

1. Abasian, Z., Rostamzadeh, A., Mohammadi, M., Hosseini, M., & Rafieian-Kopaei, M. (2018). A review on role of medicinal plants in polycystic ovarian syndrome: pathophysiology, neuroendocrine signaling, therapeutic status and future prospects. *Middle East Fertility Society Journal*, 23(4), 255-262.
2. Abbott, D. H., Tarantal, A. F., & Dumesic, D. A. (2009). Fetal, infant, adolescent and adult phenotypes of polycystic ovary syndrome in prenatally androgenized female rhesus monkeys. *American Journal of Primatology: Official Journal of the American Society of Primatologists*, 71(9), 776-784.
3. Abdel-Rahman, S. M., & Kauffman, R. E. (2004). The integration of pharmacokinetics and pharmacodynamics: understanding dose-response. *Annu. Rev. Pharmacol. Toxicol.*, 44, 111-136.
4. Abu Bakar, M. F., Saifudin, A., Cao, P., & Mohd Esa, N. (2021). Herbal Medicine for Prevention and Therapy in Breast Cancer.
5. Aghaie, F., Khazali, H., Hedayati, M., & Akbarnejad, A. (2018). The effects of exercise on expression of CYP19 and StAR mRNA in steroid-induced polycystic ovaries of female rats. *International journal of fertility & sterility*, 11(4), 298.
6. Akerele, O. A., & Cheema, S. K. (2016). A balance of omega-3 and omega-6 polyunsaturated fatty acids is important in pregnancy. *Journal of Nutrition & Intermediary Metabolism*, 5, 23-33.
7. Akter, S., Jesmin, S., Rahman, M. M., Islam, M. M., Khatun, M. T., Yamaguchi, N., ... & Mizutani, T. (2013). Higher gravidity and parity are associated with increased prevalence of metabolic syndrome among rural Bangladeshi women. *PloS one*, 8(8), e68319.
8. Al Awlaqi, A., Alkhayat, K. and Hammadeh, M.E., 2016. Metabolic Syndrome and Infertility in Women. *International Journal of womens health and reproduction*, 4(3), pp.89-95.
9. Alinejad-Mofrad, S., Foadoddini, M., Saadatjoo, S. A., & Shayesteh, M. (2015). Improvement of glucose and lipid profile status with *Aloe vera* in pre-diabetic subjects: a randomized controlled-trial. *Journal of diabetes & metabolic disorders*, 14(1), 1-7.
10. Alkalby, J. M., & Hamzah, F. Z. (2017). Ameliorative Effect of Fenugreek on sex hormones in Polycystic Ovary Syndrome Female Rats Induced by Letrozole. *Kufa Journal For Veterinary Medical Sciences*, 8(2).

11. Allemand, M. C., Asmann, Y., Klaus, K., & Nair, K. S. (2005). An in vitro model for PCOS related insulin resistance: the effects of testosterone on phosphorylation of intracellular insulin signaling proteins in rat skeletal muscle primary culture. *Fertility and Sterility*, 84, S30-S31.
12. Allemand, M. C., Irving, B. A., Asmann, Y. W., Klaus, K. A., Tatpati, L., Coddington, C. C., & Nair, K. S. (2009). Effect of testosterone on insulin stimulated IRS1 Ser phosphorylation in primary rat myotubes—a potential model for PCOS-related insulin resistance. *PloS one*, 4(1), e4274.
13. Allsworth, J. E., Clarke, J., Peipert, J. F., Hebert, M. R., Cooper, A., & Boardman, L. A. (2007). The influence of stress on the menstrual cycle among newly incarcerated women. *Women's Health Issues*, 17(4), 202-209.
14. Alsulays, B. B., Jamil, S., Raish, M., Ansari, M. A., Ahmad, A., Alalaiwe, A., ... & Haq, N. (2019). Influences of ferulic acid on pharmacokinetics of carbamazepine in rats: possible mechanism of herb/food-drug Interactions. *International Journal of Pharmacology*, 15(8), 978-985.
15. Andersen, C. Y. (2002). Possible new mechanism of cortisol action in female reproductive organs: physiological implications of the free hormone hypothesis. *The Journal of endocrinology*, 173(2), 211-217.
16. Arantes-Rodrigues, R., Colaco, A., Pinto-Leite, R., & Oliveira, P. A. (2013). In vitro and in vivo experimental models as tools to investigate the efficacy of antineoplastic drugs on urinary bladder cancer. *Anticancer research*, 33(4), 1273-1296.
17. Arcos, A., de Paola, M., Gianetti, D., Acuña, D., Velásquez, Z. D., Miró, M. P., ... & Batiz, L. F. (2017). α -SNAP is expressed in mouse ovarian granulosa cells and plays a key role in folliculogenesis and female fertility. *Scientific reports*, 7(1), 1-14.
18. Arpi, D., & Laxmipriya, N. (2019). Nutraceuticals as Therapeutic Agents for Management of Endocrine Disorders - Sources, Bioavailability and Mechanisms Underlying their Bioactivities. *Acta Scientific Nutritional Health*. 3.2: 97-109.
19. Arroyo, P., Ho, B.S., Sau, L., Kelley, S.T. and Thackray, V.G., 2019. Letrozole treatment of pubertal female mice results in activational effects on reproduction, metabolism and the gut microbiome. *PloS one*, 14(9), p.e0223274.
20. Ashok, G.A., Shende, M.B. and Chothe, D.S., 2014. Antistress activity of ashwagandha (*Withania somnifera* Dunal)-a review. *Int Ayu Med J*, 2(3), pp.386-393.
21. Ashraf, S., Nabi, M., Rashid, F., & Amin, S. (2019). Hyperandrogenism in polycystic ovarian syndrome and role of CYP gene variants: a review. *Egyptian Journal of Medical Human Genetics*, 20(1), 1-10.
22. Assunção, M. G., Miller, K. A., Dangerfield, N. J., Bandiera, S. M., & Ross, P. S. (2007). Cytochrome P450 1A expression and organochlorine contaminants in harbour seals (*Phoca vitulina*): evaluating a

- biopsy approach. *Comparative Biochemistry and Physiology Part C: Toxicology & Pharmacology*, 145(2), 256-264.
23. Asunción, M., Calvo, R. M., San Millán, J. L., Sancho, J., Avila, S., & Escobar-Morreale, H. F. (2000). A prospective study of the prevalence of the polycystic ovary syndrome in unselected Caucasian women from Spain. *The Journal of Clinical Endocrinology & Metabolism*, 85(7), 2434-2438.
 24. Awad, A. B., Burr, A. T., & Fink, C. S. (2005). Effect of resveratrol and β -sitosterol in combination on reactive oxygen species and prostaglandin release by PC-3 cells. *Prostaglandins, leukotrienes and essential fatty acids*, 72(3), 219-226.
 25. Awad, A. B., Hartati, M. S., & Fink, C. S. (1998). Phytosterol feeding induces alteration in testosterone metabolism in rat tissues. *The Journal of Nutritional Biochemistry*, 9(12), 712-717.
 26. Azziz, R., Carmina, E., Chen, Z., Dunaif, A., Laven, J. S., Legro, R. S., ... & Yildiz, B. O. (2016). Polycystic ovary syndrome. *Nature reviews Disease primers*, 2(1), 1-18.
 27. Azziz, R., Carmina, E., Dewailly, D., Diamanti-Kandarakis, E., Escobar-Morreale, H. F., Futterweit, W., ... & Witchel, S. F. (2006). Criteria for defining polycystic ovary syndrome as a predominantly hyperandrogenic syndrome: an androgen excess society guideline. *The Journal of Clinical Endocrinology & Metabolism*, 91(11), 4237-4245.
 28. Azziz, R., Sanchez, L. A., Knochenhauer, E. S., Moran, C., Lazenby, J., Stephens, K. C., ... & Boots, L. R. (2004). Androgen excess in women: experience with over 1000 consecutive patients. *The Journal of Clinical Endocrinology & Metabolism*, 89(2), 453-462.
 29. Baillargeon, J. P., Jakubowicz, D. J., Iuorno, M. J., Jakubowicz, S., & Nestler, J. E. (2004). Effects of metformin and rosiglitazone, alone and in combination, in nonobese women with polycystic ovary syndrome and normal indices of insulin sensitivity. *Fertility and sterility*, 82(4), 893-902.
 30. Baker, V. A., Hepburn, P. A., Kennedy, S. J., Jones, P. A., Lea, L. J., Sumpter, J. P., & Ashby, J. (1999). Safety evaluation of phytosterol esters. Part 1. Assessment of oestrogenicity using a combination of in vivo and in vitro assays. *Food and Chemical Toxicology*, 37(1), 13-22.
 31. Balaji, S., Amadi, C., Prasad, S., Bala Kasav, J., Upadhyay, V., Singh, A. K., ... & Joshi, A. (2015). Urban rural comparisons of polycystic ovary syndrome burden among adolescent girls in a hospital setting in India. *BioMed research international*, 2015.
 32. Banerjee, B., Chakraborty, S., Chakraborty, P., Ghosh, D., & Jana, K. (2019). Protective effect of Resveratrol on benzo (a) pyrene induced dysfunctions of steroidogenesis and steroidogenic acute regulatory gene expression in Leydig cells. *Frontiers in endocrinology*, 10, 272.
 33. Barton, J. R., & Sibai, B. M. (2008). Prediction and prevention of recurrent preeclampsia. *Obstetrics & Gynecology*, 112(2), 359-372.

34. Bashtian, M. H., Emami, S. A., Mousavifar, N., Esmaily, H. A., Mahmoudi, M., & Poor, A. H. M. (2013). Evaluation of fenugreek (*Trigonella Foenum-graceum* L.), effects seeds extract on insulin resistance in women with polycystic ovarian syndrome. *Iranian journal of pharmaceutical research: IJPR*, 12(2), 475.
35. Batista, T. M., Alonso-Magdalena, P., Vieira, E., Amaral, M. E. C., Cederroth, C. R., Nef, S., ... & Nadal, A. (2012). Short-term treatment with bisphenol-A leads to metabolic abnormalities in adult male mice. *PloS one*, 7(3), e33814.
36. Belani, M., Deo, A., Shah, P., Banker, M., Singal, P., & Gupta, S. (2018). Differential insulin and steroidogenic signaling in insulin resistant and non-insulin resistant human luteinized granulosa cells—A study in PCOS patients. *The Journal of steroid biochemistry and molecular biology*, 178, 283-292.
37. Belani, M., Purohit, N., Pillai, P., Gupta, S., & Gupta, S. (2014). Modulation of steroidogenic pathway in rat granulosa cells with subclinical Cd exposure and insulin resistance: an impact on female fertility. *BioMed research international*, 2014.
38. Belani, M., Shah, P., Banker, M., & Gupta, S. (2016). Dual effect of insulin resistance and cadmium on human granulosa cells-In vitro study. *Toxicology and applied pharmacology*, 313, 119-130.
39. Bency Baby, T., Rani, S., Remya, K., Shebina, P., & Azeem, A. (2016). Polycystic ovarian syndrome: Therapeutic potential of herbal remedies-A review. *International Journal of Herbal Medicine*, 4(5), 91-96.
40. Bergh, C., Carlsson, B., Olsson, J. H., Selleskog, U., & Hillensjö, T. (1993). Regulation of androgen production in cultured human thecal cells by insulin-like growth factor I and insulin. *Fertility and sterility*, 59(2), 323-331.
41. Bhathena, S. J. (2006). Relationship between fatty acids and the endocrine and neuroendocrine system. *Nutritional neuroscience*, 9(1-2), 1-10.
42. Bhatnagar, A. S. (2007). The discovery and mechanism of action of letrozole. *Breast cancer research and treatment*, 105(1), 7-17.
43. Borkovcová, I., Janoušková, E., Dračková, M., Janštová, B., & Vorlová, L. (2009). Determination of sterols in dairy products and vegetable fats by HPLC and GC methods. *Czech J Food Sci*, 27, S217-219.
44. Borzoei, A., Rafrat, M., Niromanesh, S., Farzadi, L., Narimani, F., & Doostan, F. (2018). Effects of cinnamon supplementation on antioxidant status and serum lipids in women with polycystic ovary syndrome. *Journal of traditional and complementary medicine*, 8(1), 128-133.
45. Bose, H. S., Lingappa, V. R., & Miller, W. L. (2002). Rapid regulation of steroidogenesis by mitochondrial protein import. *Nature*, 417(6884), 87-91.
46. Boyle, J., & Teede, H. J. (2012). Polycystic ovary syndrome: an update. *Australian family physician*, 41(10), 752-756.

47. Buchanan, T. A., Sipos, G. F., Gadalah, S., Yip, K. P., Marsh, D. J., Hsueh, W., & Bergman, R. N. (1991). Glucose tolerance and insulin action in rats with renovascular hypertension. *Hypertension*, 18(3), 341-347.
48. Bukovsky, A., Ayala, M. E., Dominguez, R., Keenan, J. A., Wimalasena, J., Elder, R. F., & Caudle, M. R. (2002). Changes of ovarian interstitial cell hormone receptors and behavior of resident mesenchymal cells in developing and adult rats with steroid-induced sterility. *Steroids*, 67(3-4), 277-289.
49. Bulun, S. E., Lin, Z., Imir, G., Amin, S., Demura, M., Yilmaz, B., ... & Deb, S. (2005). Regulation of aromatase expression in estrogen-responsive breast and uterine disease: from bench to treatment. *Pharmacological reviews*, 57(3), 359-383.
50. Cadagan, D., Khan, R., & Amer, S. (2016). Thecal cell sensitivity to luteinizing hormone and insulin in polycystic ovarian syndrome. *Reproductive biology*, 16(1), 53-60.
51. Cai, J., Wu, C. H., Zhang, Y., Wang, Y. Y., Xu, W. D., Lin, T. C., ... & Tao, T. (2017). High-free androgen index is associated with increased risk of non-alcoholic fatty liver disease in women with polycystic ovary syndrome, independent of obesity and insulin resistance. *International Journal of Obesity*, 41(9), 1341-1347.
52. Cai, L., Sun, A., Li, H., Tsinkgou, A., Yu, J., Ying, S., ... & Shi, Z. (2015). Molecular mechanisms of enhancing porcine granulosa cell proliferation and function by treatment in vitro with anti-inhibin alpha subunit antibody. *Reproductive Biology and Endocrinology*, 13(1), 1-10.
53. Campbell, K. L. (1979). Ovarian granulosa cells isolated with EGTA and hypertonic sucrose: cellular integrity and function. *Biology of Reproduction*, 21(4), 773-786.
54. Cassar, S., Teede, H. J., Moran, L. J., Joham, A. E., Harrison, C. L., Strauss, B. J., & Stepto, N. K. (2014). Polycystic ovary syndrome and anti-Müllerian hormone: role of insulin resistance, androgens, obesity and gonadotrophins. *Clinical endocrinology*, 81(6), 899-906.
55. Catalano, P. M. (2010). Obesity, insulin resistance and pregnancy outcome. *Reproduction (Cambridge, England)*, 140(3), 365.
56. Catalano, P. N., Bourguignon, N. S., Alvarez, G. S., Libertun, C., Diaz, L. E., Desimone, M. F., & Lux-Lantos, V. (2012). Sol-gel immobilized ovarian follicles: collaboration between two different cell types in hormone production and secretion. *Journal of Materials Chemistry*, 22(23), 11681-11687.
57. Catteau-Jonard, S., Jamin, S. P., Leclerc, A., Gonzalès, J., Dewailly, D., & Di Clemente, N. (2008). Anti-Mullerian hormone, its receptor, FSH receptor, and androgen receptor genes are overexpressed by granulosa cells from stimulated follicles in women with polycystic ovary syndrome. *The Journal of Clinical Endocrinology & Metabolism*, 93(11), 4456-4461.
58. Chang, R. J., & Cook-Andersen, H. (2013). Disordered follicle development. *Molecular and cellular endocrinology*, 373(1-2), 51-60.

59. Chatterjee, M., & Bandyopadhyay, S. A. (2020). Assessment of the prevalence of polycystic ovary syndrome among the college students: A case–control study from Kolkata. *Journal of Mahatma Gandhi Institute of Medical Sciences*, 25(1), 28.
60. Chaudhary S, Chaudhary A. *Human Anatomy & Physiology*. Jalandhar S. Vikas & Co; 2010:259.
61. Chauhan, A., Semwal, D. K., Mishra, S. P., & Semwal, R. B. (2015). Ayurvedic research and methodology: Present status and future strategies. *Ayu*, 36(4), 364.
62. Chaves, R. N., Duarte, A. B. G., Rodrigues, G. Q., Celestino, J. J., Silva, G. M., Lopes, C. A. P., ... & Figueiredo, J. R. (2012). The effects of insulin and follicle-stimulating hormone (FSH) during in vitro development of ovarian goat preantral follicles and the relative mRNA expression for insulin and FSH receptors and cytochrome P450 aromatase in cultured follicles. *Biology of reproduction*, 87(3), 69-1.
63. Check, J. H. (1998). Clomid in unexplained infertility. *Fertility and sterility*, 69(6), 1156-1158.
64. Chedrese, P. J., Zhang, D., The, V. L., Labrie, F., Juorio, A. V., & Murphy, B. D. (1990). Regulation of mRNA expression of 3 β -hydroxy-5-ene steroid dehydrogenase in porcine granulosa cells in culture: a role for the protein kinase-C pathway. *Molecular Endocrinology*, 4(10), 1532-1538.
65. Chen, X., Yang, D., Mo, Y., Li, L., Chen, Y., & Huang, Y. (2008). Prevalence of polycystic ovary syndrome in unselected women from southern China. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 139(1), 59-64.
66. Chia, C. W., Egan, J. M., & Ferrucci, L. (2018). Age-related changes in glucose metabolism, hyperglycemia, and cardiovascular risk. *Circulation research*, 123(7), 886-904.
67. Choi, S. H., Shapiro, H., Robinson, G. E., Irvine, J., Neuman, J., Rosen, B., ... & Stewart, D. (2005). Psychological side-effects of clomiphene citrate and human menopausal gonadotrophin. *Journal of Psychosomatic Obstetrics & Gynecology*, 26(2), 93-100.
68. Chu, W., Zhai, J., Xu, J., Li, S., Li, W., Chen, Z. J., & Du, Y. (2020). Continuous light-induced PCOS-like changes in reproduction, metabolism, and gut microbiota in Sprague-Dawley rats. *Frontiers in microbiology*, 10, 3145.
69. Cock, I. E. (2015). The genus aloe: phytochemistry and therapeutic uses including treatments for gastrointestinal conditions and chronic inflammation. *Novel natural products: therapeutic effects in pain, arthritis and gastro-intestinal diseases*, 179-235.
70. Codner Dujovne, E., & Escobar-Morreale, H. F. (2007). Clinical review: Hyperandrogenism and polycystic ovary syndrome in women with type 1 diabetes mellitus. *Endocrine Society*.
71. Codner, E., Merino, P. M., & Tena-Sempere, M. (2012). Female reproduction and type 1 diabetes: from mechanisms to clinical findings. *Human reproduction update*, 18(5), 568-585.

72. Comim, F. V., Hardy, K., & Franks, S. (2013). Adiponectin and its receptors in the ovary: further evidence for a link between obesity and hyperandrogenism in polycystic ovary syndrome. *PLoS one*, 8(11), e80416.
73. Comim, F. V., Teerds, K., Hardy, K., & Franks, S. (2013). Increased protein expression of LHCG receptor and 17 α -hydroxylase/17-20-lyase in human polycystic ovaries. *Human Reproduction*, 28(11), 3086-3092.
74. Conneely, O. M., Mulac-Jericevic, B., Lydon, J. P., & De Mayo, F. J. (2001). Reproductive functions of the progesterone receptor isoforms: lessons from knock-out mice. *Molecular and cellular endocrinology*, 179(1-2), 97-103.
75. Corrie, L., Gulati, M., Vishwas, S., Kapoor, B., Singh, S. K., Awasthi, A., & Khursheed, R. (2021). Combination therapy of curcumin and fecal microbiota transplant: Potential treatment of polycystic ovarian syndrome. *Medical Hypotheses*, 154, 110644.
76. Costa, L. O. B., Mendes, M. C., Ferriani, R. A., Moura, M. D., Reis, R. M., & Silva de Sá, M. F. (2004). Estradiol and testosterone concentrations in follicular fluid as criteria to discriminate between mature and immature oocytes. *Brazilian Journal of Medical and Biological Research*, 37, 1747-1755.
77. Couse, J. F., Curtis, S. W., Washburn, T. F., Lindzey, J., Golding, T. S., Lubahn, D. B., ... & Korach, K. S. (1995). Analysis of transcription and estrogen insensitivity in the female mouse after targeted disruption of the estrogen receptor gene. *Molecular endocrinology*, 9(11), 1441-1454.
78. Crave, J. C., Lejeune, H., Brebant, C., Baret, C., & Pugeat, M. (1995). Differential effects of insulin and insulin-like growth factor I on the production of plasma steroid-binding globulins by human hepatoblastoma-derived (Hep G2) cells. *The Journal of Clinical Endocrinology & Metabolism*, 80(4), 1283-1289.
79. Cust, A. E., Kaaks, R., Friedenreich, C., Bonnet, F., Laville, M., Tjønneland, A., ... & Riboli, E. (2007). Metabolic syndrome, plasma lipid, lipoprotein and glucose levels, and endometrial cancer risk in the European Prospective Investigation into Cancer and Nutrition (EPIC). *Endocrine-related cancer*, 14(3), 755-767.
80. CV, C., MA, V., & VS, B. (2012). Herbal approach for obesity management. *American Journal of Plant Sciences*, 2012.
81. Dadachanji, R., Shaikh, N., & Mukherjee, S. (2018). Genetic variants associated with hyperandrogenemia in PCOS pathophysiology. *Genetics research international*, 2018.
82. Daina, A., Michielin, O., & Zoete, V. (2017). SwissADME: a free web tool to evaluate pharmacokinetics, drug-likeness and medicinal chemistry friendliness of small molecules. *Scientific reports*, 7(1), 1-13.

83. Darvas, F., Keseru, G., Papp, A., Dorman, G., Urge, L., & Krajcsi, P. (2002). In silico and ex silico ADME approaches for drug discovery. *Current topics in medicinal chemistry*, 2(12), 1287-1304.
84. Davis, M. E., & Berndt, W. D. (1994). Renal methods for toxicology. *Principles and methods of toxicology*, 3rd Ed. New York Raven, 871-894.
85. De Leo, V., Musacchio, M. C., Cappelli, V., Massaro, M. G., Morgante, G., & Petraglia, F. J. R. B. (2016). Genetic, hormonal and metabolic aspects of PCOS: an update. *Reproductive Biology and Endocrinology*, 14(1), 1-17.
86. de Medeiros, S. F., Barbosa, J. S., & Yamamoto, M. M. W. (2015). Comparison of steroidogenic pathways among normoandrogenic and hyperandrogenic polycystic ovary syndrome patients and normal cycling women. *Journal of Obstetrics and Gynaecology Research*, 41(2), 254-263.
87. Degorre, A., Doyen, L., Gentilini, R., Raskin, J. F., & Toruńczyk, S. (2010). Energy and mean-payoff games with imperfect information. In *International Workshop on Computer Science Logic* (pp. 260-274). Springer, Berlin, Heidelberg.
88. Dehghan, A., Esfandiari, A., & Bigdeli, S. M. (2012). Alternative treatment of ovarian cysts with Tribulus terrestris extract: a rat model. *Reproduction in domestic animals*, 47(1), e12-e15.
89. Demirel, M. A., Ilhan, M., Suntar, I., Keles, H., & Akkol, E. K. (2016). Activity of Corylus avellana seed oil in letrozole-induced polycystic ovary syndrome model in rats. *Revista Brasileira de Farmacognosia*, 26, 83-88.
90. Desai, B. N., Maharjan, R. H., & Nampoothiri, L. P. (2012). Aloe barbadensis Mill. formulation restores lipid profile to normal in a letrozole-induced polycystic ovarian syndrome rat model. *Pharmacognosy research*, 4(2), 109.
91. Desai, N. R., Shrank, W. H., Fischer, M. A., Avorn, J., Liberman, J. N., Schneeweiss, S., ... & Choudhry, N. K. (2012). Patterns of medication initiation in newly diagnosed diabetes mellitus: quality and cost implications. *The American journal of medicine*, 125(3), 302-e1.
92. Devoto, L., Vega, M., Kohen, P., Castro, O., Carvallo, P., & Palomino, A. (2002). Molecular regulation of progesterone secretion by the human corpus luteum throughout the menstrual cycle. *Journal of reproductive immunology*, 55(1-2), 11-20.
93. Dewailly, D., Pigny, P., Decanter, C., & Robert, Y. (2003). Elevated serum level of Anti-Müllerian Hormone (AMH) in Polycystic Ovary Syndrome (PCOS): relationship to the ovarian follicle excess and to the serum FSH and to the follicular arrest. *Fertility and Sterility*, 80, 276.
94. Dewailly, D., Robin, G., Peigne, M., Decanter, C., Pigny, P., & Catteau-Jonard, S. (2016). Interactions between androgens, FSH, anti-Müllerian hormone and estradiol during folliculogenesis in the human normal and polycystic ovary. *Human reproduction update*, 22(6), 709-724.

95. Dey, A., Bhattacharya, R., Mukherjee, A., & Pandey, D. K. (2017). Natural products against Alzheimer's disease: Pharmacotherapeutics and biotechnological interventions. *Biotechnology Advances*, 35(2), 178-216.
96. Dey, A., Maharjan, R., & Nampoothiri, L. (2017). Herbal and Alternative Remedies for Diabetes and Endocrine Disorders.
97. Dey, A., Mehta, I., Ghosh, P., & Nampoothiri, L. (2021). Synergistic Interplay of Hyperandrogenism and Hyperinsulinism on Primary Culture of Luteinized Granulosa Cells—an “in-vitro” Model Mimicking Ovarian Microenvironment of Poly-Cystic Ovary Syndrome (PCOS). *Journal of Endocrinology and Reproduction*, 24(1), 53-65.
98. Dey, A., Vasoya, S., & Nampoothiri, L. (2017, May). Pharmacokinetics and bioavailability of non-polar phytocomponents of *Aloe vera* gel and their role as an endocrine modulator in letrozole induced PCOS rat model. In *Endocrine Abstracts* (Vol. 49). Bioscientifica.
99. Dhaiya, S., Khan, S., Premi, H. K., Amrin, S., & Srivastava, S. (2016). Ovarian ectopic pregnancy: A rare case report. *Int J AdvInteg Med Sci*, 1(1), 23-24.
100. Diamanti-Kandarakis, E., & Dunaif, A. (2012). Insulin resistance and the polycystic ovary syndrome revisited: an update on mechanisms and implications. *Endocrine reviews*, 33(6), 981-1030.
101. Diamanti-Kandarakis, E., Kouli, C. R., Bergiele, A. T., Filandra, F. A., Tsianateli, T. C., Spina, G. G., ... & Bartzis, M. I. (1999). A survey of the polycystic ovary syndrome in the Greek island of Lesbos: hormonal and metabolic profile. *The journal of clinical endocrinology & metabolism*, 84(11), 4006-4011.
102. Diamanti-Kandarakis, E., Papalou, O., & Kandaraki, E. A. (2019). The role of androgen excess on insulin sensitivity in women. *Hyperandrogenism in Women*, 53, 50-64.
103. Diamanti-Kandarakis, E., Piperi, C., Korkolopoulou, P., Kandaraki, E., Levidou, G., Papalois, A., ... & Papavassiliou, A. G. (2007). Accumulation of dietary glycotoxins in the reproductive system of normal female rats. *Journal of Molecular Medicine*, 85(12), 1413-1420.
104. Diamond, M. P., Webster, B. W., Carr, R. K., Wentz, A. C., & Osteen, K. G. (1985). Human follicular fluid insulin concentrations. *The Journal of Clinical Endocrinology & Metabolism*, 61(5), 990-992.
105. Divyashree, S., Janhavi, P., Ravindra, P.V. and Muthukumar, S.P., 2019. Experimental models of polycystic ovary syndrome: An update. *Life sciences*, 237, p.116911.
106. Doblado, M., Zhang, L., Toloubeydokhti, T., Garzo, G. T., Chang, R. J., & Duleba, A. J. (2020). Androgens modulate rat granulosa cell steroidogenesis. *Reproductive Sciences*, 27(4), 1002-1007.

107. Doldi, N., Grossi, D., Destefani, A., Gessi, A., & Ferrari, A. (2000). Polycystic ovary syndrome: evidence for reduced 3 β -hydroxysteroid dehydrogenase gene expression in human luteinizing granulosa cells. *Gynecological endocrinology*, 14(1), 32-37.
108. Dong, X., Zeng, Y., Liu, Y., You, L., Yin, X., Fu, J., & Ni, J. (2020). Aloe-emodin: a review of its pharmacology, toxicity, and pharmacokinetics. *Phytotherapy Research*, 34(2), 270-281.
109. Downs, J. S., Arslanian, S., Bruine de Bruin, W., Carr Copeland, V., Doswell, W., Herman, W., ... & Charron-Prochownik, D. (2010). Implications of type 2 diabetes on adolescent reproductive health risk. *The Diabetes Educator*, 36(6), 911-919.
110. Drummond, A. E., Britt, K. L., Dyson, M., Jones, M. E., Kerr, J. B., O'Donnell, L., ... & Findlay, J. K. (2002). Ovarian steroid receptors and their role in ovarian function. *Molecular and cellular endocrinology*, 191(1), 27-33.
111. Düker, E. M., Kopanski, L., Jarry, H., & Wuttke, W. (1991). Effects of extracts from *Cimicifuga racemosa* on gonadotropin release in menopausal women and ovariectomized rats. *Planta Medica*, 57(05), 420-424.
112. Dumesic, D. A., & Lobo, R. A. (2013). Cancer risk and PCOS. *Steroids*, 78(8), 782-785.
113. Dumesic, D. A., Goodarzi, M. O., Chazenbalk, G. D., & Abbott, D. H. (2014). Intrauterine environment and polycystic ovary syndrome. In *Seminars in reproductive medicine* (Vol. 32, No. 03, pp. 159-165). Thieme Medical Publishers.
114. Dumont, A., Robin, G., Catteau-Jonard, S., & Dewailly, D. (2015). Role of Anti-Müllerian Hormone in pathophysiology, diagnosis and treatment of Polycystic Ovary Syndrome: a review. *Reproductive biology and endocrinology: RB&E*, 13, 137.
115. Dunaif, A., Wu, X., Lee, A., & Diamanti-Kandarakis, E. (2001). Defects in insulin receptor signaling in vivo in the polycystic ovary syndrome (PCOS). *American Journal of Physiology-Endocrinology And Metabolism*, 281(2), E392-E399.
116. Edson, M. A., Nagaraja, A. K., & Matzuk, M. M. (2009). The mammalian ovary from genesis to revelation. *Endocrine reviews*, 30(6), 624-712.
117. Ehrman, D. A., Barnes, R. B., & Rosenfield, R. L. (1995). Polycystic ovary syndrome as a form of functional ovarian hyperandrogenism due to dysregulation of androgen secretion. *Endocrine reviews*, 16(3), 322-353.
118. Eimerl, S., & Orly, J. (2002). Regulation of steroidogenic genes by insulin-like growth factor-1 and follicle-stimulating hormone: differential responses of cytochrome P450 side-chain cleavage, steroidogenic acute regulatory protein, and 3 β -hydroxysteroid dehydrogenase/isomerase in rat granulosa cells. *Biology of reproduction*, 67(3), 900-910.

119. Elbers, C. C., Onland-Moret, N. C., Eijkemans, M. J., Wijmenga, C., Grobbee, D. E., & van der Schouw, Y. T. (2011). Low fertility and the risk of type 2 diabetes in women. *Human reproduction*, 26(12), 3472-3478.
120. Esfandiari, A., Dehghan, A., Sharifi, S., Najafi, B., & Vesali, E. (2011). Effect of Tribulus terrestris extract on ovarian activity in immature Wistar rat: a histological evaluation. *Journal of Animal and Veterinary Advances*, 10(7), 883-886.
121. Evans, H. M., & Long, J. A. (1921). On the association of continued cornification of the vaginal mucosa with the presence of large vesicles in the ovary and the absence of corpus formation. *Anat. Rec*, 21, 60.
122. FAUSER, B. C., PACHE, T. D., LAMBERTS, S. W., HOP, W. C., DE JONG, F. H., & DAHL, K. D. (1991). Serum bioactive and immunoreactive luteinizing hormone and follicle-stimulating hormone levels in women with cycle abnormalities, with or without polycystic ovarian disease. *The Journal of Clinical Endocrinology & Metabolism*, 73(4), 811-817.
123. Filicori, M. (1999). The role of luteinizing hormone in folliculogenesis and ovulation induction. *Fertility and sterility*, 71(3), 405-414.
124. Fitzpatrick, S. L., Funkhouser, J. M., Sindoni, D. M., Stevis, P. E., Deecher, D. C., Bapat, A. R., ... & Frail, D. E. (1999). Expression of estrogen receptor- β protein in rodent ovary. *Endocrinology*, 140(6), 2581-2591.
125. Foster, M., Hunter, D., & Samman, S. (2011). Evaluation of the nutritional and metabolic effects of *Aloe vera*. *Herbal Medicine: Biomolecular and Clinical Aspects*. 2nd edition.
126. Franks, S. (2006). Diagnosis of polycystic ovarian syndrome: in defense of the Rotterdam criteria. *The Journal of Clinical Endocrinology & Metabolism*, 91(3), 786-789.
127. Franks, S., Mason, H., White, D., & Willis, D. (1998). Etiology of anovulation in polycystic ovary syndrome. *Steroids*, 63(5-6), 306-307.
128. Franks, S., Stark, J., & Hardy, K. (2008). Follicle dynamics and anovulation in polycystic ovary syndrome. *Human reproduction update*, 14(4), 367-378.
129. Friedman, L. S., Martin, P., & Munoz, S. J. (1996). Liver function tests and the objective evaluation of the patient with liver disease. *Hepatology: a textbook of liver disease*, 1, 791-833.
130. Garcia-Velasco, J. A., Moreno, L., Pacheco, A., Guillén, A., Duque, L., Requena, A., & Pellicer, A. (2005). The aromatase inhibitor letrozole increases the concentration of intraovarian androgens and improves in vitro fertilization outcome in low responder patients: a pilot study. *Fertility and Sterility*, 84(1), 82-87.
131. Garg, D., Ng, S. S. M., Baig, K. M., Driggers, P., & Segars, J. (2017). Progesterone-mediated non-classical signaling. *Trends in Endocrinology & Metabolism*, 28(9), 656-668.

132. Gerber, A., Kleser, M., Biedendieck, R., Bernhardt, R., & Hannemann, F. (2015). Functionalized PHB granules provide the basis for the efficient side-chain cleavage of cholesterol and analogs in recombinant *Bacillus megaterium*. *Microbial cell factories*, 14(1), 1-13.
133. Gibori, G., Khan, I., WARSHA, M., & McLean, M. (2013, October). Placental-derived regulators and the complex control of luteal cell function. In *Recent Progress in Hormone Research: Proceedings of the 1987 Laurentian Hormone Conference (Academic Press)* (p. 377).
134. Gill, H., Tiwari, P., & Dabadghao, P. (2012). Prevalence of polycystic ovary syndrome in young women from North India: A Community-based study. *Indian journal of endocrinology and metabolism*, 16(Suppl 2), S389.
135. Gong, J., Wu, D. B., Zhang, L. L., Li, J., Zhao, X., & Zhang, D. (2015). Study on the oxidative stress in the ovaries of a rat model of polycystic ovary. *Sichuan da xue xue bao. Yi xue ban= Journal of Sichuan University. Medical science edition*, 46(2), 238-42.
136. Goodarzi, M. O., Dumesic, D. A., Chazenbalk, G., & Azziz, R. (2011). Polycystic ovary syndrome: etiology, pathogenesis and diagnosis. *Nature reviews endocrinology*, 7(4), 219-231.
137. Goodarzi, M. O., Shah, N. A., Antoine, H. J., Pall, M., Guo, X., & Azziz, R. (2006). Variants in the 5 α -reductase type 1 and type 2 genes are associated with polycystic ovary syndrome and the severity of hirsutism in affected women. *The Journal of Clinical Endocrinology & Metabolism*, 91(10), 4085-4091.
138. Gorelick, J., Rosenberg, R., Smotrich, A., Hanuš, L., & Bernstein, N. (2015). Hypoglycemic activity of withanolides and elicited *Withania somnifera*. *Phytochemistry*, 116, 283-289.
139. Grindlay, D., & Reynolds, T. (1986). The *Aloe vera* phenomenon: a review of the properties and modern uses of the leaf parenchyma gel. *Journal of ethnopharmacology*, 16(2-3), 117-151.
140. Grundy, S. M. (2008). Metabolic syndrome pandemic. *Arteriosclerosis, thrombosis, and vascular biology*, 28(4), 629-636.
141. Guan, L., Yang, H., Cai, Y., Sun, L., Di, P., Li, W., ... & Tang, Y. (2019). ADMET-score—a comprehensive scoring function for evaluation of chemical drug-likeness. *MedChemComm*, 10(1), 148-157.
142. Gutierrez, C. G., Campbell, B. K., & Webb, R. (1997). Development of a long-term bovine granulosa cell culture system: induction and maintenance of estradiol production, response to follicle-stimulating hormone, and morphological characteristics. *Biology of reproduction*, 56(3), 608-616.
143. Hadaegh, F., Hasheminia, M., Lotfaliany, M., Mohebi, R., Azizi, F., & Tohidi, M. (2013). Incidence of metabolic syndrome over 9 years follow-up; the importance of sex differences in the role of insulin resistance and other risk factors. *PloS one*, 8(9), e76304.

144. Haggard, D. E., Karmaus, A. L., Martin, M. T., Judson, R. S., Setzer, R. W., & Paul Friedman, K. (2018). High-throughput H295R steroidogenesis assay: utility as an alternative and a statistical approach to characterize effects on steroidogenesis. *Toxicological Sciences*, 162(2), 509-534.
145. Hanukoglu, I. (1992). Steroidogenic enzymes: structure, function, and role in regulation of steroid hormone biosynthesis. *The Journal of steroid biochemistry and molecular biology*, 43(8), 779-804.
146. Harvey, A. E., Lashinger, L. M., & Hursting, S. D. (2011). The growing challenge of obesity and cancer: an inflammatory issue. *Annals of the New York Academy of Sciences*, 1229(1), 45-52.
147. Hasegawa, T., Kamada, Y., Hosoya, T., Fujita, S., Nishiyama, Y., Iwata, N., ... & Otsuka, F. (2017). A regulatory role of androgen in ovarian steroidogenesis by rat granulosa cells. *The Journal of steroid biochemistry and molecular biology*, 172, 160-165.
148. Hashemian, Z., Afsharian, P., Farzaneh, P., Eftekhari-Yazdi, P., Vakhshiteh, F., Amoli, A. D., & Nasimian, A. (2020). Establishment and characterization of a PCOS and a normal human granulosa cell line. *Cytotechnology*, 72(6), 833-845.
149. Havelock, J. C., Rainey, W. E., & Carr, B. R. (2004). Ovarian granulosa cell lines. *Molecular and cellular endocrinology*, 228(1-2), 67-78.
150. Hill, J. W., Elmquist, J. K., & Elias, C. F. (2008). Hypothalamic pathways linking energy balance and reproduction. *American Journal of Physiology-Endocrinology and Metabolism*, 294(5), E827-E832.
151. Hillier, S. G., Whitelaw, P. F., & Smyth, C. D. (1994). Follicular oestrogen synthesis: the 'two-cell, two-gonadotrophin' model revisited. *Molecular and cellular endocrinology*, 100(1-2), 51-54.
152. Hilscherova, K., Jones, P. D., Gracia, T., Newsted, J. L., Zhang, X., Sanderson, J. T., ... & Giesy, J. P. (2004). Assessment of the effects of chemicals on the expression of ten steroidogenic genes in the H295R cell line using real-time PCR. *Toxicological Sciences*, 81(1), 78-89.
153. Hodgson, J. (2001). ADMET—turning chemicals into drugs. *Nature biotechnology*, 19(8), 722-726.
154. Hollenberg, P. F. (2002). Characteristics and common properties of inhibitors, inducers, and activators of CYP enzymes. *Drug metabolism reviews*, 34(1-2), 17-35.
155. Horcajadas, J. A., Mínguez, P., Dopazo, J., Esteban, F. J., Domínguez, F., Giudice, L. C., ... & Simon, C. (2008). Controlled ovarian stimulation induces a functional genomic delay of the endometrium with potential clinical implications. *The Journal of Clinical Endocrinology & Metabolism*, 93(11), 4500-4510.
156. Hossein, K. J., Leila, K. J., koukhdan Ebrahim, T., Nazanin, S. J., Farzad, P., & Elham, R. (2015). The effect of pomegranate juice extract on hormonal changes of female Wistar rats caused by polycystic ovarian syndrome. *Biomedical and Pharmacology Journal*, 8(2), 971-977.

157. Huang, B. M., Hsiao, K. Y., Chuang, P. C., Wu, M. H., Pan, H. A., & Tsai, S. J. (2004). Upregulation of steroidogenic enzymes and ovarian 17 β -estradiol in human granulosa-lutein cells by *Cordyceps sinensis* mycelium. *Biology of reproduction*, 70(5), 1358-1364.
158. Huang, S. M., Strong, J. M., Zhang, L., Reynolds, K. S., Nallani, S., Temple, R., ... & Lesko, L. J. (2008). New era in drug interaction evaluation: US Food and Drug Administration update on CYP enzymes, transporters, and the guidance process. *The Journal of clinical pharmacology*, 48(6), 662-670.
159. Iervolino, M., Lepore, E., Forte, G., Laganà, A. S., Buzzaccarini, G., & Unfer, V. (2021). Natural Molecules in the Management of Polycystic Ovary Syndrome (PCOS): An Analytical Review. *Nutrients*, 13(5), 1677.
160. Jacobsen, B. M., & Horwitz, K. B. (2012). Progesterone receptors, their isoforms and progesterone regulated transcription. *Molecular and cellular endocrinology*, 357(1-2), 18-29.
161. Jaffé, M. (1886). Ueber den Niederschlag, welchen Pikrinsäure in normalem Harn erzeugt und über eine neue Reaction des Kreatinins. *Biological Chemistry*, 10(5), pp.391-400.
162. Jahan, S., Munir, F., Razak, S., Mehboob, A., Ain, Q. U., Ullah, H., ... & Almajwal, A. (2016). Ameliorative effects of rutin against metabolic, biochemical and hormonal disturbances in polycystic ovary syndrome in rats. *Journal of ovarian research*, 9(1), 1-9.
163. Jamnongjit, M., & Hammes, S. R. (2006). Ovarian steroids: the good, the bad, and the signals that raise them. *Cell cycle*, 5(11), 1178-1183.
164. Janeczko, A. (2012). The presence and activity of progesterone in the plant kingdom. *Steroids*, 77(3), 169-173.
165. Jayagopal, V., Kilpatrick, E. S., Jennings, P. E., Hepburn, D. A., & Atkin, S. L. (2003). The biological variation of testosterone and sex hormone-binding globulin (SHBG) in polycystic ovarian syndrome: implications for SHBG as a surrogate marker of insulin resistance. *The Journal of Clinical Endocrinology & Metabolism*, 88(4), 1528-1533.
166. Jelodar, G., & Askari, K. (2012). Effect of Vitex agnus-castus fruits hydroalcoholic extract on sex hormones in rat with induced polycystic ovary syndrome (PCOS). *Physiology and Pharmacology*, 16(1), 62-69.
167. Johnson, N. P. (2014). Metformin use in women with polycystic ovary syndrome. *Annals of translational medicine*, 2(6).
168. Jonard, S., & Dewailly, D. (2004). The follicular excess in polycystic ovaries, due to intra-ovarian hyperandrogenism, may be the main culprit for the follicular arrest. *Human reproduction update*, 10(2), 107-117.
169. Joseph, B., & Raj, S. J. (2010). Pharmacognostic and phytochemical properties of *Aloe vera* linn an overview. *Int J Pharm Sci Rev Res*, 4(2), 106-110.

170. Joshi, B., Mukherjee, S., Patil, A., Purandare, A., Chauhan, S., & Vaidya, R. (2014). A cross-sectional study of polycystic ovarian syndrome among adolescent and young girls in Mumbai, India. *Indian journal of endocrinology and metabolism*, 18(3), 317.
171. Kafali, H., Iriadam, M., Ozardali, I., & Demir, N. (2004). Letrozole-induced polycystic ovaries in the rat: a new model for cystic ovarian disease. *Archives of medical research*, 35(2), 103-108.
172. Kamel, H. H. (2013). Role of phyto-oestrogens in ovulation induction in women with polycystic ovarian syndrome. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 168(1), 60-63.
173. Kar, S. K., & Bera, T. K. (2018). Phytochemical constituents of *Aloe vera* and their multifunctional properties: A comprehensive review. *Int J Pharm Sci Res*, 9(4), 1416-23.
174. Karkanaki, A., Vosnakis, C., & Panidis, D. (2011). The clinical significance of anti-Müllerian hormone evaluation in gynecological endocrinology. *Hormones*, 10(2), 95-103.
175. Kashar-Miller, M., & Azziz, R. (1999). Heritability and the risk of developing androgen excess. *The Journal of steroid biochemistry and molecular biology*, 69(1-6), 261-268.
176. Kauffman, A. S., Thackray, V. G., Ryan, G. E., Tolson, K. P., Glidewell-Kenney, C. A., Semaan, S. J., ... & Mellon, P. L. (2015). A novel letrozole model recapitulates both the reproductive and metabolic phenotypes of polycystic ovary syndrome in female mice. *Biology of reproduction*, 93(3), 69-1.
177. Keeney, D. S., & Mason, J. I. (1992). Expression of testicular 3 beta-hydroxysteroid dehydrogenase/delta 5----4-isomerase: regulation by luteinizing hormone and forskolin in Leydig cells of adult rats. *Endocrinology*, 130(4), 2007-2015.
178. Kelley, S. T., Skarra, D. V., Rivera, A. J., & Thackray, V. G. (2016). The gut microbiome is altered in a letrozole-induced mouse model of polycystic ovary syndrome. *PloS one*, 11(1), e0146509.
179. Kenny, A. P. (1952). The determination of cholesterol by the Liebermann-Burchard reaction. *Biochemical Journal*, 52(4), 611.
180. Khare, P., Jagtap, S., Jain, Y., Baboota, R. K., Mangal, P., Boparai, R. K., ... & Bishnoi, M. (2016). Cinnamaldehyde supplementation prevents fasting-induced hyperphagia, lipid accumulation, and inflammation in high-fat diet-fed mice. *Biofactors*, 42(2), 201-211.
181. Kim, H. H., DiVall, S. A., Deneau, R. M., & Wolfe, A. (2005). Insulin regulation of GnRH gene expression through MAP kinase signaling pathways. *Molecular and cellular endocrinology*, 242(1-2), 42-49.
182. Kini, S. (2012). Polycystic ovary syndrome: diagnosis and management of related infertility. *Obstetrics, Gynaecology & Reproductive Medicine*, 22(12), 347-353.

183. Kinnear, H. M., Tomaszewski, C. E., Chang, F. L., Moravek, M. B., Xu, M., Padmanabhan, V., & Shikanov, A. (2020). The ovarian stroma as a new frontier. *Reproduction*, 160(3), R25-R39.
184. Kirchmair, J., Göller, A. H., Lang, D., Kunze, J., Testa, B., Wilson, I. D., ... & Schneider, G. (2015). Predicting drug metabolism: experiment and/or computation? *Nature reviews Drug discovery*, 14(6), 387-404.
185. Kiriakidou, M. A. R. I. A. N. T. H. I., Mcallister, J. M., Sugawara, T., & Strauss 3rd, J. F. (1996). Expression of steroidogenic acute regulatory protein (StAR) in the human ovary. *The Journal of Clinical Endocrinology & Metabolism*, 81(11), 4122-4128.
186. Kirilovas, D., Chaika, A., Bergström, M., Bergström-Petterman, E., Carlström, K., Nosenko, J., ... & Naessen, T. (2006). Granulosa cell aromatase enzyme activity: effects of follicular fluid from patients with polycystic ovary syndrome, using aromatase conversion and [11C] vorozole-binding assays. *Gynecological endocrinology*, 22(12), 685-691.
187. Kohen, P., Castro, O., Palomino, A., Muñoz, A., Christenson, L. K., Sierralta, W., ... & Devoto, L. (2003). The steroidogenic response and corpus luteum expression of the steroidogenic acute regulatory protein after human chorionic gonadotropin administration at different times in the human luteal phase. *The Journal of Clinical Endocrinology & Metabolism*, 88(7), 3421-3430.
188. Kort, D. H., & Lobo, R. A. (2014). Preliminary evidence that cinnamon improves menstrual cyclicity in women with polycystic ovary syndrome: a randomized controlled trial. *American journal of obstetrics and gynecology*, 211(5), 487-e1.
189. Kumar, S., Mehla, R. K., & Dang, A. K. (2008). Use of shatavari (*Asparagus racemosus*) as a galactopoietic and therapeutic herb—a review. *Agricultural Reviews*, 29(2), 132-138.
190. Kumarapeli, V. L., De Senevirane, R., Wijeyaratne, C. N., & Dodampahala, H. S. (2008). Health seeking behaviour of Sri Lankan women with polycystic ovary syndrome (PCOS).
191. Kurdoglu, Z., Ozkol, H., Tuluçe, Y., & Koyuncu, I. (2012). Oxidative status and its relation with insulin resistance in young non-obese women with polycystic ovary syndrome. *Journal of Endocrinological Investigation*, 35(3), 317-321.
192. Kwon, C. Y., Cho, I. H., & Park, K. S. (2020). Therapeutic Effects and Mechanisms of Herbal Medicines for Treating Polycystic Ovary Syndrome: A Review. *Frontiers in Pharmacology*, 11, 1192.
193. Laganà, A. S., Rossetti, P., Buscema, M., La Vignera, S., Condorelli, R. A., Gullo, G., ... & Triolo, O. (2016). Metabolism and ovarian function in PCOS women: a therapeutic approach with inositols. *International Journal of Endocrinology*, 2016.
194. Lambert, M. R., & Edwards, T. M. (2017). Hormonally active phytochemicals and vertebrate evolution. *Evolutionary applications*, 10(5), 419-432.

195. Lashen, H. (2010). Role of metformin in the management of polycystic ovary syndrome. *Therapeutic advances in endocrinology and metabolism*, 1(3), 117-128.
196. Lauritsen, M. P., Bentzen, J. G., Pinborg, A., Loft, A., Forman, J. L., Thuesen, L. L., ... & Nyboe Andersen, A. (2014). The prevalence of polycystic ovary syndrome in a normal population according to the Rotterdam criteria versus revised criteria including anti-Müllerian hormone. *Human reproduction*, 29(4), 791-801.
197. Laven, J. S., Lumbroso, S., Sultan, C., & Fauser, B. C. (2004). Management of infertility in a patient presenting with ovarian dysfunction and McCune-Albright syndrome. *The Journal of Clinical Endocrinology & Metabolism*, 89(3), 1076-1078.
198. Lee, D. G., Lee, J., Kim, K. T., Lee, S. W., Kim, Y. O., Cho, I. H., ... & Lee, S. (2018). High-performance liquid chromatography analysis of phytosterols in Panax ginseng root grown under different conditions. *Journal of ginseng research*, 42(1), 16-20.
199. Legro, R. S., Barnhart, H. X., Schlaff, W. D., Carr, B. R., Diamond, M. P., Carson, S. A., ... & Myers, E. R. (2007). Clomiphene, metformin, or both for infertility in the polycystic ovary syndrome. *New England Journal of Medicine*, 356(6), 551-566.
200. Legro, R. S., Driscoll, D., Strauss, J. F., Fox, J., & Dunaif, A. (1998). Evidence for a genetic basis for hyperandrogenemia in polycystic ovary syndrome. *Proceedings of the National Academy of Sciences*, 95(25), 14956-14960.
201. Leung, P. C., & Siu, W. S. (2013). Herbal treatment for osteoporosis: a current review. *Journal of traditional and complementary medicine*, 3(2), 82-87.
202. Li, A., Zhang, L., Jiang, J., Yang, N., Liu, Y., Cai, L., ... & Sun, Y. (2018). Follicular hyperandrogenism and insulin resistance in polycystic ovary syndrome patients with normal circulating testosterone levels. *Journal of biomedical research*, 32(3), 208.
203. Lipinski, C. A., Lombardo, F., Dominy, B. W., & Feeney, P. J. (1997). Experimental and computational approaches to estimate solubility and permeability in drug discovery and development settings. *Advanced drug delivery reviews*, 23(1-3), 3-25.
204. Lombardo, F., Salzano, G., Crisafulli, G., Valenzise, M., Zirilli, G., Manzo, V., ... & De Luca, F. (2009). Menarcheal timing in intensively treated girls with type 1 diabetes mellitus. *Nutrition, Metabolism and Cardiovascular Diseases*, 19(1), 35-38.
205. Lubahn, D. B., Moyer, J. S., Golding, T. S., Couse, J. F., Korach, K. S., & Smithies, O. (1993). Alteration of reproductive function but not prenatal sexual development after insertional disruption of the mouse estrogen receptor gene. *Proceedings of the National Academy of Sciences*, 90(23), 11162-11166.

206. Lujan, M. E., Chizen, D. R., & Pierson, R. A. (2008). Diagnostic criteria for polycystic ovary syndrome: pitfalls and controversies. *Journal of obstetrics and gynaecology Canada*, 30(8), 671-679.
207. Lydon, J. P., DeMayo, F. J., Funk, C. R., Mani, S. K., Hughes, A. R., Montgomery, C. A., ... & O'Malley, B. W. (1995). Mice lacking progesterone receptor exhibit pleiotropic reproductive abnormalities. *Genes & development*, 9(18), 2266-2278.
208. MacLatchy, D., Peters, L., Nickle, J., & Van Der Kraak, G. (1997). Exposure to β -sitosterol alters the endocrine status of goldfish differently than 17β -estradiol. *Environmental Toxicology and Chemistry: An International Journal*, 16(9), 1895-1904.
209. Magoffin, D. A. (2006). Ovarian steroidogenic abnormalities in the polycystic ovary syndrome. In *Androgen Excess Disorders in Women* (pp. 203-211). Humana Press.
210. Maharjan, R., Nagar, P. S., & Nampoothiri, L. (2010). Effect of *Aloe barbadensis* Mill. formulation on Letrozole induced polycystic ovarian syndrome rat model. *Journal of Ayurveda and integrative medicine*, 1(4), 273.
211. Mahesh, V. B., Mills, T. M., Bagnell, C. A., & Conway, B. A. (1987). Animal models for study of polycystic ovaries and ovarian atresia. *Regulation of ovarian and testicular function*, 237-257.
212. Maheshwari, A., Stofberg, L., & Bhattacharya, S. (2007). Effect of overweight and obesity on assisted reproductive technology—a systematic review. *Human reproduction update*, 13(5), 433-444.
213. Mahmood-Khan, Z., & Hall, E. R. (2008). Quantification of plant sterols in pulp and paper mill effluents. *Water Quality Research Journal*, 43(2-3), 173-181.
214. Majumder, S., Das, S., Moulik, S. R., Mallick, B., Pal, P., & Mukherjee, D. (2015). G-protein coupled estrogen receptor (GPER) inhibits final oocyte maturation in common carp, *Cyprinus carpio*. *General and comparative endocrinology*, 211, 28-38.
215. Malini, T., & Vanithakumari, G. (1991). Antifertility effects of β -sitosterol in male albino rats. *Journal of ethnopharmacology*, 35(2), 149-153.
216. Malini, T., & Vanithakumari, G. (1993). Effect of beta-sitosterol on uterine biochemistry: a comparative study with estradiol and progesterone. *Biochemistry and molecular biology international*, 31(4), 659-668.
217. Mani, A. M., Fenwick, M. A., Cheng, Z., Sharma, M. K., Singh, D., & Wathes, D. C. (2010). IGF1 induces up-regulation of steroidogenic and apoptotic regulatory genes via activation of phosphatidylinositol-dependent kinase/AKT in bovine granulosa cells. *Reproduction*, 139(1), 139.
218. Manna, P. R., & Stocco, D. M. (2005). Regulation of the steroidogenic acute regulatory protein expression: functional and physiological consequences. *Current Drug Targets-Immune, Endocrine & Metabolic Disorders*, 5(1), 93-108.

219. Manna, P. R., Dyson, M. T., & Stocco, D. M. (2009). Regulation of the steroidogenic acute regulatory protein gene expression: present and future perspectives. *Molecular human reproduction*, 15(6), 321-333.
220. Manna, P. R., Dyson, M. T., Eubank, D. W., Clark, B. J., Lalli, E., Sassone-Corsi, P., ... & Stocco, D. M. (2002). Regulation of steroidogenesis and the steroidogenic acute regulatory protein by a member of the cAMP response-element binding protein family. *Molecular Endocrinology*, 16(1), 184-199.
221. Manneras, L., Cajander, S., Holmång, A., Seleskovic, Z., Lystig, T., Lönn, M. and Stener-Victorin, E., 2007. A new rat model exhibiting both ovarian and metabolic characteristics of polycystic ovary syndrome. *Endocrinology*, 148(8), pp.3781-3791.
222. March, W. A., Moore, V. M., Willson, K. J., Phillips, D. I., Norman, R. J., & Davies, M. J. (2010). The prevalence of polycystic ovary syndrome in a community sample assessed under contrasting diagnostic criteria. *Human reproduction*, 25(2), 544-551.
223. Martel, C., Meiner, M. H., Gagné, D., Simarda, J., & Labrie, F. (1994). Widespread tissue distribution of steroid sulfatase, 3 β -hydroxysteroid dehydrogenase/ Δ 5- Δ 4isomerase (3 β -HSD), 17 β -HSD5 α -reductase and aromatase activities in the rhesus monkey. *Molecular and cellular endocrinology*, 104(1), 103-111.
224. Maruthur, N. M., Tseng, E., Hutfless, S., Wilson, L. M., Suarez-Cuervo, C., Berger, Z., ... & Bolen, S. (2016). Diabetes medications as monotherapy or metformin-based combination therapy for type 2 diabetes: a systematic review and meta-analysis. *Annals of internal medicine*, 164(11), 740-751.
225. McGee, E., Sawetawan, C., Bird, I., Rainey, W. E., & Carr, B. R. (1995). The effects of insulin on 3 β -hydroxysteroid dehydrogenase expression in human luteinized granulosa cells. *The Journal of the Society for Gynecologic Investigation: JSGI*, 2(3), 535-541.
226. Méndez, E., Montserrat, N., & Planas, J. V. (2005). Modulation of the steroidogenic activity of luteinizing hormone by insulin and insulin-like growth factor-I through interaction with the cAMP-dependent protein kinase signaling pathway in the trout ovary. *Molecular and Cellular Endocrinology*, 229(1-2), 49-56.
227. Mesbahzadeh, B., Garmsiri, M., Jalalvand, F., Shojaie, L., & Kakar, M. A. (2017). Oral Administration of Menthol Alleviate Adverse Effects of Polycystic Ovarian Syndrome in Blood Biochemical Parameters and Antioxidant Status in Wister Rats. *GMJ Medicine*, 1(1), 9-14.
228. Mihanfar, A., Nouri, M., Roshangar, L., & Khadem-Ansari, M. H. (2021). Polyphenols: Natural compounds with promising potential in treating polycystic ovary syndrome. *Reproductive Biology*, 21(2), 100500.

229. Milanov, S., Maleeva, A., Gunev, V., Kurtev, I., & Kekhajova, M. (1985). Radioimmunoassay of the hormones in the pituitary-ovarian axis in patients with endometriosis externa. *Rentgenologiya i Radiologiya*, 24(3), 50-53.
230. Miller, W. L., Auchus, R. J., & Geller, D. H. (1997). The regulation of 17, 20 lyase activity. *Steroids*, 62(1), 133-142.
231. Misawa, E., Tanaka, M., Nomaguchi, K., Nabeshima, K., Yamada, M., Toida, T., & Iwatsuki, K. (2012). Oral ingestion of *Aloe vera* phytosterols alters hepatic gene expression profiles and ameliorates obesity-associated metabolic disorders in Zucker diabetic fatty rats. *Journal of agricultural and food chemistry*, 60(11), 2799-2806.
232. Misawa, E., Tanaka, M., Nomaguchi, K., Yamada, M., Toida, T., Takase, M., ... & Kawada, T. (2008). Administration of phytosterols isolated from *Aloe vera* gel reduce visceral fat mass and improve hyperglycemia in Zucker diabetic fatty (ZDF) rats. *Obesity research & clinical practice*, 2(4), 239-245.
233. Moghadasian, M. H., & Frohlich, J. J. (1999). Effects of dietary phytosterols on cholesterol metabolism and atherosclerosis: clinical and experimental evidence. *The American journal of medicine*, 107(6), 588-594.
234. Mokaberinejad, R., Rampisheh, Z., Aliasl, J., & Akhtari, E. (2019). The comparison of fennel infusion plus dry cupping versus metformin in management of oligomenorrhoea in patients with polycystic ovary syndrome: a randomised clinical trial. *Journal of Obstetrics and Gynaecology*, 39(5), 652-658.
235. MOLL, G. W., & ROSENFELD JR, R. L. (1979). Testosterone binding and free plasma androgen concentrations under physiological conditions: characterization by flow dialysis technique. *The Journal of Clinical Endocrinology & Metabolism*, 49(5), 730-736.
236. Monga, R., Sharma, I., Datta, T. K., & Singh, D. (2011). Characterization of serum-free buffalo granulosa cell culture and analysis of genes involved in terminal differentiation from FSH-to LH-responsive phenotype. *Domestic animal endocrinology*, 41(4), 195-206.
237. Montanari, F., & Ecker, G. F. (2015). Prediction of drug-ABC-transporter interaction—Recent advances and future challenges. *Advanced drug delivery reviews*, 86, 17-26.
238. Montgomery, G. W., Martin, G. B., Le Bars, J., & Pelletier, J. (1985). Gonadotrophin release in ovariectomized ewes fed different amounts of coumestrol. *Reproduction*, 73(2), 457-463.
239. Moore, M., Ferguson, J., & Burns, C. (2014). Applications of cell-based bioassays measuring the induced expression of endogenous genes. *Bioanalysis*, 6(11), 1563-1574.
240. Moran, L. J., Misso, M. L., Wild, R. A., & Norman, R. J. (2010). Impaired glucose tolerance, type 2 diabetes and metabolic syndrome in polycystic ovary syndrome: a systematic review and meta-analysis. *Human reproduction update*, 16(4), 347-363.

241. Morley, P., Calaresu, F. R., Barbe, G. J., & Armstrong, D. T. (1989). Insulin enhances luteinizing hormone-stimulated steroidogenesis by porcine theca cells. *Biology of reproduction*, 40(4), 735-743.
242. Mounier, C., Dumas, V., & Posner, B. I. (2006). Regulation of hepatic insulin-like growth factor-binding protein-1 gene expression by insulin: central role for mammalian target of rapamycin independent of forkhead box O proteins. *Endocrinology*, 147(5), 2383-2391.
243. Mukherjee, P. K., Nema, N. K., Maity, N., Mukherjee, K., & Harwansh, R. K. (2013). Phytochemical and therapeutic profile of *Aloe vera*. *Journal of Natural Remedies*, 14(1), 1-26.
244. Mukherjee, S., & Maitra, A. (2010). Molecular & genetic factors contributing to insulin resistance in polycystic ovary syndrome. *Indian Journal of Medical Research*, 131(6).
245. Murray, A. A., Gosden, R. G., Allison, V., & Spears, N. (1998). Effect of androgens on the development of mouse follicles growing in vitro. *Reproduction*, 113(1), 27-33.
246. Mvondo, M. A., Tsoplack, F. I. M., Awounack, C. F., & Njamen, D. (2020). The leaf aqueous extract of *Myrianthus arboreus* P. Beauv.(Cecropiaceae) improved letrozole-induced polycystic ovarian syndrome associated conditions and infertility in female Wistar rats. *BMC Complementary Medicine and Therapies*, 20(1), 1-13.
247. Nadkarni, K.M. (1976). *Indian materia medica: With ayurvedic, unani-tibbi, siddha, allopathic, homeopathic, naturopathic and home remedies, appendices and indexes*-Vol. 2 (Vol. 2, No. na). Ramdas Bhatkal, Popular Prakashan Private Ltd.12.
248. Naessen, T., Kushnir, M. M., Chaika, A., Nosenko, J., Mogilevkina, I., Rockwood, A. L., ... & Kirilovas, D. (2010). Steroid profiles in ovarian follicular fluid in women with and without polycystic ovary syndrome, analyzed by liquid chromatography-tandem mass spectrometry. *Fertility and sterility*, 94(6), 2228-2233.
249. Nahum, R., Thong, K. J., & Hillier, S. G. (1995). Metabolic regulation of androgen production by human thecal cells in vitro. *Human Reproduction*, 10(1), 75-81.
250. Najafi, M. N., Kasaian, J., Kovatsi, L., Leon, G., Solout, E. K., Hashemzaei, M., ... & Ghazanfarpour, M. (2018). Phytoestrogens and the polycystic ovary syndrome: a systematic review of clinical evidence and laboratory findings. *Farmacia*, 66(2), 223-229.
251. Nalimu, F., Oloro, J., Kahwa, I., & Ogwang, P. E. (2021). Review on the phytochemistry and toxicological profiles of *Aloe vera* and *Aloe ferox*. *Future Journal of Pharmaceutical Sciences*, 7(1), 1-21.
252. Nampoothiri, L., Maharjan, R., & Dey, A. (2015). Implication of non polar phytocomponents of *Aloe vera* gel in management of polycystic ovarian syndrome. *Endocrine Abstracts* (Vol. 37). Bioscientifica.

253. Nardo, L. G., Gelbaya, T. A., Wilkinson, H., Roberts, S. A., Yates, A., Pemberton, P., & Laing, I. (2009). Circulating basal anti-Müllerian hormone levels as predictor of ovarian response in women undergoing ovarian stimulation for in vitro fertilization. *Fertility and sterility*, 92(5), 1586-1593.
254. Nasimi Doost Azgomi, R., Zomorodi, A., Nazemyieh, H., Fazljou, S. M. B., Sadeghi Bazargani, H., Nejatbakhsh, F., ... & Ahmadi AsrBadr, Y. (2018). Effects of *Withania somnifera* on reproductive system: a systematic review of the available evidence. *BioMed research international*, 2018.
255. Ndefo, U. A., Eaton, A., & Green, M. R. (2013). Polycystic ovary syndrome: a review of treatment options with a focus on pharmacological approaches. *Pharmacy and therapeutics*, 38(6), 336.
256. Nelson-Degrave, V. L., Wickenheisser, J. K., Hendricks, K. L., Asano, T., Fujishiro, M., Legro, R. S., ... & McAllister, J. M. (2005). Alterations in mitogen-activated protein kinase kinase and extracellular regulated kinase signaling in theca cells contribute to excessive androgen production in polycystic ovary syndrome. *Molecular Endocrinology*, 19(2), 379-390.
257. Nidhi, R., Padmalatha, V., Nagarathna, R., & Amritanshu, R. (2011). Prevalence of polycystic ovarian syndrome in Indian adolescents. *Journal of pediatric and adolescent gynecology*, 24(4), 223-227.
258. Nisenblat, V., & Norman, R. J. (2009). Androgens and polycystic ovary syndrome. *Current Opinion in Endocrinology, Diabetes and Obesity*, 16(3), 224-231.
259. Nishi, Y., Yanase, T., Mu, Y. M., Oba, K., Ichino, I., Saito, M., ... & Nawata, H. (2001). Establishment and characterization of a steroidogenic human granulosa-like tumor cell line, KGN, that expresses functional follicle-stimulating hormone receptor. *Endocrinology*, 142(1), 437-445.
260. Ntie-Kang, F. (2013). An in-silico evaluation of the ADMET profile of the StreptomeDB database. *Springerplus*, 2(1), 1-11.
261. Ogbe, R. J., Ochalefu, D. O., Mafulul, S. G., & Olaniru, O. B. (2015). A review on dietary phytosterols: Their occurrence, metabolism and health benefits. *Asian J. Plant Sci. Res*, 5(4), 10-21.
262. Ohno, S., Shinoda, S., Toyoshima, S., Nakazawa, H., Makino, T., & Nakajin, S. (2002). Effects of flavonoid phytochemicals on cortisol production and on activities of steroidogenic enzymes in human adrenocortical H295R cells. *The Journal of steroid biochemistry and molecular biology*, 80(3), 355-363.
263. Opoku-Acheampong, A., Penugonda, K., Fiorentino, N., & Lindshield, B. (2015). Anti-Androgenic Effect of Fatty Acids and Phytosterols in Saw Palmetto Extract on Growth of Syrian Hamster Androgen-Sensitive Flank Organ. *The FASEB Journal*, 29, 753-15.
264. Orisaka, M., Tajima, K., Tsang, B. K., & Kotsuji, F. (2009). Oocyte-granulosa-theca cell interactions during preantral follicular development. *Journal of ovarian research*, 2(1), 1-7.

265. Pachiappan, S., Matheswaran, S., Saravanan, P. P., & Muthusamy, G. (2017). Medicinal plants for polycystic ovary syndrome: A review of phytomedicine research. *Int J Herb Med*, 5(2), 78-80.
266. Pachiappan, S., Ramalingam, K., & Balasubramanian, A. (2020). A review on phytomedicine and their mechanism of action on PCOS. *Int J Cur Res Rev| Vol*, 12(23), 81.
267. Padmanabhan, V., & Veiga-Lopez, A. (2013). Sheep models of polycystic ovary syndrome phenotype. *Molecular and cellular endocrinology*, 373(1-2), 8-20.
268. Palermo, F. A., Cocci, P., Angeletti, M., Felici, A., Polzonetti-Magni, A. M., & Mosconi, G. (2013). Dietary *Aloe vera* components' effects on cholesterol lowering and estrogenic responses in juvenile goldfish, *Carassius auratus*. *Fish physiology and biochemistry*, 39(4), 851-861.
269. Palomba, S., Falbo, A., Zullo, F., & Orio Jr, F. (2009). Evidence-based and potential benefits of metformin in the polycystic ovary syndrome: a comprehensive review. *Endocrine reviews*, 30(1), 1-50.
270. Pantsar, T., & Poso, A. (2018). Binding affinity via docking: fact and fiction. *Molecules*, 23(8), 1899.
271. Paul Gleeson, M., Hersey, A., & Hannongbua, S. (2011). In-silico ADME models: a general assessment of their utility in drug discovery applications. *Current topics in medicinal chemistry*, 11(4), 358-381.
272. Pellatt, L., Hanna, L., Brincat, M., Galea, R., Brain, H., Whitehead, S., & Mason, H. (2007). Granulosa cell production of anti-Mullerian hormone is increased in polycystic ovaries. *The Journal of Clinical Endocrinology & Metabolism*, 92(1), 240-245.
273. Peng, J., Li, Q., Wigglesworth, K., Rangarajan, A., Kattamuri, C., Peterson, R. T., ... & Matzuk, M. M. (2013). Growth differentiation factor 9: bone morphogenetic protein 15 heterodimers are potent regulators of ovarian functions. *Proceedings of the National Academy of Sciences*, 110(8), E776-E785.
274. Phy, J. L., Conover, C. A., Abbott, D. H., Zschunke, M. A., Walker, D. L., Session, D. R., ... & Dumesic, D. A. (2004). Insulin and messenger ribonucleic acid expression of insulin receptor isoforms in ovarian follicles from nonhirsute ovulatory women and polycystic ovary syndrome patients. *The Journal of Clinical Endocrinology & Metabolism*, 89(7), 3561-3566.
275. Picardi, A., Cipponeri, E., Bizzarri, C., Fallucca, S., Guglielmi, C., & Pozzilli, P. (2008). Menarche in type 1 diabetes is still delayed despite good metabolic control. *Fertility and sterility*, 90(5), 1875-1877.
276. Pierre, A., Peigné, M., Grynberg, M., Arouche, N., Taieb, J., Hesters, L., ... & di Clemente, N. (2013). Loss of LH-induced down-regulation of anti-Müllerian hormone receptor expression may contribute to anovulation in women with polycystic ovary syndrome. *Human reproduction*, 28(3), 762-769.

277. Pigny, P., Merlen, E., Robert, Y., Cortet-Rudelli, C., Decanter, C., Jonard, S., & Dewailly, D. (2003). Elevated serum level of anti-mullerian hormone in patients with polycystic ovary syndrome: relationship to the ovarian follicle excess and to the follicular arrest. *The Journal of Clinical Endocrinology & Metabolism*, 88(12), 5957-5962.
278. Piquette, G. N. (1990). Isolation and characterization of rabbit ovarian surface epithelium, granulosa cells, and peritoneal mesothelium in primary culture. *In vitro cellular & developmental biology*, 26(5), 471-481.
279. Polak, K., Czyzyk, A., Simoncini, T., & Meczekalski, B. (2017). New markers of insulin resistance in polycystic ovary syndrome. *Journal of endocrinological investigation*, 40(1), 1-8.
280. Pond, S. M., & Tozer, T. N. (1984). First-pass elimination basic concepts and clinical consequences. *Clinical pharmacokinetics*, 9(1), 1-25.
281. Poretsky, L., Glover, B., Laumas, V., KALIN, M., & Dunaif, A. (1988). The effects of experimental hyperinsulinemia on steroid secretion, ovarian [125I] insulin binding, and ovarian [125I] insulin-like growth-factor I binding in the rat. *Endocrinology*, 122(2), 581-585.
282. Prabhu, Y. D., & Abilash, V. G. (2021). Can polyunsaturated fatty acids regulate Polycystic Ovary Syndrome via TGF- β signalling?. *Life Sciences*, 119416.
283. Pralong, F. P. (2010). Insulin and NPY pathways and the control of GnRH function and puberty onset. *Molecular and cellular endocrinology*, 324(1-2), 82-86.
284. Prapas, N., Karkanaki, A., Prapas, I., Kalogiannidis, I., Katsikis, I., & Panidis, D. (2009). Genetics of polycystic ovary syndrome. *Hippokratia*, 13(4), 216.
285. Premalatha, R., Jubendradass, R., Srikumar, K., & Mathur, P. P. (2014). Gibberellic acid acts as an agonist of steroidogenesis in male rats. *Andrologia*, 46(8), 902-909.
286. Pyun, B. J., Yang, H., Sohn, E., Yu, S. Y., Lee, D., Jung, D. H., ... & Lee, H. W. (2018). Tetragonia tetragonoides (Pall.) Kuntze regulates androgen production in a letrozole-induced polycystic ovary syndrome model. *Molecules*, 23(5), 1173.
287. Qasimi, M. I., Nagaoka, K., & Watanabe, G. (2018). Feeding of phytosterols reduced testosterone production by modulating GnRH and GnIH expression in the brain and testes of male Japanese quail (*Coturnix coturnix japonica*). *Poultry science*, 97(3), 1066-1072.
288. Qin, B., Nagasaki, M., Ren, M., Bajotto, G., Oshida, Y., & Sato, Y. (2003). Cinnamon extract (traditional herb) potentiates in vivo insulin-regulated glucose utilization via enhancing insulin signaling in rats. *Diabetes research and clinical practice*, 62(3), 139-148.
289. Qu, H. Q., Li, Q., Rentfro, A. R., Fisher-Hoch, S. P., & McCormick, J. B. (2011). The definition of insulin resistance using HOMA-IR for Americans of Mexican descent using machine learning. *PloS one*, 6(6), e21041.

290. Quinn, M. M., Kao, C. N., Ahmad, A. K., Haisenleder, D. J., Santoro, N., Eisenberg, E., ... & NIH/NICHD Reproductive Medicine Network. (2017). Age-stratified thresholds of anti-Müllerian hormone improve prediction of polycystic ovary syndrome over a population-based threshold. *Clinical endocrinology*, 87(6), 733-740.
291. Radha, M. H., & Laxmipriya, N. P. (2015). Evaluation of biological properties and clinical effectiveness of *Aloe vera*: A systematic review. *Journal of traditional and complementary medicine*, 5(1), 21-26.
292. Radha, M. H., & Laxmipriya, N. P. (2016 b). The role of *Aloe Barbadensis* Mill. as a Possible Pre-Conceptive Herb for the Management of Polycystic Ovarian Syndrome: A Rodent Model Study. *Austin Journal of Reproductive medicine and Infertility*, 3(2).
293. Radha, M., & Laxmipriya, N. (2016 a). Efficacy of non polar extract (NPE) of *Aloe barbadensis* mill. in polycystic ovarian syndrome (PCOS) rodent model-an" in vivo" study. *International Journal of Pharmaceutical Sciences and Research*, 7(12), 4933.
294. Radha, M., Padamabhi, N., & Laxmipriya, N. (2014). Evaluation of *Aloe barbadensis* mill. Gel on letrozole induced polycystic ovarian syndrome (pcos) rat model-a dose dependent study. *International Journal of Pharmaceutical Sciences and Research*, 5(12), 5293-5300.
295. Rajan, R. K., & Balaji, B. (2017). Soy isoflavones exert beneficial effects on letrozole-induced rat polycystic ovary syndrome (PCOS) model through anti-androgenic mechanism. *Pharmaceutical biology*, 55(1), 242-251.
296. Ramaiah, S. K. (2011). Preclinical safety assessment: current gaps, challenges, and approaches in identifying translatable biomarkers of drug-induced liver injury. *Clinics in Laboratory Medicine*, 31(1), 161-172.
297. Rao, S. K. (2021). An Insight on Polycystic Ovary Syndrome (PCOS) and Use of Herbal Medicines as Alternative Treatment. In *Treating Endocrine and Metabolic Disorders With Herbal Medicines* (pp. 125-163). IGI Global.
298. Reddy, K. R., Deepika, M. L. N., Supriya, K., Latha, K. P., Rao, S. L., Rani, V. U., & Jahan, P. (2014). CYP11A1 microsatellite (tttta) n polymorphism in PCOS women from South India. *Journal of assisted reproduction and genetics*, 31(7), 857-863.
299. Reddy, P. S., Begum, N., Mutha, S., & Bakshi, V. (2016). Beneficial effect of Curcumin in Letrozole induced polycystic ovary syndrome. *Asian Pacific Journal of Reproduction*, 5(2), 116-122.
300. Reed, K. F. M. (2016). Fertility of herbivores consuming phytoestrogen-containing *Medicago* and *Trifolium* species. *Agriculture*, 6(3), 35.
301. Reitman, S., & Frankel, S. (1957). A colorimetric method for the determination of serum glutamic oxalacetic and glutamic pyruvic transaminases. *American journal of clinical pathology*, 28(1), 56-63.

302. Rezvanfar, M. A., Shojaei Saadi, H. A., Gooshe, M., Abdolghaffari, A. H., Baeeri, M., & Abdollahi, M. (2014). Ovarian aging-like phenotype in the hyperandrogenism-induced murine model of polycystic ovary. *Oxidative medicine and cellular longevity*, 2014.
303. Rice, S., Christoforidis, N., Gadd, C., Nikolaou, D., Seyani, L., Donaldson, A., ... & Franks, S. (2005). Impaired insulin-dependent glucose metabolism in granulosa-lutein cells from anovulatory women with polycystic ovaries. *Human Reproduction*, 20(2), 373-381.
304. Risvan, M. Y., Suresh, S., & Balagurusamy, K. (2017). Siddha elixir and aetiology of polycystic ovarian syndrom. *Adv. Tech. Biol. Med*, 5(4).
305. Roa J, Navarro VM, Tena-Sempere M. Kisspeptins in reproductive biology: consensus knowledge and recent developments. *Biol Reprod*. 2011;85(4):650-660.
306. Roa, J., Aguilar, E., Dieguez, C., Pinilla, L., & Tena-Sempere, M. (2008). New frontiers in kisspeptin/GPR54 physiology as fundamental gatekeepers of reproductive function. *Frontiers in neuroendocrinology*, 29(1), 48-69.
307. Robker, R. L., Russell, D. L., Espey, L. L., Lydon, J. P., O'malley, B. W., & Richards, J. S. (2000). Progesterone-regulated genes in the ovulation process: ADAMTS-1 and cathepsin L proteases. *Proceedings of the National Academy of Sciences*, 97(9), 4689-4694.
308. Rochlani, Y., Pothineni, N. V., Kovelamudi, S., & Mehta, J. L. (2017). Metabolic syndrome: pathophysiology, management, and modulation by natural compounds. *Therapeutic advances in cardiovascular disease*, 11(8), 215-225.
309. Roe, A. H., Prochaska, E., Smith, M., Sammel, M., & Dokras, A. (2013). Using the Androgen Excess–PCOS Society criteria to diagnose polycystic ovary syndrome and the risk of metabolic syndrome in adolescents. *The Journal of pediatrics*, 162(5), 937-941.
310. Rojas, J., Chávez, M., Olivar, L., Rojas, M., Morillo, J., Mejías, J., ... & Bermúdez, V. (2014). Polycystic ovary syndrome, insulin resistance, and obesity: navigating the pathophysiologic labyrinth. *International journal of reproductive medicine*, 2014.
311. Rosenfield, R. L., & Ehrmann, D. A. (2016). The pathogenesis of polycystic ovary syndrome (PCOS): the hypothesis of PCOS as functional ovarian hyperandrogenism revisited. *Endocrine reviews*, 37(5), 467-520.
312. Rotterdam ESHRE/ASRM-Sponsored PCOS Consensus Workshop Group (2004). Revised 2003 consensus on diagnostic criteria and long-term health risks related to polycystic ovary syndrome. *Fertility and sterility*, 81(1), 19–25.
313. Ryan, K. E., Glistler, C., Lonergan, P., Martin, F., Knight, P. G., & Evans, A. C. (2008). Functional significance of the signal transduction pathways Akt and Erk in ovarian follicles: in vitro and in vivo studies in cattle and sheep. *Journal of ovarian research*, 1(1), 1-13.

314. Ryökkönen, A., Käyhkö, U. R., Mustonen, A. M., Kukkonen, J. V., & Nieminen, P. (2005). Multigenerational exposure to phytosterols in the mouse. *Reproductive Toxicology*, 19(4), 535-540.
315. Ryu, Y., Kim, S. W., Kim, Y. Y., & Ku, S. Y. (2019). Animal models for human polycystic ovary syndrome (PCOS) focused on the use of indirect hormonal perturbations: a review of the literature. *International journal of molecular sciences*, 20(11), 2720.
316. Saha, L., Kaur, S., & Saha, P. K. (2012). Pharmacotherapy of polycystic ovary syndrome—an update. *Fundamental & clinical pharmacology*, 26(1), 54-62.
317. Sahmay, S., Aydin, Y., Oncul, M., & Senturk, L. M. (2014). Diagnosis of polycystic ovary syndrome: AMH in combination with clinical symptoms. *Journal of assisted reproduction and genetics*, 31(2), 213-220.
318. Sahu, P. K., Giri, D. D., Singh, R., Pandey, P., Gupta, S., Shrivastava, A. K., ... & Pandey, K. D. (2013). Therapeutic and medicinal uses of *Aloe vera*: a review. *Pharmacology & Pharmacy*, 4(08), 599.
319. Saiyed, A., Jahan, N., Makbul, S. A. A., Ansari, M., Bano, H., & Habib, S. H. (2016). Effect of combination of *Withania somnifera* Dunal and *Tribulus terrestris* Linn on letrozole induced polycystic ovarian syndrome in rats. *Integrative medicine research*, 5(4), 293-300.
320. Salek, M., Clark, C. C., Taghizadeh, M., & Jafarnejad, S. (2019). N-3 fatty acids as preventive and therapeutic agents in attenuating PCOS complications. *EXCLI journal*, 18, 558.
321. Salonia A, Lanzi R, Scavini M, et al. Sexual function and endocrine profile in fertile women with type 1 diabetes. *Diabetes Care*. 2006; 29:312-316.
322. Salvetti, N. R., Baravalle, C., Mira, G. A., Gimeno, E. J., Dallard, B. E., Rey, F., & Ortega, H. H. (2009). Heat shock protein 70 and sex steroid receptors in the follicular structures of induced ovarian cysts. *Reproduction in Domestic Animals*, 44(5), 805-814.
323. Samani, N. B., Jokar, A., Soveid, M., Heydari, M., & Mosavat, S. H. (2016). Efficacy of the hydroalcoholic extract of *Tribulus terrestris* on the serum glucose and lipid profile of women with diabetes mellitus: A double-blind randomized placebo-controlled clinical trial. *Journal of evidence-based complementary & alternative medicine*, 21(4), NP91-NP97.
324. Sander, V., Luchetti, C. G., Solano, M. E., Elia, E., Di Girolamo, G., Gonzalez, C., & Motta, A. B. (2006). Role of the N, N'-dimethylbiguanide metformin in the treatment of female prepuberal BALB/c mice hyperandrogenized with dehydroepiandrosterone. *Reproduction*, 131(3), 591-602.
325. Santini, S. E., Basini, G., Bussolati, S., & Grasselli, F. (2009). The phytoestrogen quercetin impairs steroidogenesis and angiogenesis in swine granulosa cells in vitro. *Journal of biomedicine and biotechnology*, 2009.

326. Sarel, I., & Widmaier, E. P. (1995). Stimulation of steroidogenesis in cultured rat adrenocortical cells by unsaturated fatty acids. *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology*, 268(6), R1484-R1490.
327. Sasikala, S. L., & Shamila, S. (2009). Unique rat model exhibiting biochemical fluctuations of letrozole induced polycystic ovary syndrome and subsequent treatment with allopathic and ayurvedic medicines. *Journal of Cell and Tissue Research*, 9(3), 2013.
328. Schenone, M., Dančík, V., Wagner, B. K., & Clemons, P. A. (2013). Target identification and mechanism of action in chemical biology and drug discovery. *Nature chemical biology*, 9(4), 232-240.
329. Schuring, A. N., Schulte, N., Sonntag, B., & Kiesel, L. (2008). Androgens and insulin--two key players in polycystic ovary syndrome. Recent concepts in the pathophysiology and genetics of polycystic ovary syndrome. *Gynakologisch-Geburtshilfliche Rundschau*, 48(1), 9-15.
330. Sears, B., & Perry, M. (2015). The role of fatty acids in insulin resistance. *Lipids in health and disease*, 14(1), 1-9.
331. Sekar, N., Garmey, J. C., & Veldhuis, J. D. (2000). Mechanisms underlying the steroidogenic synergy of insulin and luteinizing hormone in porcine granulosa cells: joint amplification of pivotal sterol-regulatory genes encoding the low-density lipoprotein (LDL) receptor, steroidogenic acute regulatory (stAR) protein and cytochrome P450 side-chain cleavage (P450scc) enzyme. *Molecular and cellular endocrinology*, 159(1-2), 25-35.
332. Selva, D. M., Hogeveen, K. N., Innis, S. M., & Hammond, G. L. (2007). Monosaccharide-induced lipogenesis regulates the human hepatic sex hormone-binding globulin gene. *The Journal of clinical investigation*, 117(12), 3979-3987.
333. Sen, A., Prizant, H., Light, A., Biswas, A., Hayes, E., Lee, H. J., ... & Hammes, S. R. (2014). Androgens regulate ovarian follicular development by increasing follicle stimulating hormone receptor and microRNA-125b expression. *Proceedings of the National Academy of Sciences*, 111(8), 3008-3013.
334. Sepilian, V., & Nagamani, M. (2005). Effects of rosiglitazone in obese women with polycystic ovary syndrome and severe insulin resistance. *The Journal of Clinical Endocrinology & Metabolism*, 90(1), 60-65.
335. Shabi, M. M., Gayathri, K., Venkatalakshmi, R., & Sasikala, C. (2010). Chemical constituents of hydro alcoholic extract and phenolic fraction of *Cynodon dactylon*. *Int J ChemTech Res*, 2, 149-154.
336. Shah, U. M., Patel, S. M., Patel, P. H., Hingorani, L., & Jadhav, R. B. (2010). Development and validation of a simple isocratic HPLC method for simultaneous estimation of phytosterols in *Cissus quadrangularis*. *Indian journal of pharmaceutical sciences*, 72(6), 753.

337. Shaito, A., Thuan, D. T. B., Phu, H. T., Nguyen, T. H. D., Hasan, H., Halabi, S., ... & Pintus, G. (2020). Herbal medicine for cardiovascular diseases: efficacy, mechanisms, and safety. *Frontiers in pharmacology*, 11, 422.
338. Shalini, M., Suresh Babu, K. P., Srinivasa Murthy, A. G., Girish, B., Hamsaveena, M. K., & Vaishnavi, B. (2013). Metabolic syndrome among urban and rural women population—a cross sectional study. *Journal of clinical and diagnostic research: JCDR*, 7(9), 1938.
339. Sharma, A., Baddela, V. S., Becker, F., Dannenberger, D., Viergutz, T., & Vanselow, J. (2019). Elevated free fatty acids affect bovine granulosa cell function: a molecular cue for compromised reproduction during negative energy balance. *Endocrine connections*, 8(5), 493-505.
340. Sharma, P., Kharkwal, A. C., Kharkwal, H., Abdin, M. Z., & Varma, A. (2014). A review on pharmacological properties of *Aloe vera*. *Int J Pharm Sci Rev Res*, 29(2), 31-37.
341. Sharpe, R. L., Drolet, M., & MacLatchy, D. L. (2006). Investigation of de novo cholesterol synthetic capacity in the gonads of goldfish (*Carassius auratus*) exposed to the phytosterol beta-sitosterol. *Reproductive Biology and Endocrinology*, 4(1), 1-11.
342. Shen, W., Zhang, Y., Cong, J., & Wu, X. (2013). Effects of Tanshinone on hyperandrogenism and quality of life in women with polycystic ovary syndrome: study design of a double-blind, placebo-controlled, randomized trial. *Амурский медицинский журнал*, (3), 122-125.
343. Shi, Y., Kong, X., Yin, H., Zhang, W., & Wang, W. (2019). Effect of hawthorn leaf flavonoids in dehydroepiandrosterone-induced polycystic ovary syndrome in rats. *Pathobiology*, 86(2-3), 102-110.
344. Shrestha, D., La, X., & Feng, H. L. (2015). Comparison of different stimulation protocols used in in vitro fertilization: a review. *Annals of translational medicine*, 3(10).
345. Sierralta, W. D., Kohen, P., Castro, O., Muñoz, A., Strauss III, J. F., & Devoto, L. (2005). Ultrastructural and biochemical evidence for the presence of mature steroidogenic acute regulatory protein (StAR) in the cytoplasm of human luteal cells. *Molecular and cellular endocrinology*, 242(1-2), 103-110.
346. Simard, J., Ricketts, M. L., Gingras, S., Soucy, P., Feltus, F. A., & Melner, M. H. (2005). Molecular biology of the 3 β -hydroxysteroid dehydrogenase/ Δ 5- Δ 4 isomerase gene family. *Endocrine reviews*, 26(4), 525-582.
347. Singh, A. K., & Singh, R. (2015). Can anti-Mullerian hormone replace ultrasonographic evaluation in polycystic ovary syndrome? A review of current progress. *Indian journal of endocrinology and metabolism*, 19(6), 731.
348. Singh, G. (2018). Preclinical Drug Development. In *Pharmaceutical Medicine and Translational Clinical Research* (pp. 47-63). Academic Press.

349. Sirotkin, A. V. (2011). Cytokines: signalling molecules controlling ovarian functions. *The international journal of biochemistry & cell biology*, 43(6), 857-861.
350. Solís-S, J. C., García-Solís, P., Robles-Osorio, L., & Hernández-Montiel, H. L. (2017). Beneficial Effects of Phytochemicals on the Endocrine System. *Fruit and Vegetable Phytochemicals: Chemistry and Human Health*, 2 Volumes, 67.
351. Solorzano, C. M. B., & McCartney, C. R. (2010). Obesity and the pubertal transition in girls and boys. *Reproduction (Cambridge, England)*, 140(3), 399.
352. Soto, N., Iniguez, G., Lopez, P., Larenas, G., Mujica, V., Rey, R. A., & Codner, E. (2009). Anti-Müllerian hormone and inhibin B levels as markers of premature ovarian aging and transition to menopause in type 1 diabetes mellitus. *Human Reproduction*, 24(11), 2838-2844.
353. Spritzer, P. M. (2014). Polycystic ovary syndrome: reviewing diagnosis and management of metabolic disturbances. *Arquivos Brasileiros de Endocrinologia & Metabologia*, 58, 182-187.
354. Stocco, D. M., & Clark, B. J. (1996). Role of the steroidogenic acute regulatory protein (StAR) in steroidogenesis. *Biochemical pharmacology*, 51(3), 197-205.
355. Stocco, Douglas & Wang, XingJia & Jo, Youngah & Manna, Pulak. (2005). Multiple Signaling Pathways Regulating Steroidogenesis and Steroidogenic Acute Regulatory Protein Expression: More Complicated than We Thought. *Molecular endocrinology* (Baltimore, Md.). 19. 2647-59. 10.1210/me.2004-0532.
356. Strovel, J., Sittampalam, S., Coussens, N. P., Hughes, M., Inglese, J., Kurtz, A., ... & Weir, S. (2016). Early drug discovery and development guidelines: for academic researchers, collaborators, and start-up companies. *Assay Guidance Manual* [Internet].
357. Su, H. I., Maas, K., Sluss, P. M., Chang, R. J., Hall, J. E., & Joffe, H. (2013). The impact of depot GnRH agonist on AMH levels in healthy reproductive-aged women. *The Journal of Clinical Endocrinology & Metabolism*, 98(12), E1961-E1966.
358. Sugawara, T., Lin, D., Holt, J. A., Martin, K. O., Javitt, N. B., Miller, W. L., & Strauss III, J. F. (1995). Structure of the human steroidogenic acute regulatory (StAR) protein gene: StAR stimulates mitochondrial cholesterol 27-hydroxylase. *Biochemistry*, 34(39), 12506-12512.
359. Sun, C., Li, X., Liu, L., Conet, M. J., Guan, Y., Fan, Y., & Zhou, Y. (2016). Effect of fasting time on measuring mouse blood glucose level. *Int J Clin Exp Med*, 9(2), 4186-4189.
360. Sun, Y., Zhang, J., Ping, Z., Fan, L., Wang, C., Li, W., ... & Zhou, X. (2011). Expression of 3 β -hydroxysteroid dehydrogenase (3 β -HSD) in normal and cystic follicles in sows. *African Journal of Biotechnology*, 10(32), 6184-6189.
361. Suzuki, T., Sasano, H., Kimura, N., Tamura, M., Fukaya, T., Yajima, A., & Nagura, H. (1994). Physiology: Immunohistochemical distribution of progesterone, androgen and oestrogen receptors in

- the human ovary during the menstrual cycle: relationship to expression of steroidogenic enzymes. *Human Reproduction*, 9(9), 1589-1595.
362. Szakács, G., Váradi, A., Özvegy-Laczka, C., & Sarkadi, B. (2008). The role of ABC transporters in drug absorption, distribution, metabolism, excretion and toxicity (ADME-Tox). *Drug discovery today*, 13(9-10), 379-393.
 363. Tabakova, P., Dimitrov, M., & Tashkov, B. (1984). Clinical studies on the preparation Tribestan in women with endocrine infertility or menopausal syndrome. *Sofia, Bulgaria: 1st Obstetrical and Gynecological Hospital*.
 364. Tabrizi, F. P. F., Hajizadeh-Sharafabad, F., Vaezi, M., Jafari-Vayghan, H., Alizadeh, M., & Maleki, V. (2020). Quercetin and polycystic ovary syndrome, current evidence and future directions: a systematic review. *Journal of ovarian research*, 13(1), 1-10.
 365. Tamadon, A., Hu, W., Cui, P., Ma, T., Tong, X., Zhang, F., ... & Feng, Y. (2018). How to choose the suitable animal model of polycystic ovary syndrome?. *Traditional Medicine and Modern Medicine*, 1(02), 95-113.
 366. Tanaka, M., Misawa, E., Ito, Y., Habara, N., Nomaguchi, K., Yamada, M., ... & Higuchi, R. (2006). Identification of five phytosterols from *Aloe vera* gel as anti-diabetic compounds. *Biological and Pharmaceutical Bulletin*, 29(7), 1418-1422.
 367. Tanaka, M., Misawa, E., Yamauchi, K., Abe, F., & Ishizaki, C. (2015). Effects of plant sterols derived from *Aloe vera* gel on human dermal fibroblasts in vitro and on skin condition in Japanese women. *Clinical, cosmetic and investigational dermatology*, 8, 95.
 368. Tarkowská, D. (2019). Plants are capable of synthesizing animal steroid hormones. *Molecules*, 24(14), 2585.
 369. Taxvig, C., Elleby, A., Sonne-Hansen, K., Bonefeld-Jørgensen, E. C., Vinggaard, A. M., Lykkesfeldt, A. E., & Nellemann, C. (2009). Effects of nutrition relevant mixtures of phytoestrogens on steroidogenesis, aromatase, estrogen, and androgen activity. *Nutrition and cancer*, 62(1), 122-131.
 370. Testa, B., & Kraemer, S. D. (2008). The biochemistry of drug metabolism—an introduction: part 4. reactions of conjugation and their enzymes. *Chemistry & biodiversity*, 5(11), 2171-2336.
 371. Tokmak, A., Kokanali, D., Timur, H., Kuntay Kokanali, M., & Yilmaz, N. (2016). Association between anti-Mullerian hormone and insulin resistance in non-obese adolescent females with polycystic ovary syndrome. *Gynecological Endocrinology*, 32(11), 926-930.
 372. Tonetta, S. A., & Hernandez, M. (1989). Modulation of 17 α -hydroxylase/C17, 20-lyase activity in porcine theca cells. *Journal of steroid biochemistry*, 33(2), 263-270.

373. Torres, P.J., Skarra, D.V., Ho, B.S., Sau, L., Anvar, A.R., Kelley, S.T. and Thackray, V.G., 2019. Letrozole treatment of adult female mice results in a similar reproductive phenotype but distinct changes in metabolism and the gut microbiome compared to pubertal mice. *BMC microbiology*, 19(1), pp.1-15.
374. Tu, J., Cheung, A. H. H., Chan, C. L. K., & Chan, W. Y. (2019). The role of microRNAs in ovarian granulosa cells in health and disease. *Frontiers in endocrinology*, 10, 174.
375. Vaddady, P. K., Lee, R. E., & Meibohm, B. (2010). In vitro pharmacokinetic/pharmacodynamic models in anti-infective drug development: focus on TB. *Future medicinal chemistry*, 2(8), 1355-1369.
376. Vahratian, A., Barber, J. S., Lawrence, J. M., & Kim, C. (2009). Family-planning practices among women with diabetes and overweight and obese women in the 2002 National Survey For Family Growth. *Diabetes care*, 32(6), 1026-1031.
377. Van Santbrink, E. J., Hop, W. C., & Fauser, B. C. (1997). Classification of normogonadotropic infertility: polycystic ovaries diagnosed by ultrasound versus endocrine characteristics of polycystic ovary syndrome. *Fertility and sterility*, 67(3), 452-458.
378. van Waterschoot, R. A., & Schinkel, A. H. (2011). A critical analysis of the interplay between cytochrome P450 3A and P-glycoprotein: recent insights from knockout and transgenic mice. *Pharmacological reviews*, 63(2), 390-410.
379. Veikkolainen, V., Ali, N., Doroszko, M., Kiviniemi, A., Miinalainen, I., Ohlsson, C., ... & Naillat, F. (2020). Erbb4 regulates the oocyte microenvironment during folliculogenesis. *Human Molecular Genetics*, 29(17), 2813-2830.
380. Visavadiya, N. P., & Narasimhacharya, A. V. R. L. (2007). Hypocholesteremic and antioxidant effects of *Withania somnifera* (Dunal) in hypercholesteremic rats. *Phytomedicine*, 14(2-3), 136-142.
381. Voss, A. K., & Fortune, J. E. (1993). Levels of messenger ribonucleic acid for cholesterol side-chain cleavage cytochrome P-450 and 3 beta-hydroxysteroid dehydrogenases in bovine preovulatory follicles decrease after the luteinizing hormone surge. *Endocrinology*, 132(2), 888-894.
382. Wallace, I. R., McKinley, M. C., Bell, P. M., & Hunter, S. J. (2013). Sex hormone binding globulin and insulin resistance. *Clinical endocrinology*, 78(3), 321-329.
383. Walters, K. A., Allan, C. M., & Handelsman, D. J. (2008). Androgen actions and the ovary. *Biology of reproduction*, 78(3), 380-389.
384. Wang, G., & Zhu, W. (2016). Molecular docking for drug discovery and development: a widely used approach but far from perfect.
385. Wang, H., Andoh, K., Hagiwara, H., Xiaowei, L., Kikuchi, N., Abe, Y., ... & Mizunuma, H. (2001). Effect of adrenal and ovarian androgens on type 4 follicles unresponsive to FSH in immature mice. *Endocrinology*, 142(11), 4930-4936.

386. Wang, H., Cai, Y., Shao, Y., Zhang, X., Li, N., Zhang, H., & Liu, Z. (2018). Fish oil ameliorates high-fat diet induced male mouse reproductive dysfunction via modifying the rhythmic expression of testosterone synthesis related genes. *International journal of molecular sciences*, 19(5), 1325.
- Abbott, D. H., Barnett, D. K., Bruns, C. M., & Dumesic, D. A. (2005). Androgen excess fetal programming of female reproduction: a developmental aetiology for polycystic ovary syndrome? *Human reproduction update*, 11(4), 357-374.
387. Wang, J. F., Zhang, H. M., Li, Y. Y., Xia, S., Wei, Y., Yang, L., ... & Pan, R. R. (2019). A combination of omega-3 and plant sterols regulate glucose and lipid metabolism in individuals with impaired glucose regulation: a randomized and controlled clinical trial. *Lipids in health and disease*, 18(1), 1-9.
388. Wang, J. G., Anderson, R. A., Graham III, G. M., Chu, M. C., Sauer, M. V., Guarnaccia, M. M., & Lobo, R. A. (2007). The effect of cinnamon extract on insulin resistance parameters in polycystic ovary syndrome: a pilot study. *Fertility and sterility*, 88(1), 240-243.
389. Wang, R., & Mol, B. W. J. (2017). The Rotterdam criteria for polycystic ovary syndrome: evidence-based criteria? *Human Reproduction*, 32(2), 261-264.
390. Wang, T., Sha, L., Li, Y., Zhu, L., Wang, Z., Li, K., ... & Wang, H. (2020). Dietary α -Linolenic acid-rich flaxseed oil exerts beneficial effects on polycystic ovary syndrome through sex steroid hormones—microbiota—inflammation axis in rats. *Frontiers in endocrinology*, 11, 284.
391. Wang, T., Xue, B., Shao, H., Wang, S. Y., Bai, L., Yin, C. H., ... & Ma, Y. M. (2018). Effect of Dandelion Extracts on the Proliferation of Ovarian Granulosa Cells and Expression of Hormone Receptors. *Chinese medical journal*, 131(14), 1694.
392. Wang, Z., Yang, Y., Xiang, X., Zhu, Y., Men, J., & He, M. (2010). Estimation of the normal range of blood glucose in rats. *Wei sheng yan jiu= Journal of hygiene research*, 39(2), 133-7.
393. Wellons, M. F., Matthews, J. J., & Kim, C. (2017). Ovarian aging in women with diabetes: an overview. *Maturitas*, 96, 109-113.
394. Wender-Ozegowska, E., Zawiejska, A., Michalowska-Wender, G., Iciek, R., Wender, M., & Brazert, J. (2011). Metabolic syndrome in type 1 diabetes mellitus. Does it have any impact on the course of pregnancy? *Journal of Physiology and Pharmacology*, 62(5), 567.
395. Weniger, J. P., & Zeis, A. (1988). Stimulation of aromatase activity in the fetal rat gonads by cAMP and FSH. *European Journal of Endocrinology*, 119(3), 381-385.
396. Wickenheisser, J. K., Biegler, J. M., Nelson-DeGrave, V. L., Legro, R. S., Strauss III, J. F., & McAllister, J. M. (2012). Cholesterol side-chain cleavage gene expression in theca cells: augmented transcriptional regulation and mRNA stability in polycystic ovary syndrome. *PloS one*, 7(11), e48963.

397. Wickenheisser, J. K., Nelson-DeGrave, V. L., & McAllister, J. M. (2005). Dysregulation of cytochrome P450 17 α -hydroxylase messenger ribonucleic acid stability in theca cells isolated from women with polycystic ovary syndrome. *The Journal of Clinical Endocrinology & Metabolism*, 90(3), 1720-1727.
398. Wickenheisser, J. K., Nelson-DeGrave, V. L., & McAllister, J. M. (2006). Human ovarian theca cells in culture. *Trends in Endocrinology & Metabolism*, 17(2), 65-71.
399. Wickenheisser, J. K., Quinn, P. G., Nelson, V. L., Legro, R. S., Strauss III, J. F., & McAllister, J. M. (2000). Differential activity of the cytochrome P450 17 α -hydroxylase and steroidogenic acute regulatory protein gene promoters in normal and polycystic ovary syndrome theca cells. *The Journal of Clinical Endocrinology & Metabolism*, 85(6), 2304-2311.
400. Wild, S., Pierpoint, T., Jacobs, H., & McKeigue, P. (2000). Long-term consequences of polycystic ovary syndrome: results of a 31 year follow-up study. *Human Fertility*, 3(2), 101-105.
401. Williams, T., Mortada, R., & Porter, S. (2016). Diagnosis and treatment of polycystic ovary syndrome. *American family physician*, 94(2), 106-113.
402. Wiweko, B., Indra, I., Susanto, C., Natadisastra, M. and Hestiantoro, A. (2018). The correlation between serum AMH and HOMA-IR among PCOS phenotypes. *BMC Research notes*, 11(1), pp.1-6.
403. Wiweko, B., Maidarti, M., Priangga, M. D., Shafira, N., Fernando, D., Sumapraja, K., ... & Hestiantoro, A. (2014). Anti-mullerian hormone as a diagnostic and prognostic tool for PCOS patients. *Journal of assisted reproduction and genetics*, 31(10), 1311-1316.
404. Wu, S., Divall, S., Nwaopara, A., Radovick, S., Wondisford, F., Ko, C., & Wolfe, A. (2014). Obesity-induced infertility and hyperandrogenism are corrected by deletion of the insulin receptor in the ovarian theca cell. *Diabetes*, 63(4), 1270-1282.
405. Wuttke, W., Seidlova-Wuttke, D., & Gorkow, C. (2003). The Cimicifuga preparation BNO 1055 vs. conjugated estrogens in a double-blind placebo-controlled study: effects on menopause symptoms and bone markers. *Maturitas*, 44, S67-S77.
406. Xie, Y., Wang, Y. L., Yu, L., Hu, Q., Ji, L., Zhang, Y., & Liao, Q. P. (2011). Metformin promotes progesterone receptor expression via inhibition of mammalian target of rapamycin (mTOR) in endometrial cancer cells. *The Journal of steroid biochemistry and molecular biology*, 126(3-5), 113-120.
407. Xita, N., & Tsatsoulis, A. (2006). Fetal programming of polycystic ovary syndrome by androgen excess: evidence from experimental, clinical, and genetic association studies. *The Journal of Clinical Endocrinology & Metabolism*, 91(5), 1660-1666.
408. Xita, N., Lazaros, L., Georgiou, I., & Tsatsoulis, A. (2010). CYP19 gene: a genetic modifier of polycystic ovary syndrome phenotype. *Fertility and sterility*, 94(1), 250-254.

409. Yang, F., Ruan, Y. C., Yang, Y. J., Wang, K., Liang, S. S., Han, Y. B., ... & Yang, J. Z. (2015). Follicular hyperandrogenism downregulates aromatase in luteinized granulosa cells in polycystic ovary syndrome women. *Reproduction*, 150(4), 289-296.
410. Yang, H., Kim, H. J., Pyun, B. J., & Lee, H. W. (2018). Licorice ethanol extract improves symptoms of polycystic ovary syndrome in Letrozole-induced female rats. *Integrative medicine research*, 7(3), 264-270.
411. Yang, H., Lee, S. Y., Lee, S. R., Pyun, B. J., Kim, H. J., Lee, Y. H., ... & Lee, H. W. (2018). Therapeutic effect of Ecklonia cava extract in letrozole-induced polycystic ovary syndrome rats. *Frontiers in pharmacology*, 9, 1325.
412. Yang, H., Lee, Y. H., Lee, S. R., Kaya, P., Hong, E. J., & Lee, H. W. (2020). Traditional medicine (Mahuang-Tang) improves ovarian dysfunction and the regulation of steroidogenic genes in letrozole-induced PCOS rats. *Journal of ethnopharmacology*, 248, 112300.
413. Yang, M. Y., & Fortune, J. E. (2006). Testosterone stimulates the primary to secondary follicle transition in bovine follicles in vitro. *Biology of Reproduction*, 75(6), 924-932.
414. Yong, E. L., Hillier, S. G., Turner, M., Baird, D. T., Ng, S. C., Bongso, A., & Ratnam, S. S. (1994). Differential regulation of cholesterol side-chain cleavage (P450_{scc}) and aromatase (P450_{arom}) enzyme mRNA expression by gonadotrophins and cyclic AMP in human granulosa cells. *Journal of molecular endocrinology*, 12(2), 239-249.
415. Yoshizawa, A., & Clemmons, D. R. (2000). Testosterone and insulin-like growth factor (IGF) I interact in controlling IGF-binding protein production in androgen-responsive foreskin fibroblasts. *The Journal of Clinical Endocrinology & Metabolism*, 85(4), 1627-1633.
416. Young, J. M., & McNeilly, A. S. (2010). Theca: the forgotten cell of the ovarian follicle. *Reproduction*, 140(4), 489.
417. Yu, C. P., Shia, C. S., Lin, H. J., Hsieh, Y. W., Lin, S. P., & Hou, Y. C. (2016). Analysis of the pharmacokinetics and metabolism of aloe-emodin following intravenous and oral administrations in rats. *Biomedical Chromatography*, 30(10), 1641-1647.
418. Zaafar, D. K., Zaitone, S. A., & Moustafa, Y. M. (2014). Role of metformin in suppressing 1, 2-dimethylhydrazine-induced colon cancer in diabetic and non-diabetic mice: effect on tumor angiogenesis and cell proliferation. *PloS one*, 9(6), e100562.
419. Zawadzski, J. K. (1992). Diagnostic criteria for polycystic ovary syndrome: towards a rational approach. *Polycystic ovary syndrome*, 39-50.
420. Zhang, D., Ku, J., Yi, Y., Zhang, J., Liu, R., & Tang, N. (2019). The prognostic values of estrogen receptor alpha and beta in patients with gastroesophageal cancer: a meta-analysis. *Medicine*, 98(46).

421. Zhang, G., Garmey, J. C., & Veldhuis, J. D. (2000). Interactive stimulation by luteinizing hormone and insulin of the steroidogenic acute regulatory (StAR) protein and 17 α -hydroxylase/17, 20-lyase (CYP17) genes in porcine theca cells. *Endocrinology*, 141(8), 2735-2742.
422. Zhang, Y., Bao, Z., Ye, X., Xie, Z., He, K., Mergens, B., ... & Zheng, Q. (2018). Chemical investigation of major constituents in *Aloe vera* leaves and several commercial Aloe juice powders. *Journal of AOAC International*, 101(6), 1741-1751.
423. Zhao, Y., Fu, L., Li, R., Wang, L. N., Yang, Y., Liu, N. N., ... & Qiao, J. (2012). Metabolic profiles characterizing different phenotypes of polycystic ovary syndrome: plasma metabolomics analysis. *BMC medicine*, 10(1), 1-12.
424. Zinman, B., Harris, S. B., Neuman, J., Gerstein, H. C., Retnakaran, R. R., Raboud, J., ... & Hanley, A. J. (2010). Low-dose combination therapy with rosiglitazone and metformin to prevent type 2 diabetes mellitus (CANOE trial): a double-blind randomised controlled study. *The Lancet*, 376(9735), 103-111.