



Kishinchand Chellaram College

DBT Star Status Activity

Department of Life Sciences



A webinar series about 'Combating Infertility- An Embryologist's Approach' was organised on May 26, 27, 2020 by Department of Life sciences of K.C College, this webinar was open to all participant including students and faculties of various colleges, doctors etc. The speaker for the webinar series was Dr. Kersi Avari, Founder director of Embryology Academy of Research and Training.

Day 1: General introduction and Andrology

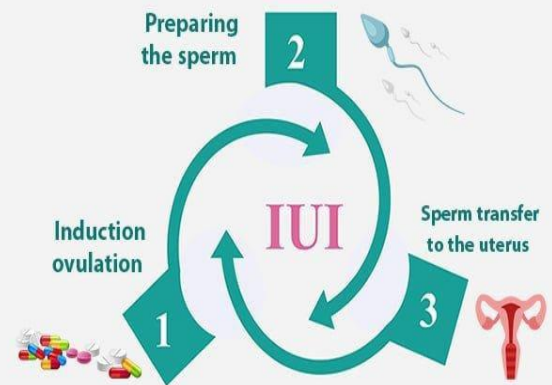
The speaker started the webinar by introducing general terminology related to reproduction. This included the concept like gamete optimisation and describing sperm and oocyte in terms of its formation, production and morphology. Sir continued by explaining various stages of spermatogenesis and sperm maturation and oocyte morphology. Sir also mentioned world's first IVF baby which was a very interesting and fascinating fact. After the completion of introduction sir started explaining the three major and basic procedure which are used to combat infertility. These procedures include Intra uterine sperm in semination (IUI), In vitro fertilisation. (IVF), Intra cytoplasmic sperm injection (ICSI). With very phenomenal diagrams sir could easily explain all three basic procedure which are used to combat infertility. Sir in his presentation also covered variety of topics which were purely related to embryology and embryology as a field. These topics comprise of major events in the history of medical assisted conception in the format of yearly distribution and embryology time scale post in semination. Later the session continued with the explanation about Andrology. Various sperm preparation techniques including of certain tips and tricks were mentioned. To conclude in this part few tips that sir mentioned were related to collection room, material, assistance and method which if correctly interpreted can enhances the sperm success rate by 15%. Sir also suggested to over view various aspects of sperm like motility, density, count, recovery rate etc. In the last sir also showed a depiction of a slide in which eosin nigrosine test was performed.



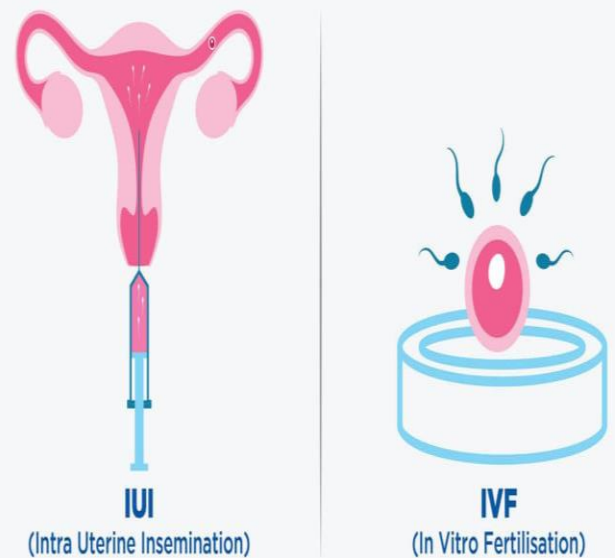
Day 2: Intrauterine Insemination (IUI) and Lab setup

The speaker started the webinar by introducing IUI technique and how it is different when compare to other technique like IVF and ICSI. Sir mention that IUI technique involves only the sperm retrieval, assessment, processing, in semination. The optimality of this technique can be achieved by semen wash and capacitation. Sir also provided an organised list of what couples' need to do in IUI technique. With sir's presentation variety of aspects related to this technique like procedure, benefits, working were clarified. In sir's presentation fascinating real life's sonography reports of Histosalpingography test (HSG) and Hydrosalpinx were shown. One another subtopic sir focused on was fallopian tubes and how at times they are blocked and what to do in such cases as well as various bacterial and fungal infections that could be caused that create further complications and techniques to deal with them. A depiction of WHO manual which were related to sperm para meter was shown. Variety of graphs depicting success rate were also shown in pictorial format. In the part 2 of the session sir continued by describing lab setup for smooth proceeding of IUI technique. The basic requirement of such lab is a variety of rooms including counselling, collection, record keeping, recovery room. Sir also mentioned to pay keen attention to area and location and air quality of lab. A variety of list of instruments required and their importance for the process were also mentioned these included sperm counting chamber, LAF chamber, incubator, microscope, refrigerator. Also, correct disposable techniques and cleaning solutions and their necessity was mentioned. A word of caution at the end was stated, it comprised of enforcing rigid QA/QC, strict SOPs, strict norms for the well-functioning of laboratory. Sir also stated that in a process where the outcome is unpredictable a synergistic approach is necessary for a successful fruition. To conclude this webinar, help participants to gain clarity about topics like IUI and its lab setup. This also created curiosity and excitement among the participants for day 3 of webinar.

IUI process step by step

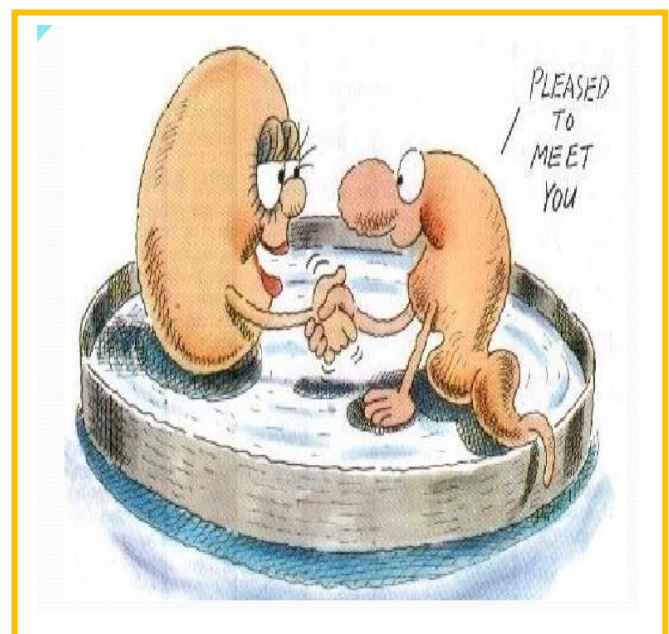
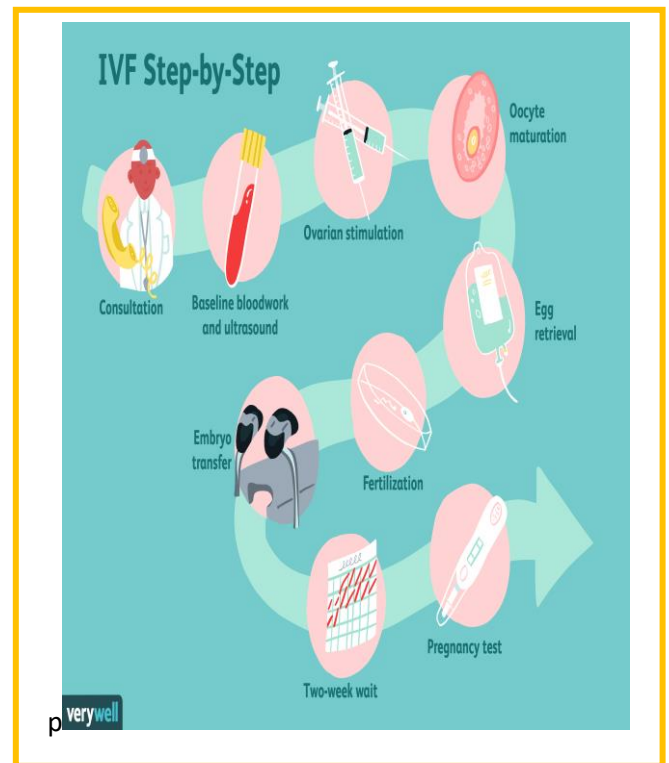
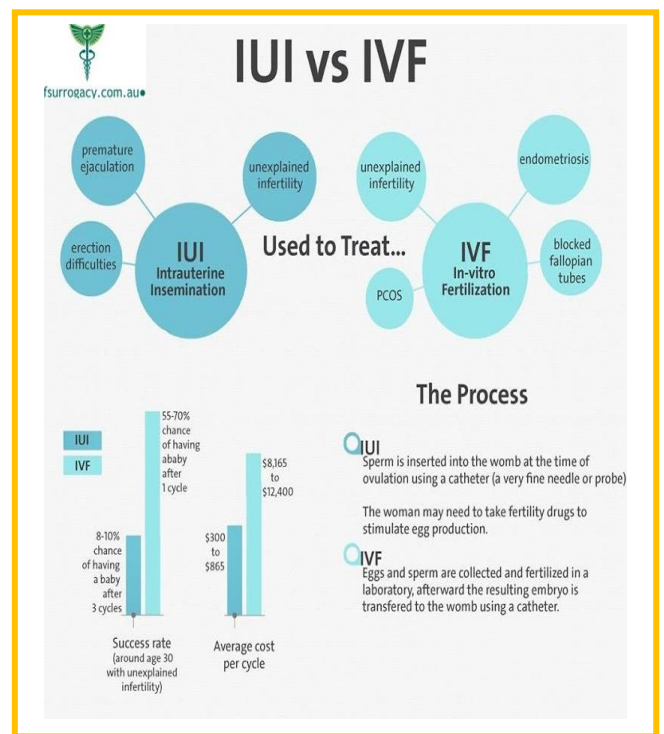


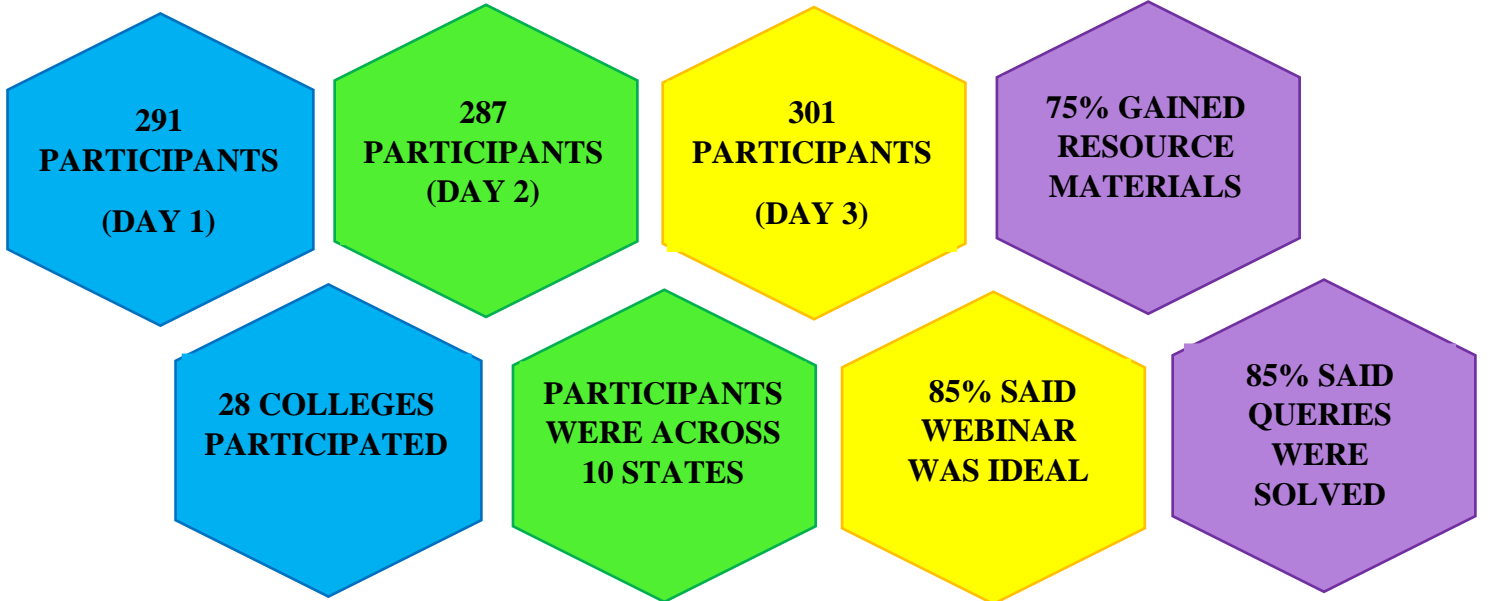
IUI Vs IVF



Day 3: IVF/ICSI - The Ultimate

The speaker started the webinar by introducing two techniques In-Vitro Fertilization (IVF) and Intra Cytoplasmic Injection (ICSI). For a clear reference and better understanding sir, showed microscopic view of sperm and oocyte and differentiated between progressive motility and non-progressive motility. Sir, further explain how the field of embryology has witness rapid advances in technology by covering various aspects like sterility, air-quality, media-culturing, gadgetry, gamete handling, skill – dexterity, consumables, documentations. Sir also mentioned what makes gamete culturing challenging, this is because 60 - 75% of embryos do not possess the potential for successful implantation. In sir's presentation also various candidates for conventional IVF were mentioned. These included couples with advanced maternal years, certain disfunction and couples experiencing unexplained fertility. A depiction of an ideal ART cycle was also shown. Various parameter of sperm for a successful implantation were mentioned including quantity, quantity, morphology, survival and DNA integrity. Various parameter of oocyte for a successful implantation were mentioned these were limited to genome microenvironment and morphology. A clear depiction of poor quality and no zygotes was shown as well. A depicted flow chart also comprised of procedure / preferred happenings of IVF. In the presentation fertilization as a barometer of success, glycoproteins (ZP3, ZP2, ZP2f) and post pick up of incubation which favours factor like stability, osmotic stress, alignment, receptivity was also covered. The webinar later continued with the difference between IVF and ICSI which was mainly focused on insemination in IVF and injection of ICSI. Fascinating ultra sound of stimulated ovaries was shown. The concept of OPU, follicular aspirates and temperature and spindles was also covered. In the end reasons of fertilization failure like poor maturity, grade, insemination issues, contamination and culture patterns stage wise like OCC aspirations, pooling, blastocyst and embryo blastocyte transfer was explained. Being the last session, this definitely stimulated the interest to learn more among





VITAL STATISTICS

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The session where not only knowledge was imparted to us but to think deeply and differently. It makes me happy to be a part of bioscience and to see the revolution taking place!

Sir explained in very simple ways, knowledge gathered from is experience and good oratory skills made it very easy to flow!

I am not from any biological stream, but I still enjoyed and understood the topic very well!

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COMMENTS FROM ATTENDEES

FEEDBACK:

A good explanation is the key to understand the topic. The speaker with his wonderful knowledge very nicely explained the topic to all participants and participants gained a lot of understanding about the topic. All the participants felt that communication with speaker was at ease and he patiently responded all question and clarified the doubts. The content and presentation were ideal, the information was exceptional and has a lot of applications in day to day life. The webinar in whole was splendid and speaker was an excellent orienteer and had keen knowledge of his work. The webinar was well organized, and the information was effectively delivered and time allotted was sufficient. Many participants conveyed their gratitude along with the hope and ecstasy to attend more such empirical and elaborate webinar on the subject. In total the webinar was a delightful investment of time.