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Encounters With, and Implementation of, Alternative Treatment Methods for Unipolar Mood Disorders

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Introduction

National numbers indicate that between 6.6% and 11.9% of the general population suffer from a mood disorder; 85% of these disorders are severe enough to negatively affect the individual's life on a daily basis (Baumeister & Härter, 2007). In fact, a worldwide predictive model forecasts that by 2020 unipolar major depression will be second only to ischemic heart disease as the leading cause of disability adjusted life years (Murray & Lopez, 1997).

Although the increasing rates of mood disorders have led to a dramatic increase in the number of prescriptions written for antidepressants (Olfson et al., 2002), the harmful psychological (Balon & Segraves, 2008) as well as physical (van den Brand et al., 2009) side effects of antidepressants suggests the need for alternative treatment methods (Morey, Thacher, & Craighead, 2007). Research indicates that nutrition, supplements, and exercise, traditionally unutilized in the mental health care field, can be effective methods for treating unipolar depression and anxiety disorders (Broocks et al., 1998; Kaplan, Crawford, Field, & Simpson, 2007; Mulrow, Berner, & Egger, 2005; Sanchez-Villegas et al., 2007). However, it is unknown whether or not this research has been implemented into mental health practitioners' training, repertoire, or practice.

Alternative Treatments for Unipolar Mood Disorders

Exercise Method

Research indicates that exercise-based methods can be effectively used in the treatment of patients suffering from unipolar depression and anxiety. Aerobic exercise is better than placebo and can be comparable to psychotropic medications when treating depression and anxiety (Broocks, et al., 1998; Kaplan, et al., 2007; Manber, Allen, &

Morris, 2002). In addition, aerobic exercise significantly lowers relapse rates in clinically depressed women who received it as part of their depression treatment plans (Manber, et al., 2002). Similar results have been found in children (Larun, Nordheim, Ekeland, Hagen, & Heian, 2009).

Nutritional Method and Diet

Some researchers argue that diet in a larger context may be related to mood disorders. Various studies report that carbohydrate (Dye, Lluch, & Blundell, 2000; Halyburton et al., 2007; Lloyd, Green, & Rogers, 1994) and fat intake (Brinkworth, Buckley, Noakes, Clifton, & Wilson, 2009) can alter mood in predictable ways that could be appropriate for mood disorder treatment. Congruently, Appleton and colleagues (2007a, b, c) found an inverse relationship between depressed mood and the intake of fish, raw fruits and vegetables and even cake.

Dietary Supplements

Certain vitamins and minerals have long been known to affect brain functionality (Kaplan, et al., 2007; Kolata, 1982), but their possible use as mood disorder treatment has spawned more research as of late. Recently researchers have documented the influence of certain vitamins and minerals on mood and behavior in a variety of populations (Kaplan, et al., 2007). Various formulae were found to decrease violent and antisocial incidents (Gesch, et al., 2002; Zaalberg, et al., 2010), others were found to reduce stress (Carroll, et al., 2000), reduce negative mood (Harris, et al., 2011), and stabilize the behavior and moods of bipolar participants (Kaplan, et al., 2001). Dietary supplements such as Saint John's Wort (Mulrow, et al., 2005), B vitamins (Coppen & Bolander-Gouaille, 2005; Godfrey et al., 1990), and omega fatty acids (Kaplan, et al., 2007; Sanchez-Villegas, et al., 2007), have now accrued a significant literature base assessing their value as possible treatment options for patients suffering from unipolar depression and anxiety. This research is not without controversy. The Cochran Database of Systematic Reviews concluded that "St. John's Wort may be effective for treating mild to moderate depression, although the data are not fully convincing" (Mulrow, Berner, & Egger, 2005, p. 2).

Utilization of Alternative Treatment Programs.

With the increasing amount of literature surrounding the use of exercise, diet, and dietary supplements to alter mood and behavior, it is also important to note current popularity levels of such methods. Utilization of these techniques (exercise, nutrition/diet, dietary supplements), classified as complementary and alternative medicine (CAM), has become more popular in recent decades. This is true both in practitioner and patient populations. A meta-analysis examining trends in the amount of coverage CAM received in top medical journals from 1965 until 1999 reported that, while it had near invisibility at first, it had a "steadily expanding presence toward the end of the period examined" (Winnick, 2007, p. 384). Notably, high rates of interest in CAM methods and high perceptions of its usefulness have been reported for both general health practitioners and medical students (Furnham, 1993; Sikand & Laken, 1998). Additionally, it has been noted that CAM methods are quite popular for treating mental health disorders. For

example, Eisenberg and colleagues (1998) found that CAM methods were utilized more for anxiety and depression than for any other illnesses except back and neck pain. Others have reported that 65.9% of patients suffering from anxiety and 66.7% of patients suffering from depression also used complementary and alternative methods to supplement treatment by a conventional mental health professional (Kessler et al., 2001).

The above discussion of existing research makes it apparent that exercise, diet/nutrition and dietary supplements are routinely discussed as possible treatment options for depression and anxiety in the literature. Additionally, individuals with unipolar mood disorders are currently using these methods to address their disorders. It is, however, unknown to what degree this literature had been dispersed into practitioner populations and implemented into practices. Thus, have practitioners actually encountered this literature? If so, do they use it? Furthermore, very little is known about which, if any, specific demographic factors may contribute to either outcome. It is conceivable that some of the same demographics associated with CAM use, such as urban versus rural regions (Barnes, Powell-Griner, McFann, & Nahin, 2004; Vallerand, Fouladbakhsh, & Templin, 2003), may be associated with different levels of CAM encounters and implementation. Therefore, the present study seeks to answer the following research questions.

RQ1: Are mental health practitioners aware of, and have they implemented, exercise, diet/nutrition, and dietary supplements into their treatment of patients suffering from unipolar mood disorders?

RQ2: What indicators (e.g., age, months in practice, county of practice, and perceived efficacy) are good predictors of high v. low knowledge of/encounters with these alternative treatment methods and implementation levels?

Method

Instrument Development

A self-report survey was constructed for a sample of mental health practitioners (see Appendix). The survey contained a mixture of 16 open- and closed-ended questions related to demographic items (age, state of practice, county of practice); professional items (occupational license, months in practice, treatment of patients suffering from unipolar depression and/or anxiety); dissemination evaluation; implementation evaluation and attitudes toward efficacy. The last three items were asked in regard to exercise, diet/nutrition, and dietary supplements.

Knowledge of/ encounters with the above three treatment methods was evaluated based on two *Yes* or *No* questions: The first inquired about the respondents recent—in the last two years—exposure to each method in literature or other professional discussion. The second asked respondents to report any training they had completed that instructed them in the use any of the three methods as treatment for unipolar mood disorders.

Implementation was likewise assessed for each of the three treatment methods through three questions. The first had a *Yes* or *No* response format: *When treating patients for unipolar depression and/or anxiety disorders do you use any (one of the three treatment methods) as part of their treatment?* If *Yes* was selected then the questionnaire asked the respondent to list the specific subtype of method used. For example, if a respondent reported using exercise as a treatment method, they would then identify

“yoga” or “any—patient’s choice” as subtypes. Subtype identification was open ended. The last implementation question asked the respondent to indicate on a five-point Likert scale, from *never* to *always*, how frequently he or she refers patients suffering from unipolar depression or anxiety disorders to health professionals who specialize in nutrition, supplement use, or exercise.

Respondents were also asked the following *Yes* or *No* question with regards to the three treatment options. *Do you think that (insert method name) CAN BE EFFECTIVELY USED in the treatment of unipolar depression and/or anxiety disorders?*

Procedure

The small northwestern state of Idaho was chosen based on convenience to draw the study sample from. On May 14, 2009 data for 3236 eligible participants was taken from the Idaho Bureau of Occupational Licenses webpage. The following licenses were considered eligible: psychologist (PSY), licensed professional counselor (LPC), licensed marriage and family therapist (LMFT), licensed clinical social worker (LCSW), and licensed clinical professional counselor (LCPC). After removing duplicates, incomplete addresses, and expired licenses, 2544 candidates were left. A paper format of the survey was mailed to a random sample of 1500 of the 2544 candidates. Return postage and a cover letter were included.

Results

Participants

Three hundred and six surveys were returned (20.4% response rate). Fifty respondents (16%) indicated that they did not currently treat unipolar mood disorders; they were instructed to leave the rest of the survey blank. The mean age of the sample was 49.6 years ($SD = 10.73$). Of the 188 respondents who disclosed their license type, the type was as follows: 15.4% LPC, 5.9% LMFT, 13.3% PSY, 36.1% LCSW, 29.3% LCPC. The mean months in practice, considering all license types, was 170.96 months ($SD = 119.99$). Two hundred twenty six respondents reported an Idaho county as their location of practice. A wide variety of counties were represented including open country (8.4%), rural center (8.4%), commuting (0.4%), and urban counties (82.7%).

Dissemination

Most respondents (67.6%) indicated that they had encountered exercise as a treatment option for unipolar mood disorders in literature or other professional discussion within the last two years. Walking (21.5%), yoga (17.2%), and aerobic exercise (16.8%) were the top three treatment options encountered. Additionally, 44.7% of respondents indicated that they had encountered nutritional programs as a treatment option for unipolar mood disorders and 46.5% indicated that they had encountered supplements in the same context (see Table 1).

None of the demographic characteristics measured predicted practitioner encounters with exercise, nutrition, or supplement based treatment methods: No significant relationships were found when chi squared tests of independence were calculated comparing urban-rural designation and encounters with nutritional supplements (χ^2 (3, $N=225$)=2.13), nutritional programs (χ^2 (3, $N=224$)=1.34), or

exercise (χ^2 (3, N=225)=2.78). A chi squared test of independence comparing license type and encounters with nutritional supplements as treatment options for unipolar mood disorders found a significant interaction (χ^2 (6, N=187)=16.01, $p<.05$); psychologists were more likely to have encountered supplements (Table 2). Similarly, when comparing license type and encounters with exercise methods of treatment a marginally significant trend was found (χ^2 (6, N=187)=11.97, $p=.06$); psychologists were more likely to have encountered exercise. But, when comparing license type and encounters with nutritional programs no significant relationship was found (χ^2 (6, N=186) =4.59, $p<.597$). A multiple linear regression was calculated predicting encounters with the three treatment methods by age (F (3, 239) =.70) and months in practice (F (3, 242) = 1.65); neither equation was significant.

Table 1

Number and Percent of Practitioners who Reported Encounters with Listed Methods

Exercise Method	N	%	Diet/Nutrition Method	N	%	Dietary Supplement Method	N	%
Walking	55	21.5	Generally Balanced Diet	43	16.7	Saint John's Wort	46	17.9
Yoga	44	17.2	Macronutrient Intake	7	2.7	Omega Fatty Acids	43	16.8
Aerobic	43	16.8	Specific Foods***	5	2.0	B Vitamins	36	14.1
Anaerobic	22	12.7	Diabetic/ Glycemic Index	3	1.2	Vitamin D	7	2.7
Patients choice	16	9.2	Vegan Diet	1	.4	Other herbs*	5	2.0
Meditation	5	2.9	Mediterranean Diet	1	.4	Minerals (Ca, Fe, Mg)	4	1.6
Martial Arts	4	2.3	Vegetarian Diet	1	.4	Sam-e	4	1.6
Cycling	2	1.2	Juice Plus Diet	1	.4	Melatonin	3	1.2
Swimming	2	1.2	Alli Diet	1	.4	5-HTP	3	1.2
Horseback Riding	1	.6	Blood Type Diet	1	.4	Multivitamin	2	.8
Gardening	1	.6	Food Sense Program	1	.4	Miscellaneous**	2	.8

Note: Categories of nutritional and exercise interventions are grouped according to unifying themes: e.g., The "Macronutrient Intake" group includes diets that manipulate the intake of carbohydrates, fats or protein. *Other herbs: kava kava, ginseng, valerian root; **Miscellaneous: L-tyrosine, phenylalanine; ***Specific Foods: low caffeine diet, low sugar diet, gluten free diet, Feingold's diet.

Near half (44.7%) of the 255 respondents who answered the item concerning training in alternative techniques reported training in the use of exercise as a treatment method, 26.6% reported training in dietary/nutritional programs, and 17.1% reported training in the use of dietary supplements. Table 3 provides a breakdown of specific methods in which practitioners reported training.

Implementation

When asked if they used exercise as an element of treatment, 66% of respondents (n=204) answered "yes." One hundred and eight (35%) of practitioners answered "yes" when asked if they used any sort of dietary/nutritional program whereas 19% (n = 60) answered "yes" to the same question about dietary supplement use in their practice.

Table 2

Number & Percent Encounters with Listed Methods by Practitioner License Type

License	Exercise Methods		Dietary/Nutritional Methods		Dietary Supplement Methods	
	N	%	N	%	N	%
PSYC	23	92	14	56	20	80
MFT	7	63.6	4	36.4	3	27.3
LCSW	47	71.2	29	44.6	29	43.9
LPC	19	65.5	11	37.9	11	37.9
LCPC	30	55.6	24	44	24	44.4

Note: PSYC = psychologist, MFT = marriage and family therapist, LCSW = licensed clinical social worker, LPC = licensed professional counselor, LCPC = licensed clinical professional counselor

These numbers were confirmed when use was measured by the stages of change scale. Use on the stages of change scale consisted of all respondents self-rating a 4—"I have just begun to implement this method into my practice" or a 5 "I already use this method and have measures in place to maintain its use." Of the respondents, 67% (n = 207) rated exercise as a 4 or 5, 39% (n = 121) rated dietary/nutritional programs as a 4 or 5, and 20% (n = 63) rated dietary supplements as a 4 or 5. Specific exercises, diet/nutrition, and dietary supplement methods implemented by respondents are displayed in Table 4.

Table 3

Practitioners' Self-Reported Training in Alternative Methods

Exercise	N %		Diet/Nutrition	N %		Dietary Supplements	N %	
Aerobic	40	15.7	Generally	29	11.3	Omega Fatty Acids	22	8.6
			Balanced Diet			Saint John's		
			Macronutrient			Wort		
Walking	43	16.9	Intake	8	3		20	7.8
Yoga/	37	14.5	Miscellaneous	4	1.6	B Vitamins	11	4.3
Meditation			Diet****					
Anaerobic	14	5.5	Specific	4	1.6	Other herbs*	5	1.9
			Foods ***			Minerals		
			Diabetic/			(Ca and Mg)		
Patient's	7	2.7	Glycemic Index	1	.4	Other Vitamins	3	1.2
choice						(D & E)		
Martial Arts	4	1.6	Intuitive Eating	1	.4		3	1.2
Movement	4	1.6	Mediterranean	1	.4	Miscellaneous**	2	.8
Therapy			Diet					

Note: Categories of nutritional and exercise interventions are grouped according to unifying themes: e.g., The "Macronutrient Intake" group includes diets that manipulate the intake of carbohydrates, fats or protein. *Other herbs: kava kava, skull cap, Bach flower, valerian root;**Miscellaneous: 5HTP, phenylalanine;***Specific Foods: complex carbohydrate limitations, raw foods diet, Juice Plus diet, vegan; ****Miscellaneous Diet: Weight Watchers, Alli Diet, Blood Type Diet, MediFast diet, Solution program, three seasons diet.

Ninety-nine percent of the 249 practitioners who answered the item answered “yes” when asked if they believed that exercise can be effectively used to treat unipolar mood disorders; 93% of the 236 practitioners who responded to the item indicated “yes” when asked the same question regarding nutritional methods, and 82% of the 222 practitioners who responded to the item indicated “yes” in regards to supplemental methods. When comparing practitioners’ implementation of exercise methods on the stages of change scale and a practitioners belief that exercise was an effective, a significant interaction was found (χ^2 (4, N = 244) = 33.656, $p < .05$): Those who believed that exercise could be used as an effective treatment for unipolar mood disorders were more likely to use exercise in their practices. This relationship was also significant when

Table 4

Practitioner Use of Alternative Techniques for the Treatment of Unipolar Mood Disorders

Exercise	N	%	Diet/Nutrition	N	%	Dietary Supplement	N	%
Walking	118	47	Balanced Diet	77	31	B Vitamins	31	13
Patients			Macronutrient			Omega Fatty		
Choice	70	28	Intake	23	9	Acids	28	12
Yoga or			Specific Foods*			Miscellaneous***		
Meditation	59	24		14	6	Saint John’s Wort	17	7
Aerobic	55	22	Miscellaneous **	8	3	Melatonin	16	7
Anaerobic	23	9	Weight Watchers	5	2		10	4
Outdoor			Diabetic/Glycemic			Vitamin D		
exercise	6	2		3	1		7	3

Note: Categories of nutritional and exercise interventions are grouped according to unifying themes: eg. The “Macronutrient Intake” group includes diets that manipulate the intake of carbohydrates, fats or protein. *Specific Foods: caffeine limitations, Juice Plus, low sugar regimens, increased water intake, organic foods diet; Miscellaneous nutrition**: Blood Type Diet, Food Sense Program, Nutri-Systems, The New You Diet, the Seale Harris Diet, Ultra Mind Diet, Unstuck Diet & Solution Program; Miscellaneous supplements****: valerian root (2), kava kava (2), Sam-e (4), multivitamins (4), vitamin E (2), amino acids, glucosamine & vitamin C.

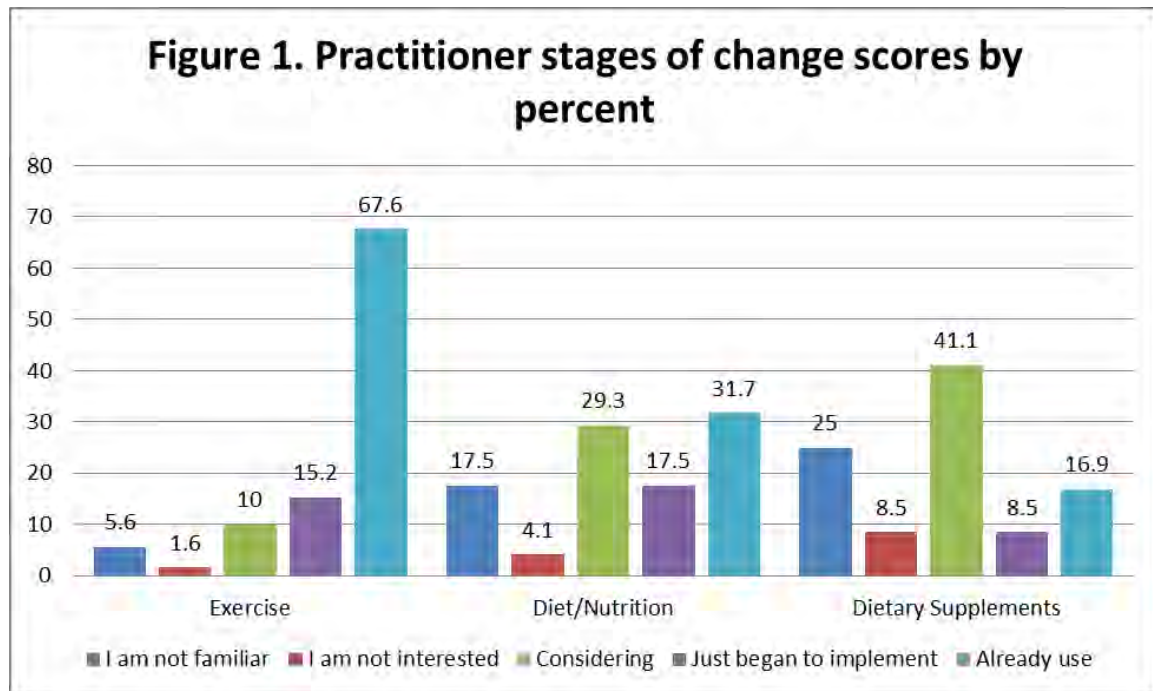
considering efficacy beliefs about and use of dietary/nutritional methods (χ^2 (10, N = 226) = 41.78, $p < .05$) and dietary supplements (χ^2 (5, N = 214) = 36.252, $p < .05$).

Implementation, as measured with the stages of change model, is displayed in Figure 1.

Discussion

Knowledge of/Encounters With Alternative Treatment Methods

Approximately 68% of the practitioners sampled indicated they had encountered exercise as a treatment option for unipolar mood disorders in professional literature or discussion within the last two years. Dietary/Nutritional and dietary supplement methods



displayed encounter rates near 45%. These numbers indicate that a large number of mental health practitioners are aware of these alternative techniques. Additionally, no difference was found between the knowledge levels of different age groups, counties of practice, or months in practice. This indicates that knowledge of/encounters with research considering alternative treatment methods is not effected by urban/rural designations that may or may not affect ideology.

Knowledge of alternative treatment methods was found to differ based on license type; practitioners who were licensed as psychologists were more likely to have encountered both dietary supplement and exercise methods for the treatment of unipolar mood disorders in the last two years. This difference may be a result of educational discrepancies between the two groups. Although this study did not measure education levels, the license of psychologist in state of Idaho requires a doctoral degree (Idaho.gov/IBOL). All other licenses included in this study require only 60 credit hours of graduate education—the equivalent of two years of post-bachelor's degree study (Idaho.gov/IBOL). While more research is needed to verify this connection, it seems a likely scenario that an increase in length of study would result in a broader scope of knowledge.

Implementation

Mental health practitioner use of exercise methods for the treatment of unipolar mood disorders was measured at 66%, roughly equivalent to its knowledge rate of 68% within the last two years. This one-to-one ratio between recent encounters with and implementation of alternative treatments is not seen in either dietary/nutritional or dietary supplemental methods. While dietary/nutritional methods had been recently encountered by 44.7% of the practitioner sample, only 35-39% had implemented them into practice. This gap between knowledge and use widens again as only 19-20% of practitioners

utilize supplemental methods whereas 46.5% claim to have encountered them in the last two years in professional discussion. These discrepancies between knowledge and use of supplemental and nutritional methods may be influenced by practitioners' beliefs about efficacy, implementation power, and scope of practice concerns.

Perceived Efficacy

In this study, perceptions of efficacy regarding each of the three alternative methods were significantly related to the use of each respective method. Both use and perceptions of efficacy were highest for exercise methods, second highest for dietary/nutritional methods, and dietary supplements had the lowest perceived efficacy and the lowest implementation levels. These perceptions of efficacy may be influenced by agreement or disputes in literature. As the introduction of this paper displays, research regarding the efficacy of diet/nutrition and dietary supplements as effective treatment methods are not without conflict. This is generally untrue of exercise research. While research does dispute the amount and intensity of exercise needed to positively influence the psyche (Dunn, Trivedi, & O'neal, 2001; Lawlor & Hopker, 2001; North, McCullagh, & Tran, 1990; Stein & Motta, 1992; Stitch, 1998), disputes about the efficacy of exercise as a general strategy are rarely found (Callaghan, 2004).

Academia's confidence in the efficacy of exercise may translate into higher efficacy rates in the practitioner population, while the unsure nature of literature considering diet/nutrition and dietary supplements may result in lower perceived efficacy rates for these treatments. The influence of indecisive literature on perceived efficacy of diet/nutrition and dietary supplements on the treatment of unipolar mood disorders may be illustrated by the number of practitioners who did not answer the efficacy question regarding these methods: only 8 did not respond in regards to exercise, 21 did not respond in regards to dietary/nutritional programs, and 35 did not respond in regards to dietary supplement use.

It is evident that perceived efficacy effects implementation; however, the results of this study show large gaps between the perceived efficacy and implementation rates. Dietary supplements were perceived as effective by 82% of those who answered the item but only 19-20% of respondents use them. Similarly, dietary/nutritional methods were regarded as effective by 93% of respondents but only used by 35-39%. These gaps refute the notion that perceived efficacy is the most important determinate for implementation (Furnham, 1993).

Implementation Power

Regardless of a method's perceived efficacy, it must be implementable to allow widespread use. Barriers to implementation became more significant in the 1990s when the evidence-based medical movement was widely adopted into the mental health field (Gold, Glynn, & Mueser, 2006). Gold and colleagues propose that this switch in acceptance of only tightly controlled randomized clinical trials caused internal validity to be valued more so than external validity. This shift morphed the majority of research into efficacy-based with very few studies that focused on practitioner's knowledge and implementation of a particular treatment method (Sussman, Valente, Rohrbach, Skara, & Ann Pentz, 2006).

This low implementation power may be particularly relevant when considering the many variations in diet discussed in the literature and the unregulated dosage issues that plague research on dietary supplements. Currently, granting agencies are recognizing the barrier that low implementation power possesses and are again stating the need to tailor treatments to clinical practice realities (Addis, 2002). Organizations such as the Substance Abuse and Mental Health Services Administration (SAMHSA), the National Institute on Drug Abuse, and the American Psychological Association (APA) have structured programs designed to educate practitioners about research outlining evidence-based practices in ways that are implementable. SAMHSA, for example, provides free “Toolkits” that contain workbooks, tips for implementation, and evaluation methods (Gold, et al., 2006).

Training and Scope of Practice Concerns

Training, which works to eliminate providers’ lack of confidence and skills, plays an important role in the implementation of new treatments (Addis, 2002; Corrigan, Steiner, McCracken, Blaser, & Barr, 2001; French, 1996). Forty-five percent of respondents indicated that they had received some type of training in exercise based practices for the treatment of mood disorders, 27% indicated the same for training in dietary/nutritional methods and 17% had some type of training in the use of dietary supplements to treat unipolar mood disorders. These numbers correspond to the reported use rates for both dietary/nutritional methods (35-39%) and dietary supplement use (19-20%), indicating that training may be an important factor in implementation. Additionally, scope of practice concerns may influence implementation rates: Although respondents were not directly questioned on this topic, many practitioners used the comments section of the survey to express the concern that the discussed methods—especially the use of dietary supplements—were beyond their scope of practice and were more appropriate for medical doctors.

Conclusions

It appears that demographic characteristics such as age, months in practice, and county of practice do not play a role in the knowledge or implementation of exercise, diet/nutrition, and dietary supplements as methods of treatment for unipolar mood disorders. Perceived efficacy and training in each of the three methods, however, do play important roles in their implementation. Further research should consider other barriers such as implementation power and scope of practice concerns.

References

- Addis, M. E. (2002). Methods for disseminating research products and increasing evidence-based practice: Promises, obstacles, and future directions. *Clinical Psychology: Science and Practice*, 9(4), 367-378. doi: 10.1093/clipsy.9.4.367

- Appleton, K. M., Peters, T. J., Hayward, R. C., Heatherley, S. V., McNaughton, S. A., Rogers, P. J., & ... Kessler, D. (2007a). Depressed mood and n-3 polyunsaturated fatty acid intake from fish: Non-linear or confounded association? *Social Psychiatry and Psychiatric Epidemiology*, 42(2), 100-104.
- Appleton, K. M., Woodside, J. V., Yarnell, J. G., Arveiler, D. D., Haas, B. B., Amouyel, P. P., & ... Evans, A. A. (2007b). Type a behaviour and consumption of an atherogenic diet: No association in the PRIME study. *Appetite*, 49(3), 554-560.
- Appleton, K. M., Woodside, J. V., Yarnell, J. G., Arveiler, D. D., Haas, B. B., Amouyel, P. P., & ... Evans, A. A. (2007c). Depressed mood and dietary fish intake: Direct relationship or indirect relationship as a result of diet and lifestyle? *Journal of Affective Disorders*, 104(1-3), 217-223.
- Balon, R., & Segraves, R. T. (2008). Survey of treatment practices for sexual dysfunction(s) associated with anti-depressants. *Journal of Sex & Marital Therapy*, 34(4), 353-365. doi: 10.1080/00926230802096390
- Barnes, P. M., Powell-Griner, E., McFann, K., & Nahin, R. L. (2004). Complementary and alternative medicine use among adults: United States, 2002. *Seminars in Integrative Medicine*, 2(2), 54-71.
- Baumeister, H., & Härter, M. (2007). Prevalence of mental disorders based on general population surveys. *Social Psychiatry and Psychiatric Epidemiology*, 42(7), 537-546. doi: 10.1007/s00127-007-0204-1
- Brinkworth, G. D., Buckley, J. D., Noakes, M., Clifton, P. M., & Wilson, C. J. (2009). Long-term effects of a very low-carbohydrate diet and a low-fat diet on mood and cognitive function. *Arch Intern Med*, 169(20), 1873-1880. doi: 10.1001/archinternmed.2009.329
- Broocks, A., Bandelow, B., Pekrun, G., George, A., Meyer, T., Bartmann, U., et al. (1998). Comparison of aerobic exercise, clomipramine, and placebo in the treatment of panic disorder. *American Journal of Psychiatry*, 155(5), 603-609.
- Callaghan, P. (2004). Exercise: A neglected intervention in mental health care? *Journal of Psychiatric and Mental Health Nursing*, 11(4), 476-483. doi: 10.1111/j.1365-2850.2004.00751.x
- Carroll, D., Ring, C., Suter, M., & Willemsen, G. (2000). The effects of an oral multivitamin combination with calcium, magnesium, and zinc on psychological well-being in healthy young male volunteers: A double-blind placebo-controlled trial. *Psychopharmacology*, 150(2), 220-225. doi: 10.1007/s002130000406
- Coppen, A., & Bolander-Gouaille, C. (2005). Treatment of depression: Time to consider folic acid and vitamin B12. *Journal of Psychopharmacology*, 19(1), 59-65. doi: 10.1177/0269881105048899
- Corrigan, P., Steiner, L., McCracken, S., Blaser, B., & Barr, M. (2001). Strategies for disseminating evidence-based practices to staff who treat people with serious mental illness. *Psychiatric Services*, 52(12), 1598-1606.
- Dunn, A. L., Trivedi, M. H., & O'neal, H. A. (2001). Physical activity dose-response effects on outcomes of depression and anxiety. *Medicine & Science in Sports & Exercise*, 33(6), S587-S597.

- Dye, L., Lluch, A., & Blundell, J. E. (2000). Macronutrients and mental performance. *Nutrition, 16*(10), 1021-1034.
- Eisenberg, D. M., Davis, R. B., Ettner, S. L., Appel, S., Wilkey, S., Van Rompay, M., et al. (1998). Trends in alternative medicine use in the united states, 1990-1997. *JAMA: The Journal of the American Medical Association, 280*(18), 1569-1575. doi: 10.1001/jama.280.18.1569
- French, B. (1996). Networking for research dissemination: Collaboration between education and practice. *Nursing Times Research, 1*(2), 113-118. doi: 10.1177/174498719600100208
- Furnham, A. (1993). Attitudes to alternative medicine: A study of the perceptions of those studying orthodox medicine. *Complementary Therapies in Medicine, 1*(3), 120-126.
- Gesch, B., Hammond, S., Hampson, S., Eves, A., & Crowder, M. (2002). Influence of supplementary vitamins, minerals and essential fatty acids on the antisocial behaviour of young adult prisoners. *The British Journal of Psychiatry, 181*(1), 22-28. doi: 10.1192/bjp.181.1.22
- Godfrey, P. S. A., Toone, B. K., Bottiglien, T., Laundry, M., Reynolds, E. H., Carney, M. W. P., et al. (1990). Enhancement of recovery from psychiatric illness by methylfolate. *The Lancet, 336*(8712), 392-395.
- Gold, P. B., Glynn, S. M., & Mueser, K. T. (2006). Challenges to implementing and sustaining comprehensive mental health service programs. *Evaluation & the Health Professions, 29*(2), 195-218. doi: 10.1177/0163278706287345
- Halyburton, A. K., Brinkworth, G. D., Wilson, C. J., Noakes, M., Buckley, J. D., Keogh, J. B., et al. (2007). Low- and high-carbohydrate weight-loss diets have similar effects on mood but not cognitive performance. *The American Journal of Clinical Nutrition, 86*(3), 580-587.
- Harris, E., Kirk, J., Rowsell, R., Vitetta, L., Sali, A., Scholey, A. B., et al. (2011). The effect of multivitamin supplementation on mood and stress in healthy older men. *Human Psychopharmacology: Clinical and Experimental, 26*(8), 560-567. doi: 10.1002/hup.1245
- Kaplan, B. J., Crawford, S. G., Field, C. J., & Simpson, J. S. A. (2007). Vitamins, minerals, and mood. *Psychological Bulletin, 133*(5), 747-760. doi: 10.1037/0033-2909.133.5.747
- Kaplan, B. J., Simpson, J. S. A., Ferre, R., Gorman, C., McCullen, D., & Crawford, S. G. (2001). Effective mood stabilization with a chelated mineral supplement; An open label trial in bipolar disorder. *Journal of Clinical Psychiatry, 62*(12).
- Kessler, R. C., Soukup, J., Davis, R. B., Foster, D. F., Wilkey, S. A., Van Rompay, M. I., et al. (2001). The Use of complementary and alternative therapies to treat anxiety and depression in the United States. *American Journal of Psychiatry, 158*(2), 289-294.
- Kolata, G. (1982). Food affects human behavior. *Science, 218*(4578), 1209-1210.
- Larun, L., Nordheim, L., Ekeland, E., Hagen, K., & Heian, F. (2009). Exercise in prevention and treatment of anxiety and depression among children and young people. *The Cochrane Library*(1).

- Lawlor, D. A., & Hopker, S. W. (2001). The effectiveness of exercise as an intervention in the management of depression: Systematic review and meta-regression analysis of randomised controlled trials. *BMJ*, 322(7289), 763. doi: 10.1136/bmj.322.7289.763
- Lloyd, H. M., Green, M. W., & Rogers, P. J. (1994). Mood and cognitive performance effects of isocaloric lunches differing in fat and carbohydrate content. *Physiology & Behavior*, 56(1), 51-57.
- Manber, R., Allen, J., & Morris, M. (2002). Alternative treatments for depression: Empirical support and relevance to women. *Journal of Clinical Psychiatry*, 63(7), 628-640.
- Morey, E., Thacher, J., & Craighead, E. (2007). Patient preferences for depression treatment programs and willingness to pay for treatment. *The Journal of Mental Health Policy and Economics*, 10, 87-99.
- Mulrow, L., Berner, M., & Egger, M. (2005). St. John's wort for depression. *Cochrane Database Syst Reviews*(2).
- Murray, C. J. L., & Lopez, A. D. (1997). Alternative projections of mortality and disability by cause 1990-2020: Global Burden of Disease Study. *The Lancet*, 349(9064), 1498-1504.
- North, T. C., McCullagh, P., & Tran, Z. V. (1990). Effect of exercise on depression. *Exercise and Sport Sciences Reviews*, 18, 379-415.
- Olfson, M., Marcus, S. C., Druss, B., Elinson, L., Tanielian, T., & Pincus, H. A. (2002). National Trends in the Outpatient Treatment of Depression. *JAMA: The Journal of the American Medical Association*, 287(2), 203-209. doi: 10.1001/jama.287.2.203
- Sanchez-Villegas, A., Henríquez, P., Figueiras, A., Ortuño, F., Lahortiga, F., & Martínez-González, M. (2007). Long chain omega-3 fatty acids intake, fish consumption and mental disorders in the SUN cohort study. *European Journal of Nutrition*, 46(6), 337-346. doi: 10.1007/s00394-007-0671-x
- Sikand, A., & Laken, M. (1998). Pediatricians' experience with and attitudes toward complementary/alternative medicine. *Arch Pediatr Adolesc Med*, 152(11), 1059-1064. doi: 10.1001/archpedi.152.11.1059
- Stein, P. N., & Motta, R. W. (1992). Effects of aerobic and nonaerobic exercise on depression and self-concept. *Perceptual and Motor Skills*, 74(1), 79-89. doi: 10.2466/pms.1992.74.1.79
- Stitch, F. (1998). A meta-analysis of physical exercise as a treatment for symptoms of anxiety adults from the general population. *Journal of Psychosomatic Research*, 33, 537-547.
- Sussman, S., Valente, T. W., Rohrbach, L. A., Skara, S., & Ann Pentz, M. (2006). Translation in the Health Professions. *Evaluation & the Health Professions*, 29(1), 7-32. doi: 10.1177/0163278705284441
- Vallerand, A. H., Fouladbakhsh, J. M., & Templin, T. (2003). The use of complementary/alternative medicine therapies for the self-treatment of pain among residents of urban, suburban, and rural communities. *American Journal of Public Health*, 93(6), 923-925. doi: 10.2105/ajph.93.6.923

- van den Brand, M., Samson, M., Pouwels, S., van Staa, T., Thio, B., Cooper, C., et al. (2009). Use of anti-depressants and the risk of fracture of the hip or femur. *Osteoporosis International*, 20(10), 1705-1713. doi: 10.1007/s00198-009-0849-6
- Winnick, T. A. (2007). Trends in attention to complementary and alternative medicine in the American medical literature. *Health*, 11(3), 371-399. doi: 10.1177/1363459307077550
- Zaalberg, A., Nijman, H., Bulten, E., Stroosma, L., & van der Staak, C. (2010). Effects of nutritional supplements on aggression, rule-breaking, and psychopathology among young adult prisoners. *Aggressive Behavior*, 35, 1-10.

Note: This paper is part of the annual VISTAS project sponsored by the American Counseling Association. Find more information on the project at: http://counselingoutfitters.com/vistas/VISTAS_Home.htm

Appendix

Understanding Treatment Methods for Unipolar Mood Disorders

Directions: Please fill out this three page survey as it relates to you and your practice. Response to this survey is entirely voluntary. This survey is anonymous and will be kept confidential. Expected completion time is 10 minutes. For this research project we are requesting demographic information. Due to the make-up of Idaho's population, the combined answers to these questions may make an individual person identifiable. We will make every effort to protect participants' confidentiality. However, if you are uncomfortable answering any of these questions, you may leave them blank.

A. Tell us about yourself:

1. Do you treat patients suffering from unipolar depression and/or anxiety disorders? Y N

If NO please stop here, we thank you for your participation. If YES please continue.

2. License held with the Idaho Bureau of Occupational Licensing: Circle one

B. Your Experiences

3. Have you had formal training in the following treatment methods?

- A. Nutritional supplements (eg. Saint John's Wort, Vitamin B12, omega fatty acids) Y N

If YES please list

supplements: _____

- B. Nutritional programs (eg. balanced diet, Atkins diet, other) Y N

If YES please list

programs: _____

- C. Exercise routines (eg. yoga, aerobic, anaerobic, walking 30 minutes a day) Y N

If YES please list

routines: _____

4. Have you encountered the following treatment methods for unipolar depression or anxiety in professional literature, at professional conferences or in other professional discussion (online, etc) in the **last two years**:

- A. Nutritional supplements (eg. Saint John's Wort, Vitamin B12, omega fatty acids) Y N

If YES please list

supplements: _____

- B. Nutritional programs (eg. balanced diet, Atkins diet, other)? Y N

If YES please list
programs: _____

C. Exercise routine (eg. yoga, aerobic, anaerobic, walking 30 minutes a day)? Y N
If YES please list routines

C. Your Practice:

8. When treating patients suffering from unipolar depression and/or anxiety disorders **do you use any nutritional supplements** as part of their treatment (eg. Saint John's Wort, Vitamin B12, Omega fatty acids)? Y N
If YES please insert the names of supplements used and **rate how frequently** you use each to treat unipolar depression and/or anxiety.

Supplement Name	Never	Rarely	Sometimes	Usually	Always
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5

9. When treating patients suffering from unipolar depression and/or anxiety disorders **do you use any nutritional programs** as part of their treatment (eg. balanced diet, Atkins diet, lowering carbohydrate intake)? Y N
If YES please insert the names of nutritional programs/advice used and **rate how frequently** you use each to treat unipolar depression and/or anxiety.

Program Name	Never	Rarely	Sometimes	Usually	Always
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5

10. When treating patients suffering from unipolar depression and/or anxiety disorders **do you use any exercise routines** as part of their treatment (eg. yoga, anaerobic daily, walk 30 minutes a day)? Y N
If YES please insert the names of exercise routines used and **rate how frequently** you use each to treat unipolar depression and/or anxiety.

Exercise Routine	Never	Rarely	Sometimes	Usually	Always
	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5

11. How frequently you refer/encourage patients suffering from unipolar depression or anxiety to seek out other professionals (eg. nutritionist, herbologist, personal trainer) for the below treatment methods?

Treatment Method	Never	Rarely	Sometimes	Usually	Always
Nutritional Supplements	1	2	3	4	5
Nutritional Programs/Advice	1	2	3	4	5
Exercise Routine	1	2	3	4	5

12. Please choose the number that best corresponds to your current circumstances with each treatment option:

Column1	"I am not familiar with this practice"	"I am not interested and do not think this method would be effective in my program"	"I have considered this method but see many pros and cons"	"I have just began to implement this method in my work"	"I have been using this method in my practice and intend to maintain it"
Nutritional Supplements	1	2	3	4	5
Nutritional Programs	1	2	3	4	5
Exercise Routines	1	2	3	4	5

13. Are there any treatment options that, IF YOU FELT MORE COMFORTABLE ADMINISTERING, you would like to add to your current treatment program for unipolar depression and/or anxiety disorders?

Nutritional Supplements....Y....N
Routines.....Y.....N

Nutritional Programs.....Y....N

Exercise

14. Do you think that the following treatment methods CAN BE EFFECTIVELY USED in the treatment of depression and/or anxiety?

Nutritional Supplements....Y....N Nutritional Programs.....Y....N Exercise
Routines.....Y.....N

D. A little more about you:

15. Age: _____ **16.** Months in practice: _____ **17.** County of Practice: _____

E. Thank you for your participation, please feel free to make any comments on the back of this sheet.

Comments: