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Patient Navigation for Mothers with Depression who Have Children in Head Start: A Pilot Study

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Abstract

This study assesses the potential of social work–facilitated patient navigation to help mothers with depression engage with mental health care. We conducted a randomized pilot trial ($N = 47$) in Head Start—a U.S. preschool program for low-income children. Seven lay navigators received training and supervision from professional social workers. After 6 months, more navigated participants engaged with a psychologist, therapist, or social worker (45% vs. 13%, 95% confidence interval [CI] [2, 57]); engaged with any provider, (55% vs. 26%, 95% CI [1, 56]); and reported having a “depression care provider” (80% vs. 41%, 95% CI [9, 65]). Community-based navigation appears feasible; however, more definitive testing is necessary.

Keywords

Maternal depression; patient navigation; engagement; health disparities

Introduction

Maternal depression disproportionately affects women who are low income and minority (England & Sim, 2009). For mothers who are low income, a variety of cultural and logistic barriers impede engagement with mental health services, resulting in health disparities for themselves and their children (Department of Health and Human Services, 2001). In its 2009 report *Depression in Parents, Parenting, and Children*, the Institute of Medicine recognized engagement with care to be a substantial obstacle to better outcomes for both generations, and called for culturally competent interventions that take place in community-based, family-focused venues (England & Sim, 2009).

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Consistent with the Institute of Medicine's report (England & Sim, 2009), we (an interdisciplinary team comprising social workers, a pediatrician, a public health scientist, a statistician, and a bachelor-level research associate) undertook a pilot study of a social work-facilitated, patient navigator program in Head Start—a federally funded U.S. preschool program for children of families who are low income. Patient navigation is a time-limited model of case management, in which a lay navigator guides a patient around logistical barriers to care, such as transportation, child care, and appointment making (Freeman & Rodriguez). Many leaders in the social work field consider patient navigation to be promising strategy to improve quality of care in the era of the Affordable Care Act (Piper, 2014), and as a function compatible with social work's mission in an interdisciplinary practice environment (Darnell, 2013; Jones & Phillips, 2016).

Navigation has empiric evidence among patients with cancer for promoting timely use of services (Ell, Vourlekis, Lee, & Xie, 2007) but to date has not been applied to mental health. To address additional, well-documented psychological barriers to depression care (Von Korff, Katon, Unutzer, Wells, & Wagner, 2001), we embedded “engagement interviewing” within a basic navigation model. Inspired by a set of skills core to the social work profession (Grote, Zuckoff, Swartz, Bledsoe, & Geibel, 2007), engagement interviewing is an empirically supported technique, based on a combination of ethnographic and Motivational Interviewing, in which interviewers facilitate shared decision making as a way to build motivation to seek treatment (Grote et al., 2009).

Consistent with sound pilot study methodology (Kistin & Silverstein, 2015), the original goal of our pilot was to field-test logistical aspects this enhanced navigation model in Head Start, in which lay navigators provide direct service to families, whereas professional social workers provide clinical supervision and macrolevel guidance on intervention implementation. The study was not designed to estimate intervention effect size. Our results, therefore, represent unexpected findings, which require confirmation in a fully powered trial.

Method

Study design and setting

We conducted a randomized pilot study in five Head Start centers in a single metropolitan area.

Participants

To qualify for Head Start, families must be at or below the federal poverty level. As part of standard Head Start procedures, on-site case workers screen all parents for mental health problems. We embedded the Patient Health Questionnaire-2 (PHQ-2), which assesses the presence of depressed mood or anhedonia (Kroenke, Spitzer, & Williams, 2003), into these existing screening processes. Mothers who endorsed depressed mood or anhedonia on the PHQ-2 were referred to study staff and were eligible to enroll in the study if they met diagnostic criteria for major depressive episode (MDE), according to the Mini International Neuropsychiatric Interview (Sheehan et al., 1998), and were comfortable in English or

Spanish. We excluded those with high levels of suicidal ideation (i.e., a suicide plan) or cognitive limitation.

Study arms

We randomized participants 1:1 to navigation and nonnavigation arms, according to a concealed schedule. Mothers in the navigation arm received basic patient navigation, augmented with engagement interviewing. Navigator responsibilities were to disclose the likely diagnosis of depression, explore clients' personal narratives regarding their social situations and symptoms, provide psychoeducation, and present (but not recommend) treatment options. The Engagement Interview, which takes approximately 60 minutes, involves open-ended questioning and empathic reflection, eliciting "change talk," and building motivation to start treatment by exploring ambivalence. After presenting options for types of treatment (psychotherapy, medication, combination), navigators engaged their clients in shared decision making to determine the most appropriate referral and assisted clients in discerning reimbursable options for care based on their Medicaid plan. Navigators conducted as many sessions during the intervention period as they and their clients deemed necessary.

Mothers in the non-navigated arm received assistance accessing sources of mental health care that were geographically accessible, language concordant, and reimbursable through Medicaid—each, a well-described structural barrier to mental health care (McAlpine & Mechanic, 2000).

Intervention training, fidelity, and supervision

Our navigation services were designed to be delivered by lay providers, with professional social work supervision and implementation oversight. We employed a team of seven lay navigators: three Head Start case workers and four project employees—all of whom were young women without formal mental health or social work training. Through a 2-day training delivered by a master-level educator trained in community health work, navigators developed skills in four competency areas for navigation: fundamentals of community health work, health disparities, and social determinants of health; cultural competency; professional organization; and advocacy. As an adjunct to this training, navigators were trained in how to manage mental health emergencies (suicidal ideation, disclosure of intimate partner violence) and mandatory disclosures (suspicion of child maltreatment) by engaging their social work supervisors efficiently and calmly. Engagement Interview training occurred at a separate 2-day workshop facilitated by two social workers (YDL and NG), in which trainees received instruction and practice in the components of the engagement session, according to existing manualized protocols. Cultural responsiveness was taught primarily through the use of open-ended interviewing techniques (ethnographic and Motivational Interviewing), upon which the engagement session is based (Grote et al., 2009). Trainees completed two learning cases, which were audiotaped and reviewed by trainers.

Intervention fidelity and maintenance of skills were monitored by weekly group meetings with a professional social work supervisor (YDL) to discuss cases, role-play common situations, and troubleshoot barriers to implementation. Additionally, navigators kept

detailed logs to document key intervention components, including conducting the engagement session, providing depression education, and problem-solving barriers to care.

Baseline characteristics

We assessed participants' age, work and education status, number of children, country of origin, race and ethnicity, and whether they lived in single- versus dual-parent households. To assess depressive symptoms, we administered the Quick Inventory of Depressive Symptomatology (QIDS; Rush et al., 2003); for anxiety symptoms, the Beck Anxiety Inventory Scale (Creamer, Foran, & Bell, 2003); for post-traumatic stress symptoms, the Modified PTSD Scale (Coffey, Dansky, Falsetti, Saladin, & Brady, 1998).

Outcomes

To determine mental health service use, we adapted the services section of the National Institute of Mental Health Collaborative Psychiatric Epidemiology Survey (Heeringa et al., 2004), which assesses primary (internist, family medicine physician, obstetrician/gynecologist), psychiatric, psychological (psychologist, therapist, social worker, counselor), and alternative (clergy, religious healer) sources of mental health care. We administered this survey at 2, 4, and 6 months after baseline.

Sample size

The sample size was chosen as an appropriate number from which to assess intervention feasibility. The study was not powered to detect group-to-group differences in outcomes.

Analysis

We summarized the number of mothers approached, screened, refusing participation, and enrolled. We recorded attrition and adverse events. Using standardized navigation logs, we quantified the number of times navigators met with clients, components of the engagement interview conducted, and barriers addressed. We computed 95% confidence intervals (CIs) for differences across navigation and control groups, using exact CIs where warranted because of small cell sizes. The Boston University Medical Center Institutional Review Board approved the study.

Results

Sample recruitment

Head Start case managers screened 795 mothers for participation using the PHQ-2 (Kroenke et al., 2003), of whom 530 were ineligible, 41 declined to meet with research staff, and 57 couldn't be reached subsequently. Research staff met with 167 mothers to assess eligibility; 47 qualified for major depressive episode. All 47 of these mothers were enrolled in the study.

Baseline characteristics

The mean age of participants was 30.3 years ($SD = 7.7$); 32 (68%) women were Latina, 16 (34%) were Black, 27 (57%) graduated high school. Depression scores on the QIDS

averaged over 14 in both groups—the published cut-off consistent with MDE (Rush et al., 2003). There were no clinically meaningful baseline differences across study groups (Table 1).

Intervention delivery and fidelity

Of the 24 navigated mothers, 23 (95%) received at least one session. Data were available from 22 navigation logs, according to which navigators conducted a full engagement session with 19 (86%). Specific barriers managed by navigators included time management, transportation, child care, job flexibility, and perceived lack of privacy. Fidelity to the core principles of the Engagement Interview remained excellent throughout the study. Navigators had an average 2.68 (0–9) in-person contacts with each family. We recorded no adverse events.

Comparisons across groups

Engagement with mental health services varied with each successive follow-up assessment, with differences between navigated and non-navigated participants increasing over the follow-up period (Table 2). At 2 months, there were no demonstrable differences across groups in any service use category. At 4 months, trends began to emerge favoring navigation; and at 6 months, trends emerged across nearly all categories, with some reaching statistical significance. At this time point, more participants in the navigation arm than in the non-navigation arm reported to have engaged with a psychologist, therapist or social worker, (45% vs. 13%, 95% CI for difference in proportions [2, 57]); and more participants in the navigation arm reported to have engaged with any provider (55% vs. 26%, 95% CI [1, 56]).

At the end of the follow-up period, 16 of 20 (80%) of participants in the navigation arm indicated that they had a “depression care provider,” compared to 9 of 22 (41%) of participants in the non-navigation arm (95% CI [9, 65]). However, there were no differences across groups in the type of depression care (medication, talk therapy) that they preferred.

Discussion

Although navigation has evidence among patients with cancer for promoting timely use of services (Ell et al., 2007), it has been understudied as a mechanism to promote engagement with mental health care. In this pilot study, to address logistical and psychological barriers to depression care, we embedded the theory-based Engagement Interview within traditional navigation services. The resultant care management model brought together diverse areas of social work expertise, including care coordination, cultural competency, motivation building, and knowledge of community resources (McCabe & Sullivan, 2015). The present study demonstrates this model’s feasibility and safety as a strategy to help engage mothers who are low income and experiencing depression, and its potential benefit for mothers who have depression as an adjunct to their children’s Head Start services.

Our navigation services were delivered by lay providers, who worked with professional social workers to create interdisciplinary collaborative teams. Social workers provided all necessary training and ongoing supervision, including the assurance of safety among a population of women in major depressive episode—the majority of whom had histories of

interpersonal trauma (Table 1). Additionally, social workers within the Head Start system guided the implementation of the intervention on a macrolevel, assuring its relevance to existing Head Start social service programs. This community-based model—rooted in a preschool education program, but principally concerned with adult mental health—is consistent with current calls to delineate roles for professional social workers within interdisciplinary education and practice (Jones & Phillips, 2016).

Because our primary aim was to test study logistics, our outcomes data, though encouraging, should not be interpreted as preliminary estimates of effect size (Kistin & Silverstein, 2015). Rather, we interpret our findings as a hopeful endorsement of harnessing Head Start's social service infrastructure to promote parental engagement with mental health services, and as an example of professional social workers functioning in interdisciplinary teams with lay intervention providers to effect this outcome. An additional limitation is that we conducted this study in a single metropolitan area, in which mental health provider density and Medicaid eligibility may not mirror other parts of the United States; therefore, the generalizability of our results are uncertain. Further work is essential to demonstrate the effectiveness of this strategy, and to determine optimal implementation strategies that harness the talents of each component of the interdisciplinary navigation team.

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References

- Coffey SF, Dansky BS, Falsetti SA, Saladin ME, Brady KT. Screening for PTSD in a substance abuse sample: psychometric properties of a modified version of the PTSD Symptom Scale Self-Report. Posttraumatic stress disorder. *Journal of Traumatic Stress*. 1998; 11(2):393–399. [PubMed: 9565924]
- Creamer M, Foran J, Bell R. The Beck Anxiety Inventory in a non-clinical sample. *Behaviour Research and Therapy*. 1995; 33(4):477–485. [PubMed: 7755538]
- Darnell JS. Navigators and assistants: Two case management roles for social workers in the Affordable Care Act. *Health and Social Work*. 2013; 38(2):123–126. [PubMed: 23865289]
- Department of Health and Human Services. Mental health: Culture, race, and ethnicity: A supplement to mental health: A report of the surgeon general. Rockville, MD: United States Department of Health and Human Services, Public Health Service Office of the Surgeon General; 2001.
- Ell K, Vourlekis B, Lee PJ, Xie B. Patient navigation and case management following an abnormal mammogram: A randomized clinical trial. *Preventive Medicine*. 2007; 44(1):26–33. doi:S0091-7435(06)00327-6 [pii] 10.1016/j.ypmed.2006.08.001. [PubMed: 16962652]
- England, MJ., Sim, L. Depression in parents, parenting, and children: Opportunities to improve identification, treatment, and prevention (Parenting Practices and the Health Development of Children, Institute of Medicine Committee on Depression, Trans). Washington, DC: Institute of Medicine, National Academy Press; 2009.
- Freeman HP, Rodriguez RL. History and principles of patient navigation. *Cancer*. 2011; 117(15 Suppl): 3537–3540. DOI: 10.1002/cncr.26262 [PubMed: 21780087]

- Grote NK, Swartz HA, Geibel SL, Zuckoff A, Houck PR, Frank E. A randomized controlled trial of culturally relevant, brief interpersonal psychotherapy for perinatal depression. *Psychiatric Services*. 2009; 60(3):313–321. 60/3/313[pil] 10.1176/appi.ps.60.3.313. [PubMed: 19252043]
- Grote NK, Zuckoff A, Swartz H, Bledsoe SE, Geibel S. Engaging women who are depressed and economically disadvantaged in mental health treatment. *Social Work*. 2007; 52(4):295–308. [PubMed: 18232240]
- Heeringa SG, Wagner J, Torres M, Duan N, Adams T, Berglund P. Sample designs and sampling methods for the Collaborative Psychiatric Epidemiology Studies (CPES). *International Journal of Methods in Psychiatric Research*. 2004; 13(4):221–240. [PubMed: 15719530]
- Jones B, Phillips F. Social work and interprofessional education in health care: A call for continued leadership. *Journal of Social Work Education*. 2016; 51(1):18–29.
- Kistin C, Silverstein M. Pilot studies: A critical but potentially misused component of interventional research. *Journal of the American Medical Association*. 2015; 314(15):1561–1562. DOI: 10.1001/jama.2015.10962 [PubMed: 26501530]
- Kroenke K, Spitzer RL, Williams JB. The Patient Health Questionnaire-2: Validity of a two-item depression screener. *Medical Care*. 2003; 41(11):1284–1292. [PubMed: 14583691]
- McAlpine DD, Mechanic D. Utilization of specialty mental health care among persons with severe mental illness: The roles of demographics, need, insurance, and risk. *Health Services Research*. 2000; 35(1 Pt 2):277–292. [PubMed: 10778815]
- McCabe HA, Sullivan WP. Social work expertise: An overlooked opportunity for cutting-edge system design under the Patient Protection and Affordable Care Act. *Health and Social Work*. 2015; 40(2): 155–157. [PubMed: 26027425]
- Piper LE. Patient service navigator: Improving quality and services and reducing cost under the Affordable Care Act. *Health Care Manager (Frederick)*. 2014; 33(1):47–52. DOI: 10.1097/01.HCM.0000440619.54761.f9
- Rush AJ, Trivedi MH, Ibrahim HM, Carmody TJ, Arnow B, Klein DN, Keller MB. The 16-Item Quick Inventory of Depressive Symptomatology (QIDS), clinician rating (QIDS-C), and self-report (QIDS-SR): A psychometric evaluation in patients with chronic major depression. *Biological Psychiatry*. 2003; 54(5):573–583. [PubMed: 12946886]
- Sheehan DV, Lecrubier Y, Sheehan KH, Amorim P, Janavs J, Weiller E, Dunbar GC. The Mini-International Neuropsychiatric Interview (M.I.N.I.): The development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *Clinical Psychiatry*. 1998; 59(Suppl 20):34–57.
- Von Korff M, Katon W, Unutzer J, Wells K, Wagner EH. Improving depression care: Barriers, solutions, and research needs. *Journal of Family Practice*. 2001; 50(6):E1. [PubMed: 11401751]

Table 1

Characteristics of Study Groups at Baseline.

	Navigation (<i>n</i> = 24)	Control (<i>n</i> = 23)
Mean age, years (<i>SD</i>)	31.83 (8.25)	28.68 (6.77)
Work outside of the home (%)	8 (33)	10 (43)
High school graduate (%)	15 (63)	12 (52)
Mean number of children (<i>SD</i>)	2.54 (1.18)	2.17 (1.27)
U.S. born (%)	12 (50)	11 (48)
Latina (%)	15 (63)	17 (74)
Race		
Black (%)	8 (33)	8 (35)
Asian (%)	0 (0)	0 (0)
White (%)	6 (25)	3 (13)
Other (%)	10 (42)	12 (52)
Mean depression score (<i>SD</i>)	14.29 (2.76)	14.87 (4.06)
Mean anxiety score (<i>SD</i>)	23.38 (12.44)	28.48 (11.51)
Experienced a significant trauma (%)	19 (79)	19 (83)
Post-traumatic stress disorder frequency score (<i>SD</i>)	21.44 (15.96)	28.63 (12.74)

Table 2

Engagement with Care at Follow-up.

Number (%) to engage with:	2 months			4 months			6 months		
	Navigation (n = 23)	Control (n = 22)	95% CI ^a	Navigation (n = 22)	Control (n = 20)	95% CI	Navigation (n = 22)	Control (n = 23)	95% CI
General practitioner	2 (9)	3 (14)	[-33, 24]	2 (9)	3 (15)	[-36, 24]	5 (23)	3 (13)	[-20, 37]
Psychiatrist	4 (17)	1 (5)	[-16, 41]	4 (18)	0 (0)	[-3, 39]	4 (18)	1 (4)	[-16, 41]
Psychologist/therapist/social worker	6 (26)	4 (18)	[-20, 37]	9 (41)	5 (25)	[-13, 44]	10 (45)	3 (13)	[2, 57]
Any provider	8 (35)	7 (32)	[-25, 30]	13 (59)	8 (40)	[-11, 49]	12 (55)	6 (26)	[1, 56]

Note. CI = confidence intervals.^a95% CIs around difference in proportions between navigation and control group.