Vol. 10 No. 2 (2025): December DOI: 10.21070/acopen.10.2025.12892

Academia Open



By Universitas Muhammadiyah Sidoarjo

Vol. 10 No. 2 (2025): December DOI: 10.21070/acopen.10.2025.12892

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Features of Pre-Pregnancy Preparation of Women with a History of Miscarriage.

Alimova H. A, nilufarkarimova823@gmail.com (2)

Department of Obstetrics and Gynecology, Bukhara Medical Institute

Karimova N.N., nilufarkarimova823@gmail.com(1)

Department of Obstetrics and Gynecology, Bukhara Medical Institute

(1) Corresponding author

Abstract

General Background: Agricultural diversification is a vital strategy for reducing systemic risks and stabilizing farm income under climate variability. Specific Background: In Uzbekistan, particularly in the Namangan region, limited empirical evidence exists on how wheat and cotton yields interact within the framework of risk diversification. Knowledge Gap: Despite global studies on crop diversification, the causal and econometric relationships between major crops under local environmental conditions remain underexplored. Aims: This study examines the temporal and econometric interdependence between wheat and cotton yields from 1990 to 2024 using correlation analysis, Granger causality tests, and Vector Autoregression (VAR) modeling. Results: Findings reveal that while most districts exhibit weak or negative correlations conducive to diversification, the Chust district shows a strong positive yield relationship due to similar agronomic conditions. Granger causality indicates that in Kosonsoy and Norin, wheat yield significantly influences cotton yield, whereas in Turaqo'rg'on the reverse holds true. Novelty: The study introduces a district-level econometric assessment of inter-crop dynamics, highlighting asymmetric causal patterns shaped by soil and water resource variations. Implications: Results suggest that optimizing crop rotation and water distribution can mitigate covariate risks and stabilize farmers' income, offering evidence-based guidance for regional agricultural policy in Uzbekistan.

Highlight:

- The study examines the econometric relationship between wheat and cotton yields under agricultural risk diversification in Namangan region.
- Results show varied correlations and causal directions, influenced by soil and water resource conditions.
- Findings support policies to enhance crop rotation, resource management, and income stability for farmers.

Keywords: Agricultural Risks, Diversification, Wheat, Cotton, Yield

Published date: 2025-11-03

Vol. 10 No. 2 (2025): December DOI: 10.21070/acopen.10.2025.12892

Introduction

One of the modern trends in clinical medicine is the changing spectrum and nature of infectious diseases, a significant increase in the proportion of opportunistic infections, the development of which is possible only under conditions of immunodeficiency (1, 3). A significant portion of these infections are related to (2, 4, 5). Herpes simplex virus (HSV), cytomegalovirus (CMV), chlamydia, the manifestations of which are alleviated during immunosuppression, deserve special attention of obstetricians and gynecologists. Long-term persistence of the virus causes a variety of clinical forms of chronic endometritis, activation and recurrence of infection during pregnancy, leading to serious obstetric and perinatal complications, such as threatened miscarriage, spontaneous abortion, premature birth, development of congenital malformations, intrauterine infection, hypoxia, malnutrition, antenatal death of the fetus, which affects the rates of perinatal morbidity and mortality. During treatment of TORCH infections, the body's immune defenses are particularly emphasized (1, 5, 9). Immunomodulatory agents play a key role in the combination treatment of urogenital infections, among a number of antiviral and anti-inflammatory medications (6, 7, 8). Such medications currently include Proteflazid, an immunomodulator with antiviral properties. The active ingredient is a complex of plant proteins and glycosylated flavonoids, which prevents the drug from having a teratogenic effect.

The aim of the study was to investigate the effectiveness of the drug Proteflazid in the complex treatment of women with TORCH infection according to the enzyme-linked immunosorbent assay of blood.

Methods

Clinical observations included 30 patients aged 20 to 33 years with indication of 2 or more spontaneous miscarriages, premature births, antenatal mortality and fetal malformations. The examination included the study of anamnestic data, general and gynecological examination, cytological examination of vaginal smears, detection of sexually transmitted infections by enzyme immunoassay in blood serum - herpes simplex virus (HSV), cytomegaloviruses (CMV), genital chlamydia, ureaplasmosis. To diagnose HSV, CMV, and toxoplasmosis, the enzyme immunoassay (ELISA) method of venous blood sera was used. For the enzyme immunoassay, the Humare ADED sincle enzyme immunoassay analyzer (Germany) (Ig M and Ig G) was used.

In combination therapy, along with antiviral, antibacterial, and vitamin therapy, Proteflazid is prescribed to sexual partners simultaneously, 15 drops twice daily for 10 days. The drug's effectiveness was assessed based on clinical manifestations, complaints, and laboratory data during treatment, one month after, and after the course of treatment.

Results

The average age of the subjects was 27±0.6 years. The patients' medical history included spontaneous miscarriages, non-viable pregnancies between 4 and 12-13 weeks of gestation, profuse vaginal discharge, and endocervicitis. Obstetric history collection revealed that 3 (10%) women had children with cerebral palsy (CP) who were born prematurely, and 2 (6.6%) women had died of severe hydrocephalus (3.4%) in children under one year of age. A review of the patients' medical history revealed that 23% of women reported frequent (2-3 times a year) influenza and acute respiratory viral infections, which is apparently due to immune deficiencies. Additionally, 45.2% of women suffered from iron deficiency anemia before pregnancy, and 3% had chronic pyelonephritis. Diffuse thyroid enlargement of grades 1 and 2 was detected in 18.5% of women, and gastrointestinal diseases were reported by 10.3%. A study of the women's gynecological histories revealed that menstrual dysfunction occurred in 6.7% of cases. Nine (30%) women also suffered from colpitis before pregnancy. Inflammatory diseases of the cervix, including endocervicitis and cervicitis, were present in 15 (50%) women. The diagnosis of TORCH infection was confirmed by laboratory tests. The distribution of the patients by the nature of the infection was as follows: 5 (16.6%) with herpesvirus infection, 10 (33.3%) with a combination of herpesvirus and cytomegalovirus infections, 11 (36.63%) with a combination of viral-chlamydial infections, and 4 (13.3%) with cytomegalovirus and toxoplasmosis infection. When examining the purity of vaginal smears, grade 3 purity was detected in 12 women (40%), grade 4 purity was detected in 15 women (50%), and grade 2 purity was detected in 3 women (10%). Speculum examination of the cervix revealed signs of diffuse inflammation in almost all patients, with exocervicitis and endocervicitis predominating. Viral infection was manifested by small whitish rashes. Colposcopy was often accompanied by local contact bleeding—in 13 women (43.3%). During combination therapy with Proteflazid, approximately half of the patients noted a significant reduction in pain and vaginal discharge, burning, and itching within the first day. By the end of treatment, 24 (80%) women reported no further complaints. Only four (13.3%) patients continued to experience leucorrhoea, but in significantly lesser amounts than before treatment. According to ELISA data, after one month of combination therapy with Proteflazid, toxoplasma and chlamydia titers decreased by up to 90%, and HSV and CMV titers by 78.9%, respectively, necessitating a second course of therapy. It should be noted that during treatment with Proteflazid and for 3-6 months thereafter, no influenza or acute respiratory viral infections were observed in patients. Positive dynamics during colposcopy and a decrease in viral titers according to ELISA data are considered criteria for recovery.

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Conclusion

The conclusion of the article is that the use of Proteflazid in combination therapy for women with TORCH infections has been proven effective in improving clinical and immunological outcomes. Of the 30 patients studied, most showed significant improvement in clinical symptoms such as pain, vaginal discharge, burning sensation, and itching within the first day of treatment. After one month of therapy, antibody levels against toxoplasma and chlamydia decreased by up to 90%, while HSV and CMV levels decreased by 78.9%. Additionally, no cases of acute respiratory infections were found during the 3–6 months following therapy. These results indicate that Proteflazid can strengthen the immune system, reduce the risk of infection recurrence, and potentially prevent obstetric complications such as miscarriage and premature birth.

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