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Physical Activity, Bipolar Disorder and Me

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Abstract

Topic: Since individuals with BD are at higher risk of morbidity than the average population, physical activity as a treatment option needs more attention.
Purpose: To make recommendations about physical activity and the client with bipolar disorder; a discussion aimed primarily to health care providers.
Sources Used: This paper combines both references to published research and a first person narrative.
Conclusions and Implications for Practice: Discussion begins by looking at the cost and incidence of the co-morbidities in people with bipolar disorder. Physical activity as a treatment option is reviewed. The benefits of physical activity are listed and examined. It is cost-effective for society as a whole to focus on supporting individuals in physical activity, as it may reduce hospital admissions. Numerous obstacles facing clients with BD are discussed. The role of health care workers in promoting physical activity is discussed. Specific obstacles in an institutional setting are briefly examined. Mental health caregivers need to include physical activity in treatment planning. While physical activity is at the discretion of the individual, any form of physical activity is beneficial.

Key Words: Bipolar Obesity Physical activity Exercise Rehabilitation

Introduction

Bipolar disorder is the sixth leading cause of disability in the world (Edenfield, 2008). It follows that the health care costs for its treatment are significant. It has been found that individuals with BD have an increased incidence of ill health, as compared to the general population. The incidence of hypertension is 34.8% versus 15% of the general population (Kilbourne, Corenlius, Han, Pincus, Shad, Salloum, Conigliaro, & Haas, 2004), congestive heart failure is 3.2% (% (Kilbourne et al., 2004) compared to 1.6% (Ferri, 2005), and mortality is twice as high in the BD population, even after variables such as suicide were taken into account (Osby, Brandt,

Correia, Ekbom & Sparen, 2001). Another comorbidity that has been found across several studies is that of obesity. Faglioni (2002, 2003) found that 35-50% of individuals with bipolar are obese. Other authors have reported similar findings, with 38% of individuals being overweight and 29% obese (Kemp, Gao, Ganocy, Caldes,Feldman, Chan, Conroy, Bilali, Findling & Calabrese, 2009).

Obesity itself has been independently correlated with the following comorbidities: hypertension, type II diabetes, osteoarthritis, coronary artery disease, heart disease, stroke, gallbladder disease, sleep apnea, respiratory problems, dyslipidemia, and some types of cancer (Masand, 2000; Schwartz, Nihalani, Jindal, Virk & Jones, 2004; Allison, Mentore, Heo, Chandler, Cappelleri, Infante, Weiden, 1999). Clearly, there are numerous potential complications of weight gain associated with BD. Both medical professionals and service recipients alike need to address this issue head-on.

Standard treatment for BD usually includes psychopharmacology and psychotherapeutic interventions (eg. CBT) (Barbour, Edenfield & Blumenthal, 2007). However, since effectiveness of the staple treatments is suboptimal (Gitlin, 2006) and does little to combat weight-gain (McElory, Frye, Altshuler, Suppes, Hellemann, Black, Mintz, Kupka, Nolen, Leverich, Denicoff, Post & Keck, 2007), other treatment options less often prescribed should be explored in order to promote function and decrease comorbidities associated with BD.

I am a 46 year old female who has been diagnosed with severe BD for many years. It has caused significant disability and accompanying losses. There has been significant financial cost to society. First, I have been unable to work since 1994, which has required me to be on some form of financial assistance for 20 years. In addition, I have received social assistance from mental health care organizations. Furthermore, my daughter has been taken care of through the Children's Aid Society since 2003. I have had numerous hospitalizations of varying lengths and have had significant social and familial difficulties. I have not been a fully contributing member of society and my ability to recover has been impacted.

Physical Activity and Bipolar Disorder

One possible, yet rarely discussed, treatment option for BD is physical activity. It has been found that individuals with BD lead more sedentary lifestyles; 71% of individuals with BD were found to walk less than 3 times a week versus 60% of the general population (Killbourne, Rofey, McCarthy, Post, Welsh & Blow, 2007). While there is much support in the literature for physical activity in the treatment of depression and anxiety (Lawlor & Hopker, 2001; Stathopoulou, Powers, Berry, Smits & Otto, 2006), there is less research in the area of physical activity and its effects in someone with BD (Raglin, Wilson & Galper, 2007; Ng, Dodd & Berk, 2007; Barbour et al., 2007).

One question that begs to be addressed is whether or not physical activity is linked to the development of BD. It has been noted that physical inactivity is correlated to increased incidence of many mental health disorders such as depression, anxiety and somatoform disorders (Raglin et al., 2007). However this is not the case with BD. One study noted that increased levels of physical activity are associated with increased rates of BD (Strohle, Hofler, Pfister, Muller, Hoyer, Wittchen & Lieb, 2007). The relationship between physical activity and BD is unclear. While physical activity might not be a protective factor for BD, can physical activity aid in the treatment?

An investigation by Hale (2011) at the University of British Columbia looked at the self-management strategies of individuals with BD. After having interviewed 33 participants, it was found that physical activity was a large component to "staying well". Walking outdoors was cited as being both a cheap and easily-adopted form of physical activity. It would appear as though people living with BD value physical activity as a component of both their treatment and healthy-living.

A pilot study conducted by Ng and colleagues (2007) explored the impact of participating in a walking pro-

gram for individuals with BD. Inpatients were voluntarily enrolled in the program. Results indicated that those individuals who had participated had significantly lower depression and anxiety, as measured by the Depression Anxiety Stress Scales (Lovibond and Lovibond, 1995). Possible mechanisms were hypothesized as either those directly related to the physical activity, such as an impact on mood enhancing neurotransmitters and stress neurochemical pathways, or those indirectly related, such as diversion from negative thoughts and feelings, fostering sense of control, affective self-regulation, social interactions and exposure to sunlight and fresh air. Regardless of the precise mechanism, these results suggest there is value in adding physical activity to the standard treatment of bipolar disorder.

A study conducted by Edenfield (2008) sought to understand the impact that physical activity can have on an individual with BD. The study design compared stress reactivity and mood stability between an exercise group and a standard behavioural activation (non-exercise) group following 4 weeks of treatment. Results indicated that walking for 30 minutes, 4 times a week led to greater use of adaptive coping strategies. Generally, this demonstrates preliminary support for the use of physical activity as an adjunct treatment for individuals with BD. However more research needs to be done to address the appropriateness of physical activity interventions for individuals with BD in various phases of the illness (depressive, manic, euthymic).

In 2011, a randomized controlled trial was conducted to examine the impact that an integrated psychosocial treatment (including physical activity) had on reducing "medical burden" in individuals living with BD (Sylvia, Nierenberg, Stange, Peckham, & Deckersbach, 2011). The intervention was composed of 3 modules (1. Nutrition/Weight Loss, 2. Exercise, and 3. Wellness Treatment- enhancing healthy lifestyle choices) that were delivered in twelve 60 minute sessions. The intervention was carried out once, then modified using feedback from participants and researchers, then performed once more.

The overall goal of the exercise module was for participants to reach a healthy level of weekly exercise (moderate intensity, 5 days a week, 30 mins each day). A weekly exercise goal was set each session. Group members discussed the importance and rationale for exercise, the mood enhancing characteristics of exercise, and ways of increasing lifestyle activity (stairs, standing, walking). Exercise was approached as, "a more casual experience, which can last for a relatively short period of time and still be helpful". Having individuals view exercise as "lifestyle activity" was considered important, as this population has a tendency to have negative beliefs and low self-efficacy. Individual sessions allowed participants to review accomplishments, problem-solve obstacles, ask questions, and benefit from discussion with peers.
Results indicated that the first group of participants practically doubled their weekly exercise from baseline. 75% of the participants in the first group had clinically meaningful improvements in a measure of life functioning and lost weight. Significant improvements were also found in the second group. Specifically, participants were more active, lost weight and decreased their waist circumference. Life functioning, depressive symptoms and even manic symptoms (to a lesser extent) also improved. The crux of this study was that the intervention encouraged physical activity in a supportive way.

The Role of Physical Activity in My Life and Treatment
I am obese and have been obese since approximately 1996. My BMI has been as high as 45.5 with a waist circumference of 147 cm. I developed both dyslipidemia and diabetes and am currently taking medication for both conditions. My struggles with weight started during numerous and sometimes lengthy stays in the hospital for depressive symptoms related to my BD. While on a hospital ward I was rarely able to exercise and when I was not in the hospital I was too mentally unwell to participate in almost all types of physical activity. The physical inactivity led to a positive energy expenditure and I quickly gained weight which I found exceedingly difficult to reverse. Once discharged, I obtained a membership at the local YMCA but only went twice in a six month period. In my opinion, the nearest bus stop was too far away. I felt that exercise was beyond my ability for several reasons. I was on a large amount of medication that caused fatigue and weight gain. I routinely slept nine and a half hours at night and had a nap in the afternoon. Between sleep, the activities of daily living,

and doctor appointments I had less time for physical activity than I needed. In addition, I lacked motivation to be active during depressive phases, which were frequent and prolonged. At many times, I was oppositional and refused to engage in activity when anyone suggested it to me.

My experience supports the work of Edenfield (2008) who found that physical activity may indirectly reduce stress reactivity. I have found that after exercise I do feel less stressed and that problems that previously induced stress became less of an issue. With one bout of exercise I am less reactive to stress and I have replicated this response with almost every bout of exercise. However, the story changes when dealing with hypomania. If I am hypomanic, I find that exercise does not alleviate the stress as effectively. My thoughts would be racing and I would walk or swim faster and faster and find that I was no more relaxed nor better able to cope with stress than before I exercised. In fact I was more reactive. It is hard to determine whether my hypomanic mood leads to increased participation in vigorous physical activity, or whether the vigorous activity caused the hypomanic state.

In my experience even the idea that a modest reduction in depressive severity due to physical activity is significant and worth pursuing. Early on in my recovery, the depression was so severe that I was unable to motivate myself to be active. I simply felt too bad. Additionally, I didn't have the information that physical activity could possibly alleviate my depression. I could not have made an informed decision since I did not know that physical activity was even a treatment option.
Much later in my recovery, I began using physical activity as a coping mechanism. In my opinion, adaptive coping should be the primary goal for BD patients. If I had received encouragement to use this adaptive coping technique earlier, it would have aided in the speed of my recovery. I could have returned to a more fulfilling life sooner. Possibly I would not have experienced so many hospitalizations or so many losses.

In addition to walking my dogs 5-10 miles a day, I became an active member of the YMCA. During my two years at the YMCA, I swam and used the gym. I became more aware of my diet and more conscious about a healthy lifestyle. I regularly attended the gym three times a week with a friend, and on two occasions, I paid to be part of an exercise group that contained 8-12 people. We exercised intensely as a group, 3 times a week. Both times, particularly the more recent time, I found a social group to which I belonged. As well, I gained a reputation as one of the harder working members, and my nickname was 'Speed Demon'. I was so honoured and I felt like I belonged. I looked forward to attending and was motivated by the social benefits.

One negative point is that with all the intense and frequent exercise, I became hypomanic which required I undergo a medication change. Today, I no longer go to the YMCA and have gained 60 pounds. My mood has generally been depressed and my activity level seems to be related to my mental state. I have been advised by my psychiatrist to exercise to aid in achieving a euthymic state. Despite some ups and downs, physical activity has generally led to a happier, healthier and more productive life for me.

Barriers to Participation

After having looked at the available research and recounting my own experience, the interaction between physical activity and bipolar is still not clear. But what is evident is that several obstacles need to be overcome for individuals to successfully incorporate physical activity to treat their illness.

Kilbourne and Pincus (2006) found that the obstacles to physical activity in those with BD are numerous. First, as mentioned earlier, individuals with BD report suboptimal levels of activity compared to those with schizophrenia or to the general population. This is probably due to the manic/depressive cycles. Second, mood swings can result in decreased contact with health care providers for varying lengths of time. It is the health care providers who are in the most unique position to offer advice on activity, nutrition, and diet. Those suffering from BD are more sedentary during a depressive state, while in a manic phase we observe non-adher-

ence to prescribed treatment.
Paterson (2002) has stated that strenuous exercise should be avoided during an upswing as it could make the mood worse. Consequently, less strenuous forms of exercise are recommended for people who are in a hypomanic state. However, despite this finding being supported by my experience, this barrier was not addressed in other readings and cannot be substantiated, due to a paucity of research.

Third, the treatment of comorbidities associated with obesity takes up the majority of medical appointments, leaving little time to discuss diet, nutrition and physical activity (Kilbourne et al., 2007). For myself, I am a medically complicated case with several diagnoses. Each doctor visit is a hurried event where I attempt to discuss the major current problems in the shortest amount of time. Within the current health care policies, I do not believe that a physician can adequately address every need of every patient. I can understand the dilemma that primary health care providers are currently experiencing. Ideally, primary health care providers should have the time to explore more issues with patients so there is more ability to practice preventative medicine. Physical activity is a form of preventative medicine.

Fourthly, Shah, Alshaher, Dawn, Siddiqui, Longaker, Wittchen and Lieb (2007) found that individuals with BD had significantly reduced exercise tolerance compared to those without. This may be the direct result of the increased smoking rates in this population, which authors have suggested is as high as 66% (Corvin, O'Mahony, O'Regan, Comerford, O'Connell, Craddock, & Gill, 2001).

A fifth obstacle to physical activity is the harmful side effects of psychotropic medication. In reviewing treatment options, Schwartz, Nihalani, Virk, Jindal and Chilton (2004) stated that many psychotropic drugs, like antipsychotics, antidepressants and mood stabilizers, cause weight gain in patients. The authors go so far to say that there are very few which do not cause weight gain in the long-term. Psychotropic medications can also have a sedating impact on motivation and coordination (Elmslie, Mann, Silverstone, Williams & Romans, 2001). This effect plays a role in increasing the likelihood of a sedentary lifestyle and subsequent obesity.

A final barrier may be the hospital environment. Many facilities geared towards mental health do not have adequate equipment or space to allow individuals to engage in physical activity. Some facilities that do promote activity have the bare minimum or outdated, non-operational equipment. Are there funding sources to improve these services? Are health care professionals willing to work with clients to learn and utilize equipment that is available?

The Bottom Line

Physical activity as a treatment option for bipolar disorder has received insufficient attention in research circles. From the available evidence, it appears there is preliminary support for its inclusion in standard treatment of the illness. Nevertheless, obvious barriers exist that will need to be addressed before the true benefit of physical activity can be realized in this population.

The conclusion is inescapable: participating in physical activity is a challenge for individuals in a depressed state. Using myself as an example, during my last and ongoing depressive state, I have sat on the couch for 6 months straight. Despite the challenge, individuals should be encouraged to be active as a means of alleviating symptoms. If I had received support and guidance around being physically active earlier in my illness, I may have had a remission of my depressive symptoms and less weight gain. I probably would not have developed diabetes or dyslipidemia and all the consequent complications. With more physical activity, my mood may have been even more stable than with medication alone. I could have developed a routine to motivate me and further develop social rhythm. Maybe I would have met additional people during my bouts of physical activity and developed a greater support network. Possibly I could have reduced my stress levels naturally and had more positive coping mechanisms to deal with life stressors. My self esteem may not have been as low since

my body image would have remained relatively stable. Furthermore, I could have developed a sense of accomplishment and self-mastery much sooner in my life. The very most important thing that could have been different was that I could have kept custody of my daughter.

Therefore, in my opinion, physical activity should be recommended for innumerable reasons, ranging from enhancement of quality of life to improvements in psychiatric symptoms and global physical health. The research has not shown consistently that increased exercise causes BD or affects mood stability. However, the benefits are tremendous in the treatment of comorbidities and enhancing self-image.

Obstacles can be managed through the suggestions and teaching of health care providers. I recommend that health care workers provide the treatment option of physical activity at all points during the illness. While a client with BD may not be able to follow up on advice at some points during their illness, they may be at other stages of their illness. During hospitalization, it is beneficial to clients if the activity is designed to fit the stage of the client's illness. Present the idea of exercise in a non-oppositional manner and allow for personal choice with those who are either manic or hypomanic to help prevent confrontation. For example, a poster will instill the idea of physical activity without the risk of a perceived power imbalance. Also, making activity a part of the daily ward routine will promote an air of normalcy. A client is more likely to participate if it is perceived as routine. Alternatively, doors to physical activity areas should be left unlocked- an open invitation to participate. If possible, physical activity should be promoted through peer support or one on one with a trusted staff member. Staff should also introduce the idea of continuation of physical activity in discharge planning. Post discharge support services need to continue to promote the benefits of physical activity and address the unique barriers. This can and should be implemented at all levels and stages of recovery and maintenance of wellness.

While participation in exercise is voluntary and at the discretion of the client, it is my opinion that any form of physical activity is of significant benefit to clients with BD. However, more research is needed to explore the topic of physical activity and BD. Such research will assist healthcare providers in designing appropriate interventions to increase the quality of life for people living with bipolar disorder.

Summary of Recommendations

1. Further research to explore the relationship between physical activity and Bipolar Disorder:

a) Is physical activity linked to the onset of BD?

b) Is physical activity beneficial for individuals in either a hypomanic or depressive phase? Or is it the opposite?

c) Are exercise programs adaptable to meet the complex physical/medical needs of individuals with BD?

2. Healthcare professionals should encourage participation in physical activity for individuals with BD at all stages of their illness.

3. Physical activity should be frequent but less strenuous in its intensity.

4. Allow healthcare professionals more time to address preventative medicine, like diet, nutrition and physical activity.

5. Incorporate physical activity into the institutional and social environment. Inpatient mental health facilities should be equipped with exercise equipment and adequate outdoor grounds to allow for participation in non-strenuous physical activity.

6. Include physical activity recommendations in discharge planning.

7. Make information about physical activity available in mental health programs.

8. Treatment options need to be discussed so those clients who can benefit are informed.

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