

surrogacy. According to the existing studies, oocyte donation and surrogacy are challenging processes with short-term and long-term psychosocial consequences for donors and surrogate mothers. To prevent the feasible psychosocial hazards caused by the donation and surrogacy process, it is necessary to provide psychosocial support, proper counseling, and awareness of the facts and possible issues ahead for them.

K-20

Challenges of Iran's population policies

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Normal population distribution is essential for sustainable development, a sufficient workforce, and a dynamic economy. Declined the population's growth rate due to the decrease in fertility and immigration will initially cause a reduction in the ratio of children to adults. Iran is one of the few countries where the fertility rate trend has been declining rapidly for 2 decades, and predictions indicate that continuing this trend can make the country face many crises in the future. Although after the warnings of international organizations followed by the announcement of the country's population policy document in 2012, it was expected that this process would stop or even decrease in 10 yr, unfortunately, until now, none of the laws, instructions Promulgated policies and policies have not been able to have much effect on the population growth trend. Moreover, the unwillingness of couples to have children is still unknown to politicians, and policies and laws have not been able to remove the causes of the decrease in the fertility rate and encourage childbearing. This study was a structured qualitative study that, in a period of 4 months (from April to August 2022) with 10 childless couples who had been married for more than 2 yr, an in-depth interview was conducted in person. The individual analysis unit and its implementation location are in Tehran. The level of education of the respondents is mostly bachelors and master's. The average age of females was 34.6, and the male was 41.2 yr. Most of the respondents have been married for more than 4 yr. 3 couples with their own house, 5 couples who rent, and 2 who live in their father's house often do not consider their income enough to have children. Most men never wanted to marry, citing the economic and social situation and the lack of a clear vision for the future. One of the interviewees had a history of unwanted pregnancy leading to an intentional abortion with the consent and advice of his wife. Most examples consider 2 children as the ideal number of children. They often feel having a child is a big responsibility, which is incompatible with the country's current conditions. Most of them consider raising children difficult and think that meeting the needs of their children is contrary to their financial ability. Most of them (6 couples) think about emigration, so they only consider it advisable to have a child after emigration. Most of the country's economic, political, cultural, and social conditions are not suitable for having children, and they believe that by having children, they

will impose a life of suffering on the children. And not having children means reducing suffering for yourself and others. Most respondents do not consider the increase in subsidies or financial aid very effective in deciding to have children. Most considered the positive social and political changes, especially the lifting of embargoes and the prosperity of business and international exchanges, influential in deciding to have children.

K-21

Designed antiviral ankyrin in HIV and reproductive medicine

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Ankyrin has been found to play a role in HIV infection and reproductive medicine. In terms of HIV, ankyrin has been identified as a host protein that interacts with the HIV-1 capsid protein and may be involved in the early stages of viral replication. In reproductive medicine, ankyrin has been found to play a role in sperm function and fertility. Specifically, ankyrin has been identified as a key component of the sperm tail, which helps maintain the tail's structural integrity and facilitate motility. Mutations in ankyrin genes have been associated with male infertility, and researchers are exploring the potential of ankyrin-targeted therapies to treat this condition. While the roles of ankyrin in HIV and reproductive medicine are distinct, there may be potential for cross-disciplinary research to explore the potential of ankyrin-targeted therapies for both HIV and infertility. Understanding the interactions between ankyrin and the HIV capsid protein may shed light on developing new therapies for both HIV and male infertility. The present talk will focus on the potential of targeting ankyrin as a therapeutic strategy to inhibit HIV replication in the designed antiviral ankyrin-a computational approach to combat HIV-1 via intracellular pathway by targeting the viral capsid of HIV-1.

K-22

Targeted therapy in prostate cancer

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Prostate cancer is the second most prevalent malignancy in men worldwide. Some reports have indicated the relation between infertility and increased risk of prostate cancer, which might be related to abnormalities in the Y chromosome. On the other hand, common treatments applied to prostate cancer can result in male infertility due to affecting sperm development or movement. Thus, it is important to improve the treatment strategies for targeted therapy to reduce the side effects. 15-lipoxygenase-1 is an enzyme that metabolizes polyunsaturated fatty acids into physiologically important metabolites. This enzyme is overexpressed in prostate cancer cells, and treatment with potent inhibitors would benefit cancer treatment. Here, we report the application of some coumarin derivatives, which resulted in specific inhibition of this enzyme and thus reduced proliferation and invasion of the cancer cells both in vitro and in vivo. Furthermore, we used small extracellular vesicles as a drug delivery system to increase the efficacy of the treatment.

K-23

Trustworthiness of medical research

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Abstract not received.

K-24

The tissue engineering innovations for reestablishing women fertility and postponing menopause

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Previously, the prevalence of ovarian insufficiency or failure was 1%. But nowadays, many women are affected by infertility due to ovarian problems, and many of these people are candidates for egg donation. On the other hand, new techniques of ovarian reconstruction or rejuvenation propose novel approaches for ovarian rebuilding, which can overcome the problem of women's infertility and would replace the ovarian tissue in vitro and in vivo. But, ovarian reconstruction is a multifaceted issue due to several challenges, including a unique ovarian microarchitecture, the complexity of the cellular population, and the bilateral function of the ovary from oocyte creation to hormone production. In this scenario, regenerative medicine can mimic ovarian microstructure with the help of cellular therapy, and tissue engineering.

Therefore, the artificial ovary is a new strategy to reestablish women's fertility, especially after chemotherapy and cryopreservation or after ovarian failure. It has some advantages, including improvement of follicular survival by reducing the ischemia period, the safety of not re-introducing the malignant cells, control of follicular development, and improvement of follicular development by co-culture with ovarian cells. Besides creating oocytes, restarting the hormonal cycle and postponing early menopause are the serious aims of the artificial ovary. The ovarian extracellular matrix is required to maintain cell to cell interactions, follicle formation, and development, and it is responsible for creating some ovarian diseases. So, the first step is reassembling the extracellular matrix because it is one of the key factors for folliculogenesis. Finding the accurate biomaterials and best fabrication methods for assembling the scaffolds are the keynotes for physical support of ovarian cells and follicles. Scaffold composition, shape, porosity, degradability, and wettability are important. Among manufactured scaffolds, decellularized tissues are one of the best, and their up-to-date types are tissue papers (TPs). TPs are derived from native tissues with distinct microstructure characteristics and physical and mechanical properties. Regarding the mouse follicles, it was shown that TPs could support ovarian follicle growth and re-circulate hormonal function. Scaffolds, created by 3D bioprinting, are another new one for better mimicking the ovarian microstructure. Besides scaffold assembling, some other factors should be considered, including the cell population, the signaling molecules and chemical micro-environment, and the transplantation time and place. Also, the methods for the isolation of primordial follicles should still be optimized. Similarly, the kind of cell population for follicular co-culture should be clarified, for example, granulosa cells, theca, stem cells, germ cells, or a mixture of ovarian stromal cells. Neo-oogenesis is another branch for overcoming egg donation. Therefore, ovarian germ cell isolation, characterization, and preservation are the aim of many studies to be used to differentiate the oocyte in the future. Also, some researchers have focused on the capacity of other stem cells for differentiation to oocytes. Therefore, to overcome the egg donation by regenerative medicine, even folliculogenesis (Induction and support of follicular development) or neo-oogenesis (egg production by undifferentiated cells) should be carried out in parallel. Although still more studies are necessary, probably artificial ovary is a potential fertility-restoring treatment in the future.

K-25

New advances in ex-vivo spermatogenesis

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Spermatogenesis in the testicle of a newborn mouse has