8. ASSISTED REPRODUCTION

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Definition:

Assisted Reproductive Technology (ART): includes a range of methods used to circumvent human subfertility, including in vitro fertilisation (IVF), embryo transfer (ET), gamete intrafallopian transfer (GIFT), all manipulative procedures involving gametes and embryos and treatment to induce ovulation or spermatogenesis when used in conjunction with the above methods.

"The reproductive rights rest on the recognition of the basic right of all couples and individuals to decide freely and responsibly the number, spacing and timing of their children and to have the information and means to do so, and the right to attain the highest standard of sexual and reproductive health"
(International Conference on Population and Development (ICPD) Cairo 1994)

These concepts include concern for individuals and couples who are unable to have children when they desire them. However, the above statement has also led to some controversial issues. For example, a 60-year-old woman may request to have assisted reproduction in order to achieve a pregnancy. A lesbian couple may want to have a child. Although these rights may be viewed differently in different societies and communities, it is important for the medical community to consider these issues in the context of individual rights, societal concerns, the norms of the community and the legal framework of the country.

Impaired fertility, variously described as infertility or subfertility, may be due to a relative or absolute inability to conceive, or to repeated pregnancy wastage. Subfertility affects both men and women in approximately equal proportions, causing considerable personal suffering and disruption of family life.

The best strategy of dealing with subfertility is its prevention. Although some cases of impaired fertility can be corrected by simple measures, others require complicated diagnostic procedures and treatment.

An empathetic approach to individuals and couples who have subfertility problems is required. This includes an appreciation of cultural and social customs, the individual's perception of sexuality, an understanding of the reproductive function and awareness of the aetiology and prevalence of subfertility in the community.

Indeed subfertility is now accepted as a condition of poor health and there are tremendous social and mental effects on a couple that suffer from subfertility.

The development of medically assisted conception to help couples with subfertility has brought new social, legal and ethical issues related to the management of subfertility. Doctors should be fully cognizant of these issues whenever they are in a position to refer clients for treatment or whenever they themselves establish a center for such activities. These issues involve:

⇒ **Respect for the dignity and integrity of the human being.**
⇒ **Protection of human genetic material so that it is not misused or used inappropriately without the donors consent.**
⇒ **The need for quality of care.**

The O & G Society of Malaysia, the Malaysian Medical Council, the Malaysian Fertility Society and the Ministry of Health have discussed these issues and their views made known to their members and appropriate authorities. The Malaysian Medical Association now presents a framework for adoption.

Establishment of an advisory standing committee

Many of the ethical, legal, social and religious issues cannot be resolved without an extensive review of existing Civil and Syariah Laws of the country. In view of the sensitive nature of issues related to human reproduction, there is a need for the appointment of a standing committee (to be established by the Minister to advise the Director General of the Ministry of Health), to introduce controls related to the practice of Human Reproduction and Embryology in Malaysia. The Standing Committee should have representation from a cross-section of society including religious bodies.

The MMA strongly advocates the establishment of an advisory standing committee under the chairmanship of the Director-General of Health. The MMA seeks membership of this committee as the largest association of doctors in this country and is in a position to provide ethical and medical opinion on issues that may need to be discussed.

Administrative and clinical guidelines:

In drawing these recommendations, the following principles have been used as a guide:

- The respect that is due to human life at all stages in its developments.
- The rights of people who are or may be infertile and the proper consideration of their request for treatment.
- A concern for the welfare of children, which cannot always be adequately protected by concern for the interests of adults involved.
- The recognition that in a clinical situation where the life of a mother is endangered by an ongoing pregnancy, efforts to safe the life of the mother almost always supercedes that of the unborn fetus.
- A recognition of the benefits, both to individuals and to society that can flow from the responsible pursuit of medical and scientific knowledge.
- The sanctity of marriage and the importance of marriage prior to having children is a widely held belief by society in Malaysia. The difficulty of forcing potential patients to prove their marital status and maintaining constant checks on the same must be realized as a practical difficulty for medical practitioners. Be that as it may, in this country, assisted reproduction techniques must only be offered to married couples.

Administrative Guidelines

Authorisation

Staff

It is essential that all those responsible for taking part in ART have high standards of integrity and responsibility. The persons responsible will need to have sufficient insight into the scientific, medical, legal and other aspects of the centre's work to enable them to supervise its activities properly. The person must be accredited to perform assisted

reproduction procedures. The accreditation will have to be assessed by academic qualifications and supervised practical experience. However, it should be emphasised that the qualities of integrity, responsibility and managerial capability are even more important that any particular professional qualification.

The person responsible must ensure:

i. That the character, qualification and experience of all personnel under his supervision are suitable for those activities.
ii. That proper equipment is used.
iii. That proper arrangements are made for keeping and disposal of genetic material.
iv. That the centre complies with requirements that may be laid by the Ministry of Health.

Staff Engaged in Clinical Service

1. Overall clinical responsibility for treatment service using ART should be held by someone with accredited **specialist** status or equivalent.
2. Medical staff engaged in laparoscopy should be specialists in O & G. Medical staff in a training capacity should only carry out these activities under supervision.
3. There must be adequate appropriately qualified and registered nurses.

Staff Engaged in Scientific Services

The person in charge of an embryology laboratory should have a scientific or medical degree plus a period of experience in an embryology laboratory sufficient to qualify the person to take full charge of the laboratory.

The person in charge of a seminology laboratory should have a recognised diploma or degree with a period of experience in a seminology laboratory sufficient to qualify the person to take full charge of the laboratory.

The person in charge of an endocrinology laboratory should have a diploma/degree in a relevant discipline with a period of experience in an endocrinology laboratory sufficient to qualify the person to take full charge of the laboratory.

Facilities

The person responsible/director of the centre must ensure that proper equipment and suitable practices are used.

If the centre decides to use outside facilities, the person responsible should be satisfied that those facilities comply with the needs of the patient/client.

Clinical Facilities

Back up and emergency clinical facilities for each technique practised should be available at the centre, equivalent to those which are standard practices in other specialties and appropriate to the degree of risk involved. Further emergency facilities should be available locally to cater for all reasonably foreseeable eventualities.

In view of the high incidence of multiple births in ART, the centre should have access to a hospital with adequate neonatal intensive care facilities.

Centres should be sensitive to their clients comfort and privacy.

Laboratory Facilities

a. It is essential that centres follow good laboratory practice whether their laboratories are used for research or for clinical services.
b. All blood products, other than those of the woman receiving treatment, with which gametes or embryos might come into contact should be pretested for HIV, Hepatitis B and VDRL.
c. The room where eggs are collected for IVF should be as close as practicable to the laboratory where fertilisation is to take place.
d. The centre should have an effective systems for monitoring and assessing laboratory and clinical practice to ensure that both the procedures and outcomes are analysed and can be shown to be satisfactory by the standard of professional colleagues in relevant disciplines elsewhere.

Screening and Labeling

a. All persons undergoing ART should be adequately tested for HIV, Hepatitis B, VDRL, and other transmittable diseases before procedures are performed on them. Detailed records must be maintained and be easily retrievable.
b. A high standard of record keeping and labeling must be maintained in respect of gametes and embryos.

Records

Accuracy

All information should be accurately recorded with proper cross references where this is required.

Reporting System

The centre should, on official request, make available to the Ministry of Health, without breaching the confidentially entrusted by the patient, data on ART that will assist the Ministry of Health to formulate the health policies and also monitor procedures related to ART so as to ensure safe, ethical and affordable practice.

Clinical Guidelines

Consent

Consent for Treatment

People generally have the right to give or withhold consent to examination and treatment. No ART treatment should be given to any couple without their written consent to that particular treatment.

Oocyte/Embryo Transfer

Gametes or embryos which have been exposed to a material risk of contamination, which might cause harm to recipients or to any resulting children, should not be used for treatment.

The physician and the treated couple should agree upon the number of embryos transferred, informed consent documents completed and the information recorded in the clinical record. The following guidelines are recommended:

- In patients with above average prognosis (e.g. female under the age of 35) usually no more than 3 good embryos should be transferred.
- In patients with average prognosis (e.g. female age 35-40) usually no more than 4 good embryos should be transferred.
- In patients with below average prognosis (e.g. female age greater than 40 or multiple failed cycles) usually no more than five good embryos should be transferred.

Multiple gestation is an unintended result of assisted reproduction techniques. Multiple gestation leads to an increased risk of complications in both the fetuses and mother. ***It would be unethical for individual centers not to generate their own data regarding patient characteristics, outcomes and number of embryos transferred in order to minimize this complication.***

Sex selection and Selective fetal reduction

Centres should not select the sex of embryos for social reasons. Selective fetal reduction should only be considered when the life of the mother is endangered. A second opinion should always be sought and there should be clear documentation that the consent of the mother has been obtained after detailed counseling. Conditions that require selective fetal reduction can nevertheless be avoided by stringent quality control.

Embryo Splitting and Cloning

Centres must not attempt to produce embryos in vitro by embryo splitting for treatment purposes. However, embryo splitting may be allowed for the purposes of prenatal diagnosis. Before this procedure is done, detailed informed counseling should be done and documented.

CLONING IS NOT PERMITTED

Storage of Gametes and Embryos

Centres should ensure that the highest possible standard are maintained in storage and handling of gametes and embryos.

Security

Gametes and embryos should be stored in a designated security area. Access to which is controlled.

The person responsible should allow access only to named individuals in the centre for whom such access is essential to their work.

The location of gametes and embryos in storage should be recorded in detail in order to minimise the amount of handling required in retrieving them.

There should be an effective monitoring system to ensure high standards of security wherever gametes and embryos are handled and stored.

Identification

Records should enable authorised staff to trace what happens to an individual embryo, oocyte or sperm sample from the date of collection.

Storage Review

Centres should carry out a periodic review of the status of stored gametes and embryos at least once a year, so as to be fully aware about the length of storage of gametes and embryo.

Transfer of Gametes and Embryos

Centres are responsible for ensuring that standards of quality and security of genetic material are maintained, wherever the material happens to be on the premises. This includes material being transferred from the laboratory for treatment or preparation for treatment. If gametes or embryos are transferred from one site to another, adequate arrangements should also be made to protect their quality and security

Termination and Disposal of Gametes and Embryos

A couple undergoing ART should be asked for instruction concerning the storage and disposal of embryos.

The termination of the development of a human embryo and the disposal of the remaining materials are sensitive and delicate issues. Centres should take full account of this. Specific instruction concerning storage and disposal of embryos must be asked of the couple and written consent duly obtained.

In the absence of any instruction, embryos should be stored for a maximum of 3 years from the date of conception. Further storage may be continued under the explicit instruction of the couple. ***The total duration of storage of embryos will under no circumstances go beyond 10 years.***

When an embryo is no longer to be kept for treatment, the centre should decide how it is to be allowed to perish, and what is to happen to the perished material. The procedure should be sensitively devised and described, and should be communicated to the people for whom the embryo was being stored, if they so wish.

Surrogacy

In a surrogate arrangement a women agrees to becomes pregnant and bear a child for another person/ persons and to surrender it at birth. ***Surrogacy is prohibited.***

Proposals for Research Projects

Centres proposing research involving the use of embryos should seek approval from relevant authorities through existing channels in the Ministry of Health.

Prohibited Unacceptable Practices:

The following practices are ethically unacceptable:

- No research or experimentation shall be performed on or using any human oocyte and/or sperms without the explicit consent of the donors and the appropriate authority in the Ministry of Health.
- Developing embryos for purposes other than for their use in an approved ART programme.
- Culturing of an embryo in vitro for more than 14 days. Human oocyte fertilised with human sperms should not be cultured in-vitro for more than 14 days (excluding any period of storage at low temperature). Under no circumstances shall research be carried out on or using human embryos that are more than 14 days old from the date of conception or the appearance of the primitive streak, whichever is the earlier.
- Experimentation with the intent to produce two or more genetically identical individuals, including development of human embryonal stem cell lines with the aim of producing a clone of individuals.
- Under no circumstances should embryo spitting with the intention of increasing the number of embryos for transfer be allowed.
- Using fetal gametes for fertilization.
- Mixing of human and animal gametes to produce hybrid embryos. There shall be no attempt at trans – species fertilisation.
- Mixing of gametes or embryos of different parental origin so as to confuse the biological parentage of the conceptus.
- Placing an embryo in a body cavity other than the human female reproductive tract. Under no circumstances should a human embryo be placed in the uterus of another species for gestation.
- Under no circumstances should the nucleus of a cell of an embryo be replaced with a nucleus of a cell of another person, another embryo or a subsequent development of an embryo.

- Under no circumstances should the genetic structure of any cell be altered while it forms part of an embryo.
- Embryo flushing.
- Commercial trading in gametes, semen or embryos.
- The use in ART treatment programmes of gametes or embryos harvested from cadavers.
- Surrogacy.
- The use of ART in unmarried couples.

References:

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