## World Congress on

## Infertility, Gynecology, Reproductive Health November 28-29, 2024 | Dubai, UAE

Volume: 14

Interplay of phytochemical constituents from Ptychopetalum olacoides to regulate the reproduction evaluated in CCl4 intoxicated Albino male rats

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In religious countries such as Pakistan and other neighbors' countries, the infertility is not only a medical issue, but also a social concern in various ethnic groups. Folk medicines are being used in developing and developed countries from last many centuries due to development in nutraceutical products. So, this research work was carried out to explore the impact of Ptychopetalum olacoides on reproductive system of experimental animals. Phytochemical constituents of P. olacoides and their antioxidant activities have been screened by standard protocols. HPLC, FTIR spectroscopy and AAS results were found significant (p < 0.05) for various phenolic constituents, active functional groups, and essential trace elements, respectively. Moreover, hemolysis study against RBCs was found non-significant (p>0.05), while clot lysis potential was found significant (p<0.05). Furthermore, when protective effects on sperm parameters viz viability, total motility and progressive motility were evaluated, results revealed significant (p<0.05) activities of selected medicinal plants. Male albino rats were used to explore the fertility restoration capacity of P. olacoides along with CCl4 intoxication. At the end of trial significant (p<0.05) improvement in baseline selected blood parameters like oxidative stress markers, LFTs and RFTs were found. The results of sex hormones like LH, FSH, testosterone, prolactin, estradiol, and progesterone were analyzed by ELISA method and found significantly (p<0.05) improved on treatment. It was also observed that histological architecture of testis was improved significantly (p<0.05). The expression of selective enzyme like CYP17A1; receptors including ER $\alpha$ , AR; and neuropeptides viz kisspeptin, K1R (GPR54) and GnRH in the testis tissues sections were studied using immunehistochemical (IHC) stains which revealed potential impact of natural herb. It could be concluded that selected medicinal plant has significant therapeutic response to address the healthcare problems particularly of impotency.

## Biography

Naveed Munir, have completed PhD Biochemistry Degree research and all formalities from GCU, Faisalabad-Pakistan and Kings' College London, UK. He have published more than 90 articles and book chapters in International and National Journals with about 120+ impact factor. His major field of research interest is to explore the cross talk in different neuropeptides/ hormones responsible for the management of Infertility using nutraceutical/ medicinal plants in experimental animals. He had been using different techniques like ELISA, PCR and Immunohischemistry techniques.

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