

Effects of Toxic Substances Present in Pesticides on the Female Reproductive System through Hormonal Imbalance †

Vashishth Chourasiya ^{1,*}, Sofiya Ansari ^{1,*}, Shaile Thakur ²

¹ Student at Department of Forensic Science, Vivekananda Global University, Jaipur, India; Vashishthchourasiya44@gmail.com (V.C.); ansarisofiya333@gmail.com (S.A.);

² Assistant professor at Department of Forensic Science, Vivekananda Global University, Jaipur, India; Shelly.exams@gmail.com (S.T.);

* Correspondence: Vashishthchourasiya44@gmail.com (V.C.); ansarisofiya333@gmail.com (S.A.);

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Abstract: The menstrual cycle is one of the vital cycles in women. This cycle is controlled by the hormonal process. Some pesticides are introduced which have toxic properties have negative effects on women's menstrual cycle. Farming women who are in regular exposure to pesticides while working. It affects fecundability in women and risks long-term diseases like cancers and osteoporosis. Some pesticides which are hormonally active such as DDT (dichlorodiphenyltrichloroethane), lindane, atrazine, and mancozeb, disrupt the menstrual cycle. It acts as a slow poison on regular exposure of pesticides in the female human body. It may disrupt the function of hormones in the female reproductive system and particularly the ovarian cycle. Following are the stages of hormonal regulation in which disruption can occur: synthesis of the hormone, storage and release of the hormone, clearance and transport of hormone, binding, and receptor recognition of hormone, post-receptor activation of the hormone, the function of the thyroid, and CNS. Changes in concentrations of hormones, irregularities in the ovarian cycle, and impaired fecundity are probable effects of endocrine-disrupting pesticides on the reproduction system of females. According to epidemiological studies, pesticides exposure leads to disturbances in the menstrual cycle, reduction in fertility, delaying time for pregnancy, instinct abortion, miscarriage, and defects in development, for which the cause may or may not be by the disturbance in the hormonal function of female. It is because of the composition of pesticides which contains many different types of structures that are dissimilar and contain different types of toxins.

Keywords: pesticides; menstrual cycle; disrupt; DDT; lindane; atrazine; mancozeb; ovarian cycles; pregnancy; hormonal function; etc.

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Conflicts of Interest

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