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Independent Study and Mentorship- 3A

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Challenging Infertility

Research Assessment #5

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Subject: Initial Approaches to Infertility

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Terlisner, Amy. "Sperm meets egg: an initial Fertility Checklist." *Townsend Letter*, Apr. 2013, p. 48+. *Science In Context*,
go.galegroup.com/ps/i.do?p=GPS&sw=w&u=j043905010&v=2.1&id=GALE%7CA328000616&it=r&asid=b1757c3c82c19d59baff9162a2739799. Accessed 29 Sept. 2017.

Assessment:

The process of conceiving a child appears to be a simple one. Pregnancy is simply the result of a woman's egg meeting a male's sperm. However, with so many different factors and conditions weighing in on both male and female fertility, pregnancy may seem like a far-off goal for many couples.

While there are many options available for those who have been attempting to conceive for over six months, these options are often expensive and not covered by insurance. These options include in-vitro fertilization and intrauterine insemination. However, there are steps that can be taken by both men and women that have been proven to help with fertility issues. One of

the simplest precautions to take is to be wary of time. Women have one egg released during the time they are ovulating, and this egg only remains viable for about 12 to 24 hours. Therefore, the use of ovulation kits can guide women in knowing exactly when they are ovulating, which is generally 14 days after their period. What I found surprising, however, is the fact that the optimum time to try and conceive is right before ovulation begins. This allows time for the sperm to travel up the fallopian tube and meet the released egg. There is a large misconception about needing to have intercourse once you have actually started ovulation, but for higher chances it is a little prior to this. If more couples were aware of this fact, their chances of becoming pregnant would probably increase slightly.

Furthermore, there are lifestyle choices and changes that can be made to help increase fertility. It may seem like Reproductive Endocrinologists are beating a dead horse when they advise their patients to change their diets and lifestyle choices. However, many of these changes have proven from time and time again to be helpful. Even I was shocked by the true extent of the benefits given to those who actually make these changes. For example, Polycystic Ovary Syndrome, commonly referred to as PCOS, is a common condition found in women. This condition often leads to problems of infertility and is brought on by the patient's diet, mainly in consuming carbohydrates. Therefore, really taking control of your health can completely reverse the effects of PCOS and improve fertility. Since this condition is such a common cause of infertility in women, I am quite interested in pursuing this topic for my final product. Possibly studying the effects of exercise and healthy eating in multiple patients with PCOS and then analyzing the results overtime. This could consist of creating a diet and exercise plan for PCOS patients to follow over a specified period of time. Because tracking fertility may be difficult

through a short study, I could instead test ovulation for a few months to see how that is affected. The reason that ovulation would be a great tracking indicator is because many patients with PCOS do not ovulate, which is a necessary step for women to become pregnant. Similarly, I could potentially conduct a study with male patients that are struggling with infertility issues. Previously, I was unaware that men account for around 30% of all fertility issues. Stereotyping has led a majority of the public to think that women are “to blame” for infertility. However, just like women, men may be affected by a variety of factors that lead to this infertility. I find this information to be crucial to my entire ISM experience because it is correcting misconceptions I previously had. When conducting interviews and research, ISM students must be aware of the facts that serve as the basis for future information that will be learned. With this new knowledge that male infertility issues are prevalent, my ISM research has expanded greatly to include many new areas of study.

Many first-line treatment options are available for men, such as an increase in vitamin A and zinc intake. A deficiency in both vitamin A and zinc is known to lead to low sperm counts. Common knowledge shows that higher sperm counts directly correlate to a higher chance of egg fertilization. Therefore, a study on the effects of supplements, such as vitamin A and zinc, on male fertility may yield a smaller margin of error than a study including lifestyle changes in women. Lifestyle changes take time and are more difficult to keep consistent. However, supplements for men are easy to administer and start to take effect much faster.

The whole field of Reproductive Endocrinology is based off of infertility issues. This is why beginning research with first level treatments is the logical place to start. Although these noninvasive approaches to infertility do not always work, they do lay a much healthier

foundation for physician administered treatments, such as IVF and IUI. With my previous knowledge on approaches to female fertility and my new knowledge on approaches to male fertility, I plan to continue research on inexpensive ways to combat infertility. If my research turns into an educational and enlightening original work and final product, then I know that I have fulfilled my ISM duties by somehow contributing to the field of Reproductive Endocrinology.