

Dysthymia, major depression, and double depression among individuals receiving substance abuse treatment

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Received 11 October 2012; revised 18 November 2012; accepted 24 November 2012

ABSTRACT

The purpose of this study was to compare dysthymia, double depression (DD), and major depressive disorder (MDD) among individuals receiving substance abuse treatment on individual characteristics and mental health factors including age, gender, alcohol and drug dependence, number of previous mental health and substance abuse treatments, number of suicide attempts and attempts under the influence, and perceived quality of life. Out of the 336 medical records reviewed, 41.4% had dysthymia, 4.5% had MDD, and 14% had DD. Results indicated gender differences among those who had dysthymia and MDD, and age differences for those with dysthymia. Mental health factors associated with different mood disorders included alcohol dependence, drug dependence, suicide attempts, suicide attempts under the influence, and quality of life. Implications for the mental health field are discussed, underlining the importance of developing and providing competent treatment for clients with co-occurring disorders.

Keywords: Dysthymia; Mood Disorders; Substance Use Disorders

1. INTRODUCTION

Mood disorders have been described as the world's most disabling condition by the Global Burden of Disease study [1]. These disorders exhibit distinct patterns that may represent different subtypes. For example, compared to major depressive disorder, dysthymia is characterized by milder symptomatology. However, individuals with dysthymia have reported greater cumulative symptoms, more suicide attempts, hospitalizations,

and social impairment than individuals with episodic major depression [2]. Dysthymia is a common mood disorder that has a lifetime prevalence rate of approximately 6% in the general population [3,4] and 22% in outpatient mental health settings [5]. Dysthymic disorder is defined as a low-grade and chronic depression that lasts for at least 2 years for adults *Diagnostic and Statistical Manual of Mental Disorders IV-TR* [6].

A ten-year prospective, naturalistic follow-up study was conducted comparing the course of depression among outpatients with double depression (DD) (that is, dysthymia comorbid with major depression), pure dysthymic disorder, and major depressive disorder [7]. Findings supported data from a previous study [2], whereby outpatients who experienced double depression and pure dysthymia indicated significantly higher levels of depression at the ten-year follow-up compared to outpatients with major depressive disorder. Furthermore, the individuals with double depression and pure dysthymic disorder spent a greater amount of time during the 10 year follow-up period of the study meeting criteria for a mood disorder compared to outpatients with major depressive disorder.

Considering these results on length of illness of dysthymia, the severity of dysthymic disorder and DD when compared to major depressive disorder (MDD), and the different patterns of these mood disorders among outpatients, it is important to examine the impact of dysthymia, major depression, and double depression in other clinical populations, particularly among individuals who abuse substances. There is an elevated comorbidity rate between mood disorders and substance use disorders [2, 8-10], and this co-occurrence has a serious negative impact on individuals' lives. A research study compared 86 dysthymic disorder individuals to 39 episodic major depressive disorder individuals, and reported that a significantly greater proportion of dysthymic clients experienced a lifetime of history of substance abuse or depen-

dence than the episodic MDD clients [2].

In another study [11] examined the individual characteristics and mental health factors of dysthymic and non-dysthymic clients. One hundred and eight three medical records were selected for the study and 48% of these records were of individuals with dysthymic disorder. Results indicated that dysthymic clients were more likely to be male, older individuals, who reported higher levels of alcohol dependence, lower quality of life, and higher number of previous substance abuse treatments than individuals without dysthymia.

Despite the elevated comorbidity between mood disorders and substance use disorders, there are only a limited number of studies examining the impact of dysthymic disorder on substance abuse. In addition, there is a paucity of data comparing dysthymia with other mood disorders in this population. Thus, the aim of this study was to compare dysthymic disorder with double depression and major depressive disorder among individuals attending a substance abuse treatment center, and examine the following individual characteristics and mental health factors: 1) age; 2) gender; 3) alcohol dependence; 4) drug dependence; 5) number of suicide attempts; 6) number of suicide attempts under the influence; 7) perceived quality of life; 8) number of previous mental health treatments; and 9) number of previous substance abuse treatments. The findings from this study may provide useful information to practitioners regarding the assessment and treatment of individuals who may suffer from a dual diagnosis of a mood disorder and a substance use disorder. Two important questions are raised in this study about dysthymia, major depression, and double depression in a substance abuse population: 1) what is the nature of their comorbid relationship with substance use disorders? and 2) what are the individual characteristics (age and gender) and mental health factors (e.g. drug dependence, alcohol dependence, quality of life) that distinguish dysthymia, double depression, and major depressive disorder among individuals who abuse substances?

2. METHOD

2.1. Participants

This is an exploratory study that involved the review of the biopsychosocial assessment section of medical charts. A total of 336 charts of consecutively admission to a residential substance abuse treatment agency were reviewed; this agency is located in southeastern Florida. Agency personnel conducted the review and entered the data. The clients attending this agency come from different geographical areas across the United States, and have diverse economic backgrounds. Institutional Review Board (IRB) approval was obtained prior to data

collection. Upon admission to this agency, all clients complete multiple biopsychosocial assessment forms which include information concerning: sociodemographic characteristics (self-reports of gender and age); self-reports of number of previous mental health and substance abuse treatments; self-reports of number of suicide attempts and number of suicide attempts under the influence; assessment of dysthymic disorder, major depressive disorder, and alcohol and drug dependence scores as measured by the Millon Clinical Multiaxial Inventory (MCMI-III) [12]; and assessment of perceived quality of life as measured by the Quality of Life Inventory. Charts were excluded from the review if the assessment forms were incomplete or had substantial missing data from the aforementioned sections or instruments. All clients at this agency were 18 years old or older.

2.2. Measures

2.2.1. Millon Clinical Multiaxial Inventory (MCMI-III)

The MCMI-III is a widely used 175 items self-report questionnaire that was utilized to measure dysthymic traits, major depressive disorder traits, and alcohol and/or drug dependence symptoms. This instrument has been shown to have good psychometric properties [12-14], and has been used as an assessment tool in several studies of individuals who abuse drugs [13,15,16]. The MCMI-III consists of 28 scales: 4 scales assess the patients' validity and response style (Validity Index, Disclosure, Desirability, and Debasement), 14 scales assess personality disorders, and 10 scales assess clinical syndromes, including dysthymia, major depression, alcohol dependence and drug dependence.

The MCMI-III has a Debasement scale that measures an individual's tendency to devalue himself or herself by presenting more emotional problems than are likely upon a clinical evaluation. The MCMI-III also contains a Desirability scale that measures an individual's tendency to appear socially attractive or emotionally well. Similar to the scoring of the mental disorders discussed above, scores above 75 on the Debasement scale indicate that individuals may be seriously distorting their symptomatology to make it seem worse than it is. Scores of less than 65 on the Desirability scale indicate that individuals are likely to be giving answers that neither exaggerate nor minimize their symptomatology in an effort to produce an answer that will please the assessor. The MCMI-III scores the traits and symptoms as follows: 1) a score of 85 or higher is indicative of all the traits and symptoms for a given mental disorder at a clinical level; 2) scores between 75 and 85 indicate the presence of traits and symptoms associated with the disorder, below clinical levels; and 3) a score of less than 75 is consid-

ered to lack clinical significance. For the purposes of this study, five study groups were created: No Dysthymia, Dysthymia, No Major Depression, Major Depression, and Double Depression (See **Table 1** for study group placement criteria).

Alcohol or Drug dependence was assessed by using the Alcohol Dependence and Drug Dependence scales of the MCMI-III. The Alcohol dependence measures a history of alcoholism in which an individual has unsuccessfully attempted to overcome the problem unsuccessfully and has experienced considerable impairment in family and/or work place functioning. The Drug Dependence scale assesses the individual's recurrent or recent history of drug use, including evidence of impulsivity and an inability to manage consequences of drug using behavior. A score of 75 or higher suggests dependence for both scales.

2.2.2. Quality of Life Inventory (QOLI)

The QOLI [17] is an instrument developed to assess life satisfaction specifically for use in clinical populations. It measures global quality of life based on multiple satisfaction ratings in 16 defined domains. Respondents rate the importance of a given domain to their overall happiness and satisfaction (0 = *not at all important*; 1 = *important*; 2 = *very important*), and then rate how satisfied they are in a given area (-3 = *very dissatisfied*; 3 = *very satisfied*). A weighted satisfaction rating is then obtained by multiplying the importance and satisfaction ratings, with scores ranging from -6 to +6. Then, after excluding all the weighted satisfaction scores with an importance score of 0, the mean of the weighted satisfaction ratings is computed. This process ensures that only life areas the respondent considers important are included in his or her quality of life score.

The literature indicates that the QOLI has strong psychometric properties [18-20]. A study used the QOLI in a study with three nonclinical samples and three clinical samples [20]. The internal consistency and 1-month test-retest reliability were high with values of 0.75 or greater across all the samples. A more recent study reported an internal consistency of the total satisfaction

scale of 0.85 in a clinical sample of 217 clients referred for treatment of anxiety and depressive disorders [18]. In addition, the QOLI has demonstrated strong convergent and divergent validity as well as good construct and criterion-related validity [18-20].

2.2.3. Sociodemographic Characteristics and Other Variables

The sociodemographic characteristics and other mental health variables for this study were obtained from the agency's medical records. These variables included self-report of gender, age and race. Participants also indicated whether they had been in an alcohol or drug treatment program before (yes or no). If the respondents answered yes, they identified the number of times they had attended an alcohol/drug treatment program. In addition, they were asked whether they had received mental health counseling/treatment in the past. If the respondents indicated yes, they were asked for the number of times they received this treatment. Suicide attempt was assessed by asking respondents whether they had ever attempted suicide (yes or no). If yes, they were asked to indicate how many times they attempted suicide and if the suicide attempts were under the influence of alcohol and/or drugs.

2.3. Data Analysis

Continuous variables were analyzed using independent samples t-tests. For the t-tests, separate estimates of variance were used, rather than pooled, when the variances differed significantly between groups. Categorical variables were analyzed utilizing chi-square tests. Yates correction was used in chi-square tests on 2 × 2 tables. An alpha level of 0.05 was used. All tests were two tailed. The number of respondents in some analyses varied due to missing data.

3. RESULTS

Of the 336 medical records reviewed, 139 (41.4%) met the dysthymia criteria for this study, 15 (4.5%) met the MDD criteria, and 47 (14%) met the DD criteria. The

Table 1. Study diagnostic groups with MCMI-III score placement criteria.

Diagnostic Group	Placement Score Criteria		Validity/Response Score	
	≤74	≥75	Desirability (≤74)	Debasement (≤65)
No dysthymia	*		*	
Dysthymia		*		*
No depression	*		*	
Depression		*		*
Double depression	*			*

overall sample had a mean age of 36.7 years ($SD = 11.8$), 62.8% were male ($n = 211$), 85.7% were White ($n = 287$), 9.3% were Black ($n = 31$), 1.5% were Latino ($n = 5$), 0.9% were Asian ($n = 3$), and 2.7% were Other ($n = 9$). In addition, approximately 55% ($n = 182$) reported having either one or two previous mental health treatments, and 49% ($n = 164$) reported having either one or two previous substance abuse treatments. Eight four percent of the sample ($n = 278$) indicated no suicide attempt, while 15% of the sample ($n = 50$) indicated having either 1 or 2 suicide attempts, and 0.6% ($n = 2$) reported having 3 suicide attempts. Approximately 90% of the sample ($n = 293$) reported no suicide attempts under the influence and 10% ($n = 34$) indicated having 1 or 2 suicide attempts under the influence of drug or alcohol.

3.1. Bivariate Analyses

3.1.1. Dysthymia

Table 2 presents the bivariate analyses of the individual characteristics and mental health factors of the dysthymic vs. non-dysthymic clients. Clients with dysthymia differed from non-dysthymics on gender ($X^2 [1, N = 336] = 82.82, p < 0.001$), reflecting that a greater proportion of the former group were male. Out of 139 clients reporting dysthymia, 91.4% were males ($n = 127$) while 57.4% of non-dysthymic clients were female ($n = 113$). The groups also differed on age ($t [336] = -2.10, p < 0.05$) whereby those with dysthymia were older than non-dysthymic clients.

3.1.2. Major Depressive Disorder (MDD)

Table 3 presents the bivariate analyses on the individual characteristics and mental health factors of the

MDD vs. non-MDD clients. Clients with MDD differed from non-MDD on gender ($X^2 [1, N = 336] = 26.50, p < 0.001$), reflecting that all individuals with MDD ($N = 15$) were females. The groups also differed on drug dependence ($t [336] = 2.56, p < 0.05$) whereby those with MDD reported lower drug dependence scores on the MCMI-III than those without MDD. Number of suicide attempts and suicide attempts under the influence were also statistically significant. Those individuals with MDD reported higher number of both suicide attempts ($t [336] = -3.93, p < 0.001$) and suicide attempts under the influence ($t [336] = -3.74, p < 0.001$) compared to those without MDD.

3.1.3. Double Depression (DD)

Table 4 presents the bivariate analyses of the individual characteristics and mental health factors of the DD vs. non-DD clients. Clients with DD differed from those without it on alcohol dependence ($t [336] = -2.35, p < 0.05$) and drug dependence ($t [336] = 2.61, p < 0.05$) whereby those with DD reported higher scores of alcohol dependence than those without DD. Interestingly, clients with DD reported lower drug dependence scores on the MCMI-III than those without DD. The quality of life was also a statistically significant factor ($t [336] = 3.67, p < 0.001$); clients with DD reported lower quality of life compared to those without DD. The groups also differed on age ($t [336] = -2.52, p < 0.05$) whereby those with DD were older than those without it.

3.2. Hierarchical Logistic Regression Models

One hierarchical logistic regression model was esti-

Table 2. Mental health factors of dysthymic ($n = 139$) vs. non-dysthymic ($n = 197$) substance abusers.

Variable	Dysthymic		Non-Dysthymic		t-test	p-value
	M	SD	M	SD		
Age	35.55	11.83	38.27	11.62	-2.10	0.04
Alcohol dependence	79.69	48.24	82.99	16.56	-0.75	0.45
Drug dependence	76.18	22.33	79.48	18.48	-1.43	0.15
Quality of life Inventory	1.21	1.73	1.16	1.72	0.26	0.80
Number of mental health treatments	0.86	1.27	0.82	0.92	0.29	0.77
Number of substance abuse treatments	1.32	1.39	1.47	1.85	-0.85	0.40
Number of suicide attempts	0.22	0.54	0.20	0.53	0.22	0.83
Suicide attempts under the influence	0.13	0.38	0.12	0.41	0.27	0.79
Gender	N	%	N	%	Chi Square	p
Female	113	57.4	12	8.6	82.83	0.00
Male	84	42.6	127	91.4		

Table 3. Mental health factors of major depressive disorder (Mdd) (*n* = 15) vs. non-major depressive disorder (*n* = 289) substance abusers.

Variable	Non-				t-test	p-value
	Mdd		Mdd			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Age	36.54	11.65	39.53	14.83	-0.96	0.34
Alcohol dependence	81.63	39.10	67.80	14.25	-1.36	0.17
Drug dependence	78.17	20.30	64.20	28.17	2.56	0.01
Quality of life Inventory	1.21	1.74	0.59	1.21	1.34	0.18
Number of mental health treatments	0.85	1.16	0.80	0.56	0.16	0.88
Number of substance abuse treatments	1.42	1.60	0.67	0.82	1.80	0.07
Number of suicide attempts	0.19	0.50	0.73	0.96	-3.93	0.00
Suicide attempts under the influence	0.11	0.36	0.50	0.76	-3.74	0.00
Gender	<i>N</i>	%	<i>N</i>	%	Chi Square	<i>p</i>
Female	110	34.3	15	100.0	26.50	0.00
Male	211	65.7	0	0		

Table 4. Mental health factors of double depression (DD) (*n* = 47) vs. non-double depression (*n* = 289) substance abusers.

Variable	Non-				t-test	p-value
	DD		DD			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Age	36.03	11.79	40.66	11.19	-2.52	0.01
Alcohol dependence	79.03	17.94	93.17	92.55	-2.35	0.02
Drug dependence	78.73	20.50	70.26	21.76	2.61	0.01
Quality of life Inventory	1.32	1.69	0.35	1.70	3.67	0.00
Number of mental health treatments	0.81	1.17	1.04	0.86	-1.29	0.20
Number of substance abuse treatments	1.38	1.67	1.45	1.10	-0.28	0.78
Number of suicide attempts	0.21	0.56	0.21	0.41	-0.01	0.10
Suicide attempts under the influence	0.13	0.40	0.13	0.34	0.04	0.10
Gender	<i>N</i>	%	<i>N</i>	%	Chi Square	<i>p</i>
Female	104	36.0	21	44.7	1.31	0.25
Male	185	64.0	26	55.3		

mated, regressing double depression (the outcome variable) on the mental health factors and individual characteristics that were significant in the bivariate analyses. The logistic regression model was estimated as follows: 1) age was entered in step 1; and 2) the mental health factors (alcohol dependence, quality of life, and drug dependence) were entered in step 2.

Table 5 provides the results of the hierarchical logistic regression. In the first block of the model containing only age, this factor ($\beta = 0.04$) was a statistically significant predictor of having double depression. Once the

mental health factors were entered in the second block, age was no longer statistically significant. Drug dependence ($\beta = 0.02$) and quality of life ($\beta = -0.37$) were significant predictors of having double depression.

A second hierarchical logistic regression model was estimated, regressing major depression (the outcome variable) on the mental health factors (drug dependence, suicide attempts, and suicide attempts under the influence) were significant in the bivariate analyses. **Table 6** provides the results of the hierarchical logistic regression. In this model, only drug dependence ($\beta = 0.03$) was a

Table 5. Hierarchical logistic regression of DD on individual and mental health factors.

Variables	Model 1				Model 2			
	B	SE	OR	CI	B	SE	OR	CI
Age	0.03	0.01	1.03*	1.00 - 1.06	0.02	0.02	1.02	0.99 - 1.06
AD					0.01	0.01	1.01	0.99 - 1.03
QOLI					-0.37	0.10	0.69**	0.57 - 0.85
Drug					-0.02	0.01	0.98*	0.97 - 0.10

AD = Alcohol Dependence; QOLI = Quality of Life Inventory; Drug = Drug Dependence; * $p \leq 0.05$; ** $p \leq 0.001$.

Table 6. Hierarchical logistic regression of major depressive disorder (Mdd) on mental health factors.

Variables	Model 1			
	B	SE	OR	CI
Drug	0.03	0.01	0.97*	0.95 - 0.99
SA	0.32	0.62	1.38	0.41 - 4.67
SI	1.23	0.83	3.41	0.68 - 17.17

Drug = Drug Dependence; SA = Suicide Attempts; SI = Suicide Attempts under the Influence; * $p \leq 0.05$.

significant predictor of having major depressive disorder.

4. DISCUSSION

There is a considerable amount of research indicating elevated comorbidity rates between mood disorder and substance use disorders [2,6,9,10]. Studies also suggest that different types of depressive disorders have distinct clinical manifestations [2,7]. However, the literature concerning mood disorders and their impact on a substance abuse population is very limited. Thus, the aim of this study was to compare dysthymic disorder with double depression and major depressive disorder among individuals attending a substance abuse treatment center, on multiple individual characteristics and mental health factors including age, gender, alcohol and drug dependence, number of previous mental health and substance abuse treatments, number of suicide attempts, and attempts under the influence, and perceived quality of life.

The findings of this study are consistent with the current literature indicating that there is an elevated comorbidity rate between mood disorders and substance use disorders. Approximately 41% of the sample met the study criteria for dysthymia, 14% for double depression, and 4.5% for major depression. Two factors were statistically significant among individuals with dysthymia: age and gender. The results of this study showed that males were much more likely than females to be dysthymic clients (91% vs. 8%, respectively). Results also showed that individuals with dysthymia were more likely to be older individuals than non-dysthymics. These findings are in line with previous research [11].

Females in this sample were much more likely to report clinically significant symptoms of major depression than were males (100% vs. 0%, respectively). Several mental health factors were significant for clients with MDD including drug dependence, number of suicide attempts, and number of suicide attempts under the influence. The individuals with MDD reported lower drug dependence scores, but higher number of suicide attempts and suicide attempts under the influence than those without MDD.

Interestingly, drug dependence was the strongest predictor of *not* having MDD. It is possible to speculate that gender differences in patterns of substance abuse and dependence may have an impact on this finding. Males are more likely to use, abuse, and be dependent on alcohol or drug compared to females [21]. The 2003 National Survey on Drug Abuse and Health reported that approximately 15.2 million females used illicit drugs versus 19.8 million males. Similarly, there might also be gender differences in the severity of use; women may exhibit less severity due to the social stigma attached to the drug use. That is, women tend to feel that drug use is more deviant and carries a greater social stigma for them than it does for men and the behaviors related to drug use interfere with women's socially accepted roles as caretakers and nurturers [22]. Individuals with MDD reported a higher number of suicide attempts than non-MDD individuals. This is consistent with previous research that indicates that women who suffer from substance use disorders are more likely to have attempted suicide than men with substance use disorders [23].

Four factors were significant for individuals with DD: age, alcohol dependence, drug dependence, and quality of life. Clients who experienced DD were more likely to be older, to report higher levels of alcohol dependence, lower levels of drug dependence, and lower quality of life than individuals without DD. Quality of life was a significant predictor of DD in this sample, with lower quality of life scores associated with higher DD scores.

As with MDD, drug dependence was a significant predictor of *not* having DD. Gender differences may explain why individuals who reported not having DD reported higher drug dependence scores than those with

DD. Sixty four percent of non-DD were males, and based on the previous literature discussed above, males tend to have higher levels of illicit drugs use, abuse, and dependence [20].

4.1. Clinical Implications

The findings of this study support the evidence that depressive disorders exhibit distinct patterns that may represent different subtypes of depression. For instance, gender seems to be a distinct individual characteristic that distinguishes different types of depression. Interestingly, all individuals who reported MDD in this study were women. This is consistent with the literature that indicates that women are more likely to report mood disorders than men [24]. In contrast, our findings indicate that males are more likely to report dysthymia than females in this population, which is in line with previous research [11].

Another interesting finding of this study regarding the patterns of different depressive disorders involves suicide attempts. Individuals with MDD reported a higher number of suicide attempts than non-MDD individuals. This was not found among individuals with DD or dysthymia. This finding is not in line with previous findings among outpatients reporting that individuals with dysthymia are more likely to attempt suicide than individuals with episodic major depression [2]. However, our sample is different from that of previous studies in that participants were attending a residential substance abuse treatment center and all the MDD participants were women. Research indicates that women who suffer from substance use disorders are more likely to have attempted suicide than men with substance use disorders [23].

Furthermore, individuals with DD reported higher levels of alcohol dependence and lower quality of life than individuals without DD. The latter finding is not surprising because one would expect that individuals who experience two different types of depression simultaneously would report lower quality of life than those with just one. However, further research is needed to replicate the unexpected finding concerning alcohol dependence. There is a paucity of literature regarding DD and substance use disorders, and thus, it is important to explore more in depth the comorbidity between these disorders.

The findings of this study are useful to mental health professionals because they indicate that individual characteristics and mental health factors must be considered in the planning and development of treatment approaches for interventions used in substance abuse treatment centers. Clinical interventions for this population should be implemented at an early stage in treatment, and should address the multiple factors examined in the study, including the elevated comorbidity rates between mood disorders and substance use disorders, the clinical mani-

festation of different types of depression, and the gender differences in substance use patterns. It is imperative to assess for the presence of mood disorders within a substance abuse population to develop adequate treatment plans and use appropriate clinical interventions. More specifically, clinical treatments should be gender-specific and directed to maximizing the quality of life of individuals with comorbid conditions.

4.2. Limitations and Strengths

A number of methodological issues must be considered when interpreting the findings of this study. The generalizability of the study may be limited to clients attending residential substance abuse treatment facilities. In addition, the sample of this study was predominantly White, and not representative of different ethnic groups. Therefore, caution is necessary when generalizing the results to other ethnic groups. Lastly, the review of medical record limited the analyses to existing data and did not allow for the exploration of other variables that may be important in understanding the impact of mood disorders in a substance abuse population. These variables could include economic resources, social barriers (*i.e.* stigma and discrimination), hospitalization, and social impairment.

Despite these limitations, the current study has conceptual and methodological strengths. This study compared three types of depressive disorders and their impact on individual characteristics and mental health factors among individuals suffering substance use disorders. Due to the scarcity of research in this area, the methods of this study were appropriate and allowed for the examination of associations between these variables. These preliminary findings of this study contribute to the growing literature by providing evidence for the necessity of focusing on distinct individual and mental health factors affecting clients with a dual diagnosis of a mood disorder and substance use disorder. These findings also emphasize the importance of providing effective interventions that would address both psychiatric conditions. Lastly, the sample size used in this study was relatively large compared to previous studies.

Future research should continue to explore the complex dynamics involved in the co-occurrence of mood disorders and substance use disorders. This exploration is crucial to better understand factors affecting individuals experiencing a dual diagnosis. In addition, findings of this study should be replicated using a different clinical sample (*i.e.* outpatient) and an ethnically diverse sample to determine whether these findings are generalizable. Furthermore, future research would benefit from having a longitudinal design with prospective measurement of risk and protective factors to assess the impact of these factors on treatment outcomes over time and to establish

the causal pathways.

5. CONCLUSION

Previous studies have indicated elevated comorbidity rates between mood disorders and substance use disorders. However, limited empirical efforts have been devoted to understanding the comorbid relationship between different types of mood disorders and substance use disorders. The findings of this study supported empirical evidence indicating that there are different patterns that represent specific subtypes of depressive disorders. More specifically, there were gender differences among individuals with clinically significant symptoms of either MDD or dysthymia. Age differences were found among dysthymic clients. Alcohol dependence, drug dependence, suicide attempts, and quality of life were factors that were found significant in either MDD or DD in this population. Mental health professional should take into consideration all of these factors when assessing and treating individuals who suffer from these dual disorders. The findings of this study emphasize the importance of providing effective interventions that would address all three psychiatric conditions, recognizing the specificity of their clinical manifestation.

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