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Parquetina nigrescens leaves extract ameliorates paroxetine-induced spermatogenic, prostatic and testicular pertubations in male Wistar rats

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This study investigated the effects of the aqueous extract of P. nigrescens leaves in amelioration of spermatogenic, testicular and prostatic function alterations induced in Wistar rats via administration of paroxetine hydrochloride. Reproductive dysfunction was achieved by oral administration of 10 mg/kg paroxetine suspension to the rats for 21 days; the extract (20, 40 and 80 mg/kg body weight) and the reference herbal drug, PowmaxM (7.14 mg/kg body weight) were subsequently administered once daily for seven days and their effects were determined on functional indices of the sperm, testes and prostate. Standard methods were used for the determination of sperm motility, morphology, prostatic citrate, phosphate, calcium and pH, as well as testicular sialic acid, total cholesterol, glycogen, lactate dehydrogenase (LDH), acid phosphatase (ACP), alkaline phosphatase (ALP) and gamma glutamyl transaminase (GGT). Administration of paroxetine resulted in decreased concentration ($p<0.05$) of citric acid, calcium, phosphate, sialic acid, cholesterol, glycogen, protein, sperm count, sperm motility, progressive assessment and morphology. ACP, ALP, LDH, GGT, colour and pH of the semen did not reveal any significant change ($p<0.05$). There was significant recovery for all the group's sequel to administration of the extracts and PowmaxM, except for alkaline phosphatase and lactate dehydrogenase that were significantly reduced ($p<0.05$) and gamma glutamyl transaminase and acid phosphatase that were significantly increased ($p<0.05$) compared to control values. The most significant results were however recorded for the 40 and 80 mg/kg extract groups. The extract positively modulates spermatogenic, testicular and prostatic functions in paroxetine induced reproductive tissue dysfunction.

Biography

Kayode Omowumi Titilola completed her PhD in Reproductive Biochemistry in 2016, from University of Ilorin, Nigeria. She is a Lecturer of Biochemistry in the Department of Biological Sciences, Landmark University with the hope of actualization of the University's mandate of restoring the dignity of the black race. She intends to achieve this through the development of new drugs for the management and treatment of infertility and sexual dysfunction from Nigerian medicinal plants via biochemistry based research. She has about 10 publications with five of the journals indexed in Scopus and cited 43 times by 36 documents. Her google scholar H-index stands at 7. She won the best oral presenter award by Nigerian Society for Experimental Biology (NISEB), at the 13th annual conference held between 5th–8th March, 2013, at University of Ilorin, Nigeria. She also received the best poster Presenter Award, Awarded by Nigerian Society of Pharmacognosy at their annual Conference Held between 29th Aug–1st Sept 2007, at Obafemi Awolowo University, Ile Ife, Nigeria.

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