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The correlation between Obesity and Health Difficulties

In our society today obesity is an epidemic that needs to be further addressed. This paper will focus on the correlation between diet, obesity and health problems. Our goal is to help the reader understand the importance of diet and what can certain choices in certain foods cause to a person. We will be focusing on the health problems that are not so obvious when someone relates obesity. The correlation between the negatives of obesity and pregnancy is a topic that is not commonly discussed. We will also focus on the correlation between gallbladder disease and obesity. In the end we want to inform the reader of other aspects of a person's quality of life and body can be negatively affected by obesity in a way not commonly spoken on. Our sources will consist of peer reviewed, secondary and primary sources about mental health, pregnancy and obesity, obesity and gallbladder disease.

Obesity is a topic that get some light in social media and the news. It is typically covered in the sense of trying to lose weight through diet and exercise. Even though it receives coverage it is still a sensitive topic for people who live with it, and do not necessarily want to talk about it. An important topic that is not given much coverage in the media are the negative effects of being obese and then getting pregnant. The health concerns of just being obese is typically well known. Problems such as diabetes, hypertension, high cholesterol, and sleep apnea just to name a few. Now if an obese woman decided to get pregnant and had just one of these problems previously listed, she would have increased her chances for both pregnancy and birthing complications. The

primary unit used by doctors to measure the percentage of body fat is the body mass index. Which is a ratio of one's weight and height. I think the formula is outdated and cannot be used to measure everyone with so many different body types.

To put this in perspective, I weigh 240 lbs. and I'm about 6'2". According to the BMI I am obese with an index of 30.8. I am not an accurate representation of what is portrayed to be obese. I would not be opposed to lose ten pounds. Instead getting into how the BMI is inaccurate and is mislabeling people as obese, for the sake of this paper we will recognize people who are obese who have a noticeably large excess of body fat in proportion to their body size. According to a German study called The Risks Associated with Obesity in Pregnancy, Johannes Stubert and a team of doctors gathered figures of obesity amongst young women in Germany. Their studies have found an increased in the prevalence of obesity in German women over the last two decades. In 2013, according to their survey, 9.6% of women between ages 18 and 29 years were obese. In another group survey of women 30 to 39 years, the prevalence for obesity increased to 17.9% (April 2018). If Germany is worried about their numbers, we should be frightened by ours.

The prevalence of obesity in America is worse. To quote the Center for Disease and Control, "The prevalence of obesity was 35.7% among young adults aged 20 to 39 years, 42.8% among middle-aged adults aged 40 to 59 years, and 41.0% among older adults aged 60 and older". Germany had a ratio of about 1:10 people in young adult ages are obese, we have about 3.5:10. Being obese can cause a delay in getting pregnant. According to Stubert (April 2018), the time until pregnancy occurs is longer in obese women compared to women of normal weight and the chance of conception within one year is already reduced with a BMI greater than 26 kg/m². This shows that obesity can delay one's joy of bearing a child.

There are many risks that come with having obesity by itself. Getting pregnant while being obese can further increase those risk harming the potential mother. Being obese prior to pregnancy also places the child inside womb at risk for several complications which will be discussed here. According to this review article called Obesity in pregnancy, CKH Yu, TG Teoh, S Robinson, discovered within 15 years of pregnancy complicated by Gestational diabetes mellitus, 30% of lean women and 70% of obese women develop Type two diabetes mellitus (August 2006). From what I learned in paramedic school; Gestational diabetes is remarkably similar to regular diabetes. The main difference is in gestational is that you are pregnant.

Although there are no defined causes of gestational diabetes, the risk factors have been found and researched. Just like in normal diabetes mellitus there is a glucose intolerance. In pregnancy glucose intolerance is recognized the same way. The main difference is it is not inherent to the diagnosis of having diabetes for life. There are many women whom get Gestational diabetes and it resolves after pregnancy. According to CKH Yu et al, while glucose intolerance normally resolves following pregnancy, it does predict an elevated risk of type II diabetes mellitus in later life (August 2006). He also Stated that the child in pregnancy is at increased risk of fetal malformation in addition to fetal macrosomia (an increased birth weight).

According to the Office on Women's Health, overweight mothers or mothers with obesity are at higher risk for conceiving babies with health problems such as spina bifida (when the spine and spinal cord do not form properly), Heart defects, and Low blood sugar and larger body size, if the mother has gestational diabetes. In addition, the baby after birth is more prone to Obesity, type 2 diabetes, and high cholesterol (December 2018). We all want a healthy offspring that we can care for and love. Having obesity could complicate that wonderful experience. According to CKH Yu et al, performing an Ultrasound in obese women is often below par. In their study of

1622 ultrasound scans, women in their second and third trimester with a greater than average BMI, had a decreased visual of 63% of the fetus. There is also an 14.5% decrease in visualization of all organs systems in women with a greater than average BMI (December 2018). Although according to their research, the causes between obesity and birth defects is unknown. The team of doctors have produced multiple possible explanations. CKH Yu and the team of doctors say increased serum insulin, triglycerides, uric acid, and endogenous estrogen could be potential causes. In addition to increased insulin resistance, chronic hypoxia (When your body does not have enough oxygen) and hypercapnia (a buildup of carbon dioxide in your bloodstream) have been suggested as probable causes.

Studies have shown that there is an association between obesity and an increased risk of antepartum (before birth) stillbirth. A three-fold increase in antepartum stillbirth was found in morbidly obese women compared with women with a normal BMI (CKH Yu et al. December 2018). Doctor Rosanna Gray-Swain of West End Ob/Gyn, states that if a woman who is overweight or obese wants to conceive a child, they should lose the excess weight first (March 2011). The metabolic processes are different for a woman when she is pregnant versus when she is not. Everyone has a healthy weight proportional to their body size. The hard part is trying to get there and or maintain it.

“A recent analysis of data from 195 countries revealed that the prevalence of obesity has doubled in more than 70 countries since 1980, and over 600 million adults were obese in 2015, with high BMI accounting for 4 million deaths globally” Kishore Gadde expressed in the Journal of the American College of Cardiology. As we discuss diet and obesity, it is important to know that this is a reality and that if it has doubled since 1980, we will need to pay close attention to the years to come and the effects of what we put in our bodies and what obesity can cause to our

overall health. Obesity is very much correlated to high blood pressure and diabetes but let's also talk about other health implications correlated to obesity: like previously spoken in this paper, difficult pregnancy and as we will discuss now, gallbladder disease.

What is gallbladder disease?

As I interviewed Dr. Timothy Stephens, a resident at the Bronxcare Hospital in the Bronx, he explained that gallbladder disease does not only refer to one specific problem but many problems pertaining to the gall bladder. One type of gallbladder disease: cholelithiasis which is also known as gallstone; is a hardening of a type of digestive fluid called bile within the gallbladder. This happens when you eat saturated fats and trans fatty acids which makes the gallbladder contract and work harder than normal which it then tires out and slows down; the bile then starts to collect in the gallbladder and hardens. This is very common with woman who are 40 years old and fat and fertile. This correlates to obesity because if you are living an unhealthy lifestyle and eating an unhealthy diet you are more susceptible to have gallstones or Cholelithiasis.

When we speak about morbidly obese people, it is a little more difficult to determine if they have gallstones. Morbidly obese people have an even greater chance of getting gallstones. Here I will speak about the difficulties that comes when finding gallstones in morbidly obese patients. According to Oria He, "ultrasounds is the best diagnostic tool, although its accuracy is less in this particular population. The following paper discusses false negative sonographic findings in morbid obesity by a retrospective review of 5257 patients submitted to bariatric surgery... false negative results are commonly caused by soft stones, microlithiasis or polypoid cholesterolosis. Single calculus impacted in the cystic duct can produce hydrops, resulting in a negative sonogram." In simpler terms morbidly obese patients are more susceptible to have

gallstones not found when doing the ultrasound test to find out where or if the patient has the gallstones. Although there are a few implications as to why that is. Morbidly obese patients can have a false negative test result because of gallbladder pathology or because of technical problems due to the excess body fat.

It is recommended to eat non saturated fats and no trans fats so that your gallbladder can work properly without having to go on overdrive. The foods you eat, and obesity has a correlation with health complications like gallbladder disease like gallstones. This is just one of the complications that can be prevented by educating the public or patients about eating better and what kind of diseases or health issues can arise that kind of unhealthy lifestyle continues.

While we have seen the drastic effects that obesity has on your susceptibility to gallbladder disease, as well as pregnancy difficulties, there is yet another aspect of your health with obesity can have severe effects on. While this type of health change is a bit more difficult to pinpoint within the human body, it is still nonetheless significant to one's well-being: mental health. While obesity amongst pregnant women can lead to still births, and even long-term diabetes, it can also create harmful long-term effects on a mother's mental health. According to the International Journal of Obesity, if women follow a steady diet during their pregnancy, gestational weight can decrease and significantly lower levels of anxiety and stress post-partum, greatly reducing the risks of post-partum depression. The way these levels of anxiety were measured was through the State and Trait Anxiety Inventory (Bogaerts, 817). After the study concluded, it was measured that anxiety was reduced within pregnant women by nearly one standard deviation, or roughly 13%. While more research needs to be conducted in order to determine how obesity can also affect the mental health of newborns, Bogaerts and colleagues

still recommend that women receive antenatal screening for their psychological health to predict outcomes for newborns.

Overall, it is very clearly that while obesity itself is a health epidemic that needs to be addressed and researched on more efficiently, it is also the primary cause for other secondary illnesses. In order for chronic illnesses such as gallbladder diseases, in addition to stillbirths and mental health-related illnesses such as anxiety and depression, we must first focus on how poor dieting and social constructions have caused the increase in weight gain within a large part of the country. We must do something to stop the rising epidemic of obesity in the country. If we focus more on switching to a healthier diet and how our food intake actually affects certain parts of our body, then we will be more motivated towards reducing obesity, and therefore aid in reducing the effects of secondary illnesses such as gallbladder disease, stillbirths, diabetes, and anxiety.

Works Cited

- A F L Bogaerts, et al. “Effects of Lifestyle Intervention in Obese Pregnant Women on Gestational Weight Gain and Mental Health: a Randomized Controlled Trial.” *International Journal of Obesity*, vol. 37, no. 6, 2012, pp. 814–821.
- Antonopoulou, et al. “Evaluating Mediterranean Diet Adherence in University Student Populations: Does This Dietary Pattern Affect Students' Academic Performance and Mental Health?” *The International Journal of Health Planning and Management*, 2019, pp. The International journal of health planning and management, September 12, 2019.
- Dr. Timothy Stephens (2019, November 25th) Personal interview.
- Gadde, Kishore M, et al. “Obesity.” *Journal of the American College of Cardiology*, vol. 71, no. 1, 2018, pp. 69–84.
- “The Obesity Epidemic (7:13).” *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 22 Nov. 2013, <https://www.cdc.gov/cdctv/diseaseandconditions/lifestyle/obesity-epidemic.html>.
- “Pitfalls in the Diagnosis of Gallbladder Disease in Clinically Severe Obesity.” *Journal of Diagnostic Medical Sonography*, vol. 15, no. 1, 1999, p. 43.
- “Pregnancy and Obesity: Know the Risks.” *Mayo Clinic*, Mayo Foundation for Medical Education and Research, 18 May 2018, <https://www.mayoclinic.org/healthy-lifestyle/pregnancy-week-by-week/in-depth/pregnancy-and-obesity/art-20044409>.

- Rust, Rosanne. “Nutrition Controversies: Keeping Things in Perspective.” *American Journal of Lifestyle Medicine*, vol. 8, no. 5, 2014, pp. 313–317.
- Stubert, Johannes, et al. “The Risks Associated With Obesity in Pregnancy.” *Deutsches Arzteblatt International*, Deutscher Arzte Verlag, 20 Apr. 2018, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5954173/>.
- Yu, CKH, et al. “OBGYN.” *Obstetrics and Gynecology*, John Wiley & Sons, Ltd (10.1111), 10 Aug. 2006, [https://obgyn.onlinelibrary.wiley.com/doi/full/10.1111/j.1471-0528.2006.00991.x@10.1002/\(ISSN\)1471-0528\(CAT\)ThemedIssues\(VI\)January2006Obesity](https://obgyn.onlinelibrary.wiley.com/doi/full/10.1111/j.1471-0528.2006.00991.x@10.1002/(ISSN)1471-0528(CAT)ThemedIssues(VI)January2006Obesity).