

Honours Research Project: Final Report

Major depressive disorder, or more commonly known as depression, as well as eating disorders like anorexia nervosa, bulimia nervosa and binge-eating, are all common and well-known disorders in the present day. However, the link between depression and eating disorders are not explored and researched on as much as the two disorders themselves. These two disorders can have major impacts on each other and their respective treatments could potentially be beneficial to one another. The objectives of this literature review is to first look into each disorder on their own in order to analyze their causes, risk factors, symptoms and common treatments. Then, it will determine whether there is a link between depression and eating disorders: if one will impact or elevate the risk of the other, or even possibly, if their relationship may be mutually impactful. Finally, it will also determine if the treatment for major depressive disorders, more specifically, antidepressants, functions or can be beneficial to eating disorders such as anorexia nervosa and bulimia nervosa. The two research papers that will be used in this literature review in order to analyze the impacts depression and eating disorders have on each other are: “Increased rate of eating disorders and their symptoms in women with major depressive disorder and anxiety disorders” by Garcia et al. and “ Depression and eating pathology: prospective reciprocal relations in adolescents” by K. Presnell et al. For the studies of the treatment impacts, a research paper titled “Depression and eating disorders” by professor Casper will be used.

Depression and eating disorders are both topics that are not commonly discussed, but are both severe and fatal medical illnesses. It is important to know about the symptoms, causes, risk factors and consequences of each disorder, as well as screen for them in the general population as well as more vulnerable patients. The purpose of this literature review is to assemble knowledge about these two disorders and link them together in order to spread awareness and understand them better. The two disorders may impact each other and therefore, it would be beneficial in that case to screen for one disorder in patients with the other and vice-versa. Furthermore, if the treatments can be beneficial to one another, that could also be helpful in advancing medical research on treatments for the two disorders. Finally, this literature review focuses on research papers that were done more on the qualitative side and therefore, does not go into details about the neurological research on these two disorders, however, that would be an important area to research about and could bring a lot of useful and pertinent information about the subject.

Major depressive disorder (MDD), or simply depression, is a medical illness that is common but extremely serious. It affects the way an individual feels, thinks and acts in a negative manner. There are many types of depression, for instance, persistent depressive disorder, postpartum depression, psychotic depression, seasonal affective disorder and bipolar disorder, but this literature review will focus on the more general cases, risk factors, symptoms and treatments. Depression can be caused by many various factors, ranging between biochemistry (certain chemicals in the brain that contribute to symptoms of depression), genetics (depression may run in families), personality (negative oriented personalities, low self-esteem,

people easily overwhelmed by stress, generally pessimistic people are more vulnerable to depression) or environmental factors (exposure to violence, neglect, abuse, poverty, etc.). Things like continuous exposure to violence or abuse, people with low self-esteem or people who are generally easily overwhelmed by stress, major life changes, trauma, stress, or even certain physical illnesses and medications may make individuals more vulnerable to major depressive disorders or anxiety disorders as well. Depression can affect people of any age but will more often impact people at the beginning of adulthood. In general, the symptoms for depression range from mild to severe cases, for instance, feeling sad, having poor appetite or overeating, which will be explored further in the literature review, loss of interest and pleasure in activities that were once upon a time enjoyed, low energy, fatigue, low self-esteem, poor concentration, feeling worthless or guilty, having thoughts of death and suicide and etc. Each individual with depression will feel different symptoms to different levels, and therefore will also need different treatments. Fortunately, there are many treatments available today. Some of the more common ones are medication (different types of antidepressants), individual or group psychotherapy or “talk therapy”, which can be coupled with antidepressants, cognitive behavioural therapy (CBT), which focuses on problem solving in the present and helps a person to recognize distorted or negative thinking as well as helps them change thoughts and behaviours to respond to challenges in a more positive fashion, and finally electroconvulsive therapy (ETC), which is used in more severe cases when the patient no longer responds to any other treatment. Electroconvulsive therapy consists of a brief electrical stimulation of the brain while having the patient under anaesthesia.

Eating disorders (EDs), in general, are illnesses associated with severe disturbances in an individual's eating behaviour. They are serious and could be fatal for many as they often result in suicide. They can start subtly, for example preoccupation with food, body weight and shape are all factors that may signal an eating disorder. In terms of risk factors, eating disorders can affect people of all backgrounds (different ages, racial and ethnic backgrounds, body weights, genders, etc.), however, they are known to be more frequent in teens and young adults. It is often a mix of various factors, genetic, biological, behavioural, psychological and social, to a different degree or level for each individual. In fact, some researchers have found depression to be one of the potential risk factors, which will be explored in more depth later on in this literature review. Furthermore, the symptoms vary for each type of eating disorder. In the case of anorexia nervosa, they manifest in the form of extremely restricted eating, extreme thinness and its relentless pursuit, having an intense fear of weight gain and a distorted body image. People with anorexia nervosa are often dangerously underweight, but may still see themselves as being overweight. In more severe cases, anorexia nervosa can cause brittle hair and nails, dry and yellowish skin, multi organ failure, brain damage, drop in internal body temperature, lethargy, sluggishness, tiredness all the time and even infertility. On the other hand, instead of restricted eating, bulimia nervosa happens when an individual binge eats and then follows with compensatory behaviour for example, forced vomiting, excessive use of laxatives and diuretics, fasting and excessive exercise. These in turn cause chronically inflamed and sore throats, acid reflux disorder, intestinal distress and irritation, severe dehydration, electrolyte imbalance and many more. Individuals with bulimia nervosa may be slightly underweight, normal weight or overweight.

Finally, binge-eating occurs when an individual consumes unusually large amounts of food in

specific amounts of time, eating when they are either full, not hungry, or to the point of being uncomfortably full. These are usually done very fast during binge-eating episodes and often alone or in secret to avoid embarrassment. Contrarily to bulimia nervosa, these are not followed by compensatory behaviours but instead, they are then followed by feelings of distress, shame and guilt about eating. Binge-eating symptoms often also include frequent dieting without any successful weight loss, and as a consequence, individuals are more likely to be overweight or obese. Fortunately, like depression, there are many treatments available for eating disorders as well, for example, individual, group or family psychotherapy, similarly to depression, cognitive behavioural therapy is also available, medical care and monitoring, nutritional counselling and mood stabilizing medications, for example antidepressants, which will be explored further at the end of this literature review.

In terms of impact, many researches have found depression and eating disorders to be linked, meaning that they reciprocally increase the risk of each other. In a study made by Garcia et al. named “Increased rate of eating disorders and their symptoms in women with major depressive disorder and anxiety disorders,” the researchers had around 500 female twins participants who were categorized based on their specific disorders and then proceeded to be examined to see which criteria of either major depressive disorder and eating disorders applied. The results of this research showed that due to shared risk factors, like genetic affective or neurological vulnerabilities, as well as the fact that people with major depressive disorder or anxiety disorder and people with eating disorders tend to have intense and frequent negative emotions, these two disorders mutually increase the risk of one another. Based on this research,

the results also indicate that women with a history of depression or anxiety disorder were four times more likely to develop an eating disorder than women who did not previously have either. Furthermore, eating disorder symptoms were found to be elevated even among the women who had major depressive disorder or anxiety disorder but not a diagnosable eating disorder, which indicates that these eating disorder symptoms are simply common in women with depression or anxiety disorders in general. Moreover, this research also proved based on age of onset that anxiety disorders usually began before disordered eating, and that major depressive disorder was more likely to onset after eating disorders.

Of course, this theory is also backed up by another research, this time done by K. Presnell et al. titled “ Depression and eating pathology: prospective reciprocal relations in adolescents.” These researchers took a more detailed approach and focused more closely on bulimia nervosa and its relation with depression. This time, they also had around 500 female participants, but they were all adolescents, who went through interviews adapted from the Diagnostic and statistic manual of mental disorders (DSM-IV), and then had follow ups throughout a period of seven years. The researchers came to the same conclusion as the previous research: depression and bulimia nervosa contribute reciprocally to each other. According to them, 46% of female inpatients diagnosed with bulimia nervosa using the Diagnostic and statistic manual of mental disorders (DSM-IV) also met criteria for depression. These results confirm the escape theory, where binge-eating is thought to be used as a coping method for individuals with depression, who utilize it to attempt to escape and alleviate emotional distress by focusing on external food cues. For instance, purging to reduce anxiety about weight gain, and thus, creating a cycle of

bulimic symptoms. Of course, this also applies in the reverse way since bulimic symptoms can act as a trigger for depression, because binge-eating and purging may lead to feelings of shame and guilt, and therefore, cause major depressive disorders. From these results, the researchers of this study have concluded that depressive symptoms could predict future increases in bulimic symptoms and bulimic symptoms may predict future increases in depressive symptoms as well.

After having established that there is indeed a link between the two disorders, many researchers have then looked into the possibilities that one disorder's treatments, in the case of this literature review, antidepressants for depression, could be beneficial to another's, for example, eating disorder patients. To begin, antidepressants are medications that can relieve the symptoms of severe depression, restlessness, anxiety, sleep problems and many more. However, it cannot cure depression itself, but instead, it can prevent suicidal thoughts as well as prevent the symptoms from returning and also make the individual feel more emotionally stable once again. There are many different types of antidepressants and therefore, patients and their doctors must find the type of antidepressants that work for them specifically that has manageable side effects as well. The results for the impact of antidepressants on eating disorders were obtained from a research done by professor Casper of the psychiatry department of Stanford University school of medicine, called "Depression and eating disorders." She tested for cases of antidepressants effects on anorexia nervosa and bulimia nervosa using many various placebo controlled treatment studies, a treatment that has no active properties. In the case of anorexia nervosa, the results of these placebo controlled treatments studies with antidepressants failed to document any significant effect on weight gain, which is a major outcome variable in anorexia nervosa. In other

words, anorexia nervosa symptoms did not react positively with any class of antidepressants, it was not successful. On the other hand, in the case of bulimia nervosa, bulimic symptoms responded well to all classes of antidepressant drugs. However, with time these drugs rarely lead to remission or diminution, and the effects were not sustained. These results demonstrate that antidepressants may work on a short term period depending on the type of eating disorder that is being treated. These medications can act as mood stabilizers, which can then be recommended as a viable treatment for some cases of eating disorders.

In conclusion, major depressive disorder and eating disorders do in fact impact each other. Their consequences are proven to be able to contribute reciprocally in a negative way, by elevating the risk of one another. Therefore, it is extremely important to screen for eating disorder in patients with major depressive disorder as well as to screen for depression or anxiety disorders in patients diagnosed with an eating disorder. However, more research is definitely required for treatment implications of antidepressants on eating disorders. These researches also need to be made not only with females and adolescent participants as well, and it would be beneficial to test to see if there is anything else different for each individual that could possibly impact the results, for example, the presence of another illness or the presence of different substances in the body like drugs. Furthermore, the side effects of all these treatments should also be explored as well, to be further informed on the consequences of each treatment. Finally, it would also be interesting to see how some other major depressive disorder treatments could impact eating disorders, as well as if eating disorder treatment's could impact depression as well.

In other words, see if the treatments can both ways. It would also be helpful to look into the areas

of the brain that are impacted by major depressive disorders and eating disorders respectively to see if there are any links there that could be explored. Different options of treatments can be tested out if the areas of the brain impacted are similar. Consequentially, the areas of the brain affected by each treatment should also be explored as well since there could be possible links and connections there. The neurological transmitters impacted by major depressive disorder and eating disorders can bring different perspectives to the problem and offer different possible solutions. Therefore it is definitely a direction that should be researched on more in the future.

Bibliography

<https://www.psychiatry.org/patients-families/depression/what-is-depression>

<https://www.nimh.nih.gov/health/topics/depression>

<https://www.nimh.nih.gov/health/topics/eating-disorders>

<https://www.ncbi.nlm.nih.gov/books/NBK361016/>

Casper, Regina C. "Depression and Eating Disorders." *Depression & Anxiety (1091-4269)*, vol 8, July 1998, pp.96-104. *EBSCOhost*, <https://ezproxy.marianopolis.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&AuthType=cookie,ip,url&db=aph&AN=11772784&site=ehost-live&scope=site>.

Garcia, Susana C., et al. "Increased Rates of Eating Disorders and Their Symptoms in Women with Major Depressive Disorders." *International Journal of Eating Disorders*, vol 53, no. 11, Nov. 2020, pp. 1844-54. *EBSCOhost*, <https://ezproxy.marianopolis.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&AuthType=cookie,ip,url&db=ssf&AN=146976621&site=ehost-live&scope=site>.

Presnell, Katherine, et al. "Depression and Eathing Pathology: Prospective Reciprocal Relations in Adolescents." *Clinical Psychology & Psychotherapy*, vol. 16, no. 4, July 2009, pp.357-65. *EBSCOhost*, <https://ezproxy.marianopolis.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&AuthType=cookie,ip,url&db=aph&AN=43494841&site=ehost-live&scope=site>.

