Module 9 – Your Nutrition Assessment

Learning objectives:

At the end of this module you should be able to:

1. Describe the key considerations for undertaking a Nutrition Assessment for a client coming to see you with regard to their fertility
2. Explain key elements a practitioner will need to investigate pertaining to a client's fertility history
3. List common biochemistry that needs to be reviewed for fertility clients

You've now learnt a lot of the theory behind optimising your client's fertility, but what does a consultation look like? Let's consider a few key aspects of a client assessment…

Fertility history

For client's with infertility, you'll need to investigate the cause of the problem. Is your client getting pregnant, but then experiencing recurrent miscarriages? Has your client already had children successfully, but now struggling to conceive because of their age (and consequently egg quality and quantity)? Are they undertaking IVF and have plenty of healthy eggs, but the eggs aren't implanting? Is your client early in their fertility journey and experiencing irregular periods (and consequently oligo-ovulation)? Be sure to ask about the frequency of their menstrual cycle, whether they track ovulation and what their periods are like. If they've undertaken fertility treatments, it's important to ask when they started treatments, how many cycles they've undertaken, how many eggs were collected in each cycle, how many eggs got to blastocyst stage, how many eggs have been transferred in each cycle and how many frozen, have any of the eggs had genetic testing and have they had any previous children, pregnancies or chemical pregnancies. It is also important to ask about the father's sperm health.

Medical history

In addition to obvious fertility issues such as blocked fallopian tubes and early menopause, a range of medical issues significantly impact fertility. We looked at many important conditions in our last module. However, it's also important to consider autoimmune disorders (which can reduce implantation), uterine fibroids and polyps (which can make it difficult for the embryo to implant), endocrine system disorders (which can impact hormonal regulation), previous cancers (which can damage reproductive organs), gastrointestinal conditions (which may impact nutrient absorption) and eating disorders (which can impact ovulation and nutrient levels). Consider how each medical condition may impact the fertility journey and if dietary intervention may assist.

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Biochemistry

Although doctors and fertility specialists will order a range of bloods to investigate sexually transmitted diseases, hormones and general health, nutritional biomarkers are often absent. The biochemistry you request will vary from client to client based upon the client's medical and fertility history. However, some key considerations will include fasting insulin and HOMA-IR, vitamin D, iron studies and thyroid function tests.[1] If your client is having trouble conceiving, you may consider folate levels, MTHFR genetic testing, coeliac serology, a zinc to copper ratio, vitamin B12 and/or CRP levels.

Medications and supplements

Some clients won't be taking any supplements, and some will be taking enough supplements to open their own pharmacy. We will discuss micronutrients and supplements in the next module, but it's important to investigate what they're currently taking, the dose and how long they've been taking it for. Many clients have a mindset that the more supplements they're taking, the more likely they are to conceive, and may actually be taking supplements that compete against one another or overdose on particular nutrients It can be beneficial to review the client's supplement regime and explain to them the optimal time and dose for each supplement.[2]

Anthropometry

In earlier modules we discussed the impact of both over and undernutrition on a client's fertility. Consider investigating your client's percentage of body fat and both their short- and long-term weight history. Recent rapid weight loss may impact upon oocyte health.[3]

Social History

Obviously, it's essential to consider a client's social history such as whether they are working long hours, undertaking a high stress career, how well they are sleeping and whether they have other children. Fertility issues can be highly stressful so you may want to enquire whether they have a good support system and/or are seeing a counsellor. Physical activity levels can also be beneficial to assist with determining appropriate calorie requirements.

Diet History

We discussed dietary patterns earlier, but to summarise, key considerations include appropriate calorie intake, glycemic distribution across the day (which may impact insulin levels), glycemic index, the client's fat profile of saturated to unsaturated fats, micronutrient intake, antioxidant intake, intake of plant based to animal proteins and intake of foods which may have a negative impact on fertility such as sugar, alcohol and trans fats. Knowledge of food intolerances, frequency of eating out (or ordering in), discretionary food intake and fibre intake may also be helpful.

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References

[1] Zhang, D., et al., *Effect of hyperinsulinaemia and insulin resistance on endocrine, metabolic and fertility outcomes in women with polycystic ovary syndrome undergoing ovulation induction.* Clin Endocrinol (Oxf), 2019. **91**(3): p. 440-448.
[2] Buhling, K.J., and Grajecki, D., *The effect of micronutrient supplements on female fertility.* Curr Opin Obstet Gynecol, 2013. **25**(3): p. 173-180.
[3] McGrice, M., and Porter, J., *The effect of low carbohydrate diets on fertility hormones and outcomes in overweight and obese women: A systematic review.* Nutrients, 2017. **9**(3): p. 204.

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