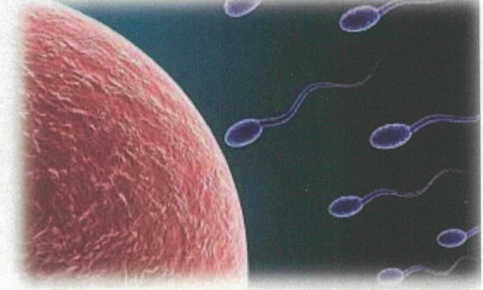




Smoking vs Fertility

Is there a link between smoking and decreased Male Fertility rates?

By Katie Lane



Introduction

In New Zealand, around twenty percent of couples are affected by infertility at some point of their lives (Te Ara, 2011). Many biological and social factors can affect fertility in both females and males. A few causes of male infertility include a pre existing genetic condition, hormone disorders, exposure to radiation, injury to groin area, blockage caused from a previous infection, smoking, use of alcohol and drugs. These causes can result in low sperm counts, poor sperm quality, and poor sperm movement and form. Smoking was a topic that I wanted to further investigate as there were several patients within my medical placement that smoked, and globally one third of males currently smoke some form of tobacco. Currently in New Zealand, sixteen percent of adults smoke, and as health care professional I believe that we should have a wide range of knowledge about the negative impacts that smoking can lead to, to prevent male infertility in the future (Statistics NZ, 2017).

Literature Review

- Smoking is a widely recognised health hazard and a major cause of mortality, yet people continue to consume cigarettes regularly knowing the potential impacts on their health (Colagar, Jorsaraee, & Marzony, 2007).
- One of the well known toxins within cigarettes is nicotine, this toxin has a significant influence on sperm morphology and sperm count (Gornig, Schirren, 1996).
- Colagar, Jorsaraee and Marzony (2007) report that the highest prevalence of smoking is observed in young adult males during their reproductive period of 20-39 years.
- A cross-sectional analysis was conducted of 2542 healthy men from 1987-2004 found that semen analysis of cigarette smokers had lower sperm volumes, sperm counts and percentage of motile sperm in comparison to the men who didn't smoke (Ramlau-Hansen et al, 2007).
- Literature has shown that smoking affects not only active smokers but also the people surrounded by smokers who are being exposed to secondhand smoke.

References:

- Colagar, A., Jorsaraee, G.A., & Marzony, E. (2007). Cigarette Smoking and the Risk of Male Infertility. *Pakistan Journal of Biological Sciences*, 10 (21), pp. 3870-3874.
- Complete Fertility. (2017). *Causes of Infertility*. Retrieved from: https://www.completefertility.co.uk/causes_of_infertility.php
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- Quitline. (2017). *Nicotene patches, gum and lozenges*. Retrieved from: <https://quit.org.nz/help-to-quit/nicotine-patches-gum-and-lozenges>
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Recommendations

- Healthcare professionals should educate patients on issues regarding health, ask if the patient smokes and offer smoking cessation.
- Education should occur in the primary health setting such as doctors, as well as in secondary schools as students are close to reproductive age.
- Smoking cessation, where health professionals offer support and can prescribe patches, gum and lozenges for eight weeks, which can double your chances of quitting as they reduce cigarette cravings without damaging your health (Quitline, 2017).
- Quit line, an organization that provides patients with free, ongoing support until they are a non-smoker.

Implications

Infertility can be a sensitive topic, and many couples that try to conceive may think that it's the female's reproductive system that is preventing them from conceiving, however male infertility contributes to over forty percent of infertility cases (Complete Fertility, 2017). This stigma can be seen as a barrier as it may be difficult for the male to accept that he is the one preventing the couple from conceiving, which may prevent him from seeking help from a health care specialist. Therefore, the implication of male infertility due to smoking not only causes conflict between the social relationship between partners, it also increases the financial cost of wanting to have a family.

Conclusion

In conclusion, the literature review suggests that smoking men with infertility issues or those having difficulty conceiving, should be educated on why they should quit smoking, and the implications that smoking can have on sperm quality. Patients should be encouraged to quit smoking in order to optimise their chances for successful conception. As health care professionals, we should be offering smoking cessation to patients that smoke, to try and decrease the percentage of smokers within New Zealand, which will help reach New Zealand's goal of being smokefree by 2025.

Rationale for poster choice:

My rationale for choosing to present my evidence based literature review on a poster was because that I believe that it is more beneficial for knowledge transfer for the public as well as health care professionals.

Posters promote active learning as r'eaders must engage with the poster to read and analyse the information presented. They are visually appealing which means that they are able to draw attention as the information is presented in a way that is clear and easy to navigate (Rowe & LLic, 2009).

The poster is able to explain why smoking negatively effects male fertility, shows evidence from the literature review, and presents recommendations as well as limitations. The poster can be used as an educational tool to educate patients why they should stop smoking in order to increase chances of conceiving. The poster could be used in smoking cessation sessions and displayed in hospitals or healthcare settings so that people can become more aware of this health issue.

PECOT Model:

I used the PECOT model (Whitehead, 2013) to help come up with my research question "Is there a link between smoking and decreased male fertility rates".

PECOT category	Information relating to questions	Explanation
Population	Males at the sexual reproductive age who have experienced fertility issues as a result of smoking.	It is common knowledge that smoking has negative impacts on most areas of the human body. I want to see if there is evidence that links reduced fertility with male smokers.
Environment (Intervention)	Males experiencing fertility issues and are smokers.	I will be looking for articles/ research that has studied the fertility of males who are active or passive smokers, and compare it to those who are not smokers.
Comparison	Males who smoke and males who do not smoke and as a result, the effects on their fertility.	I am interested to see if there is a clear comparison between the fertility of male smokers and non- smokers.
Outcome	Impaired fertility higher in males who smoke or are exposed to smoke.	The environment of smoking does have an impact on male's fertility rates.
Time	N/A	N/A

Rowe, N., & LLic, D. (2009). What impact do posters have on academic knowledge transfer. A pilot survey on author attitudes and experiences. *Biomed Central*, 71.

Whitehead, D. (2013). Nursing and midwifery research and appraisal for evidence-based practise (pp. 35-56). Sydney, Australia: Mosby.