.3 \pm 1.1\%$ , then barrier -  $21.4 \pm 1.0\%$  and spermicidal -  $16.9 \pm 0.9\%$ . The frequency of use of intrauterine devices, hormonal oral and non-oral and emergency contraception does not exceed  $13.1 \pm 0.8\%$ . Only  $22.7 \pm 1.1\%$  of women have sufficient

information about the types and rules for using contraception. Most often, contraceptives are used by women aged 30-34 years -  $67.8 \pm 2.6\%$ , at the birth of 4 or more children, the frequency of their use decreases to  $8.1 \pm 1.0\%$ . Contraceptives are most in demand among women with higher education -  $76.0 \pm 1.8\%$ , especially among doctors -  $83.8 \pm 2.9\%$ , among unmarried women -  $64.5 \pm 2.4\%$  and divorced women -  $60,3 \pm 3.2\%$ . In addition to lack of awareness, the demand for contraception is strongly influenced by the financial situation of women. Mostly in pharmacies, contraception is purchased at a cost of up to 15 manats ( $81.3 \pm 1.7\%$ ). More modern, highly effective

2. 12 reasons were identified that reduce the level of contraceptive behaviour in women, on average it is  $3.26 \pm 0.27$  reasons per woman. According to a survey of women, the availability of medical services (in women's consultations) is only  $26.6 \pm 1.1$  points (the norm is 45 points), satisfaction is  $34.7 \pm 1.2$  points and awareness is  $33.5 \pm 1.2$  points. Women reported 15 deficiencies in their contraceptive care, with an average of  $3.95 \pm 0.21$  deficiencies per woman.
3. A cluster system for assessing the motivation of women to correct contraceptive behaviour has been developed. Only  $17.6 \pm 1.0\%$  of women were motivated (5th cluster, 5 points).  
The frequency of pregnancy during the fertile period is, on average,  $4.47 \pm 0.58$  episodes per 1 woman, of which  $2.31 \pm 0.36$  episodes – desired and  $2.16 \pm 0.31$  episodes – unintended pregnancy. Most often, unwanted pregnancy occurs among women who do not use contraception, or who use contraception not according to the standards -  $52.4 \pm 0.9$  and  $40.6 \pm 0.8\%$  of episodes, least of all - among women who use modern contraception in accordance with the standards -  $7.1 \pm 0.4\%$  of episodes.
4. The frequency of abortions as a result of unwanted pregnancy is  $2.11 \pm 0.43$  episodes per 1 woman,  $53.0 \pm 0.9\%$  of abortion episodes occurred in women who do not use contraception and  $52.1 \pm 1.2\%$  of episodes in women who do not comply with the standards for the use of contraception. Abortions due to unintended pregnancies were not observed among women using modern

contraceptives in accordance with the standards. The frequency of abortions is age-related, their rate from  $46.0 \pm 2.0\%$  among women under 20 years old increases to  $51.0 \pm 1.5\%$  among older women.

5. Abortion reduces the reproductive potential of women. Most often, women experience psycho-emotional experiences, the frequency of which, as the number of abortions increases, also increases from  $44.2 \pm 2.4$  to  $62.7 \pm 2.8\%$ . The level of menstrual irregularities and other reproductive disorders becomes high, and in  $7.2 \pm 1.5\%$  of cases, abortions led to infertility. The testing within 23-27 months of the developed measures to correct contraceptive behaviour made it possible to obtain the following positive results: contraceptive use by women increased from  $51.5 \pm 1.3$  to  $84.5 \pm 1.2\%$ ; causes; flaws in the activity of antenatal clinics were eliminated from  $3.95 \pm 0.21$  to  $1.26 \pm 0.18$  units per woman; the motivation of women to use contraceptives increased from  $3.09 \pm 0.14$  to  $4.18 \pm 0.17$  points; the frequency of unwanted pregnancy decreased from  $2.21 \pm 0.27$  to  $0.82 \pm 0.25$  episodes per woman; the frequency of abortions decreased from  $2.02 \pm 0.31$  to  $0.73 \pm 0.17$  episodes. There has been an improvement in women's awareness, accessibility and the satisfaction of their health care services.

## **PRACTICAL RECOMMENDATIONS**

1. To determine the motivation of women to use CM a cluster system has been developed; it consists of the following positions:; 1st cluster - "it is not necessary to use contraception" - 1 point; the second cluster - "it is enough to use natural methods (interruption of sexual intercourse, calendar method, lactation amenorrhea) - 2 points; 3rd cluster - "it is advisable to use contraceptives as needed" - 3 points; 4th cluster - "if possible, use contraceptives constantly" - 4 points; 5th cluster - "it is necessary to constantly use contraception during the entire fertile period" - 5 points.

2. It is advisable to carry out the following organizational and awareness-raising activities: distribute among women reminders with a list of contraceptives, their cost and rules of use; to organize the implementation of contraception in women's clinics; eliminate deficiencies in medical care for women and strengthen contraceptive medical examination for women; adjust prices for contraceptives sold in pharmacies; in pharmacies to organize separate places (window) for the sale of contraceptives, to ensure the anonymity of their purchases by women; to disseminate information on family planning issues among the male population.
3. COC's are an effective method are an of family planning, a modern means of preventing pregnancy, they reduce the risk of developing uterine and ovaries cancer, protect the ovarian reserve of women, etc. Their use is to carry a constant character during woman's sexual activity.

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## **LIST OF ABBREVIATIONS**

- CM** – contraceptive methods  
**COCs** – combined oral contraceptives  
**MM** – maternal mortality

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