

In the name of God

Curriculum Vitae



Personal Information

- First name: Zahra
- Last name: Shams Mofarahe
- Status: Associate Professor of Department Biology and Anatomical Sciences
- Gender: Female
- Marital status: Married
- Date of birth: 11st January 1795
- Place of birth: Iran-Tehran
- Nationality: Iranian
- Languages: Persian (native), English
- Address: Department of Biology and Anatomical Sciences, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran
- Phone number: +79(21) 23872555
- Fax: +79(21) 22437796
- E-mail addresses: z_shams@sbmu.ac.ir
zshmofarah@gmail.com

Educational Background

Received BSc. Degree in Midwifery from Shahid Beheshti University of Medical

Sciences in 1779.

Received MSc. Degree in Midwifery from Iran University of Medical Sciences in 2002.

Received PhD. Degree in Reproductive Biology from Shahid Beheshti University of

Medical Sciences in 2015.

Research Background

MSc: The subject of my M.Sc. thesis was “The effect of marital counseling on sexual

satisfaction of young couple”.

PhD: The subject of my PhD thesis was “The comparison of developmental gens expressions (Fshr, Kit ligand, Figla, Gdf-7) in vitrified human ovarian tissue after transplantation and culture”.

Supervisors of my PhD thesis: Prof. Marefat Ghaffari Novin, Prof. Mojdeh Salehnia.

Professional Membership

Iranian Society of Embryology and Reproductive Biology, since 2011 till now.

Medical Council of the Islamic Republic of Iran, since 2000 till now.

Iran Scientific Association of Midwifery, 2000-2019.

Honors

The Top Student with the 1st rank in Bachelor Degree, 1779.

The Top Student with the 1st rank in PhD Degree, 2015.

- The setup of human ovarian tissue vitrification technique in Sarem hospital in 2014.
- The Setup of human ovarian tissue vitrification technique in Infertility research center Shiraz university of medical sciences in 2015.

Practical Skills

- Laboratory skills
- In vitro fertilization
- Intra cytoplasmic sperm Injection
- Cryopreservation Techniques (Sperm, Oocyte, Embryo, Ovarian Tissue)
 - Vitrification
 - Slow freezing
- In vitro culture of cortical ovarian Tissue
- Xenograft transplantation of cortical ovarian Tissue
- Animal experimentation with mouse as well as immune suppressed mice
- Real-time PCR set up and interpretation of results
- Troubleshooting of Real-time PCR techniques in the laboratory
- Design of real-time PCR primers
- Computer Skills

1. Received ICDL certification from Tehran College of Technology

Workshop Instructor

- Practical workshop of human ovarian tissue vitrification held by Yazd University of Medical Sciences in 2012
- Practical workshop of Intra uterian insemination held by Shahid Beheshti University of Medical Sciences in 2013
- Practical workshop of Bovine ovarian tissue vitrification held by International society of Embryology & reproductive biology in 2015

□ Practical workshop of human ovarian tissue vitrification held by International society of Embryology & reproductive biology in 2016

Publications

□ Effect of human ovarian tissue vitrification on the expression of developmental genes, IJRM; 2015

□ Effect of Human Ovarian Tissue Vitrification/Warming on the Expression of Genes Related to Folliculogenesis, IBJ; 2015

□ The effect of Methamphetamine on oocyte quality, fertilization rate and embryo development in mice, IJWHR; 2015

□ Expression of folliculogenesis related genes in vitrified human ovarian tissue after two weeks in vitro culture, cell Journal; 2019

□ Improvement of oocyte in vitro maturation from mice with polycystic ovary syndrome by human mesenchymal stromal cell-conditioned media, 2019

□ Testicular toxicity and reproductive performance of streptozotocin-induced diabetic male rats: the ameliorating role of silymarin as an antioxidant, Toxin Reviews, 2019

□ Astaxanthin prevents the methotrexate-induced reproductive toxicity by targeting oxidative stress in male mice, Toxin Reviews, 2019

□ Vitamin C restores ovarian follicular reservation in a mouse model of aging, Anatomy & cell biology; 2017

□ Exosomal microRNA panels as biomarkers for hematological malignancies, Current Problems in Cancer, 2021

□ Effect of 1, 25 (OH) 2-vitamin D3 on expression and phosphorylation of progesterone receptor in cultured endometrial stromal cells of patients with repeated implantation failure, Acta Histochemica, 2020

□ Photobiomodulation preconditioned human semen protects sperm cells against detrimental effects of cryopreservation, Cryobiology, 2021

- Does in vitro fertilization affect the expression of miRNAs and their biogenesis pathway in preimplantation mouse embryos?, Birth Defects Research, 2020
- The effect of PEGylated iron oxide nanoparticles on sheep ovarian tissue: An ex-vivo nanosafety study, Heliyon, 2020

- Does timing in ICSI cycle affect oocyte quality and reproductive outcomes? A prospective study, Archives of Gynecology and Obstetrics, 2020
- MicroRNAs, small regulatory elements with significant effects on human implantation: a review, Journal of Assisted Reproduction and Genetics, 2023
- The effect of L-carnitine on Oocyte Mitochondrial Activity after Cryopreservation, Novelty in Biomedicine, 2022
- Meiosis Resumption of Immature Human Oocytes following Treatment with Calcium Ionophore In Vitro, Cell Journal, 2021
- The effect of kisspeptin on the maturation of human ovarian follicles in culture following vitrification -thawing processes, Research Square, 2022
- Comparative Effect of Photobiomodulation on Human Semen Samples Pre- and Post-Cryopreservation, Reproductive sciences, 2022
- Sitagliptin/metformin improves the fertilization rate and embryo quality in polycystic ovary syndrome patients through increasing the expression of GDF7 and BMP15: A new alternative to metformin (a randomized trial), Journal of Reproductive Immunology, 2022
- Protective Effects of Fisetin in the Mice Induced by Long-Term Scrotal Hyperthermia, Reproductive sciences, 2021
- Evaluation of Expression and Phosphorylation of Progesterone Receptor in Endometrial Stromal Cells of Patients with Recurrent Implantation Failure Compared to Healthy Fertile Women, Reproductive sciences, 2021
- Impact of ejaculatory abstinence period and semen characteristic on the reproductive outcomes after intracytoplasmic sperm injection, 2021

- Serum anti-Müllerian hormone is associated with oocyte dysmorphisms and ICSI outcomes, International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics, 2017
- Improvement of in situ Follicular Activation and Early Development in Cryopreserved Human Ovarian Cortical Tissue by Co-Culturing with Mesenchymal Stem Cells, Cells Tissues Organs, 2020
- Effect of vitrification on biogenesis pathway and expression of development-related microRNAs in preimplantation mouse embryos, Cell and Tissue Banking, 2021
- Folliculogenesis-Associated Genes Expression in Human Vitrified Ovarian Tissue after Xenotransplantation in γ -Irradiated Mice, Cell Journal, 2020
- Does timing in ICSI cycle affect oocyte quality and reproductive outcomes? A prospective study, Archives of Gynecology and Obstetrics, 2020
- Practical Approaches to Improve the Sensitivity of the Volume-Based Cellular Enumeration of the BeWo Cell Line-Derived Spheroids as an In Vitro Embryo Model: MTT Versus Neutra, Crescent Journal of Medical & Biological Sciences, 2020
- Prevalence of Human Papillomavirus in Iranian infertile men and its association with semen quality, Research square, 2023
- Male obesity is associated with sperm telomere shortening and aberrant mRNA expression of autophagy-related genes, Basic and Clinical Andrology, 2023
- Relationship Between Heavy Metal levels in Seminal Plasma and Sperm Quality in Iranian Men, MENS HEALTH JOURNAL, 2021
- Nanowarming improves survival of vitrified ovarian tissue and follicular development in a sheep model, Heliyon, 2023
- Role of neuropeptides in patients with endometriosis: a literature review, Middle East Fertility Society Journal, 2024

- The Effect of Edaravone Supplementation Prior to Cryopreservation on Sperm Parameters, DNA Integrity, Apoptosis, Lipid Peroxidation, and Mitochondrial Membrane Potential, *Reproductive Sciences*, 2025
- The efficacy of vitamin D supplement in the expression and protein levels of endometrial decidualization factors in women with recurrent implantation failure
- Elderberry diet improves sperm quality and histological parameters of testicular tissue in adult male rats exposed to methamphetamine, *Tissue and Cell*, 2025
- Combining photobiomodulation and naringenin for treatment of asthenozoospermia: A promising therapeutic approach, *Lasers in Medical Science*, 2025
- Effects of quercetin-loaded nanoselenium on spermatogenesis in a mouse model of cyclophosphamide-induced testicular damage, *Korean Journal of Fertility and Sterility*, 2025
- The role of granulocyte-macrophage colony-stimulating factor in inducing autophagy in the spermatozoa of patients with asthenoteratozoospermia, *Korean Journal of Fertility and Sterility*, 2025
- Kro-cina, Improves in Vitro Fertilization Outcomes in Patients With Diminished Ovarian Reserve: A Randomized Controlled Trial, *International Journal of Medical Toxicology and Forensic Medicine*, 2024

Research Interests

- Fertility cryopreservation
- In vitro maturation oocyte
- In vitro fertilization
- Stem cells
- Implantation and miRNAs
- Recurrent implantation failure
- Embryo culture

Teaching Experiences

□ PhD students at Shahid Beheshti Medical University since 2015 till now:

1. Fertility Cryopreservation
2. Andrology
3. Reproductive Endocrinology

□ Midwifery Students at Shahid Beheshti Medical University since 2015 till now:

1. Medical Embryology
2. Assisted Reproductive Techniques

□ Midwifery Students at Iran Medical University, Shiraz Medical University and Ghom Azad university since 2003 till 2010

Supervisor of Theses

□ The effect of vitrification on the expression of implantation related miRNAs and their biogenesis elements in mouse blastocyst

□ A study on the effects of vitamin D3 on expression of progesterone receptors and decidualization of cultured human endometrial stromal cells of patients with repeated implantation failure

□ The effect of magnetic hyperthermia of nanoparticles on survival and development of follicles and developmental genes expressions in vitrified sheep ovarian tissue

□ The effect of Fisetin on sperm parameters, histology structure and oxidative stress of adult male mice under scrotal hyperthermia

□ The effect of vitamin D3 administration on gene expression and protein levels of progesterone receptors, VDR and endometrial decidualization factors(IGFBP1, PRL, HOXA10) in endometrium of patients with recurrent implantation failure

- Investigating the microbiota of ovarian follicular fluid and vaginal secretions in infertile women with polycystic ovary syndrome with and without favorable outcomes of intracytoplasmic sperm injection
- Evaluation of the effect of krocina supplement on the follicular oxidative stress and expression levels of GDF7, BMP15, NRF2 genes in patients with Diminished ovarian reserve (DOR)
- Effect of Human Papilloma Virus (HPV) infection on semen quality parameters and sperm functional characteristics of asthenozoospermia patients
- Evaluation of autophagy-related genes expression (AMPK α 1, Beclin1, Bcl2 and Bax), apoptotic changes, telomere length, and DNA integrity in spermatozoa of obese subfertile men compared to normal weight fertile individuals
- Investigating the amount of “Neuropeptide S receptor 1” marker in infertile females with endometriosis and evaluating its relationship with endometriosis grade and success of Interacytoplasmic sperm injection
- The effect of androferti supplementation on semen parameters of infertile men referred to Taleghani Hospital Infertility Center

Adviser of Ongoing Theses

- The effect of bone marrow mesenchymal stem cells on development and survival of follicles on matrigel-cultured human ovarian tissue
- The effect of human bone marrow mesenchymal stem cells conditioned medium on the in vitro fertilization of PCOS mice oocytes
- The Combined Effects of Photobiomodulation and Naringenin antioxidant on Improving Sperm Functional Parameters in asthenozoospermic patients
- The effect of aqueous extract of *Camellia sinensis* (L.) Kuntze on damage caused by the lyophilization process to the sperm of normozoospermic individuals and patients with asthenoteratozoospermia
- Effects of Quercetin-loaded nanoselenium on spermatogenesis in Cyclophosphamide- induced azoospermic mice

□ Effects of Edaravone supplementation on semen parameters, apoptosis, chromatin integrity, lipid peroxidation and mitochondrial membrane potential in cryopreserved human spermatozoa with asthenoteratozoospermia

Projects

- Principal Investigator of ongoing projects
- Survey of Seminal Plasma Metals Concentration Effect on Semen Quality
- The effect of vitrification on the expression of implantation related miRNAs in mouse blastocysts derived from in vivo fertilization
- Effect of Silymarin on sperm parameters and DNA integrity in male diabetic Rats
- Evaluation the effects of astaxanthin on human sperm parameters during cryopreservation
- The comparison of in vitro and in vivo fertilization effect on implantation related miRNAs (miR-21, miR-24, miR-73, Let-9a), their target (stat3) and biogenesis genes expression in mouse blastocyst
- The effect of in vitro ascorbic acid and α -tocopherol supplementation on human spermatozoa parameters and on the developmental capacity of embryos obtained from ICSI
- The relationship of serum Anti-Mullerian hormone (AMH) levels with oocyte morphology, fertilization and embryo development in ICSI cycles
- The association of interval duration between ovulation trigger to intracytoplasmic sperm injection (ICSI) with fertilization outcomes: a retrospective study
- The effect of L-Carnitine supplementation on quality of vitrified human in vitro matured oocyte and embryo developmental competence after ICSI
- The effect of coated and non-coated iron oxide magnetic nanoparticles on survival of follicles and oxidative stress in sheep ovarian cortical tissue

- The effect of sexual abstinence period on semen parameters and outcomes of intracytoplasmic sperm injection cycles; a retrospective study
- The relationship of gonadotropin dose during ovarian hyperstimulation with oocyte quality and reproductive outcomes in ICSI cycle: a retrospective study
- A study on the expression of progesterone receptors in human endometrial stromal cells of patients with repeated implantation failure
- A study on the effects of vitamin D on decidualization of cultured human endometrial stromal cells
- The effect of Fisetin on sperm parameters, histology structure and oxidative stress of adult male mice under scrotal hyperthermia
- The relationship of gonadotropin dose during ovarian hyperstimulation with oocyte quality and reproductive outcomes in ICSI cycle: a retrospective study
- The effect of vitamin D3 administration on gene expression and protein levels of progesterone receptors, VDR and endometrial decidualization factors(IGFBP1, PRL, HOXA10) in endometrium of patients with recurrent implantation failure

Collaborator of projects

- Protective effects evaluation of Astaxanthine against arsenic-induced testicular damage
- The effect of bone marrow mesenchymal stem cells on development and survival of follicles on matrigel-cultured human ovarian tissue
- Evaluation of the protective effects of astaxanthin on metotrexate induced-testicular toxicity
- Systematic review of anti-hyperglycemia and anti-hypertension drugs on semen quality
- Determination of relation between infectious diseases and sperm parameters: A systematic review and meta analysis

The effect of human bone marrow mesenchymal stem cells conditioned medium on the in vitro fertilization of PCOS mice oocytes

Effect of bone marrow mesenchymal stem cells conditioned medium on the quality of the in vitro matured mice pcos oocyte and subsequent fertilization

Books

Translation in Persian:

1. Principles & Practice of Assisted Reproductive Technology

Author of the books:

1. English for the student of midwifery, 2010