Pre-pregnancy Counselling for Fertility Patients by Maternal Fetal Medicine

Recommendations of Practice

Background

Pre-pregnancy counselling is a key part of Maternal-Fetal Medicine. It ensures that optimal care is provided for people who are considering pregnancy and allows the opportunity to discuss specific issues for the individual in a future pregnancy. In rare cases, pre-pregnancy counselling provides the opportunity to discuss reasons why a pregnancy could pose such major risks to a person and/or their baby such that other options, such as surrogacy or adoption, should be considered.

The Fertility Treatment Effect

Over the decades since assisted reproduction technology (ART) became available in New Zealand there have been considerable changes in the population of women undergoing ART with increasing numbers of older people or those with co-morbidities now considering this option for pregnancy. The number of couples in Australasia seeking autologous cycles has increased by 15.8% between 2016 and 2020 (Figure 1). Co-morbidities include cardiovascular disease, hypertension, diabetes, obesity, past cervical surgery and previous poor pregnancy outcome.

Those older than 40 years of age, approximately 4% of the birthing population, with or without co-morbidities do not usually qualify for Ministry of Health funded fertility treatment, but may seek privately funded fertility treatment. This creates a situation where older women who are also at increased risk of pregnancy complications conceive by privately funded fertility treatment then possibly access a publicly funded health service for their obstetric care.
Their age and co-morbidities mean that these pregnancies and their babies are likely to require a disproportionately high level of care in the antenatal, intrapartum and postnatal periods of their pregnancy. Optimal pre-conceptual assessment may reduce this burden.

The awareness by Fertility Specialists that this subgroup of pregnancies are more likely to have high-risk pregnancies has led to an increase in the referrals for pre-pregnancy counselling prior to assisted reproduction procedures.

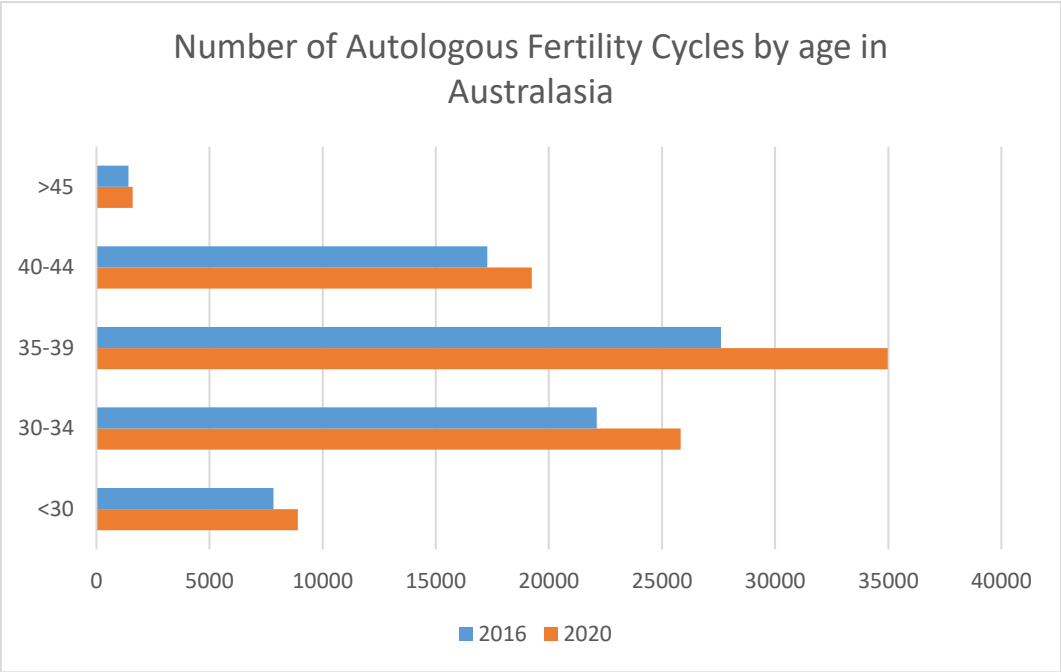

Figure 1 Annual numbers of autologous fertility cycles by age in Australasia comparing 2016 to 2020.

Which women should be considered for referral and who will see them?

The table below outlines those who should be considered for an MFM or Obstetric Physician review. In some cases the patient can be seen by either or would need to be seen by both clinicians. The consultation should cover what the morbid conditions are and how it will affect the pregnancy antenatally, peripartum and postnatally. Potential implication for the fetus/newborn should also be considered. It should also determine any conditions that have not been previously addressed, and determine current status of the condition.

Consultations can be performed by distance consultation or non-contact clinical advice at the discretion of the service.

Medical History	
Renal Disease (Hypertension, GN)	MFM/Obstetric Physician
Chronic Hypertension requiring treatment	MFM/Obstetric Physician
Solid-organ and Bone-marrow transplants	MFM/Obstetric Physician
Major Autoimmune Disease i.e. SLE, Connective Tissue Disease	MFM/Obstetric Physician
Complex neurology	MFM/Obstetric Physician
Pre-existing Diabetes	MFM/Obstetric Physician (Diabetes Clinic)
Cardiac (cardiomyopathy, congenital cardiac disease, valvular heart lesions or valve replacement)	MFM/Obstetric Physician

Hyperlipidaemia such as hereditary conditions and hypertriglyceridemia that may require plasmapheresis in pregnancy	Physician
Previous Pregnancy Problems	
Severe Pre-eclampsia	MFM
Severe FGR (delivery <34 weeks, cust <5th%, IUFD)	MFM
Previous Spontaneous Preterm Birth or PPROM (<34 weeks)	MFM or PTB Clinic
Other	
Maternal age >/=45	MFM/Obstetric Physician
Increased BMI >/=45 with comorbidiites	MFM/Obstetric Physician
Previous Cervical surgery including: • surgery for Microinvasive or early stage Ca disease, • known depth of biopsy >10mm, • >1 cervical procedure, • any findings of Cervical Deficiency during routine fertility investigations/treatment with past history of Cervical surgery	MFM or PTB Clinic
Congenital or Acquired Genital Tract Anomaly	MFM

Specific considerations for those aged over 45

Women of AMA will benefit from preconception counselling. With advancing age there is more likely to be underlying medical conditions, such as insulin resistance, diabetes mellitus, and cardiovascular disease or hypertension. Pre-conceptual counselling should be offered for those age 40 years and older and strongly recommended for those 45 years or older. This will enable the opportunity to discuss the risks medical and pregnancy associated with advancing maternal age.

A healthy physical state with optimal control of any underlying medical disorders can significantly improve pregnancy outcome. Consultation should involve a review of medical history, family and genetic history. Exercise, diet and stressors should be reviewed and modified. Pre-conceptual folic acid supplementation should be initiated. Mammogram screening and updated immunizations arranged. Avoidance of cigarettes, alcohol, and recreational drugs should be strongly encouraged.
The risks relating to pregnancy in association with AMA should be frankly discussed.
Increasing maternal age is closely associated with increasing risk of most of these adverse outcomes. Risks include: aneuploidy and congenital anomalies, as well as potential pregnancy complications such as miscarriage, gestational diabetes, gestational hypertension, pre-eclampsia, multiple gestations, placenta previa, placental abruption, caesarean delivery, preterm birth, intrauterine growth restriction, stillbirth and rarely, maternal death. Although the risks are elevated, they are not all that high. See Table below.

In conjunction with the discussion of the risks it is also important to come up with a preconceptual and antenatal plan so there is adequate counselling and outcomes are optimized.

Absolute risks of Pregnancy with advanced age of 45.

	MATERNAL AGE			
	20 – 29 Years	**30 – 39 Years**	**40 – 44 Years**	**Over 45 Years**
Gestational Diabetes	1.4%	4.2%	10.2%	17%
Gestational Hypertension	2.0%	2.3%	3.2%	9.0%
Pre-Eclampsia	0.7%	1.5%	2.4%	10.7%
Placental Abruption	0.3%	0.7%	1.0%	1.1%
Placenta Previa	0.2%	0.6%	1.4%	5.6%
Delivery <37 Weeks	7.7%	9.1%	12.8%	21.5%
Caesarean Delivery	15.7%	23.3%	42.9%	78.5%
Birthweight <10th Centile	10.7%	8.5%	9.8%	11.3%
Admission to NICU	6.3%	7.4%	8.6%	10.7%

Yogev Y, Melamed N, Tenenbaum-Gavish K, et al. Pregnancy outcome at extremely advanced maternal age. Am J Obstet Gynecol 2010;203:558.e1-7

It is strongly recommended that recipients of assisted reproduction at AMA undergo additional testing over and above that of routine fertility investigation. Full cardiovascular evaluation is recommended, and this evaluation is undertaken before any treatment is commenced. This includes assessment of non-modifiable risk – family history of heart disease – as well as modifiable risks: smoking, either active or passive; increased cholesterol and abnormal lipid profile; hypertension; pre-existing diabetes; physical inactivity; overweight or obesity; depression, social isolation, and lack of quality support.

Because of increased risks of fetal demise, women aged 45 years and older should receive antenatal fetal testing from 37 weeks with delivery scheduled by 40 weeks gestation. These recommendations should optimise the likelihood of a favourable pregnancy outcome.

Feedback to Fertility Specialists

The role of the MFM/Obstetric Physician review is to assess the potential risks faced by an individual woman in a pregnancy and discuss these with the client and then provide written +/- verbal feedback to the referring Fertility Specialist. In addition, options for any interventions to modify the risks of pregnancy should be discussed.

Ultimately the decision whether to proceed with fertility treatment lies with the Fertility Specialist and client. However, there will be situations where the MFM team may consider that the risks of a pregnancy are such that they recommend against proceeding on fertility treatment.

Expectations of Referrals

To allow the most useful utilisation of the pre-pregnancy consultation with the MFM Specialist and/or Obstetric Physician there are a number of requests that are made of the referring specialist:

- At the appointment they may see more than one doctor
- Set the patient expectation appropriately e.g.:
    - The time before they are seen for their preconceptual appointment maybe 8-12 weeks.
    - There may be some difficult news regarding risks of proceeding with fertility treatment.
- Basic observations should be included in the referral i.e. blood pressure, pulse rate, BMI and urinalysis or MSU
- It is assumed that first antenatal bloods will have been performed and we request a recent HbA1c on all referred women
- Where there are recognised co-morbidities appropriate tests have been arranged prior to the appointment e.g. recent renal function if known renal disease
- Where the main concern is the risk of preterm birth swabs performed (High vaginal and cervical swabs for bacterial culture and Chlamydia)
- Where assessment is prior to overseas fertility treatment all required investigations required by the overseas provider should be completed prior to the referral.

This guideline was updated in March 2023 by Dr Jaynaya Marlow with input from members of Wāhi Rua NZMFM Network and Dr Simon McDowell CREI Sub-specialist.

The most up to date version of this Recommendation of Practice can be found on Healthpoint Wāhi Rua: New Zealand Maternal Fetal Medicine Network (NZMFM) webpages: https://www.healthpoint.co.nz/public/wahi-rua-new-zealand-maternal-fetal-medicine/

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