

HYGIENIC ASSESSMENT OF WORKING CONDITIONS AND PREVENTION OF REPRODUCTIVE PATHOLOGY AMONG WORKERS OF THE POULTRY COMPLEX

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DOI: 10.5958/2249-7137.2022.00025.8

ABSTRACT

Poultry farming is one of the most industrialized branches of agriculture, where female labor is widely used. However, the study of the influence of working conditions on gynecological morbidity and the reproductive function of the female body in these industries is devoted to a very limited number of works.

KEYWORDS: *Ecology, Hygienic Requirements, Working Conditions, Production Factors, Manual Labor.*

INTRODUCTION

The problem of protecting the reproductive health of the population in the context of a declining birth rate and a high level of mortality in the country is the most important direction of state policy that determines the national security of Uzbekistan. This is confirmed by the adopted concept for the development of the healthcare system of the Republic of Uzbekistan for 2019-2025 and the dynamics of demographic processes in the Republic of Uzbekistan

The concept of reproductive health was formulated in 1994 at the UN Conference on Population and Development. Reproductive health disorders account for 5-15% of all diseases (death and disability) and 22% of all diseases of women of reproductive age (from 15 to 45 years) compared to 3% for men [1]. The WHO Global Strategy on Occupational Health for All. The Way to Health at Work (Geneva, 1995) recommends the prevention of reproductive health problems for both sexes at all stages of life, but includes women of childbearing age and pregnant women to vulnerable groups (high risk groups) requiring special social protection. Many authors note the involvement of women in a variety of production processes as one of the causes of violations (changes) in reproductive health, which often do not correspond to the adaptive capabilities of the female body and lead to significant negative consequences. There are a large number of publications on the health status of women and their working conditions in various industries [2].

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Thus, the relationship of diseases of the genital area in female poultry farmers with unfavorable working conditions is paid attention to in the studies [3].

When examining 1060 female workers of poultry farms in the Rostov region, they came to the conclusion that the adverse impact of production factors, the leading of which are gas pollution, elevated temperature, bacterial contamination, dustiness, the laboriousness of work, on the organism of poultry, leading to an increase in gynecological morbidity and complications of pregnancy and childbirth [4].

An analysis of the data of domestic and foreign literature shows that the problem of the influence of harmful production factors on the specific functions of female workers in poultry farms remains poorly understood to date. There is practically no systematized information about the state of reproductive health of workers in modern poultry complexes, violations in the development of the fetus during their pregnancies. [5]

The purpose of the study is the scientific substantiation and development of measures aimed at improving working conditions, improving the state of reproductive health, reducing gynecological morbidity among workers of modern poultry farms.

Research objectives:

- To give a hygienic assessment of the state of working conditions of women workers of a modern poultry complex in terms of harmfulness and danger of factors in the production environment, the severity and intensity of the labor process;
- To study the chemical and microbiological composition of the floating dust in the air of the working area;
- Conduct a comparative analysis of the prevalence of gynecological diseases and assess occupational risk factors for women's reproductive health disorders;
- Develop and implement a set of measures to improve working conditions and preserve the reproductive health of female workers in a modern poultry complex;

Based on the results obtained during the implementation, a direct and close relationship was established between the level of infection of birds with microorganisms of the Chlamydiaceae family (according to serological indicators), the content of DNA of microorganisms of the same serotypes in the air dust of the working area of the poultry complex and the content of specific antibodies to them in the blood serum of workers. It has been established that the production contact of poultry workers with microorganisms of the Chlamydiaceae family in combination with other harmful chemical and physical factors determines in women an increased risk of developing non-specific gynecological pathologies, including colpitis, neoplasms, cervical erosion, prolapse of the vaginal walls, chronic adnexitis, disorders menstrual cycle. [6]

The practical significance of the work. Scientifically substantiated are proposals for improving working conditions and improving the reproductive health of female workers of a modern poultry complex, which include a set of veterinary and sanitary measures, improving working conditions, primarily measures to reduce the dust content of the air in the working area and improving the system for monitoring the use and quality of personal protective equipment respiratory organs, amending the regulations governing the procedure for conducting periodic

medical examinations and clinical examination of pregnant poultry workers with an increased risk of chlamydia infection. [7]

Materials and research methods

To implement the tasks set in the work, research was planned and carried out in the following areas:

- Analytical review of domestic and foreign literature on the problem of women's reproductive health in connection with the impact of adverse working conditions in industrial poultry farming;
- Study of the main plans of the technological process at the poultry farm with the identification of sources of formation of harmful production factors;
- Hygienic assessment of physical (microclimate, noise, vibration, illumination, dust content) and chemical factors of the production environment; assess the degree of severity and neuro-emotional tension among workers in the main technological professions, as well as the establishment of the role of the biological factor in shaping working conditions in poultry farms;
- Study of the characteristics of gynecological morbidity in women, depending on working conditions and length of professional activity;

The studies were carried out at the poultry complex of Chinor Chorva LLC, Zhondor district, Bukhara region (Uzbekistan) during 2020-2021.

The study of the factors of the working environment included measuring the concentrations of the main chemical compounds and dust entering the air of the working area; industrial noise levels, general vibration; artificial and natural lighting, microclimate parameters. Also, an assessment was made of the biological factor, the severity and intensity of the labor processes of workers in the main professions.

For a comprehensive understanding of the factor of the production environment, the concentrations of harmful chemicals and dust in the air of the working area were determined by generally accepted methods [8].

The concentration of dust in the air of the working area was determined at those workplaces where there was a danger of dust release. When analyzing the dust content of the air environment, the maximum, minimum and average shift concentrations of this factor were also calculated, which were compared with the MPC. Identification of viable microorganisms (bacteria, fungi) in production facilities was carried out in accordance with the current guidelines for determining the level of contamination of the external environment with microorganisms; guidelines for the determination of microorganisms - producers of enzymes in the external environment. [9]

During the research period (2020-2021), 100 women were under our supervision, of which two groups were formed. The first group consisted of 50 women - workers of one of the poultry complex LLC "Chinor Chorva", Zhondor district of Bukhara region, Uzbekistan, who have long-term and direct contact with harmful factors of the production environment. The second group - control, 50 women, identical in age, included women who, by the nature of their activities, do not have contact with harmful production factors.

For the medical and social study of risk factors for obstetric and gynecological morbidity among workers of the poultry complex LLC "Chinor Chorva", a special questionnaire was developed, which included the following sections: general information; information about working conditions; information about lifestyle and bad habits; history of past illnesses; reproductive history. [10]

The air of the working area of poultry houses is polluted with gaseous products formed during the life of the bird and as a result of the decomposition of the organic substrate (litter, bedding, feed, etc.), as well as dust of animal and vegetable origin.

The concentration of ammonia at the surveyed factory was above the maximum allowable concentration in the rearing of young animals, in the premises for keeping adult livestock and in the slaughterhouse. [11]

Hydrogen sulfide in the air of the working area of industrial premises with daily mechanical cleaning of chicken manure was found in concentrations up to 6.0 mg/m³; and in recycling shops - 2.1–15.8 mg/m³.

Along with this, pathogenic forms of the intestinal group were also found - the causative agents of colienteritis, as well as anthroozoonoses, in particular ornithosis, toxoplasmosis, chlamydia and other infectious diseases. In the microbial aerosol, bacteria accounted for the bulk - 82-89%. fungi - 11–17.5% and actinomycetes - 0.5%. [12]

In the study of dust by PCR for the presence of DNA of microorganisms of the Chlamydiaceae family, a positive result was also obtained in 20% of the air samples taken.

As can be seen from the data presented, in the structure of gynecological pathology, diseases of the cervix, mainly erosion, prevailed, with a detection rate of more than 63% in the main group versus 11% in the control. Further, in descending order in frequency of detection, benign neoplasms, colpitis, chronic adnexitis, and menstrual irregularities were found. [13]

Thus, on the basis of the conducted complex hygienic and clinical studies, data were obtained that make it possible to assess the occupational risk of developing gynecological morbidity and reproductive health disorders in women employed in modern poultry farms.

Based on the data obtained from hygienic and clinical studies, proposals for improving working conditions and improving the reproductive health of female workers in a modern poultry complex are scientifically substantiated. [14]

CONCLUSIONS

1. It has been established that the unfavorable working conditions of workers of modern poultry complexes are determined mainly by the intense impact on the body of workers of harmful production factors. One of the leading risk factors for the loss of health of these workers is air pollution of industrial premises with aerosols containing, in addition to harmful chemical compounds, also microorganisms of the Chlamydiaceae family belonging to the 2nd hazard class.

2. Industrial contact with microorganisms of the Chlamydiaceae family determines an increased risk of developing gynecological pathology and reproductive disorders in female poultry workers.

3. The prevalence of gynecological pathology among poultry workers, in particular, diseases of the cervix, mainly erosion, is more than 63%, which is statistically significantly higher than in the control group (11%).

4. Programs for the prevention of general, gynecological and occupational morbidity among workers of modern poultry factories should be supplemented with a set of measures presented by veterinary and sanitary measures to prevent infection of birds with intracellular parasitosis dangerous to humans.

5. It is also necessary to take measures to limit the spread of infected aerosols in the air of working areas (localization and sealing of sources of dust formation, increasing the efficiency of ventilation, the use of personal respiratory protection for workers;

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