**Risk Factors for Type 2 Diabetes**

**BBH411W Short Paper 3**

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Abstract: This literature review will further the data collected from lab 5, which was about the various risk factors that could cause type 2 diabetes. Some risk factors already found in lab 5 that affect type 2 diabetes include: diet, physical activity, stress and depression, and genetics. In lab 5 what was already found was different studies that showed that those factors did indeed have significance in the risk for developing type 2 diabetes. This short paper is to basically provide more evidence through more studies researched to help show that type 2 diabetes has lots of risk factors.

“The purpose of the writing is to fulfill course requirements for BBH 411W and to stand as a personal writing sample, but the findings should not be treated as generalizable research.”

One study showed that depression is another factor that increases the risk for diabetes. There was a meta-analysis done on journals up to 2005. Each of nine studies that were examined had to do with the significance of depression and its’ relation to increasing risk for type 2 diabetes. What was found was that depressed adults had a 37% increased risk of developing the disease. However, further tests (probably a randomized control) would need to be done to see whether effective prevention of depression could reduce the incidence of type 2 diabetes. [[1]](#footnote--1)1

There was a study done on about 117,600 female nurses aged 30 to 55 years. These women all were cardiovascular disease free when this study was started. The women started to be under study in 1976 and were followed for 20 years. What was found is that the women that developed cardiovascular disease were the women who were more likely to develop type 2 diabetes. So, from this study one can see that CVD is probably another risk factor for it. [[2]](#footnote-0)2 Another study conducted by one of the same people in that study examined people’s television watching and other sedentary behaviors. This cohort study was done from 1992 to 1998 from women in 11 different states in the female nurse study. The study examined how many women had a BMI of more than 30. The study focused on multiple variables including the age of the participants, whether they are a smoker or not, exercise levels, dietary factors, and time spent watching television. The study showed that sedentary lifestyle behaviors like watching TV increase the chance of type 2 diabetes. It also showed that even if the women performed light to moderate exercise they had a substantial lower risk than the people not doing any exercise.[[3]](#footnote-1)3

One very interesting study examined over 100,000 women who had no history of diabetes who reported their menstrual cycle pattern at age 18 to 22 for their baseline questionnaire. The follow up was through 1997, which compared all the women’s menstrual cycles. What was found was that the women with a long (31-40+ days) or irregular menstrual cycle seemed to have an increased risk for type 2 diabetes, which was determined by their increased BMIs’. [[4]](#footnote-2)4

One meta-analysis studied the plasma levels of testosterone and sex-hormone-binding globulin (SHBG) and their effects on type 2 diabetes. 43 cross-sectional studies were viewed, which included around 7,000 women and 6,400 men. The testosterone and SHBG levels were taken and compared. This analysis concluded that high testosterone levels are associated with higher risk for type 2 diabetes for women, but are associate with a lower risk in men. The woman who had smaller SHBG levels had a stronger risk than men.[[5]](#footnote-3)5

Soda consumption has increased in the U.S. One study, through a soda and food consumption questionnaire, showed that a daily consumption of soda was linked with a 67% greater risk for the incidence of type 2 diabetes. [[6]](#footnote-4)6 A meta-analysis, which examined 11 studies, used over 310,000 participants. The individuals that admitted to drinking the highest quantity of sugar-sweetened beverages (SSBs) seemed to have the greatest risk of type 2 diabetes (26% more risk than those who drink less SSBs). Both of these studies showed that a preventable factor such as soda drinking and drinking SSBs can decrease one’s chances of getting type 2 diabetes.[[7]](#footnote-5)7

One study examined women who walked compared to women who performed vigorous activity. This was another study done in the Nurse’s Healthy study given in 1986, updating the women’s physical activity levels in 1988 and 1992. In this study, there were about 70,000 nurses ages 40 to 65 that were studied. The data collected from this study suggests that the increased levels of physical activity (increased duration and intensity) leads to decrease chance in getting type 2 diabetes, and the lower the levels of physical activity (decreased duration and intensity) leads to an increase chance in type 2 diabetes.[[8]](#footnote-6)8

Ethnicity is another risk factor for many diseases. One study, which was taken over a 20 year span, used 78,000 women from the Nurse’s Health Study (about 75,000 whites, 800 Asians, 600 Hispanics and 1,400 blacks). Dietary intake and lifestyle habits were taken every 4 years. Through the data collected in the study, researchers found that Asians had a 1.48 higher chance of developing type 2 diabetes, 1.76 for Hispanics, and 2.18 for blacks. This shows that the risk for type 2 diabetes is significantly higher among Asians, Hispanics, and blacks. [[9]](#footnote-7)9

Another thing that may increase the chance of getting type 2 diabetes is where people live because their economic status may have an effect on it. There were 4,000 people ages 40 to 69 years old examined in this study from the United Kingdom. Through the info gathered from primary care facilities and hospitals the researchers found that the prevalence of type 2 diabetes was highest in the people who lived in more deprived areas and lower in people who lived in the wealthier areas. [[10]](#footnote-8)10

Overall, one can see that there are probably dozens of different risk factors for type 2 diabetes. Some of these risk factors are from different preventable behaviors. Some of these preventable risk factors include sweetened beverage intake, sugary drink intake, and shortage of physical activity. Other factors include things a person cannot change such as hormone levels, genes, depression problems, and menstrual cycle problems. These are all some things that most likely take part in the reasons why people develop type 2 diabetes.

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6. 6 Nettleton, J. A., P. L. Lutsey, Y. Wang, J. A. Lima, E. D. Michos, and D. R. Jacobs. "Diet Soda Intake and Risk of Incident Metabolic Syndrome and Type 2 Diabetes in the Multi-Ethnic Study of Atherosclerosis (MESA)." *Diabetes Care* 32.4 (2009): 688-94. *GoogleScholar*. Web. 21 Apr. 2015. <http://care.diabetesjournals.org/content/32/4/688.short>. [↑](#footnote-ref-4)
7. 7 Malik, V. S., B. M. Popkin, G. A. Bray, J.-P. Despres, W. C. Willett, and F. B. Hu. "Sugar-Sweetened Beverages and Risk of Metabolic Syndrome and Type 2 Diabetes: A Meta-analysis." *Diabetes Care* 33.11 (2010): 2477-483. *GoogleScholar*. Web. 21 Apr. 2015. <http://care.diabetesjournals.org/content/33/11/2477.short>. [↑](#footnote-ref-5)
8. 8 Hu, F. B. "Walking Compared With Vigorous Physical Activity and Risk of Type 2 Diabetes in Women: A Prospective Study." *JAMA: The Journal of the American Medical Association* 282.15 (1999): 1433-439. *GoogleScholar*. Web. 21 Apr. 2015. <http://jama.jamanetwork.com/article.aspx?articleid=192010>. [↑](#footnote-ref-6)
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