females. The enhanced insulin levels in the blood upshots the androgen over synthesis which in turn cause dyslipidemia [10].

Conclusion

Infertility in females is a worldwide medical condition affecting the social life of all by many pathophysiological alterations. In this discussion, insulin resistance emerges out as a chief pathogenic mechanism altering the ovulatory function physiology. Keeping the proper dietary habits viz. inclusion of slow digesting carbohydrates, antioxidants in the daily diet may improve the ovulatory function. A perfect balance of proteins, carbohydrates, fats, antioxidants and other dietary supplements provides necessary advantage to female ovulatory health and decreases the risk of infertility.

References

1. Habbema JD, Collins J, Leridon H, Evers JL, Lunenfeld B, teVelde ER. Towards less confusing terminology in reproductive medicine: a proposal. Hum Reproduc. (2004) 19:1497–501.
2. Ombelet W, Cooke I, Dyer S, Serour G, Devroey P. Infertility and the provision of infertility medical services in developing countries. Hum Reproduc Update. (2008) 14:605–21.
3. Anderson K, Nisenblat V, Norman R. Lifestyle factors in people seeking infertility treatment - a review. Austr N Zeal J ObstetrGynaecol. (2010) 50:8–20.
4. Vander Borght M, Wyns C. Fertility and infertility: definition and epidemiology. ClinBiochem. (2018) 62:2–10.
5. Dorfman SF. Tobacco and fertility: our responsibilities. Fertility Steril. (2008) 89:502–4.
6. Klonoff-Cohen H, Natarajan L. The concerns during assisted reproductive technologies (CART) scale and pregnancy outcomes. Fertility Steril. (2004) 81:982–8.
7. Rich-Edwards JW, Goldman MB, Willett WC, Hunter DJ, Stampfer MJ, Colditz GA, et al.Adolescent body mass index and infertility caused by ovulatory disorder. Am J Obstetr Gynecol. (1994) 171:171–7.
8. Sivestris E, Cohen M, Menezo Y. Oxidative stress (OS) and DNA methylation errors in reproduction. A place for a support of the one carbon cycle (1-C cycle) before conception. Womens Health Gynecol. (2016) 2:30.
9. Group ECW. Nutrition and reproduction in women. Hum Reproduc Update. (2006) 12:193–207.
10. Amudha MR S., Kannan K., Manavalan R. An updated overview on causes, diagnosis management of infertility. Int J Pharmacy Sci Revised Res (2013) 18:155–64.

PEPTIDE NANOTECHNOLOGY: A BIO INSPIRED NANO-STRATEGY TO COMBAT WITH REPRODUCTIVE DISEASES

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Nanotechnology has become a most exciting and burgeoning scientific research field of the 21st century. Owing to its wide range of applications from molecules to materials, it is gaining rapid popularity among the scientists of diverse disciplines. The rational investigation of molecules or functional inorganic/organic units to exploit the desired material at nanometer scale for biomedical advances is emerging rapidly [1,2]. The strategic design of useful nanostructures developed by methodological approaches that exhibit unique physicochemical or biological features are among the most impressive manmade materials. Such materials can be used for an unprecedented number of applications not only ranging from electronics and agriculture to medicine and healthcare but in the field of reproduction and fertility too.[3,4] Since nanotechnology has applications in almost all areas of life. Therefore to make full use of it, an interdisciplinary collaborative research approach among scientists is needed. Thus this new branch of nanoscience can bring enormous potential to the field of most vital domains of medical science i.e. reproductive healthcare [3,4]

Several biocompatible nanomaterials promising for healthcare applications have already been used, such as; AgNPs, AuNps, composite Fe3O4 nanoparticles, carbon nanotubes(CNT) carbon nanoparticles (CNP), Quantum dots, polymeric nanoparticles to name a few. [3] The way nanomaterials of desired properties are made can be classified by two basic strategies i.e. 'top-down' and 'bottom-up' [5]. In top-down approaches, especially, the giant sample with the help of external stimuli or mechanical crushing of source material using milling process produces nanoparticle of desired shape and properties. In contrast, bottom-up approaches are those in which the final nanostructure is encoded in the material itself and the precursors self-assemble into the meaningful arrangement by using required physicochemical process. It is worth mentioning that, in recent years, scientists also using the conversing approach of these two processes, where top-down control is used to guide bottom-up process [2, 5]. An amalgamation of these two approaches leads the high degree of desired configuration of randomly interacting components in a thermodynamic landscape which is locally controlled or adjusted by experimenter. Such materials can be used for the advances in the field spanning electronics to medicine [6].

Up to some extent, researchers succeeded to replicate nature's ability to produce small objects of specific molecules/atoms that can then self-assemble into more-elaborated fascinating nanostructures. However, the progress in this field is still in its infancy. Therefore bottom-up or molecular self-assembly approaches of nanofabrication of smart nanostructures by using desired chemical molecules is occupying specific place in bio (nano) technology for numerous applications [7]. Organizing molecules of interest into stable and well defined structures by using principle of spontaneous non-