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Domain-specific social functioning improvements during treatment of depressed women with histories of childhood sexual abuse

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Abstract

Background—Deterioration in social functioning and depression are often intertwined, particularly for women with histories of childhood sexual abuse (CSA). Among women with CSA histories, some relationship domains may be more modifiable than others during time-limited depression treatment. Women with CSA histories often report longstanding interpersonal difficulties in close relationships. Thus, we expected patients' relationships with immediate family and intimate partners would be less likely to improve during treatment than relationships with coworkers, friends, or extended family, unless patients received an interpersonally-focused intervention that targeted close relationships.

Methods—To examine domain-specific social functioning improvements and determine whether some domains were more likely than others to respond to an interpersonally-focused intervention, we analyzed data from a randomized controlled trial investigating Interpersonal Psychotherapy (IPT) versus usual care (UC) in 69 depressed women with CSA histories. Participants completed the Social Adjustment Scale-SR at pretreatment, 10-, 24-, and 36-weeks.

Results—Consistent with our hypotheses, patients reported significant improvements in work roles, leisure activities with friends, and relationships with extended family members over the course of treatment. Relationships with immediate family members and intimate partners did not improve in the overall sample. However, relationships with immediate family improved significantly more among IPT than UC patients. Limitations: The sample size is small and generalizability may be limited. Conclusions: Social functioning improvements during depression

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Contributors

Dr. Gamble designed the study, conducted the literature searches, and wrote initial drafts of the manuscript. Drs. Smith, Poleshuck, and Talbot assisted in the preparation of the manuscript and the interpretation of the study findings. Dr. He conducted the statistical analyses. Dr. Talbot also designed the parent study and wrote the protocol for the trial. All authors contributed to and have approved the final manuscript.

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Conflict of Interest

All authors declare they have no conflicts of interest.

treatment may be domain-specific among depressed women with CSA histories. IPT is more effective than UC at improving relationships with close family members in this population.

Keywords

depression; social functioning; psychotherapy; women

1. INTRODUCTION

Major depression is common among women with histories of childhood sexual abuse (Molnar et al., 2001). In clinical settings, over a third (38%) of women receiving treatment for depression report being sexually abused during childhood (Zlotnick et al., 1995). Among women with childhood sexual abuse (CSA) histories, the course of depression tends to be more chronic, recurrent, and treatment-resistant than the depression course for women without such histories (Zlotnick et al., 2001; Zlotnick et al., 1995; Zlotnick et al., 1997). In addition, the social functioning of sexually abused women is often marked by wide-ranging impairments in interpersonal relationships that extend throughout adulthood (Mullen et al., 1994). Impairments in social functioning, in turn, negatively affect the severity and course of depressive symptoms (Kennedy et al., 2007; Lenze et al., 2002; Vittengl et al., 2009) and may help to explain the seemingly intractable nature of depression among women with CSA histories (Whiffen et al., 2000).

Given the documented associations between social relationships and depressive symptoms (Weissman and Klerman, 1977; Brown et al., 1975; Brown and Harris, 1978; Brown and Moran, 1997), many well established treatments for depression include social functioning as a target for intervention (Klerman et al., 1984; Lewinsohn et al., 1986; McCullough, 2000). Among female patients with CSA histories, recent research has shown that an interpersonally-focused depression treatment (Talbot and Gamble, 2008) can significantly reduce depressive symptoms (Talbot et al., 2005). In addition to depression symptoms, many clinical trials assess social functioning improvements over the course treatment. However, most investigators use *global* assessments that collapse patients' reports of their perceived social role performance across multiple social domains. The purpose of this study was to determine whether women with CSA histories experience *domain-specific* improvements in social functioning during treatment for depression.

Although women with CSA histories experience pervasive interpersonal difficulties across multiple social role domains, some domains may be more amendable to change than others during depression treatment. It is well documented that much of the abuse that CSA survivors experience is perpetrated by family members or close family friends (Vogeltanz et al., 1999). These abusive experiences during childhood have consistently been shown to adversely affect individuals' patterns of attachment and the quality of their adult interpersonal relationships (Roche et al., 1999). In particular, women with CSA histories report problems with intimate partner relationships (see DiLillo, 2001; Rumstein-McKean and Hunsley, 2001 for reviews) that often include an inability to trust others or form lasting relationships (Mullen et al., 1994). Most time-limited depression interventions are ill-equipped to affect significant change in longstanding and complex interpersonal difficulties involving close family members. Thus, we hypothesized that functioning in domains with intimate partners and immediate family members would be less likely to improve during the course of treatment than peripheral relationships with friends and co-workers. In this study, we also examined whether treatment type (Interpersonal Psychotherapy versus Usual Care) moderated domain-specific social functioning. We posited that the interpersonal focus on close relationships used in Interpersonal Psychotherapy (IPT) would be more likely

(compared to usual care) to improve social functioning with immediate family members and intimate partners.

2. METHODS

2.1 Sample and treatment

Study procedures have been described in detail elsewhere (Poleshuck et al., 2009) and were approved by the University of Rochester Medical Center (URMC) institutional review board. Written informed consent was obtained from all participants, followed by assessments to determine patients' study eligibility. Inclusion criteria were major depression established by the Structured Clinical Interview for DSM-IV (SCID-I: First et al., 2001) and a history of sexual abuse established by a structured clinical interview (Talbot et al., 1999). Sexual abuse was defined as prior to the age of 18, any unwanted sexual contact, or any sexual contact with a family member 5 or more years older than the patient. Exclusion criteria were: non-English speaking, active psychosis, history of schizophrenia or bipolar disorder, mental retardation, and, substance abuse or dependence within the previous three months.

Sixty-nine patients who met inclusion criteria and completed the baseline assessment were randomized to Interpersonal Psychotherapy (IPT; $n=37$) or usual care (UC; $n=32$). Ten master's-level staff clinicians and 3 doctorate-level clinicians in a community mental health center (CMHC) delivered IPT or UC. IPT has been widely shown to be efficacious for patients with major depression (DeRubeis and Crits-Cristoph, 1998) and has been adapted to treat women with histories of childhood sexual abuse (Talbot and Gamble, 2008). The goal of IPT is to enhance interpersonal skills as a way to decrease depressive symptoms and improve overall functioning (Klerman et al., 1984). To achieve this, the IPT therapist directs patients to select one target from four possible interpersonal problem areas (i.e., role transitions, interpersonal conflict, loss/grief, and interpersonal sensitivity). In this trial, IPT consisted of 14 individual weekly sessions followed by 2 biweekly sessions. All IPT therapists received didactic instruction in IPT, attended weekly supervision, completed 3 IPT training cases, and achieved satisfactory levels of competence on the Therapist Strategy Rating Form (Rounsaville et al., 1984). Usual care consisted of individual psychotherapy involving any reasonable therapeutic activity or intervention other than IPT. UC therapists described their therapeutic approaches with study patients as: supportive (53%), cognitive-behavioral or dialectical-behavioral (27%), integrated/eclectic (13%), and client-centered (7%).

2.2 Assessments

Assessments were conducted at pretreatment, 10-, 24-, and 36-weeks after randomization to treatment. *Social Functioning* was assessed using the 54-item Social Adjustment Scale-Self Report (SAS-SR; Weissman and Bothwell, 1976). The SAS-SR measures patients' role performance during the previous two weeks in six major domains: work, social/leisure activities, extended family relationships, intimate relationships, parenting, and the immediate family unit. Participants complete only the subscales that are relevant for them. A five-point scale is used, with higher scores indicating greater social role impairment. Mean total and subscales scores for each role domain were calculated. Normative mean scores obtained from a non-psychiatric sample are as follows: overall/total score ($M = 1.7$, $SD = 0.3$), work domain ($M = 1.4$, $SD = 0.4$), social/leisure activities ($M = 2.2$, $SD = 0.6$), extended family ($M = 1.4$, $SD = 0.4$), intimate partner ($M = 1.8$, $SD = 0.6$), parent role ($M = 1.1$, $SD = 0.3$), and family unit ($M = 1.7$, $SD = 0.7$). The SAS-SR has high internal consistency and test-retest reliability (Edwards et al., 1978).

2.3 Data analysis

Generalized estimating equations (GEE) were used for all analyses. In each of the models tested baseline anti-depressant usage (no vs. yes), race (White vs. non-White), income source (private income vs. public assistance), Post-traumatic Stress Disorder diagnosis (no vs. yes), and Borderline Personality Disorder diagnosis (no vs. yes) were included as covariates. All variables were entered simultaneously and all tests were two-tailed with alphas set at .05.

Using logistic regression, the potential effect of missing data for the outcome variables was investigated by modeling each missing indicator under the missing at random assumption (MAR; Little and Rubin, 1987). For the majority of outcome variables in the models, missing data did not depend on observed responses or other covariates, making GEE appropriate. For variables with missing data that were related to observed responses (i.e., immediate family unit and extended family), weighted GEE (WGEE) was employed. The SAS GENMOD procedure was used to estimate and test all models (SAS Institute, 2003).

3. RESULTS

3.1 Sample characteristics

Participants' ($n=69$) mean age was 36 years ($SD=10$). Forty-one (59%) were Caucasian, 28 (41%) African American, and 9 (13%) Hispanic. Fifty-one (74%) women were living in households without a spouse or partner, and 33 (48%) had minor-age children living in the home. Forty-eight (70%) were unemployed. Forty-one (59%) women received public assistance as their primary source of income. There were no significant differences between the IPT and UC groups on any of these variables.

3.2 Changes in domain-specific social functioning over the course of treatment

As shown in Table 1, patients' overall social functioning improved significantly over the course of treatment. However, subscale analyses revealed that patients' social functioning improvements varied across domains. Significant improvements were found on subscales that assessed patients' work roles, leisure activities with friends, and extended family relationships. In contrast, no significant changes were detected in patients' primary relationships with intimate partners, immediate family members, or children.

3.3 Comparison between Interpersonal Psychotherapy and usual care on domain-specific social functioning

When the two treatment groups were compared, one particular social functioning domain differentiated patients in the IPT group from the usual care group. Compared to usual care, IPT patients' social functioning improved significantly with immediate family members ($X^2 = 3.93$; $B = -0.37$; $p < .05$). There were also marginal treatment differences on social functioning overall ($X^2 = 2.84$; $B = -0.18$; $p = .09$), as well as aspects of social leisure activities ($X^2 = 3.28$; $B = -0.24$; $p = .07$) and parenting ($X^2 = 2.71$; $B = -0.24$; $p = .10$), such that greater improvements were found in the IPT group compared to the usual care group.

4. DISCUSSION

Over the course of treatment, patients in both treatment groups reported better overall social functioning and improved relations in several specific social role domains. These findings are noteworthy, given that our sample of depressed, sexually abused women began treatment with significantly impaired social functioning in all the areas under study. Compared to SAS-SR findings from other published reports using clinical samples of depressed adults

(Agosti, 1999; Agosti and Stewart, 1998; Luty et al., 2002; Papakostas et al., 2004), the patients in our study reported relatively higher levels of pre-treatment social impairments across all domains. Nevertheless, patients improved in many areas during the course of treatment. Most notably, patients reported enhanced functioning in areas of work, leisure activities, and extended family relations. This suggests that during treatment for depression, regardless of whether the treatment is usual care or an interpersonally focused intervention, overall social functioning improves, and more peripheral social relations with co-workers, friends, and extended family members improve as well. In contrast, among depressed women with early trauma histories, core interpersonal relationships with immediate family members and intimate partners did not improve during the course of depression treatment for the overall sample.

Although speculative, it is possible that social functioning improvements in domains involving work, leisure, and extended family members reflect patients' general improvements in energy, drive, and activity levels that occurred across both treatment conditions. This is consistent with findings from antidepressant medication trials demonstrating that as depressive symptoms remit during treatment, social functioning in domains involving work and extended family improve as well (Aikens et al., 2008; Papakostas et al., 2004).

Consistent with our hypothesis, treatment type moderated social functioning improvements with close family members. Relationships with immediate family members improved significantly more among patients receiving IPT versus usual care. This finding supports previous work that suggests that altering close relationships requires directly confronting enduring issues involving attachment, personality, and maladaptive relationship patterns (Luty et al., 2002). No changes in relationships with intimate partners were detected in either treatment group.

Limitations

The study was limited by a small sample composed entirely of depressed women with histories of childhood sexual abuse. The results may not generalize to men or to different diagnostic groups. Participants only completed SAS-SR items for roles that were relevant for them. Consequently, sample sizes vary among the SAS-SR subscales and some analyses may have been underpowered to detect differences.

Conclusion

Our findings indicate that treatment for depressed women with childhood sexual abuse histories improves social functioning in work, leisure, and extended family relations, regardless of whether the treatment is UC or IPT. However, improved functioning with core family members is more likely to be achieved by an interpersonally-focused intervention that directly targets those relationships. Additional research is necessary to understand more about how best to treat depression among women with histories of childhood sexual trauma.

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REFERENCES

- Agosti V. Predictors of persistent social impairment among recovered depressed outpatients. *J. Affect. Disord.* 1999; 55:215–219. [PubMed: 10628890]
- Agosti V, Stewart JW. Social functioning and residual symptomatology among outpatients who responded to treatment and recovered from depression. *J. Affect. Disord.* 1998; 47:207–210. [PubMed: 9476763]
- Aikens JE, Kroenke K, Nease DE, Klinkman MS, Sen A. Trajectories of improvement for six depression related outcomes. *Gen. Hosp. Psychiatry.* 2008; 30:26–31. [PubMed: 18164937]
- Brown GW, Bhrolchain M, Harris TO. Social class and psychiatric disturbance among women in an urban population. *Sociology.* 1975; 9:225–254.
- Brown, GW.; Harris, TO. *Social Origins of Depression.* Free Press; New York, NY: 1978.
- Brown GW, Moran P. Single mothers, poverty, and depression. *Psychol. Med.* 1997; 27:21–33. [PubMed: 9122302]
- DeRubeis RJ, Crits-Cristoph P. Empirically supported individual and group psychological treatments for adult mental disorders. *J. Consult. Clin. Psychol.* 1998; 66:37–52. [PubMed: 9489261]
- DiLillo D. Interpersonal functioning among women reporting a history of childhood sexual abuse: empirical findings and methodological issues. *Clin. Psychol. Rev.* 2001; 21:553–576. [PubMed: 11413867]
- Edwards DW, Yarvis RM, Mueller DP, Zingale HC, Wagman WJ. Test-taking and the stability of adjustment scales: can we assess patient deterioration? *Eval. Q.* 1978; 2:275–291.
- First, M.; Spitzer, R.; Gibbon, M.; Williams, J. *Structured Clinical Interview for DSM-IV-TR Axis I Disorders.* New York State Psychiatric Institute; New York, NY: 2001.
- Kennedy N, Foy K, Sherazi R, McDonough M, McKeon P. Long-term social functioning after depression treated by psychiatrists: a review. *Bipolar Disorders.* 2007; 9:25–37. [PubMed: 17391347]
- Klerman, GL.; Weissman, MM.; Rounsaville, BJ.; Chevron, ES. *Interpersonal Psychotherapy of Depression.* Basic Books; New York, NY: 1984.
- Lenze EJ, Dew MA, Mazumdar S, Begley AE, Cornes C, Miller MD, Imber SD, Frank E, Kupfer DJ, Reynolds CF. Combined pharmacotherapy and psychotherapy as maintenance treatment for late-life depression: effects on social adjustment. *Am. J. Psychiatry.* 2002; 159:466–468. [PubMed: 11870013]
- Lewinsohn, PM.; Muñoz, RF.; Youngren, MA.; Zeiss, AM. *Control Your Depression.* Fireside; New York, NY: 1986.
- Little, RJA.; Rubin, DB. *Statistical analysis with missing data.* John Wiley & Sons; Hoboken, NJ: 1987.
- Luty SE, Joyce PR, Mulder RT, McKenzie JM. Social adjustment in depression: the impact of depression severity, personality, and clinic versus community sampling. *J. Affect. Disord.* 2002; 70:143–154. [PubMed: 12117626]
- McCullough, J. *Treatment for Chronic Depression: Cognitive Behavioral Analysis System of Psychotherapy (CBASP).* The Guilford Press; New York, NY: 2000.
- Molnar BE, Buka SL, Kessler RC. Child sexual abuse and subsequent psychopathology: results from the National Comorbidity Survey. *Am. J. Public Health.* 2001; 91:753–760. [PubMed: 11344883]
- Mullen PE, Martin JL, Anderson JC, Romans SE, Herbison GP. The effect of childhood sexual abuse on social, interpersonal, and sexual function in adult life. *Br J Psychiatry.* 1994; 165:35–47. [PubMed: 7953055]
- Papakostas GI, Petersen T, Denninger JW, Tossani E, Pava JA, Alpert JE, Nierenberg AA, Fava M. Psychosocial functioning during the treatment of major depressive disorder with fluoxetine. *J. Clin. Psychopharmacol.* 2004; 24:507–511. [PubMed: 15349006]

- Poleshuck EL, Talbot NL, Su H, Tu X, Chaudron L, Gamble S, Giles DE. Pain as a predictor of depression treatment outcomes in women with childhood sexual abuse. *Compr Psychiatry*. 2009; 50:215–220. [PubMed: 19374964]
- Roche DN, Runtz MG, Hunter MA. Adult attachment: a mediator between child sexual abuse and later psychological adjustment. *J. Interpersonal Violence*. 1999; 14:184–207.
- Rounsaville, BJ.; Chevron, ES.; Weissman, MM. Specification of techniques in interpersonal psychotherapy.. In: Williams, JB.; Spitzer, RL., editors. *Psychotherapy research: where are we and where should we go?*. Guilford Press; New York, NY: 1984. p. 160-172.
- Rumstein-McKean O, Hunsley J. Interpersonal and family functioning of female survivors of childhood sexual abuse. *Clin. Psychol. Rev*. 2001; 21:471–490. [PubMed: 11288610]
- SAS Institute Inc.. 9.1.3 Help and Documentation. SAS Institute Inc.; Cary, NC: 2003.
- Talbot NL, Conwell Y, O'Hara MW, Stuart S, Ward EA, Gamble SA, Watts A, Tu X. Interpersonal Psychotherapy for depressed women with sexual abuse histories: A pilot study in a community mental health center. *J. Nerv. Ment. Dis*. 2005; 193:847–850. [PubMed: 16319710]
- Talbot NL, Gamble SA. IPT for women with trauma histories in community mental health care. *Journal of Contemporary Psychotherapy*. 2008; 38:35–44.
- Talbot NL, Houghtalen RP, Duberstein PR, Cox C, Giles DE, Wynne LC. Effects of group treatment for women reporting histories of childhood sexual abuse. *Psychiatr Serv*. 1999; 50:686–692. [PubMed: 10332907]
- Vittengl JR, Clark LA, Jarrett RB. Deterioration in psychosocial functioning predicts relapse/recurrence after cognitive therapy for depression. *J. Affect. Disord*. 2009; 112:135–143. [PubMed: 18539337]
- Vogeltanz ND, Wilsnack SC, Harris TR, Wilsnack RW, Wonderlich SA, Kristjanson AF. Prevalence and risk factors for childhood sexual abuse in women: national survey findings. *Child Abuse Negl*. 1999; 23:579–592. [PubMed: 10391515]
- Weissman MM, Bothwell S. Assessment of social adjustment by patient self-report. *Arch. Gen. Psychiatry*. 1976; 33:1111–1115. [PubMed: 962494]
- Weissman MM, Klerman GL. Sex differences and the epidemiology of depression. *Arch. Gen. Psychiatry*. 1977; 34:98–111. [PubMed: 319772]
- Weissman MM, Olfson M, Gameroff MJ, Feder A, Fuentes M. A comparison of three scales for assessing social functioning in primary care. *Am. J. Psychiatry*. 2001; 158:460–466. [PubMed: 11229989]
- Whiffen VE, Thompson JM, Aube JA. Mediators of the link between childhood sexual abuse and adult depressive symptoms. *J. Interpersonal Violence*. 2000; 15:1100–1120.
- Zlotnick C, Mattia J, Zimmerman M. Clinical features of survivors of sexual abuse with major depression. *Child Abuse Negl*. 2001; 25:357–367. [PubMed: 11414395]
- Zlotnick C, Ryan CE, Miller IW, Keitner GI. Childhood abuse and recovery from major depression. *Child Abuse Negl*. 1995; 19:1513–1516. [PubMed: 8777700]
- Zlotnick C, Warshaw M, Shea MT, Keller MB. Trauma and chronic depression among patients with anxiety disorders. *J. Consult. Clin. Psychol*. 1997; 65:333–336. [PubMed: 9086699]

Table 1

Mean (SD) changes in social functioning domains over the course of depression treatment ($n = 69$)

Outcomes	n	Time Points							
		Pretreatment		10-weeks		24-weeks		36-weeks	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
SAS Overall	69	2.83	0.48	2.58	0.66	2.57	0.55	2.48	0.60***
SAS Work	67	2.59	0.83	2.30	0.88	2.32	0.85	2.09	0.80***
SAS Social/Leisure	69	3.30	0.55	3.01	0.78	3.04	0.64	2.95	0.80**
SAS Extended Family	68	2.50	0.68	2.35	0.73	2.29	0.72	2.22	0.69*
SAS Intimate Relations	27								
		2.51	0.69	2.34	0.80	2.38	0.59	2.44	0.72
SAS Parental	35	2.20	0.84	2.09	0.87	2.07	0.93	2.18	0.87
SAS Family Unit	65	3.17	0.92	2.88	1.04	2.87	0.95	2.83	1.01

Note: All models are adjusted for the following baseline variables: anti-depressant usage, race, income source, Post-traumatic Stress Disorder Diagnosis, and Borderline Personality Disorder Diagnosis.
SAS = Social Adjustment Scale

* $p < .05$

** $p < .01$

*** $p < .001$.