Dissemination and Implementation of Alternative Treatment Methods into Idaho's Unipolar Mood Disorder Treatment

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Abstract

Research has documented the effects of some alternative methods on mood: exercise (Legrand & Heuze, 2007), diet (Appleton et al., 2007) and supplementation with micronutrients such as iron (Beard et al., 2005), fatty acids (Nemets et al, 2002) and St. John's wort (Mulrow, 2005), for example, have all demonstrated an ability to positively affect mood. It is unknown to what extent this research has been disseminated or implemented into practice. ***Procedure:*** *Mental health care practitioners (n = 306) in Idaho were randomly surveyed. Items measuring knowledge and use of the following three methods were asked: exercise, diet, supplementation.* ***Results:*** *Sixty-eight percent of respondents had encountered exercise as a mood disorder treatment option in professional discussion within the last 2 years, 44.7% had encountered dietary methods and 46.5% had encountered supplemental methods in the same context. Sixty-six percent (n=204) of respondents indicated that they used exercise methods to treat mood disorders, 35% (n=108) reported using dietary measures and 19% (n=60) reported using supplemental methods. Specific types of exercise, dietary and supplemental methods used-e.g. yoga, St. John's wort, etc-are also discussed.* ***Conclusions:*** *The use of some alternative methods for the treatment of mood disorders is common in mental health care practitioners.*

Introduction

Although life expectancy in the United States is relatively high when compared with the rest of the world, the quality of the average American life has been called into question through a body of research that illustrates a growing trend of mental disorder prevalence in the population. National numbers indicate that between 6.6 and 11.9% of the general population suffers from a mood disorder, 85% of which are severe enough to affect the individual's life negatively on a daily basis (Baumeister & Harter, 2007). In addition, Ohayon (2006) reported that 5.2% of participants in a nationwide study had a diagnosable major depressive disorder. This trend is also seen on an international scale and is expected to continue; in a worldwide predictive model, Murray and Lopez (1997) forecast that by 2020 unipolar major depression will be second only to ischemic heart disease as the leading causes of disability adjusted life years.

The mental health of Idahoans-the population base for the present study- follows national trends; the 2007 Behavior Risk Factor Surveillance System (BRFSS) conducted in Idaho revealed that 35% of respondents (n=5618) reported that at least one day in the last 30 days their mental health was "not good." Additionally, the mean number of "not good" days out of the last 30, in those that reported any "not good" days, was 9.3 (Idaho Department of Health and Welfare).

These high rates of mood disorders have not gone unnoticed; between 1987 and 1997, use of antidepressants and outpatient care for the treatment of depression more than doubled (Olfson, 2002). Researchers have also noted the issue, and an abundance of mental health treatment related research has surfaced. Some of this 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; Kane, 1998; Kaplan, Crawford, Field & Simpson, 2007; Mulrow & Egger, 2008; Sanchez-Villegas et al., 2007; Woo et al., 2006). However, it is unknown whether or not this research has been implemented into mental health practitioners' training, repertoire or practice. Below, we will discuss extant research on these important potential treatments of unipolar mood disorders.

Exercise and mood disorders

An increasing amount of research indicates that exercise-based methods can be effectively used in the treatment of patients suffering from unipolar depression and anxiety. For instance, multiple studies indicate that aerobic exercise is better than placebo and can be comparable to psychotropic medications when treating depression and anxiety (Allan, Manbar, & Morris, 2002; Broocks et al., 1998; Kaplan et al., 2007; Legrand & Heuze, 2007). In addition, in clinical samples, although producing a less rapid response than antidepressant medication, aerobic exercise was found to produce significantly lower relapse rates in women whose experimental group received it as part of their depression treatment plans (Allan et al., 2002). Much less work has been done on the effects of exercise on depression and anxiety in children, but in a systematic review of sixteen studies conducted through the Cochran Database researchers concluded that there was at least a small effect in favor of exercise when compared with placebo (Nordheim & Hagan, 2006).

Nutrition, diet and mood disorders

A relationship has been found between nutrient intake and psychological health (Kaplan et al., 2007; Kolata, 1982; Woo et al., 2006). This is not surprising as 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 spurned more research as of late. This profusion is evident when considering the more than six randomized controlled studies and five case studies, performed in the last decade, that evaluate formulas of anywhere from 2 to 36 vitamins and minerals producing documented influence on mood and behavior in populations ranging from bipolar adults to unruly children (Kaplan et al., 2007). Various formulas were found to decrease violent and antisocial incidents (Gesch, Hammon, Hampson, Eves & Crowder, 2002), others were found to reduce stress (Carroll, Ring, Suter & Willemsen, 2000) and still others were found to stabilize the behavior and moods of bipolar participants (Popper, 2001; Simmons, 2002).

Additionally, much research argues that diet in a larger context may also be important. Various studies argue that carbohydrate (Dye, Lluch & Blundell, 2000;Halyburton et al., 2007;Lloyd, Green & Rogers, 1994) and fat intake (Brinkworth et al., 2009) can alter mood in predictable ways that could be appropriate for mood disorder treatment. In a 2009 study, Appleton and colleagues found that even specific foods have can have effects of mood; depressed mood was inversely related to the intake of specific foods such as fish, raw fruits and vegetables and even cake (2007).

Supplemental methods for mood disorders

Dietary supplements such as Saint John's Wort (Kane 1998; Mulrow et al., 1998), B Vitamins (Godfrey et al., 1990; Goggans, 1984; Kane, 1998), 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 conflict. Saint John's Wort, for example, was evaluated in the Cochran Database of Systematic Reviews with mixed results: using 37 randomized double blind studies researchers 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 exercise and nutrition-based treatment programs

With the increasing amount of literature surrounding exercise and nutritional mechanisms for altering mood and behavior, it is also important to note current popularity levels of such methods. Utilization of nutritional supplements and dietary mechanisms, 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 recorded in general health practitioners and medical students (Anderson & Anderson, 1987; Furnham, 1993; Wharton & Lewith, 1986). In addition, a study of the general population not only indicated popularity growth, but also CAM's specific popularity as mental health treatment (Kessler et al., 2001). Specifically, Kessler and colleagues found that CAM methods were utilized more for anxiety and depression than for any other illnesses

(excluding back and neck pain) and 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 (Eisenberg, Davis, Ettner et al., 1998).

The above discussion of existing research makes it apparent that exercise and nutritional methods are routinely discussed as possible treatment options for depression and anxiety in literature. It is, however, harder to assess to what degree this literature had been disseminated into practitioner populations and implemented into practices. Therefore, the present study seeks to answer the following research questions:

RQ1: Are Idaho's mental health practitioners aware of and have they implemented nutrition, supplemental and exercise methods 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 and low dissemination and implementation levels?

Method

Instrument development

A self-report format survey was constructed for a sample of mental health practitioners. The survey contained a mixture of open and closed ended questions totaling 16. Pilot testing indicated a 10-15 minute response time was average. The questionnaire contained (1) demographic items (age, state of practice, county of practice); (2) professional items (occupational license, months in practice, do you treat patients suffering from unipolar depression and/or anxiety); (3) dissemination evaluation; (4) implementation evaluation and (5) attitudes toward efficacy. The last three items were asked in regards to the following three alternative methods: nutrition, supplements and exercise.

Dissemination for 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-patients choice" as subtypes. Subtype identification was open ended. The last implementation question asked the respondent to indicate how frequently he/she refers patients suffering from unipolar depression and/or anxiety disorders to health professionals who specialize in nutrition, supplement use and/or exercise. Here a five-point Likert scale from *never* to *always* was used.

Because some research indicates that efficacy is the most important perception effecting use of complementary and alternative forms of medicine, respondents were 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

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. 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 and twenty six respondents reported an Idaho county as their location of practice. A wide variety of counties were represented. Using the *Profile of Rural Idaho* developed through the Idaho Department of Commerce and Labor, the urban/rural designation of respondent's county of practice is shown below in Table 1.

Table 1. Respondents' County of Practice using the Profile of Rural Idaho Designations

County Category	**N**	**%**
Open country	19	8.4
Rural Center	19	8.4
Commuting	1	.4
Urban	187	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. The most commonly encountered exercise treatment method was walking (21.5%), followed by yoga (17.2%) and aerobic exercise (16.8%). 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.

Table 2. Number and Percent of All Practitioners Who Reported Encounters with Listed Methods

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

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.

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 *The Profile of Rural Idaho's* urban-rural designation of a practitioner's county of practice 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 . 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<.05). 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 3. Number & Percent Encounters with Listed Methods by Practitioner License Type

License	Encounters					
	Exercise		Nutrition		Supplement	
	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

Additionally, 44.7% of the 255 respondents who answered the item considering training in alternative techniques reported training in the use of exercise as a treatment method; 26.6% reported training in nutritional programs and 17.1% reported training in the use of supplements. Table 4 provides a breakdown of specific methods in which practitioners reported training.

Table 4. Practitioners' Self Reported Training in Alternative Methods

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

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.

Implementation

In response to a question asking practitioners if they used exercise as an element of treatment (yes/no) 66% of respondents (n=204) answered "yes". One hundred and eight or 35% of practitioners answered "yes" when asked if they used any sort of nutritional program while 19% (n = 60) answered "yes" to the same question about nutritional supplement use in their practice. 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": exercise 67% (n = 207), nutritional programs 39% (n = 121), supplements 20% (n = 63). Specific exercises, nutritional and supplemental methods implemented by respondents are displayed in Table 5.

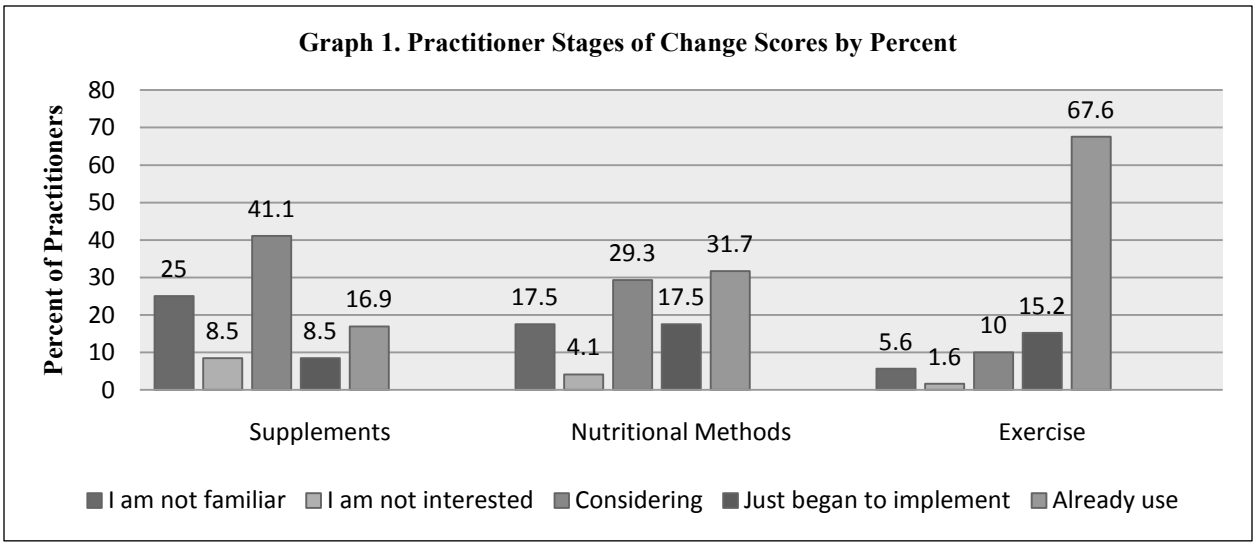
Table 5. Practitioner use of Alternative Techniques for the Treatment of Clients with Unipolar Mood Disorders

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

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. *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.

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

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



Discussion

Dissemination

Approximately 68% of the practitioners sampled indicated that they had encountered exercise as a treatment option for unipolar mood disorders in professional literature or discussion within the last two years. Nutritional and supplemental methods enjoyed dissemination rates near 45%. These numbers indicate that a large number of mental health practitioners are aware of these alternative techniques. Additionally, no difference that was found between the dissemination levels of different age groups, counties of practice or months in practice. This indicates that the dissemination of research considering alternative treatment methods is not effected by urban/rural designations that may or may not affect ideology.

Dissemination was found to differ based on license type; practitioners who were licensed as psychologists were more likely to have encountered both supplemental 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 bachelors 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 dissemination rate of 68% within the last two years. This one-to-one ratio between recent dissemination and implementation is not seen in either nutritional or supplemental methods. While nutritional methods were recently disseminated into 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 while 46.5% claim to have encountered them in the last two years alone 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 nutritional methods and supplemental methods 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 nutritional and supplemental 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, et al., 2001; Lawlor & Hopker, 2000; North, et al., 1990; Stein, 1992; Stitch, 1999), 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 nutrition and supplemental methods may result in lower perceived efficacy rates for these treatments. The influence of indecisive literature on perceived efficacy of nutritional and supplemental methods may be illustrated by the number of practitioners who did not answer the efficacy question regarding these methods: Of the practitioners asked the efficacy question, only 8 did not respond in regards to exercise, 21 did not respond in regards to nutritional programs and 35 did not respond in regards to supplemental methods.

It is evident that perceived efficacy effects implementation, however, the results of this study show large gaps between the perceived efficacy and implementation rates. Supplemental methods were perceived as effective by 82% of those who answered the item but only 19-20% of respondents use supplemental methods. Similarly, 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). Other possible explanations are discussed below.

Implementation power. Regardless of a methods perceived efficacy, it must be implementable to enjoy widespread use. Gold et al. argue (2006), that this barrier became more significant in the 1990s when the evidence-based medical movement was widely adopted into the mental health field. These researchers propose that this switch in acceptance of only tightly controlled randomized clinical trials caused internal validity to be valued higher than external validity. This shift morphed the majority of research into efficacy based with only very few studies that focused on a treatments implementation and dissemination power (Sussman, Valente, Rohrbach, Skara & 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 supplemental methods. Currently, granting agencies are recognizing the barrier that low implementation power posses 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 disseminate research outlining evidence-based practices in ways that are implementable for practitioners. 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 nutritional methods and 17% had some type of training in supplemental techniques. These numbers correspond much better than efficacy rates to the reported use rates for both nutritional methods (35-39%) and supplemental methods (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 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 dissemination or implementation of exercise, nutritional and supplemental 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.

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