

# GEORGIAN MEDICAL NEWS

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ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии  
საქართველოს სამედიცინო სიახლენი

## GEORGIAN MEDICAL NEWS

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**GMN: Georgian Medical News** is peer-reviewed, published monthly journal committed to promoting the science and art of medicine and the betterment of public health, published by the GMN Editorial Board since 1994. GMN carries original scientific articles on medicine, biology and pharmacy, which are of experimental, theoretical and practical character; publishes original research, reviews, commentaries, editorials, essays, medical news, and correspondence in English and Russian.

GMN is indexed in MEDLINE, SCOPUS, PubMed and VINITI Russian Academy of Sciences. The full text content is available through EBSCO databases.

**GMN: Медицинские новости Грузии** - ежемесячный рецензируемый научный журнал, издаётся Редакционной коллегией с 1994 года на русском и английском языках в целях поддержки медицинской науки и улучшения здравоохранения. В журнале публикуются оригинальные научные статьи в области медицины, биологии и фармации, статьи обзорного характера, научные сообщения, новости медицины и здравоохранения. Журнал индексируется в MEDLINE, отражён в базе данных SCOPUS, PubMed и ВИНТИ РАН. Полнотекстовые статьи журнала доступны через БД EBSCO.

**GMN: Georgian Medical News** – საქართველოს სამედიცინო სიახლენი – არის ყოველთვიური სამეცნიერო სამედიცინო რეცენზირებადი ჟურნალი, გამოიცემა 1994 წლიდან, წარმოადგენს სარედაქციო კოლეგიისა და აშშ-ის მეცნიერების, განათლების, ინდუსტრიის, ხელოვნებისა და ბუნებისმეტყველების საერთაშორისო აკადემიის ერთობლივ გამოცემას. GMN-ში რუსულ და ინგლისურ ენებზე ქვეყნდება ექსპერიმენტული, თეორიული და პრაქტიკული ხასიათის ორიგინალური სამეცნიერო სტატიები მედიცინის, ბიოლოგიისა და ფარმაციის სფეროში, მიმოხილვითი ხასიათის სტატიები.

ჟურნალი ინდექსირებულია MEDLINE-ის საერთაშორისო სისტემაში, ასახულია SCOPUS-ის, PubMed-ის და ВИНТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებიდან.

### WEBSITE

[www.geomednews.com](http://www.geomednews.com)

## К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

1. Статья должна быть представлена в двух экземплярах, на русском или английском языках, напечатанная через **полтора интервала на одной стороне стандартного листа с шириной левого поля в три сантиметра**. Используемый компьютерный шрифт для текста на русском и английском языках - **Times New Roman (Кириллица)**, для текста на грузинском языке следует использовать **AcadNusx**. Размер шрифта - **12**. К рукописи, напечатанной на компьютере, должен быть приложен CD со статьей.

2. Размер статьи должен быть не менее десяти и не более двадцати страниц машинописи, включая указатель литературы и резюме на английском, русском и грузинском языках.

3. В статье должны быть освещены актуальность данного материала, методы и результаты исследования и их обсуждение.

При представлении в печать научных экспериментальных работ авторы должны указывать вид и количество экспериментальных животных, применявшиеся методы обезболивания и усыпления (в ходе острых опытов).

4. К статье должны быть приложены краткое (на полстраницы) резюме на английском, русском и грузинском языках (включающее следующие разделы: цель исследования, материал и методы, результаты и заключение) и список ключевых слов (key words).

5. Таблицы необходимо представлять в печатной форме. Фотокопии не принимаются. **Все цифровые, итоговые и процентные данные в таблицах должны соответствовать таковым в тексте статьи**. Таблицы и графики должны быть озаглавлены.

6. Фотографии должны быть контрастными, фотокопии с рентгенограмм - в позитивном изображении. Рисунки, чертежи и диаграммы следует озаглавить, пронумеровать и вставить в соответствующее место текста **в tiff формате**.

В подписях к микрофотографиям следует указывать степень увеличения через окуляр или объектив и метод окраски или импрегнации срезов.

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

8. При оформлении и направлении статей в журнал МНГ просим авторов соблюдать правила, изложенные в «Единых требованиях к рукописям, представляемым в биомедицинские журналы», принятых Международным комитетом редакторов медицинских журналов - <http://www.spinesurgery.ru/files/publish.pdf> и [http://www.nlm.nih.gov/bsd/uniform\\_requirements.html](http://www.nlm.nih.gov/bsd/uniform_requirements.html) В конце каждой оригинальной статьи приводится библиографический список. В список литературы включаются все материалы, на которые имеются ссылки в тексте. Список составляется в алфавитном порядке и нумеруется. Литературный источник приводится на языке оригинала. В списке литературы сначала приводятся работы, написанные знаками грузинского алфавита, затем кириллицей и латиницей. Ссылки на цитируемые работы в тексте статьи даются в квадратных скобках в виде номера, соответствующего номеру данной работы в списке литературы. Большинство цитированных источников должны быть за последние 5-7 лет.

9. Для получения права на публикацию статья должна иметь от руководителя работы или учреждения визу и сопроводительное отношение, написанные или напечатанные на бланке и заверенные подписью и печатью.

10. В конце статьи должны быть подписи всех авторов, полностью приведены их фамилии, имена и отчества, указаны служебный и домашний номера телефонов и адреса или иные координаты. Количество авторов (соавторов) не должно превышать пяти человек.

11. Редакция оставляет за собой право сокращать и исправлять статьи. Корректур авторам не высылаются, вся работа и сверка проводится по авторскому оригиналу.

12. Недопустимо направление в редакцию работ, представленных к печати в иных издательствах или опубликованных в других изданиях.

**При нарушении указанных правил статьи не рассматриваются.**

## REQUIREMENTS

Please note, materials submitted to the Editorial Office Staff are supposed to meet the following requirements:

1. Articles must be provided with a double copy, in English or Russian languages and typed or computer-printed on a single side of standard typing paper, with the left margin of 3 centimeters width, and 1.5 spacing between the lines, typeface - **Times New Roman (Cyrillic)**, print size - 12 (referring to Georgian and Russian materials). With computer-printed texts please enclose a CD carrying the same file titled with Latin symbols.

2. Size of the article, including index and resume in English, Russian and Georgian languages must be at least 10 pages and not exceed the limit of 20 pages of typed or computer-printed text.

3. Submitted material must include a coverage of a topical subject, research methods, results, and review.

Authors of the scientific-research works must indicate the number of experimental biological species drawn in, list the employed methods of anesthetization and soporific means used during acute tests.

4. Articles must have a short (half page) abstract in English, Russian and Georgian (including the following sections: aim of study, material and methods, results and conclusions) and a list of key words.

5. Tables must be presented in an original typed or computer-printed form, instead of a photocopied version. **Numbers, totals, percentile data on the tables must coincide with those in the texts of the articles.** Tables and graphs must be headed.

6. Photographs are required to be contrasted and must be submitted with doubles. Please number each photograph with a pencil on its back, indicate author's name, title of the article (short version), and mark out its top and bottom parts. Drawings must be accurate, drafts and diagrams drawn in Indian ink (or black ink). Photocopies of the X-ray photographs must be presented in a positive image in **tiff format**.

Accurately numbered subtitles for each illustration must be listed on a separate sheet of paper. In the subtitles for the microphotographs please indicate the ocular and objective lens magnification power, method of coloring or impregnation of the microscopic sections (preparations).

7. Please indicate last names, first and middle initials of the native authors, present names and initials of the foreign authors in the transcription of the original language, enclose in parenthesis corresponding number under which the author is listed in the reference materials.

8. Please follow guidance offered to authors by The International Committee of Medical Journal Editors guidance in its Uniform Requirements for Manuscripts Submitted to Biomedical Journals publication available online at: [http://www.nlm.nih.gov/bsd/uniform\\_requirements.html](http://www.nlm.nih.gov/bsd/uniform_requirements.html)  
[http://www.icmje.org/urm\\_full.pdf](http://www.icmje.org/urm_full.pdf)

In GMN style for each work cited in the text, a bibliographic reference is given, and this is located at the end of the article under the title "References". All references cited in the text must be listed. The list of references should be arranged alphabetically and then numbered. References are numbered in the text [numbers in square brackets] and in the reference list and numbers are repeated throughout the text as needed. The bibliographic description is given in the language of publication (citations in Georgian script are followed by Cyrillic and Latin).

9. To obtain the rights of publication articles must be accompanied by a visa from the project instructor or the establishment, where the work has been performed, and a reference letter, both written or typed on a special signed form, certified by a stamp or a seal.

10. Articles must be signed by all of the authors at the end, and they must be provided with a list of full names, office and home phone numbers and addresses or other non-office locations where the authors could be reached. The number of the authors (co-authors) must not exceed the limit of 5 people.

11. Editorial Staff reserves the rights to cut down in size and correct the articles. Proof-sheets are not sent out to the authors. The entire editorial and collation work is performed according to the author's original text.

12. Sending in the works that have already been assigned to the press by other Editorial Staffs or have been printed by other publishers is not permissible.

**Articles that Fail to Meet the Aforementioned  
Requirements are not Assigned to be Reviewed.**

## ავტორთა საქურაღებოლ!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დაიცვათ შემდეგი წესები:

1. სტატია უნდა წარმოადგინოთ 2 ცალად, რუსულ ან ინგლისურ ენებზე დაბეჭდილი სტანდარტული ფურცლის 1 გვერდზე, 3 სმ სიგანის მარცხენა ველისა და სტრიქონებს შორის 1,5 ინტერვალის დაცვით. გამოყენებული კომპიუტერული შრიფტი რუსულ და ინგლისურენოვან ტექსტებში - **Times New Roman (Кириллица)**, ხოლო ქართულენოვან ტექსტში საჭიროა გამოვიყენოთ **AcadNusx**. შრიფტის ზომა – 12. სტატიას თან უნდა ახლდეს CD სტატიით.

2. სტატიის მოცულობა არ უნდა შეადგენდეს 10 გვერდზე ნაკლებს და 20 გვერდზე მეტს ლიტერატურის სიის და რეზიუმეების (ინგლისურ, რუსულ და ქართულ ენებზე) ჩათვლით.

3. სტატიაში საჭიროა გაშუქდეს: საკითხის აქტუალობა; კვლევის მიზანი; საკვლევი მასალა და გამოყენებული მეთოდები; მიღებული შედეგები და მათი განსჯა. ექსპერიმენტული ხასიათის სტატიების წარმოდგენისას ავტორებმა უნდა მიუთითონ საექსპერიმენტო ცხოველების სახეობა და რაოდენობა; გაუტკივარებისა და დაძინების მეთოდები (მწვავე ცდების პირობებში).

4. სტატიას თან უნდა ახლდეს რეზიუმე ინგლისურ, რუსულ და ქართულ ენებზე არანაკლებ ნახევარი გვერდის მოცულობისა (სათაურის, ავტორების, დაწესებულების მითითებით და უნდა შეიცავდეს შემდეგ განყოფილებებს: მიზანი, მასალა და მეთოდები, შედეგები და დასკვნები; ტექსტუალური ნაწილი არ უნდა იყოს 15 სტრიქონზე ნაკლები) და საკვანძო სიტყვების ჩამონათვალი (key words).

5. ცხრილები საჭიროა წარმოადგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემაჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრაფიების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალებების შედეგების ან იმპრეგნაციის მეთოდი და აღნიშნოთ სურათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა – უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხოური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამულო, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ჟურნალის დასახელება, გამოცემის ადგილი, წელი, ჟურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფხიხლებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანელის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცენზია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქცია იტოვებს უფლებას შეასწოროს სტატია. ტექსტზე მუშაობა და შეჯერება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქციაში ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდად წარდგენილი იყო სხვა რედაქციაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

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## PREVALENCE OF CHLAMYDIA AMONG WOMEN IN PLACES OF DEPRIVATION OF LIBERTY

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### Abstract.

**Goal:** The goal is to establish serological invasive markers of *Chlamydia trachomatis* in female prisoners and to analyse the risk factors for the spread of chlamydial infection in prisons in Ukraine.

**Materials and methods:** When studying a sample of 103 female prisoners (whose average age is 35.9 years), serological markers of *Chlamydia trachomatis* (immunoglobulin G) were analysed. Social characteristics of prisoners and risk factors for chlamydia spread have been analysed.

**Results:** Markers of *Chlamydia trachomatis* (class G immunoglobulins) were detected in serum of 37.8% of female prisoners. In the majority of cases, chlamydia was asymptomatic or in the form of chronic endocervicitis (53.8%), adnexitis (38.5%), and urethritis (17.9%), which was a mixed process with other STIs and HIV (HSV-1 (up to 100%), HSV-2 (30%), Treponema pallidum (26.6%), Ureaplasma urealyticum (6.6%), HBV (26.6%), HCV (33.3%), HIV (30%)). Identified infection risk factors: age over 25 years, HIV, HSV, HCV, HBV, and other STIs, endocervicitis, chronic pelvic pain, urethritis, risky sexual behaviour, drug use, alcoholism, prolonged or repeated confinement, absence of family.

**Conclusions:** The prevalence of *Chlamydia trachomatis* among female prisoners in Ukraine (37.8%) is 2.5 times higher often and significantly higher ( $P < 0.05$ ) than among women with a predominance of chronic inflammatory diseases of the pelvic organs and significantly higher than in the general population (20.9 per 100,000).

**Key words.** *Chlamydia trachomatis*, chlamydia, female prisoners.

### Introduction.

The infection caused by *Chlamydia trachomatis* bacteria is the most commonly reported sexually transmitted infection. According to the World Health Organization (WHO), more than 130 million new cases of urogenital chlamydia (UC) are registered annually in the world, most of them being among women [1,2]. The incidence of UC among the population of Ukraine is quite high. Thus, in 2020, the intensive indicator was 17.1 per 100,000 population, in particular, 20.9 among women, which is 1.6 times higher than that among men [3,4].

*Chlamydia trachomatis* is a gram-negative obligate intracellular microorganism and is transmitted primarily through unprotected sex, including vaginal, anal, and oral sex, and mother-to-child transmission during pregnancy and childbirth. Genital chlamydial infections in women usually have asymptomatic disease course in more than half of the cases and, as a result, are often not diagnosed or treated, which leads

to further transmission of infection and the development of inflammatory diseases of the pelvic organs, chronic pelvic pain, infertility, ectopic pregnancy, as well as gestational and perinatal complications [5-7]. In addition, there is a positive correlation between the infection, caused by *Chlamydia trachomatis*, and ovarian cancer [8], as well as invasive cervical cancer (ICC), due to the fact that chlamydia can presumably act as a cofactor for the transformation of squamous cells [9,10].

According to WHO, the incidence of STIs/HIV is highest in prison facilities, where key risk groups for sexually transmitted infections are concentrated. Today, there are more than 10 million people worldwide, including more than 52,000 in Ukraine (2021, before the outbreak of hostilities), women constituting up to 10% of all prisoners [11-15].

There are not many studies of the epidemiology of *Chlamydia trachomatis*-induced infection among female prisoners. Thus, 14.7% of women in US prisons were diagnosed with *Chlamydia trachomatis* [14,16], 11% in Brazil [17], 42.3% in Peru [18], 24% in the UK [15], 10% in Switzerland [19,20], 7% in the Russian Federation [11], 8.7% in Saudi Arabia [1], in Bolivia [21], 11% in Spain [22], which is higher than the incidence in comparison with male prisoners and women from the general population [1,23,24].

Therefore, it is important to identify markers of *Chlamydia trachomatis* infestation in female prisoners and associated risk factors for infection, disease development, and related consequences.

### Materials and methods.

The study (conducted in 2021) involved 103 female prisoners from Ukrainian prison facilities (whose average age is 35.9 years). Demographic and behavioural data were collected using an anonymous standardized questionnaire. The serological prevalence of chlamydia antibodies (IgG to *Chlamydia trachomatis*) was determined by ELISA in a blood sample collected from each woman at the time of enrolment. Similar studies were conducted in a comparison group of 101 female patients (whose average age is 34.4 years), with a predominance of chronic inflammatory diseases of the pelvic organs, who sought help from the Institute's clinic, the Department of Sexually Transmitted Infections. Parametric analysis of data was carried out using MS Excel 2010. M (arithmetic mean value), m (its error), P (the reliability of the difference between the mean values) were determined. The validity of the results was assessed according to the Student's test. The studies were performed in accordance with the ethical principles of the Declaration of Helsinki with the permission of the Bioethics Commission of the Institute of Dermatology and Venereology of the NAMS of Ukraine.



## Results.

Markers of *Chlamydia trachomatis* were identified, namely levels of specific antibodies, in particular, immunoglobulins of class G (IgG) in blood serum of 39 (37.8±4,8 %) of 103 female prisoners from prison facilities of Ukraine. The incidence of IgG to *Chlamydia trachomatis* among women from the comparison group was 15 (14,9±3,5 %) of 101 female patients.

Among female prisoners from prison facilities of Ukraine, clinically, UC was mainly in the form of a mixed process, since in addition to the serological markers of *Chlamydia trachomatis*, markers of other STIs were determined, in particular, HSV-1 (up to 100%), HSV-2 (30%), *Treponema pallidum* (26.6%), *Ureaplasma urealyticum* (6.6%), HBV (26.6%), HCV (33.3%), HIV (30%).

At the time of the examination, the majority of female prisoners (90%) had difficulty in ascertaining the duration of infection with urogenital chlamydia. Only 20% of women suggested a possible source of infection, referring to the absence of a permanent sexual partner. According to the survey, the number of casual sexual partners of 80% of women reached more than 10 people, while 30% of prisoners had more than 30 (most of them offered sexual services for money). Interestingly, only 5.4% of female prisoners who were previously infected reported a history of urogenital chlamydia. The presence of *Chlamydia trachomatis* markers was established during pregnancy. The remaining women surveyed were never examined for *Chlamydia trachomatis*. Only a third of the women consulted a gynecologist or/and urologist for urogenital complaints, with the majority of them using medical services while in detention.

The main complaints of female prisoners with serological markers of *Chlamydia trachomatis* were discomfort and periodic pruritus in the area of external genitalia and urethra (66.7%), increased vaginal discharge (76.9%), moderate intensity pain and feeling of weight in the lower abdomen (25.6%), menstrual disorder (10.3%), increased urination (17.9%), joint pain (20.5%), eye discomfort and eye discharge (7.7%). When studying the frequency of genitourinary affection among female prisoners, it was found that inflammatory diseases of the pelvic organs were the most frequently diagnosed, namely chronic endocervicitis (53.8%), cervical erosion (25.6%) and adnexitis (38.5%), as well as chronic pelvic pain (25.6%), urethritis and cystitis (17.9%), which did not significantly differ from the indicators of general population women in the comparison group, who sought help from the Institute's clinic at the Department of Sexually Transmitted Infections.

Some social characteristics of convicted women were analysed, with serological markers of *Chlamydia trachomatis* found. Specifically, women over 25 years of age who were alcoholics (up to 30%) and drug users (up to 20%), were in reincarceration or prolonged detention, engaged in risky sexual behaviour, in particular had the sexual debut at the age of 13 (up to 80%), did not use barrier individual protection means with a large number of sexual partners (more than 10), and offered sexual services for money (20%), as well as did not have a family (80%), while some of the women divorced during their stay in prison facilities at the initiative of their spouses.

## Discussion.

The presence of sexually transmitted diseases among prisoners is a public health problem, since there are more than 10 million people suffering from them around the world today, including more than 52,000 people in Ukraine (2021), women constituting up to 10% of prisoners [4,9,11,12,25].

*Chlamydia trachomatis* is an important public health problem worldwide, including Ukraine [1,3]. The overall prevalence of *Chlamydia trachomatis* markers among female prisoners in Ukraine (37.8%) was above the range published in other similar reports of prisons in developed countries. Thus, 14.7% of women in US prisons were diagnosed with *Chlamydia trachomatis* [14,16], 11% in Brazil [17], 42.3% in Peru [18], 24% in the UK [15], 10% in Switzerland [19], 7% in the Russian Federation [11], 8.7% in Saudi Arabia [1], in Bolivia [26], 11% in Spain [22]. The difference in data can have socio-cultural, socio-economic reasons and depend on screening strategy and types of laboratory diagnostic methods. It should be noted that in our work, we used the definition of serological markers (immunoglobulin G) for the verification of *Chlamydia trachomatis*, in contrast to other studies where the diagnosis of chlamydia was carried out by PCR. In our opinion, it is due to the difference in diagnostic methods that our data are significantly higher than the indicators obtained by other researchers.

The prevalence of chlamydia among female prisoners in Ukraine is quite high (37.8±4,8 %), which is 2.5 times higher often and significantly higher ( $P<0.05$ ) than similar indicators among women from the general population who seek treatment for urogenital issues.

Also, this indicator is significantly higher than the incidence of urogenital chlamydia among women from the general population of Ukraine (20.9 per 100,000 of population in 2020) [3,16], which is similar to the data from foreign studies [23,24].

Convicted women have chlamydia as a chronic low-symptomatic or asymptomatic disease in the form of a mixed process, multifocal damage to the genitourinary, articular, and ophthalmological systems, as well as a psychoemotional state disorder, which is not significantly different from similar indicators among women in the general population of Ukraine [3,16,27].

It has been established that *Chlamydia trachomatis* infection in female prisoners is combined with HIV (30%) and other STIs (syphilis, ureaplasmosis, herpetic infection, hepatitis C, hepatitis B) [9,11,12,25,27,28]. Such risk factors as alcoholism (up to 30%), high levels of psychoactive substance use (up to 20%), risky sexual behaviour (more than 10 sexual partners, failure to use barrier contraception, sex for money), and prolonged incarceration and absence of a family contribute to chlamydia infection. The data we have obtained on the determination of risk factors for *Chlamydia trachomatis* infection coincides with the data obtained by researchers from other countries [13,14].

The result of our research should raise awareness of the fact that the prevalence of *Chlamydia trachomatis* among women in prison facilities around the world and, in particular, in Ukraine, is high enough, and timely diagnosis is necessary to reduce the burden of infection and associated consequences, as well as to conduct adequate prevention-care intervention.

## Conclusion.

The prevalence of urogenital chlamydia among female prisoners in Ukraine is quite high ( $37.8 \pm 4.8$  %), with a predominance of chronic forms of pathology and a mixed process with other STIs/HIV, which is significantly higher ( $14.9 \pm 3.5$  %) than similar indicators among women in the population ( $P < 0.05$ ). The expediency of selecting a risk group for chlamydia infection among female prisoners has been demonstrated, in particular, those over 25 years of age, infected with STIs, HIV, HSV, HBV, and HCV, suffering from urogenital, articular, and ophthalmic pathologies, engaged in risky sexual behaviour, using alcohol and drugs, being in reincarceration or prolonged detention, which should be taken into account when conducting prevention-care intervention and organizational and methodological measures, including the use of serological markers of *Chlamydia trachomatis* as screening markers for further diagnosis of chlamydia.

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**Conflict of interest.** The authors declare no competing interests.

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**РАСПРОСТРАНЕННОСТЬ ХЛАМИДИОЗА СРЕДИ ЖЕНЩИН, НАХОДЯЩИХСЯ В МЕСТАХ ЛИШЕНИЯ СВОБОДЫ** Осінська ТВ<sup>1</sup>, Запольський МЭ<sup>2</sup>, Щербаківа ЮВ<sup>1,3</sup>, Джораєва СК<sup>1</sup>

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**Резюме**

**Цель** - установить серологические инвазивные маркеры *Chlamydia trachomatis* у женщин-заключенных,

проанализировать факторы риска распространения хламидийной инфекции в тюрьмах Украины.

**Материалы и методы.** При исследовании выборки из 103 заключенных-женщин (средний возраст 35,9 лет) были проанализированы серологические маркеры *Chlamydia trachomatis* (иммуноглобулин G). Проведен анализ социальных характеристик заключенных и факторов риска распространения хламидиоза.

**Полученные результаты.** Маркеры *Chlamydia trachomatis* (иммуноглобулинов класса G), были выявлены в сыворотке у 37,8 % заключенных женщин. В большинстве случаев хламидиоз у заключенных протекал бессимптомно или в виде хронического эндоцервицита (53,8 %), аднексита (38,5 %) и уретрита (17,9 %), что было смешанным процессом с другими ИППП и ВИЧ (*HSV-1* (до 100 %), *HSV-2* (30 %), *Treponema pallidum* (26,6 %), *Ureaplasma urealyticum* (6,6 %), *HBV* (26,6 %), *HCV* (33,3 %), *HIV* (30 %)). Выявленные факторы риска инфицирования: возраст старше 25 лет, ВИЧ, ВПГ, ВГС, ВГВ и другие ИППП, эндоцервицит, хроническая тазовая боль, уретрит, рискованное сексуальное поведение, употребление наркотиков, алкоголизм, длительное или многократное заключение, отсутствие семьи.

**Выводы.** Распространенность маркеров *Chlamydia trachomatis* среди женщин-заключенных Украины (37,8 %) в 2,5 раза чаще и достоверно выше ( $P < 0,05$ ), чем среди женщин с преобладанием хронических воспалительных заболеваний органов малого таза и значительно выше, чем в общей популяции (20,9 на 100 000). **Ключевые слова:** *Chlamydia trachomatis*, хламидиоз, заключенные женщины.