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Adapting Interpersonal Psychotherapy for Older Adults at Risk for Suicide: Preliminary Findings

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Abstract

We report preliminary findings of the first ever study testing a 16-week course of Interpersonal Psychotherapy (IPT) modified for older outpatients at elevated risk for suicide. Participants were referred from inpatient and outpatient medicine and mental health services. Psychotherapy sessions took place in a therapist's office in a teaching hospital. Twelve adults 60 years or older (M=70.5, SD=6.1) with current thoughts of suicide (suicide ideation) or a wish to die (death ideation) or with recent self-injurious behavior were recruited into weekly sessions of IPT; one was subsequently excluded due to severe cognitive impairment. Participants completed measures of suicide ideation, death ideation, and depressive symptom severity at pre-treatment, mid-treatment, post-treatment, and at 3-month follow-up periods, and measures of therapeutic process variables. Preliminary findings of this uncontrolled pre-post-treatment study support the feasibility of recruiting and retaining older adults at-risk for suicide into psychotherapy research and suggest that adapted IPT is tolerable and safe. Findings indicate a substantial reduction in participant suicide ideation, death ideation, and depressive symptoms; controlled trials are needed to further evaluate these findings. We discuss implications for clinical care with at-risk older adults.

Keywords

Suicide; suicide ideation; suicidal behavior; geriatric; elderly; older adults; psychotherapy; interventions; treatment; IPT; Interpersonal Psychotherapy

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Older adults have high rates of suicide (Heisel & Duberstein, 2005). Efficacious interventions for suicidal older adults are needed in order to reduce risk and societal burden; however, treatment data are scarce. Existing clinical recommendations for managing suicide risk have largely drawn on practices not empirically tested with older adults (Joiner, Walker, Rudd, & Jobes, 1999; Kleespies, Deleppo, Gallagher, & Niles, 1999; Rudd, Joiner, Jobes, & King, 1999), necessitating population specific research. The extreme lethality of suicidal behavior among older adults and the increasing rates of suicide with advancing age necessitate preventive interventions targeting at-risk older adults, such as those expressing suicidal thoughts and desires (suicide ideation), preoccupation with death and/or wish to die (death ideation), and/or self-injurious behavior (Heisel & Duberstein, 2005). In one study, many older adults who died by suicide had expressed thoughts of suicide to a clinician (38%) or to a family member or acquaintance (73%) in the final year of life (Waern, Beskow, Runeson, & Skoog, 1999). Nearly half of those who died by suicide had received antidepressant medication and/

or Electroconvulsive Therapy 6 months prior to death (Waern, Beskow, Runeson, & Skoog, 1996), suggesting that somatic treatments for late-life depression may not be sufficient to prevent suicide and pointing to a pressing need for addition of psychotherapeutic interventions and a role for clinical psychologists in late-life suicide prevention efforts. We report preliminary findings of the first ever study of a 16-week uncontrolled trial of Interpersonal Psychotherapy (IPT) adapted for older adults at-risk for suicide testing the primary outcomes of suicide ideation and death ideation.

Effective Forms of Psychotherapy for Suicidal Individuals

Few treatment studies have focused on suicidal thoughts and/or behavior, partly due to the exclusion of suicidal individuals from clinical trials (Pearson, Stanley, King, & Fisher, 2001). Recent data suggest that depressed older adults are amenable to psychological interventions, prefer counseling to medications (Gum et al., 2006), and many have difficulty tolerating psychotropic medications, necessitating research on psychological interventions with at-risk older adults.

Findings of randomized controlled trials (RCT) have indicated that Dialectical Behavior Therapy (DBT; Linehan, Armstrong, Suarez, Allmari, & Heard, 1991), Problem Solving Therapy (PST; McLeavey et al., 1994), Cognitive Therapy (CT; Brown et al., 2005), and brief psychodynamic-interpersonal psychotherapy (Guthrie et al., 2001) may all decrease likelihood of recurrent suicidal behavior among younger and middle-aged adults. Despite empirical support for psychotherapy with depressed older adults (Hinrichsen & Clougherty, 2006; Karel & Hinrichsen, 2000; Pinquart, Duberstein, & Lyness, 2006) there is a paucity of research assessing its efficacy specifically with older adults reporting suicidal thoughts and/or with a history of self-injurious behavior (Heisel & Duberstein, 2005). Promising findings have been reported for DBT skills training and telephone-based skills coaching with depressed older adults (Lynch et al., 2003). As well, a collaborative care trial revealed positive findings for an abbreviated primary care version of PST and antidepressants in helping to reduce suicide ideation and death ideation among depressed and/or dysthymic older adults (Unützer et al., 2006). There is a need to replicate these promising findings of cognitively-oriented psychotherapeutic interventions with individuals selected as being at-risk for suicide and to test interventions that target other risk markers for suicide.

Empirical research (Beautrais, 2002; Duberstein et al., 2004ab; Hinrichsen & Hernandez, 1993; Rubenowitz et al., 2001; Zweig & Hinrichsen, 1993) and clinical theorizing (Clark, 1993) indicate that suicide risk among older adults is associated with interpersonal problems, social support deficits, and difficulty adjusting to life transitions, suggesting a key role for interpersonally-oriented interventions with at-risk older adults (Heisel & Duberstein, 2005). Suicide ideation among those over 65 is associated with social hopelessness (Heisel & Flett, 2006), and depressed and/or recently suicidal older adults have interpersonal problem solving difficulties, even after controlling for severity of depression (Howat & Davidson, 2002). Depressed and suicidal older adults thus experience salient difficulties related to interpersonal functioning and may benefit from psychological interventions targeting interpersonal issues.

Empirical findings support the efficacy of IPT with depressed and suicidal older adults (Bruce et al., 2004; Hinrichsen & Clougherty, 2006; Karel & Hinrichsen, 2000). IPT combined with medication helps resolve depression in acute and in maintenance treatment for late-life depression (Reynolds et al., 1996, 1999), negative findings notwithstanding (Reynolds et al., 2006). A recent randomized effectiveness trial from the Netherlands further indicated that IPT helped resolve depression and improve social and mental functioning in older medical patients (van Schaik et al., 2006). Randomized intervention data indicate that standard IPT combined with antidepressants helps reduce late-life suicide ideation (Bruce et al., 2004; Szanto et al., 2003). In a secondary analysis of data from 3 treatment studies of late-life depression involving

IPT and/or medication, suicide and death ideation improved significantly in high- moderate- and low-risk groups by 12 weeks of treatment (Szanto et al., 2003). Individuals with emergent or persistent suicide ideation reported higher levels of anxiety and/or depression (Szanto et al., 2007). Bruce and colleagues reported initial outcomes for the multi-site PROSPECT (Prevention of Suicide in Primary Care Elderly: Collaborative Trial) collaborative care study, in which depressed older primary care patients were randomized to receive a clinical algorithm consisting of Citalopram and/or other antidepressants and/or IPT (Treatment), as compared with usual care (Control). The decline in rates of suicide ideation was significantly greater for the Treatment participants as compared with Controls. However, resolution of depressive symptoms among those at high risk for suicide was slower and less effective in both studies,. Moreover, a substantial number remained suicidal, leading the authors to conclude that standard IPT is a promising treatment for suicidal older adults, although substantial room exists for its improvement (Bruce et al., 2004; Szanto et al., 2003).

Purpose

The purpose of this ongoing study is to adapt Interpersonal Psychotherapy (IPT) to enhance the treatment of older outpatients at-risk for suicide, targeting core interpersonal features of suicidal thoughts and behavior and incorporating lessons learned from reports of suicide during psychotherapy (Hendin, Haas, Maltsberger, Koestner, & Szanto, 2006; Pallaskorpi, Isometsä, Henriksson, Suominen, & Lönnqvist, 2005). We are reporting preliminary findings of a two-year study whose aim is to recruit 20 individuals 60 years and older into a focused course of IPT adapted for older adults at-risk for suicide, to assess the feasibility, tolerability, and safety of adapted IPT, and to initially assess its effectiveness in reducing primary outcomes of suicide ideation, death ideation, and the secondary outcome of depressive symptom severity.

Methods

Procedures

Recruitment—Potential participants were referred by clinical staff in inpatient, outpatient, and outreach geriatric mental health and/or medicine services in London, Ontario. The P.I. delivered numerous presentations to local clinicians on the topic of late-life suicide prevention, and provided them with information on this study and on its eligibility criteria, inviting referrals. Clinicians facilitated initial introductions to potential participants, consistent with the study protocol approved by The University of Western Ontario's Health Sciences Research Ethics Board. Those providing informed consent were scheduled for an initial eligibility assessment, to assess study inclusion and exclusion criteria.

Inclusion/Exclusion Criteria—Eligible participants were 60 years of age or older and had expressed suicide ideation and/or death ideation to a referring clinician and/or had engaged in clinically-documented self-injurious behavior within the past two years. English language fluency was required, as the intervention was delivered in English. Exclusion criteria included moderate to severe cognitive impairment and/or advanced-stage dementia (< 23 on the Mini-Mental State Examination or MMSE; Folstein, Folstein, & McHugh, 1975), a lifetime history of schizophrenia (Structured Clinical Interview for DSM-IV Axis I Disorders or SCID-I; First, Spitzer, Gibbon, & Williams, 1997), and an active substance misuse disorder that commenced prior to age 30, as standard IPT was not developed to treat individuals with these disorders (Hinrichsen & Clougherty, 2006; Stuart & Robertson, 2003; Weissman, Markowitz, & Klerman, 2000). Suicide risk in individuals with longstanding alcoholism is likely driven by factors other than those thought to increase risk in late-life depression (Conner & Duberstein, 2004). Only two participants did not pass the cognitive screen, likely due in part to the fact that referring clinicians were familiar with the study inclusion and exclusion criteria, and thus rarely referred cognitively impaired patients. Individuals meeting study inclusion criteria had to

refrain from additional psychotherapy during the 16-week course of IPT, but were encouraged to continue non-psychotherapeutic mental health treatment, including psychotropic medication and medication management visits with other mental healthcare provider(s).

Sample—The study sample initially included 12 participants (M=70.5, SD=6.1 years); one participant's data were later removed due to a significant decline in cognitive functioning secondary to neuropathology. Hence, we are reporting on a sample of 11 individuals at-risk for suicide (M=69.4, SD=4.9, Range: 60–78 years), including 5 men and 6 women, of Catholic (n=4) or Protestant (n=7) faith, the majority (n=9) North American born. Three participants were unmarried and lived alone: one was widowed, and two were separated. Participants reported having an average of 3.5 children (SD=1.4), 5.0 grandchildren (SD=3.6), and 0.8 great-grandchildren (SD=1.5). Only one completed no more than a high school education. Ten were retired. All had a history of mood disorder, including 10 with Major Depressive Disorder, 7 with an active Major Depressive Episode. Nine had active Axis I co-morbidity; 5 had an Axis II diagnosis. Five participants reported a lifetime history of self-injurious behavior on a suicide behavior profile used in our previous research (Duberstein et al., 2000); one reported 5 lifetime episodes of intentional self-injury. Participants reported a number of common medical problems in later life on a brief medical history data form: arthritis (n=8), decreased vision (n=7) or hearing (n=4), a neurological disorder (n=3), hypertension (n=4), hypothyroidism (n=2), cardiovascular disease (n=1), cancer (n=1), and diabetes (n=1). Six participants reported health ratings in the "good" to "extremely good" range both on the SF36 general health item (Ware, Kosinski, & Heller, 1994) and on a 7-point perceived health scale (M=4.5, SD=1.6) used in our previous research (Heisel & Flett, 2006).

Assessments—We assessed a set of suicide risk factors during the study eligibility assessment, including suicide ideation, death ideation, history of self-harm, presence of mental illness, personality disorder, pain and/or medical illness, interpersonal problems, negative life events, and/or additional psychosocial stressors, functional impairment, and absence of resiliency factors. Eligible participants completed outcome measures of suicide ideation, death ideation, and depressive symptom severity during pre-, mid- (post session 8), and post-treatment (post session 16) assessments, along with measures of therapeutic process variables. Participants later completed a three-month follow-up assessment, investigating short-term maintenance of treatment gains. Study assessment measures were administered by the P.I., who also delivered the study intervention. All measures were administered orally, in order to standardize administration format, in sessions lasting an average of 45 to 90 minutes in duration. Participants were offered frequent breaks or multiple meetings, were monitored for signs of distress, and provided with support, encouragement, and the opportunity to discontinue the assessment if they so desired. Participants were provided reimbursement ($15 per completed assessment, and up to $10 per session for travel costs) in order to reduce barriers to care and to study participation.

Psychotherapy—Participants were offered a 16-session course of once-weekly, 50–60 minute sessions of IPT adapted for older adults at-risk for suicide, on an outpatient basis in a therapist's office in a teaching hospital. Psychotherapy sessions were videotaped. Participants could review session tapes with the therapist, upon request. Participants could discontinue therapy after their 16th session or be referred back to their referring clinician if the study therapist thought that care was still required, and if the participant agreed to continue treatment at that time. Given the benefits of continuation and maintenance-phase IPT for depressed older adults (Reynolds et al., 1999) and the potential benefit of continued access to mental healthcare among at-risk individuals, study participants could request post-treatment IPT sessions with the study therapist on an as-needed (booster sessions), reduced frequency (maintenance

sessions), or weekly basis (continuation sessions). IPT was provided free of charge to reduce barriers to care.

Nature of the Adapted Intervention—We have adapted IPT from existing treatment manuals (Stuart & Robertson, 2003; Weissman, Markowitz, & Klerman, 2000) to meet the care needs of suicidal older adults, and have added safety precautions. IPT is a robust intervention that can be flexibly applied for care of older adults, with minor adaptation (Hinrichsen & Clougherty, 2006; Miller & Reynolds, 2007). IPT theory postulates a bi-directional association between interpersonal functioning and depression (Stuart & Robertson, 2003) wherein the inability to satisfy one's interpersonal needs contributes to mood disturbance, which, in turn, interferes with interpersonal functioning. Similarly, suicidal ideation and behavior can be conceptualized as desperate forms of interpersonal communication or as expressions of hopelessness that one's interpersonal needs can never be satisfied (Weissman et al., 2000). We posited a bi-directional association between interpersonal functioning and suicide risk, with interpersonal problems and social skills deficits potentially causing or exacerbating suicidal thoughts and behavior, and suicidal thoughts and behavior potentially causing or exacerbating interpersonal problems and deficits. The study therapist thus focused on suicide risk factors during the assessment and treatment sessions, issues not explicitly discussed in standard IPT manuals (Hinrichsen & Clougherty, 2006; Stuart & Robertson, 2003; Weissman et al., 2000).

During the initial phase of treatment, the therapist assessed the presence and severity of past and recent suicide ideation, death ideation, suicide plan, suicidal intent, and self-injurious behavior, and educated participants about the potential associations between their interpersonal difficulties and their suicidal thoughts and behavior. In particular, associations were discussed between suicide ideation and intense psychological pain (Shneidman, 1996) in the context of IPT problem areas of Grief, Role Transitions, Role Disputes, and Interpersonal Deficits. The study therapist listened for interpersonal difficulties underlying mounting distress and risk for suicide, and educated participants about the interpersonal aspects of their suicidal expressions, associations between their psychosocial problems and suicidal symptoms, and the need to disengage selectively from potentially unsafe or unsatisfying relationships and to seek out supportive relationships in order to enhance life satisfaction and decrease suicide risk. The need for selective disengagement from certain types of relationships has been recognized as a key component of maintaining emotional well-being in later life (Carstensen, 2006). By completion of the initial phase of treatment, the therapist and participant had a working hypothesis of factors that contribute to, maintain, and/or exacerbate the participant's suicide ideation, and an initial agreement as to the main foci of therapy over the remainder of treatment. During the main phase of treatment, the therapist monitored suicidal thoughts on an on-going basis and linked these symptoms with interpersonal problems. Using core IPT techniques of interpersonal incident analysis and communication analysis, participants were helped to clarify and improve the expression of their interpersonal needs. For example, if applicable, the study therapist and participant together explored interpersonal and environmental factors that contributed to their having self-injured, the impact that the participant's self-injurious behavior had on his or her relationships with family and/or friends, whether others were aware of this behavior, how this issue was raised and by whom, and what the outcomes were from those discussions. The therapist and participant identified opportunities for enhancing the participant's social support, engaging in pleasant activities preferably with others, and reducing exposure and/or frequency of painful or self-defeating interpersonal interactions. During the termination phase of treatment, participants were helped to focus on continuing to develop interpersonal relationships after therapy ends and to elicit social support and/or professional assistance when feeling suicidal. Progress made in improving interpersonal relationships and the associated reduction in suicidal symptoms was also reviewed.

Safety precautions are crucial when intervening with individuals at-risk for suicide. The therapist routinely assessed and endeavored to reduce participant distress, and routinely monitored the presence and intensity of participant suicide ideation. Participants expressing suicide ideation in session were helped to identify problems and/or stressors that contributed to suicide risk, were provided with support and validation of their feelings, and encouraged to problem-solve options and activities other than self-harm that could reduce their agitation and/or distress and contribute to a more hopeful view of the future. The therapist would never let a participant leave a session in a state of extreme distress or agitation, but would extend the session, as needed, in order to help reduce a participant's distress and discuss options for remaining safe over the following week. Participants were provided with the study therapist's cellular phone number for round the clock access in the event of imminent suicide risk. They were also provided with the phone numbers of local distress lines and were advised to contact emergency services and/or to proceed to the nearest hospital emergency department if at imminent risk for suicide. If, during the research interview or therapy session, a participant revealed information suggestive of imminent risk for self-harm, the therapist explored these issues with the participant, discussed safety planning, and accompanied the participant to emergency care services. To date, this occurred on only one occasion. All participants received the adapted intervention, precluding risk associated with randomization to a wait-list control condition. Periodic feedback was provided to participants' referral sources, and potentially to their other clinicians and/or non-professional supports, to increase vigilance to suicide risk and in recognition of the importance of communication between treatment providers in decreasing participant suicide risk (Hendin et al., 2006). Pragmatic suggestions for means restriction (e.g., locking away pills) were provided to family members and/or other clinicians of participants at heightened risk for impulsive self-injury. Conjoint therapy sessions with family members, friends, and/or other important interpersonal supports were encouraged for participants reporting on-going interpersonal disputes; these sessions further enabled the therapist to observe the participant's interpersonal interactions with key social supports in vivo, and to involve members of the participant's support network in safety planning as appropriate.

Measures

Mental health diagnoses were assessed with the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I; First, Spitzer, Gibbon, & Williams, 1997). Participants were also administered the SCID-II (First, Spitzer, Gibbon & Williams, 1995) in order to assess for the presence of Axis II pathology.

Primary Outcome Measures—*Suicide ideation* was assessed with the self-report Geriatric Suicide Ideation Scale (GSIS; Heisel & Flett, 2006) and the clinician-rated Scale for Suicide Ideation (SSI; Beck, Kovacs, & Weissman, 1979). The GSIS is a 31-item multidimensional measure of suicide ideation developed and validated among older adults. Scoring is on a 5-point Likert scale, ranging from 1=Strongly Disagree to 5=Strongly Agree. The GSIS assesses Suicide Ideation (e.g., "I want to end my life."), Death Ideation (e.g., "I welcome the thought of drifting off to sleep and never waking up."), Loss of Personal and Social Worth (e.g., "I generally feel pretty worthless."), and Perceived Meaning in Life (e.g., "I am certain that I have something to live for."). The GSIS has demonstrated strong internal consistency for total (α = .93) and subscale scores (α = .82 to .84), 1–2 month test-retest reliability for long-term care residents (r = .86 for the total scale and .75 to .78 for the subscales, $p<0.001$), criterion validity differentiating mental health patients from non-patients, convergent validity with hopelessness and suicide ideation, and non-convergence with life satisfaction and with psychological well-being (Heisel & Flett, 2006, 2008). The GSIS Perceived Meaning in Life subscale is reverse-scored, such that higher scores reflect less perceived meaning in life. Internal consistency in the current study was quite strong for GSIS Totals (α = .95), and for GSIS Suicide Ideation

(α = .91), Death Ideation (α = .90), Loss of Personal and Social Worth (α = .81), and Perceived Meaning in Life subscales (α = .91) evaluated at the eligibility assessment.

The SSI is a 19-item clinician-administered scale designed to assess the presence and severity of death ideation and suicide ideation, presence of a suicide plan, deterrents to self-injurious behavior, preparations for self-injury, and anticipated self-injury. The SSI has demonstrated high reliability, with an internal consistency coefficient (Cronbach's alpha) of .88 among older adults (Heisel & Flett, 2006), and a reported inter-rater reliability coefficient of .83 (Beck et al., 1979). SSI scores have been reported to be predictive of death by suicide (Brown, Beck, Steer, & Grisham, 2000). Internal consistency was acceptable (α = .76) for SSI scores for worst lifetime episodes, evaluated at this study's eligibility assessment.

Secondary Outcome Measures

Depressive Symptoms: Clinician-rated depression symptom severity was assessed with a 24-item version of the Hamilton Rating Scale for Depression (Ham-D; Hamilton, 1960; Williams, 1988). Internal consistency in the current study was acceptable at the pre-treatment assessment (α = .84). Self-reported depression symptom severity was assessed with the Center for Epidemiologic Studies Depression scale-Revised (CESD-R; Eaton, Muntaner, Smith, Tien, & Ybarra, 2004), a 20-item measure of presence and severity of depressive symptoms over the past two-week period. The CESD-R has demonstrated acceptable psychometric properties with diverse samples (Eaton et al., 2004), and high internal consistency (α = .89) in the present sample at the pre-treatment assessment.

Therapeutic Process Measures—*Therapeutic alliance* was assessed at mid- and post-treatment with the Working Alliance Inventory (WAI; Horvath & Greenberg, 1989), a 36-item measure that yields total scores and subscales assessing therapeutic Task, Goal, and Bond. The WAI has been used with older adults (Draine & Solomon, 1996); higher scores are associated with improved treatment outcome in brief psychotherapy (Stevens, Muran, Safran, Gorman, & Winston, 2007). The WAI had high internal consistency for Total (α = .95), Task (α = .94), Goal (α = .90), and Bond subscale (α = .81) scores at post-treatment assessment.

Treatment satisfaction was assessed with an internally consistent (α = .80 at post-treatment assessment) 10-item Treatment Satisfaction Survey, modified for the present study from a clinical survey of satisfaction with mental healthcare.

Results

Eligibility Assessment

Scores on the MMSE ranged from 27–30 (M=29.1, SD=1.0). GSIS total and subscale scores were all approximately 0.5 to 1 standard deviation above the mean for mental health patients in the scale development sample (Heisel & Flett, 2006). Mean SSI scores exceeded a reported cut-score for ultimate risk of death by suicide (> 2; Brown et al., 2000) for the past week (M=3.0, SD=4.8, Range: 0–15) and for worst reported lifetime episodes (M=22.1, SD=5.2, Range: 15–32); three participants reported active or passive suicide ideation for the past week and all participants reported active or passive suicide ideation for the worst point lifetime.

Feasibility

Study recruitment data supported the feasibility of recruiting and retaining older adults at-risk for suicide into a psychotherapy research trial. We approached 42 older adults at-risk for suicide over an 18-month period for potential study recruitment. Of the 24 individuals who consented to participate in this trial, 2 discontinued prior to starting therapy, 3 were ineligible due to cognitive impairment, 19 have begun a course of IPT, and 12 have completed therapy and post-

treatment assessments. Six participants have participated in post-treatment therapy sessions, with an average of 7 post-treatment sessions (SD=3.4). One participant was removed from data analyses due to substantial cognitive deterioration secondary to neuropathology. Hence therapeutic outcomes are reported for 11 participants.

Tolerability and Safety

Study participants expressed an overall satisfaction with the study protocol during semi-structured exit interviews completed during the post-treatment assessment. Participants expressed satisfaction with the number, length, and focus of the study assessment sessions. One individual discontinued participation in the study prior to beginning therapy. Study participants reported being satisfied with the number of IPT sessions, the duration of each session, and the explicit focus on suicidal ideation and behavior.

The study therapist routinely provided feedback to referring clinicians on participant progress, especially for those with heightened distress and/or suicide risk. Five participants reported having visited the hospital Emergency Department during the 16-week course of IPT, 4 due to anxiety and/or vascular symptoms, and 1 following self-harm. During exit interviews, participants reported satisfaction with the ability to access their study therapist by cellular phone round the clock, if necessary. Participants rarely made use of that opportunity, and never between 9 P.M. and 6:30 A.M. Participants reported finding inter-therapeutic contact with their study therapist supportive and helpful in maintaining treatment gains. One participant called the therapist's cellular phone "a lifeline," and noted that knowing that help was available reduced the need to call, increased feelings of safety and security, and helped deter self-injury.

Therapeutic Outcomes

Primary Outcomes—Given the pilot nature of this study, we report primary outcomes assessing potential change from eligibility assessment to post-treatment and from pre-treatment to post-treatment (see Table 1). Suicide ideation scores began improving between eligibility and pre-treatment assessments. GSIS totals and Suicide Ideation and Loss of Personal and Social Worth scores decreased in a clinically and statistically significant fashion between eligibility and post-treatment assessments. SSI scores improved significantly from eligibility to post-treatment assessments; fewer participants endorsed active or passive suicide ideation over the past week at post-treatment (n=1) as compared with eligibility assessment reports (n=3).

Pre- to post-treatment assessment results were also promising. GSIS totals and Death Ideation and Loss of Personal and Social Worth scores decreased significantly over this period. Reductions in GSIS Suicide Ideation and SSI scores were non-significant, perhaps reflecting the small sample size. Pre-to post-treatment GSIS Perceived Meaning in Life scores improved marginally, but did not reach statistical significance.

Secondary Outcomes—Depressive symptom severity improved significantly with treatment (see Table 1). Participant self-reported depressive symptom severity improved robustly (CESD-R), and clinician-ratings were nearly halved from pre- to post-treatment assessments (Ham-D). The fact that participants on average still scored nearly 13 points on the Ham-D potentially reflects the severity of their distress and/or the complexity of their medical issues given that this measure contains a number of items focusing upon somatic complaints.

Therapeutic Process

We assessed participant satisfaction with therapy and perceived strength of the therapeutic alliance, as research findings link therapeutic ruptures with increased suicide risk (Hendin et al., 2006). Post-treatment data revealed overall participant satisfaction with treatment (M=47.9,

SD=2.8; Range: 41.0–50.0). Participants also reported a strong perceived therapeutic alliance on the 7-point Working Alliance Inventory (WAI; M=6.1, SD=0.7; Range: 5.0–7.0). WAI Task (M=6.1, SD=0.8; Range: 4.5–7.0), Bond (M=6.1, SD=0.6; Range: 5.2–7.0), and Goal subscale scores (M=6.0, SD=0.8; Range: 4.8–7.0; n=10) further support this overall impression.

Discussion

In the present study, we assessed the feasibility, tolerability, and safety of the first ever study of a 16-week course of IPT adapted for older adults at-risk for suicide, and investigated therapeutic outcomes of suicide ideation, death ideation, and depressive symptom severity. Preliminary findings supported the main study aims, suggesting that adapted IPT can be feasibly delivered to at-risk older adults on an outpatient basis. Findings further indicated that adapted IPT is well-tolerated, safe, and helps reduce and/or resolve suicide ideation, death ideation, and presence and severity of depressive symptoms.

Study findings supported the tolerability of adapted IPT by older adults at-risk for suicide. Participants expressed high levels of treatment satisfaction on a treatment satisfaction scale and in semi-structured study exit interviews. They further reported that the intervention helped improve their interpersonal functioning and decrease and/or resolve their suicide ideation and depressive symptoms. Participant tolerance of the adapted intervention is further suggested by positive ratings of the therapeutic alliance. These findings suggest that older adults are amenable to psychological interventions designed to attend to and reduce suicide ideation and associated risk factors. One participant noted the importance of being able to talk openly about suicidal thoughts in session, without having his experience invalidated by the study therapist.

IPT was adapted to incorporate safety considerations critical to therapeutic intervention with individuals at-risk for suicide. Participants reported feeling comforted by the fact that they could access the study therapist when needed. Those with attachment difficulties may have found the therapeutic relationship reparative. Fear of being unable to access a therapist when needed may trigger risk for suicide during psychotherapy (Pallaskorpi et al., 2005). Round the clock access to a therapist is one of the components of Dialectical Behavior Therapy, albeit for reinforcing client use of DBT skills and strategies (Linehan, 1993). The ability to access the study therapist round the clock may have provided participants with a source of social support when in need and a sense of security; however, further research is needed evaluating the importance of this adaptation to standard IPT in reducing suicide risk among at-risk older adults. Clinicians might consider providing at-risk clients with constant access to a therapist and/or a telephone distress line to discourage isolation and encourage provider contact when needed.

Study participants reported a robust reduction in suicide ideation and death ideation, primary study outcomes. These reductions began between the eligibility and pre-treatment assessment points. Although the eligibility assessment was initially intended only to assess for study inclusion and exclusion criteria, it comprised initial clinical contact between a potential study participant and his or her therapist, and involved discussion of sensitive issues to be further explored in therapy. Overall, findings support the initial effectiveness of adapted IPT in helping to resolve thoughts of suicide and the wish to die among at-risk older adults. Randomized controlled intervention data is needed in order to test whether reported gains are primarily due to treatment with IPT. Longer term follow-up and larger samples are additionally needed in order to assess reduction in risk for self-injury.

Participants experienced a significant decline in depressive symptom severity, both on self-report and clinician-rated measures, from a clinical to sub-clinical range of scores. Preliminary findings suggest that adapted IPT remains effective in treating late-life depression and helps

reduce or resolve suicide ideation among those at-risk for suicide. Adapting IPT for older adults at-risk for suicide thus does not appear to dilute the intervention's antidepressant properties. These data suggest that these improvements are not solely attributable to patient self-report, as clinician ratings similarly attest to robust improvements in depressive symptoms.

The present study comprises a small initial pre- to post-treatment pilot study, necessitating extension to a larger sample, and addition of a control group. Additional limitations include the fact that the P.I. served as study recruiter, assessor, and therapist for all participants. Larger-scale future studies will involve separate personnel to follow-up on study referrals, conduct blinded outcome assessments and deliver the adapted intervention. Future studies will also assess therapist adherence to adapted IPT, a variable critical to investigation of treatment integrity (see Perepletchikova, Treat, & Kazdin, 2007). Given these promising findings, a randomized trial is now warranted, comparing adapted IPT to an enhanced Care As Usual control group. Such a comparison will include attention to methodological concerns of structural equivalence of control conditions, in order to assess specific effects of the study intervention as compared with non-specific treatment effects associated with increased attention and support. These preliminary findings suggest that IPT may be an effective treatment option for at-risk older adults.

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Table 1

Geriatric Depression Scale-Suicide Ideation Screening Items (GDS-SI)

GDS Item #	Item
3	Do you feel that your life is empty?
7	Do you feel happy most of the time?
11	Do you think it is wonderful to be alive?
12	Do you feel pretty worthless the way you are now?
14	Do you feel that your situation is hopeless?

Note: Scoring for the Geriatric Depression Scale items involves assigning a response of “Yes” or “No” to each item. These items were drawn from the Geriatric Depression Scale [29].

Table 2

Demographic and Clinical Characteristics of Study Participants (N = 626)

Variable	Group	N	%	M	SD	Range
Age (in years)				75.02	6.78	65–95
Sex	Men	235	38			
	Women	391	62			
Marital Status	Married	326	53			
	Separated/Divorced	65	11			
	Widowed	193	31			
	Single/Never Married	31	5			
	Missing Data	11	--			
Race	White/Caucasian	584	93			
	Black/African American	29	5			
	Other	11	2			
	Don’t Know	2	< 1			
Lives Alone		217	36			
Education (in years)				14	2.63	
Employment Status	Retired	516	82			
	Unemployed/Disability Benefits	10	2			
	Part- or Full-Time Employment	90	14			
	Part- or Full-Time Student	3	< 1			
	Missing Data	7	--			
CIRS				7.61	3.90	1–68
IADL				1.96	3.81	0–22
PSMS				1.61	2.32	0–20
Number of Prescription Medications				7.46	3.67	0–24
Presence of Medical Condition	Arthritis	400	64			
	Cancer	68	11			
	Neurologic Disorder	132	21			
	COPD	86	14			
	Hypothyroidism	133	21			
	Decreased Hearing	168	27			

Variable	Group	N	%	M	SD	Range
	Decreased Vision	46	7			
	Diabetes	117	19			
	Hypertension	453	72			
	Cardiovascular Disease	181	29			

Note: CIRS=Cumulative Illness Rating Scale total scores; IADL=Instrumental Activities of Daily Living Scale; PSMS=Physical Self-Maintenance Scale; COPD=Chronic Obstructive Pulmonary Disease.

Table 3

Operating Characteristics of GDS Cut-Scores with Respect to Patient Suicide Ideation Status, by Sex.

	Total Sample				Men				Women			
GDS Cut-Score	**Sensitivity***	**Specificity**	**PPV**	**NPV**	**Sensitivity‡**	**Specificity**	**PPV**	**NPV**	**Sensitivity‖**	**Specificity**	**PPV**	**NPV**
2	0.884	0.557	0.198	0.975	0.900	0.586	0.168	0.984	0.878	0.538	0.214	0.968
3	0.797	0.722	0.262	0.966	0.900	0.753	0.254	0.988	**0.755**	**0.702**	**0.266**	**0.952**
4	**0.754**	**0.815**	**0.335**	**0.964**	0.850	0.833	0.321	0.984	0.714	0.804	0.343	0.952
5	0.652	0.878	0.398	0.953	**0.850**	**0.916**	**0.486**	**0.985**	0.571	0.854	0.359	0.933
6	0.551	0.910	0.432	0.942	0.650	0.940	0.500	0.967	0.510	0.892	0.403	0.927
GDS-SI Cut-Score	Sensitivity†	Specificity	PPV	NPV	Sensitivity§	Specificity	PPV	NPV	Sensitivity¶	Specificity	PPV	NPV
1	**0.797**	**0.804**	**0.335**	**0.970**	**0.800**	**0.809**	**0.281**	**0.978**	**0.796**	**0.801**	**0.364**	**0.965**
2	0.551	0.928	0.487	0.943	0.650	0.949	0.542	0.967	0.510	0.915	0.463	0.929
3	0.348	0.978	0.667	0.924	0.500	0.986	0.813	0.968	0.286	0.974	0.609	0.905

Note:

*Area under the curve (AUC) = 0.844, S.E. = 0.026, p<0.001, 95% C.I. = 0.793–0.896.

†AUC = 0.834, S.E. = 0.031, p<0.001, 95% C.I. = 0.774–0.894.

‡AUC = 0.902, S.E. = 0.047, p<0.001, 95% C.I. = 0.810–0.994.

§AUC = 0.857, S.E. = 0.057, p<0.001, 95% C.I. = 0.745–0.969.

‖AUC = 0.814, S.E. = 0.032, p<0.001, 95% C.I. = 0.752–0.877.

¶AUC = 0.822, S.E. = 0.036, p<0.001, 95% C.I. = 0.751–0.893.

PPV = Positive Predictive Value; NPV = Negative Predictive Value. We tested the significance of the ROC curves by computing the area under the curves produced by plotting sensitivity against 1 minus specificity, for Suicide Ideators (n = 69 total; n = 20 men and n = 49 women) vs. Non Ideators (n = 557 total; n = 215 men and n = 342 women); AUCs were compared against a null hypothesis of 50% coverage using a Wilcoxon rank sum test. GDS = Geriatric Depression Scale (α = 0.81 total; α = 0.82 for men and α = 0.80 for women); GDS-SI = 5-item GDS suicide ideation screen (α = 0.68 total; α = 0.73 for men and α = 0.65 for women). Bold numbers reflect suggested cut-scores.