

*RAZMIK A. ABRAHAMYAN<sup>1,2</sup>, ARMEN K. BLBULYAN<sup>1,2</sup>, GEGHAM K. GHARDYAN<sup>1,2</sup>,  
GOHAR R. ABRAHAMYAN<sup>1,2</sup>, LUSINE R. ABRAHAMYAN<sup>1,2</sup>*

## **CHARACTERISTICS OF REPRODUCTIVE HEALTH CAUSED BY HEALTHCARE FACTOR**

<sup>1</sup>Republican Institute of Reproductive Health, Perinatology, Obstetrics and Gynecology;

<sup>2</sup>Yerevan State Medical University named after Mkhitar Heratsi; Yerevan, Republic of Armenia

Doi: <https://doi.org/10.52340/jecm.2023.05.05>

*РАЗМИК А АБРАМЯН<sup>1,2</sup>, АРМЕН К БЛБУЛЯН<sup>1,2</sup>, ГЕГАМ К ГАРДЯН<sup>1,2</sup>,  
ГООАР Р АБРАМЯН<sup>1,2</sup>, ЛУСИНЕ Р АБРАМЯН<sup>1,2</sup>*

## **ОСОБЕННОСТИ РЕПРОДУКТИВНОГО ЗДОРОВЬЯ, ОБУСЛОВЛЕННЫЕ МЕДИЦИНСКИМ ФАКТОРОМ**

<sup>1</sup>Республиканский институт репродуктивного здоровья, перинатологии, акушерства и гинекологии; <sup>2</sup>Ереванский государственный медицинский университет имени Мхитара Гераци; Армения

### **РЕЗЮМЕ**

Принимая во внимание тот факт, что структура и частота бесплодия во всех странах определяется по базовой частоте, что не дает четких данных о реальной картине бесплодия в данной стране, ВОЗ рекомендует странам проводить эпидемиологические исследования что позволит определить частоту бесплодия в данной стране, этиологическую структуру, предрасполагающие факторы, имеющийся опыт и методы скрининга и лечения супружеских пар, страдающих бесплодием, эффективность скрининга и лечения, разработать и реализовать национальные стратегии и программы.

Актуальность данной работы является то, что авторы, помимо анализа эпидемиологических исследований, акцентировали внимание на роли фактора здоровья в репродуктивном здоровье, выявляя наиболее актуальные проблемы и внося практические предложения по решению этих проблем.

Reproductive health problems are not only medical-biological problems, but also social problems, because they affect demographic indicators, lead to social and psychological maladaptation of individuals in society, severe psycho-emotional and emotional disorders, and an increase in the frequency of divorces [11,12]. Thus, birth rate is an indicator of social health, and this indicator is not so much quantitative as it is qualitative for having a healthy society.

The introduction of the state certificate of maternity care in 2008 was an important strategic step to improve reproductive health back in. It made the medical care and service related to pregnancy and childbirth in the Republic of Armenia free of charge, within the framework of the state-guaranteed health care programs. Thanks to the work performed by maternity care institutions, according to statistical observations, a significant reduction in maternal, perinatal and neonatal mortality and infertility can be observed. In particular, the maternal mortality rate in 2000-2002 was 39.9, in 2018-2022 - 19.8, i.e. it decreased by about 2 or more times. The average three-month indicator of maternal mortality in 2018-2022 is lower compared to the average indicator of the CIS countries.

The reduction of child and infant mortality rates in recent years is also impressive: CMR - 11.7% in 2011, 8.9% in 2016, 7.6% in 2022, IMR - 8.4% in 2011, 6.5% in 2016, 6.1% in 2022.

As for the primary and secondary infertility index, in 2005 it was 32%, but due to implementation of targeted programs, modern research and treatment measures, in 2022 this index decreased more than twice 14.9%.

602 650 target female population is recorded in RA, to whom the efforts to increase the birth rate due to the healthcare factor are directed. Compared to 1990, the number of women of reproductive age decreased by about 109 200 (12.2%), the number of women of childbearing age also decreased proportionally by 41 530 (13.1%). Thanks to the creation of family planning services throughout the country, increasing the population's awareness of modern contraceptives and increasing the knowledge

of medical personnel, the number of abortions decreased by 2.5 times, which in turn contributed to the reduction of secondary infertility by 2.8 times, the elimination of maternal mortality. According to the results of 2020 Demographic and Health Research in Armenia the cumulative abortion rate (the average number of abortions per woman of reproductive age) was 0.6%, which is significantly lower than in 2015 - 1.8 (2.3 times) and 2005 - 2.6 (4.2 times).

The improvement of the above-mentioned indicators is due to the introduction of the state childbirth aid certificate and referral system, as well as the application of out-of-hospital and hospital standards for the provision of free medical care and services guaranteed by the RA Ministry of Health, the modernization of regional medical centers, and the introduction of about 30 evidence-based guidelines and practices.

In order to improve the reproductive health caused by the healthcare factor, improvement of the health of adolescents, early diagnosis and management of pathologies in pregnant women, improvement of prenatal diagnosis, pregnancy management and control, improvement of the quality of care and obstetric care for premature, low birth weight and pathological newborns, introduction of pre-marital examination and pre-conception care of couples should be given more importance [10].

### ***Improving adolescent health.***

Considering that the development of the causes of infertility in the reproductive age, as well as the high frequency of pregnancy pathologies and the predominant part of perinatal losses begins in adolescence - 10-18 age group, it is necessary to emphasize the maintenance and improvement of health of adolescents as an important potential for healthy reproduction and birth [1,4]. The adolescent group of the RA population is 320 690 people, of which 170 670 are boys and 150 020 are girls. 14-16 years old is considered the best age range for detection and treatment of disorders of reproductive functions, their number is 104 624, of which 55 956 are boys and 48 668 are girls. Taking into account the fact that in Armenia the reproductive function is finally formed at the age of 15, within the framework of the state order, a comprehensive assessment of the state of health of 15-year-old girls, including the reproductive organs, is carried out. We believe that it is necessary to expand the conducted research, taking into account the frequency of thyroid diseases (endemic goiter), sclerocystic ovaries, menstrual cycle disorders, vitamin deficiency (especially hypovitaminosis D) in adolescents [9].

As a result of implementation of programs aimed at improving adolescent health, it is expected to reduce primary infertility and spontaneous abortions by at least 5 percent, which will ensure an increase in pregnancies and births in about 150 women of reproductive age per year.

### ***Early diagnosis and management of pathologies in pregnancy.***

Early diagnosis and treatment of pregnancy pathologies is essential for a favorable pregnancy outcome and birth of a healthy child [8]. Around 72 000 pregnant women are monitored in women's consultations throughout the territory of RA annually, of which 15 000 pregnant women receive inpatient treatment for pregnancy pathologies. According to international organizations and WHO data, 35-40% of pregnant women have various pathologies. Therefore, about 25 000 pregnant women need treatment in pathology departments in Armenia.

Considering the importance of oxidative stress in the pathogenesis of pregnancy complications such as preeclampsia, premature detachment of the normally located placenta, antioxidants should be included in the diet of these women. Coagulopathies, miscarriages, reproductive losses dictate the need for deeper research of this contingent, with further correction of genetic and acquired thrombophilias, pro-inflammatory background, immunological and hemostasis indicators, which will contribute to the full functioning of the elimination system [5].

This is expected to reduce perinatal losses, including spontaneous abortions, antenatal mortality, stillbirth, maternal and perinatal mortality, developmental defects, pregnancy retention, and increase the number of children.

### ***Improvement of prenatal health.***

Taking into account the annual rate of 3 500 spontaneous abortions and 4 000 premature births, the birth of about 700 children with birth defects, as well as 750 intrauterine deaths, the solution to this problem should be considered very urgent.

The first mandatory step is the timely detection and correction of many metabolic abnormalities of a pregnant woman, the detection of hidden or so far undetected anomalies of the cardiovascular system, which predispose and include pathologies threatening the respiratory system (pulmonary hypertension and other chronic changes, including post-viral transformations of the lungs), complete evaluation of the storage function of the liver, since the liver is the most stressed organ during pregnancy, a detailed analysis of the kidney function and an evaluation of the eye ground, which are indicators of the state of microcirculation. It is necessary to reduce the impact of possible pathogenic stimuli on the reproductive organs, as well as lead a healthy lifestyle.

According to the international experience, in particular, in the screening of 357 pregnant women using the method of ultrasound measurement of the cervix length during pregnancy, it is possible to prevent one case of premature birth before the 33rd week, one case of neonatal morbidity and mortality, as well as to diagnose birth defects with greater certainty [3]. Therefore, with the implementation of screening examinations with modern ultrasound equipment in women's consultations, it is expected to reduce the number of newborns with birth defects by 10%, premature births by 5%, resulting in an increase of 200 live births.

### ***Improving the care of premature, low birth weight and comorbid infants.***

In addition to being an important healthcare and demographic indicator, the infant mortality rate is one of the characteristic indicators for assessing the country's development and well-being. In this sense Armenia ranks among the countries with a low child rate. It is enough to note that in the structure of child mortality, deaths in the neonatal period make up 70-75%, while the mortality of low-weight, premature and various pathologies is 4-5 times higher than that of adults. About 4 000 premature, low-weight and pathological babies are born in Armenia every year, and they need resuscitation, intensive treatment and follow-up care. As a step aimed at improving the situation, it is necessary to extend the duration of treatment in the hospital, carrying out the necessary types and volumes of research, including the correction of defects of the central nervous system and the necessary volume of oxygen therapy [6]. As a result, it is expected to reduce the infant mortality rate by about 5%, save the lives of 80 infants.

### ***Introducing premarital screening and pre-conception care of couples.***

About 18,000 marriages are registered in RA annually. These married couples typically have a child during the first year of marriage, accounting for about 30% of total births. In order to solve this problem, it is necessary to form the culture of referring specialists dealing with reproductive problems: gynecologist, andrologist, urologist, cell geneticist, couple therapist (as necessary), to carry out scientific and educational activities in senior classes, among students at universities, emphasizing the role of premarital examination, as well as taking into account the often observed psycho-emotional lability among young people, abnormal sexual behavior, harmful habits (including drug addiction) to include specialists dealing with these problems during management [2,7].

With the steps mentioned above, full assessment of reproductive functions, early detection and treatment of deviations, formation of a healthy society, reduction of infertility, reduction of spontaneous abortions, stillbirths, premature births up to 10%, increase of the number of newborns are expected.

Thus, the realization and maintenance of the most important biological phenomenon – reproduction, at all stages is an integral, multifactorial and conceptual problem, with involves other specialists and the achievements of medical science.

### **References:**

1. Azevedo WF, Diniz MB, Fonseca ESVB, et al. Complications in adolescent pregnancy: systematic review of the literature. Einstein (São Paulo). 2015; 13:618–626.

2. Becho District Health Office. Health Sector Annual Base Plan 2019. Becho; 2019.
3. Berhane F, Berhane Y, Fantahum M. Adolescents' health service utilization pattern and preferences: consultation for reproductive health problems and mental stress are less likely. *Ethiop J Health Dev.* 2005; 19(1):29-36. Doi:10.4314/ejhd.v19i1.9968.
4. Chandra-Mouli V, Ferguson BJ, Plesons M, Paul M, Chalasani S, Amin A, et al. The political, research, programmatic, and social responses to adolescent sexual and reproductive health and rights in the 25 years since the international conference on population and development. *J Adolesc Health.* 2019; 65: S16–40. Doi: 10.1016/j.jadohealth.2019.09.011.
5. Cherie N, Tura G, Aderajew NT. Reproductive health needs and service utilization among youths in West Badewacho Woreda, Hadiya Zone, South Ethiopia. *J Public Health Epidemiol.* 2015; 7:145–53. Doi: 10.5897/JPHE2014.0700.
6. FMOH. Standards on Youth Friendly Reproductive Health Services. Service Delivery Guideline. Minimum Service Delivery Package on YFRH Services, Ethiopia. Addis Ababa: Publication Health Environment Ethiopia Consortium; (2016)
7. Kismödi E, Cottingham J, Gruskin S, et al. Sexual health, human rights and the law. Geneva: World Health Organization; 2015.
8. Lobo MA, Kagan SH, Corrigan JD. Research design options for intervention studies single-case research designs. *Pediatr Phys Ther.* 2016; 29(3): S57. Doi: 10.1097/PEP.0000000000000380.
9. Morris JL, Rushwan H. Adolescent sexual and reproductive health: the global challenges. *Int J Gynecol Obstet.* 2015; 131:40–42.
10. Nations U. World Youth Report: Youth Social Entrepreneurship and the 2030 Agenda. New York, NY: United Nations Publication; (2020)
11. Starrs AM, Ezeh AC, Barker G, et al. Accelerate progress - sexual and reproductive health and rights for all: report of the Guttmacher - Lancet commission. *Lancet.* 2018; 391:2642–37.
12. World Health Organization. World Health Statistics 2016: Monitoring Health for the SDGs Sustainable Development Goals. World Health Organization; (2016). Available online at: <https://apps.who.int/iris/handle/10665/206498>

RAZMIK A. ABRAHAMYAN<sup>1,2</sup>, ARMEN K. BLBULYAN<sup>1,2</sup>, GEGHAM K. GHARDYAN<sup>1,2</sup>, GOHAR R. ABRAHAMYAN<sup>1,2</sup>, LUSINE R. ABRAHAMYAN<sup>1,2</sup>

### CHARACTERISTICS OF REPRODUCTIVE HEALTH CAUSED BY HEALTHCARE FACTOR

<sup>1</sup>Republican Institute of Reproductive Health, Perinatology, Obstetrics and Gynecology;

<sup>2</sup>Yerevan State Medical University named after Mkhitar Heratsi; Yerevan, Republic of Armenia

### SUMMARY

Taking into account the fact that the structure and frequency of infertility in all countries is determined according to reference frequency, which does not provide clear data about the real picture of infertility in a given country, so the WHO recommends countries to conduct epidemiological studies that will allow determining the frequency of infertility in a given country, the etiological structure, contributing factors, existing experience and methods of screening and treatment of couples suffering from infertility, effectiveness of screening and treatment, to develop and implement national strategies and programs. This paper is a step towards it, where the authors, in addition to the analysis of epidemiological studies, have emphasized the role of the healthcare factor in reproductive health, identifying the most current problems, and making practical suggestions for solving these problems.

**Keywords:** natural growth, maternal mortality, infant mortality, infertility rate, adolescent health.

რამმიკ ა. აბრაჰამიანი <sup>1,2</sup>, არმენ ვ. ბლბულიანი <sup>1,2</sup>, გეგამ ვ. ვარდიანი <sup>1,2</sup>,  
 გოპარ რ. აბრაჰამიანი <sup>1,2</sup>, ლუსინე რ. აბრაჰამიანი <sup>1,2</sup>

**ჯანდაცვის ფაქტორით გამოწვეული რეპროდუქციული ჯანმრთელობის მახასიათებლები**  
<sup>1</sup>რესპუბლიკის რეპროდუქციული ჯანმრთელობის, პერინატოლოგიის, მენოპა-გინეკოლოგიის  
 ინსტიტუტი; <sup>2</sup>ერევნის მხითარ ჰერაცის სახელობის სახელმწიფო სამედიცინო უნივერსიტეტი,  
 ერევანი, სომხეთი

### რეზიუმე

ჯანმო რეკომენდაციას აძლევს ქვეყნებს, რომ ეპიდემიოლოგიური კვლევები ჩაატარონ რათა შეფასდეს უნაყოფობის სიხშირე, ეტიოლოგიური სტრუქტურა, ხელშემწყობი ფაქტორები, უნაყოფობით დაავადებული წყვილების სკრინინგისა და მკურნალობის არსებული გამოცდილება და მეთოდები, სკრინინგისა და მკურნალობის ეფექტურობა, ეროვნული სტრატეგიებისა და პროგრამების შემუშავება და განხორციელება. ეს ნაშრომი არის მისკენ გადადგმული ნაბიჯი, სადაც ავტორებმა, ეპიდემიოლოგიური კვლევების ანალიზის გარდა, ხაზი გაუსვეს ჯანდაცვის ფაქტორის როლს რეპროდუქციულ ჯანმრთელობაში, წარმოაჩინეს ყველაზე აქტუალური პრობლემები და წარადგინეს მათ გადასაჭრელად პრაქტიკული წინადადებები.

რ