



The UNIVERSITY of OKLAHOMA
Health Sciences Center

Department of Pediatrics
Section of Developmental and Behavioral Pediatrics

November 24, 2015

To the Higher Attestation Commission of the Ministry of Education and Sciences of Russian Federation

Re: De Anahit Yurievna

REVIEW OF THE DOCTORAL DISSERTATION SUMMARY

Anait Yurievna Marunuan Doctoral Dissertation "Pathophysiological effects of different doses of alcohol containing beverages on the system "mother-extraembryonic organs-fetus" and the health of neonates and children", presented for the degree of Doctor of Medical Sciences in Specialty: 14.01.01. - Obstetrics and Gynecology

ОТЗЫВ

на автореферат докторской диссертации

«Патофизиологическое воздействие различных доз слабоалкогольных напитков на систему «мать-внезародышевые органы-плод» и здоровье новорождённых и детей», представленной на соискание учёной степени доктора медицинских наук по специальности: 14.01.01. - акушерство и гинекология, Марянян Анаит Юрьевны

It is a pleasure to provide a reference for Dr. Maryanyan's dissertation. The dissertation study addresses a critical question and a global gap in knowledge about the impact of prenatal alcohol and tobacco exposure on pregnancy outcomes. Maternal alcohol consumption during pregnancy is associated with adverse effects in maternal and child health including spontaneous abortions, premature births, still births, and a broad spectrum of disorders in children. Prenatal alcohol exposure is the most common preventable cause of developmental disabilities worldwide, yet scientific knowledge on child outcomes across different levels of prenatal alcohol exposure is limited. Increasing knowledge about the interactions between prenatal alcohol exposure and related factors, including prenatal tobacco exposure and nutrition, that may affect children's developmental outcomes are urgently needed. There is a major gap in knowledge and research studies of outcomes and interactions between alcohol exposure and contributory factors are necessary to identify factors that have the potential to reduce the burden of disease and improve prevention worldwide.

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Research data in Russia are limited and there is a need for original clinical and experimental studies of teratogenic effects of alcohol on the developing fetus, neonates and older children and publications on the effects of low alcohol beverages are lacking.

The abstract for Dr. Maryanyan thesis represents an original, solid, and fundamental scientific work. There are two major components of the scientific work and contribution. The first is related to biochemical mechanisms and associations between alcohol use and smoking. The study results provide significant contributions to the scientific knowledge and data suggesting mechanisms of the teratogenic insult on fetal development during pregnancy and subsequent child-maternal health. This innovative study evaluates the effects of co-occurring smoking and consumption of low alcohol content beverages. The study indicates that the combination is associated with adverse effects on pregnancy and birth outcomes, including labor complications, postpartum subinvolution of the uterus and serious complications in newborns. The study showed the state of POL-AOP (peroxidation lipid and antioxidant protection) in women who smoke and consume alcoholic beverages during pregnancy is associated with oxidative stress even when low amounts of alcohol are consumed. It was shown for the first time that women who consumed alcoholic beverages are characterized by an increase, especially in the group of moderate drinkers, of the levels of hormones that are important in the functioning of the fetoplacental complex (AFP, hCG, β -hCG, PAPP-A, E2, T). This study indicated that infants born to low and moderate drinking mothers have a reduction in the activity of the HPA, as well as an imbalance of nutritional status.

Another significant contribution of this study includes data on physicians' knowledge and attitudes and the training they receive on alcohol use during pregnancy. The study indicates that the majority of physicians (obstetricians, neonatologists, psychiatrists, pediatricians, neurologists) are not sufficiently informed about the problem of the teratogenic effects of alcohol on the fetus, and specifically on the issue of fetal alcohol syndrome and fetal alcohol spectrum disorders. Therefore, information on the effects of alcohol use during pregnancy is extremely important in the training of obstetricians, gynecologists, drug treatment physicians, clinical psychologists, and other professionals working with women of childbearing age and pregnant women. It is also necessary to develop effective methods of training physicians to incorporate the issue of FAS and FASD in cycles of postgraduate education of physicians of all specialties and in the curriculum of students in higher education.

The validity and reliability of the study's scientific conclusions and practical recommendations are supported by a sufficient number of clinical observations, using modern research methods and statistical analyses of the results. Practical recommendations are focused on preventing the use of alcohol by women of reproductive age, particularly surrounding the pregnancy, in order to prevent the birth of children with congenital malformations, fetal alcohol syndrome and fetal alcohol spectrum disorders. The paper clearly outlines the materials and methods sections and the conclusions follow logically the work tasks and reflect the essence of the results.

In summary, the abstract provides a comprehensive review of the thesis and provides an opportunity to conclude that Dr. Maryanyan's research study has scientific novelty and practical implementation, and the author is encouraged to publish her innovative and important results.

The significance, innovation, methodological level, and results of this fundamental and practical work, "Pathophysiological effects of different doses of alcohol containing beverages on the system, mother-extraembryonic organs-fetus, and the health of neonates and children", clearly qualifies the author for the degree of Doctor of Medical Sciences in Specialty: 14.01.01. - Obstetrics and Gynecology.

The work is fully consistent with the requirements of paragraph 9, "Regulations on the order of awarding of academic degrees" HAC RF, requirements for thesis (Decree of the Government of the Russian Federation on September 24, 2013, number 842), and its author deserves the degree of Doctor of Medical Sciences in the specialty: 14.01.01. - Obstetrics and Gynecology.



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