Clinicin Satisfaction and Self-Efficacy With CenteringParenting Group Well-Child Care Model: A Pilot Study

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Abstract
Introduction: Group-based models for well-child care have been shown to positively affect patient experience. One promising group well-child care model is CenteringParenting. However, clinician self-efficacy with delivery of the model is unknown and clinician satisfaction with the model has been understudied. Objectives: To investigate sense of self-efficacy, degree of satisfaction, and comfort with trauma-informed care (TIC) among diverse clinical providers implementing the CenteringParenting curriculum. We also examined the relationship between self-efficacy, satisfaction, and comfort with TIC, and delivery of the model. Methods: Electronic surveys were sent to CenteringParenting providers (N = 98) from 49 clinics. Providers (N = 41) from 24 clinical sites completed the survey, corresponding to a 42% individual and 49% site response rate. Surveys explored provider satisfaction with the curriculum, perceived self-efficacy, and perspective on competency with TIC. Results: Providers indicated that the CenteringParenting model achieves each of its four objectives (means ranged from 4.10 to 4.52 for each objective, with 5 being the highest possible response). Providers rated their level of satisfaction (scale of 1 [unsatisfied] to 5 [very satisfied]) with their ability to address patient concerns higher with CenteringParenting in the group care setting (mean = 4.10) than in the individual care setting (mean = 3.55). Respondents demonstrated a high mean average Self-Efficacy in Group Care score of 93.63 (out of 110). Unadjusted logistical regression analyses demonstrated that higher provider Self-Efficacy in Group Care score (odds ratio [OR] = 1.08) and higher comfort with TIC (OR = 22.16) is associated with curriculum content being discussed with a facilitative approach. Conclusions: Providers from diverse clinical sites report high satisfaction with and self-efficacy in implementing the CenteringParenting model.

Keywords
trauma-informed care, self-efficacy, group well-child care, trauma, primary care, patient education, CenteringParenting, pediatrics

Introduction
Group well-child care (GWCC) is an emerging model for pediatric primary care in the first years of life¹-³ and has been shown to positively influence the patient experience.⁴-⁷ Specific benefits documented in GWCC include greater amount of time spent on and better patient recall of anticipatory guidance⁴-⁶ and increased compliance with scheduled well-child visits.⁴,⁵ Studies demonstrate that relevant factors include delivery of educational content,⁸ parental social support and opportunities for shared learning,⁹ and addressing toxic stress.¹⁰-¹²

CenteringParenting is a GWCC model developed by the Centering Healthcare Institute. The CenteringParenting model aims to educate mothers on healthy child development, effective parenting, and self-care while also providing a space for social support among patients. CenteringParenting visits not only incorporate well-child health assessments, immunizations, and developmental screenings but also allow mothers to monitor their own health goals and address psychosocial stressors. A health care provider and support staff facilitate 9 group care sessions from birth to 24 months among 6 to 8 caregiver-child dyads.
Currently little is known about providers’ sense of self-efficacy with delivering the CenteringParenting model and degree of satisfaction with the curriculum has only been explored in qualitative studies. Moreover, the relation between provider sense of self-efficacy, satisfaction, and comfort with trauma-informed care (TIC), and delivery of the model is also unknown. This study explores provider self-efficacy with providing group care, satisfaction with the current CenteringParenting curriculum, and comfort with TIC. It investigates the relation between both self-efficacy and comfort with TIC and delivery of the CenteringParenting model, defined as use of a facilitative leadership style. We hypothesized that higher provider self-efficacy in group care, satisfaction with the model, and degree of comfort with TIC would improve the delivery of the CenteringParenting curriculum.

Methods

Recruitment and Inclusion Criteria

Approval for this study was obtained from the Institutional Review Board of the Boston University Medical Campus. The Centering Healthcare Institute identified and provided contact information for 98 current CenteringParenting staff contacts at 49 clinical CenteringParenting sites. The research team sent a recruitment email, including the link to the electronic survey and statement of consent, to this list of current Centering staff contacts. Up to 4 follow-up reminder emails were sent to those who had not yet completed the survey. Only participants who endorsed “Yes” that they used the version of the CenteringParenting Facilitator Guide updated in 2016 (N = 45) were included. We excluded those who indicated that they do not facilitate Centering groups (N = 5).

Data Collection and Survey Design

Data were collected anonymously from August 2017 to January 2018 using the electronic survey application QuestionPro. The survey design was informed by careful review of the CenteringParenting Facilitator’s Guide and focused interviews with executive team members at the Centering Healthcare Institute and providers who were trained in CenteringParenting. The survey was piloted on several providers familiar with facilitating CenteringParenting and their feedback was incorporated. The Self-Efficacy in Group Care score was adapted from the SE-12 scale, a reliable and partially valid instrument used for self-evaluation of clinical communication skills in the individual care setting. Questions assessing delivery of the model come directly from the CenteringParenting Facilitator Process Evaluation tool, which assesses the model’s process fidelity.

Assessment of Outcome. The Centering Healthcare Institute has outlined several essential elements of Centering Healthcare that are included in the Facilitator Process Evaluation tool. A key element of provider training for CenteringParenting is focused on learning facilitation skills. Next, use of a facilitative leadership style is one of the essential elements of Centering Health Care outlined by the Centering Healthcare Institute. Finally, facilitating discussions that focus on content that is important to the group is noted as a central goal. Therefore, our definition of CenteringParenting delivery focused on factors related to facilitative leadership. The 2 specific outcome measures used to assess delivery of the CenteringParenting model by provider report included (1) content was discussed with a facilitative approach and (2) sessions felt more like a peer group than a classroom. Outcomes were dichotomized as Yes versus No/Mixed.

Assessment of Variables. Self-Efficacy in Group Care score was calculated as a sum of the answers to eleven items. If ≥1 of the items was unanswered, a score was not calculated. The scores ranged from 64 to 110.

Provider experience was self-reported in years by choosing from the following options: <1, 1, 2, 3, or 4 or more. Providers reported their role as billing provider, staff facilitator, support staff, or other.

All variables measuring satisfaction were measured on a scale of 1 to 5 with 1 being “not at all” and 5 being “very.” Level of belief that the group care setting encourages mothers to share personal information about themselves that they would not have otherwise shared in an individual setting and level of comfort using group facilitation skill were dichotomized as 5 versus 1 to 4. The remaining variables, which included provider (1) satisfaction with the CenteringParenting model’s ability to address the concerns of patients, (2) ability to elicit patient concerns of unmet basic social needs, (3) satisfaction with ability to address patient concerns in the individual care setting, and (4) belief that clinical training and experience prepared them to address psychosocial needs of patients, were dichotomized as 4-5 versus 1-3. We dichotomized the above variables into a binary based on quartiles, using lower 3 quartiles versus highest quartile as the binary.

Providers were also asked if the model allowed them to better connect patients with one or more of several preidentified social resources. In a follow-up open-ended question, respondents could provide specific examples.

The Substance Abuse and Mental Health Administration defines TIC as a program, organization or system that realizes the prevalence of trauma and recovery models, recognizes its signs and symptoms, and responds by integrating knowledge into policies, procedures, and practices. Using this definition, providers were asked to rate their level of comfort delivering TIC. Providers were also asked
to rate how comfortable they feel supporting and advising families who experience trauma. Both were dichotomized as 4-5 versus 1-3. We again dichotomized both variables into a binary based on quartiles, using the lower 3 quartiles versus highest quartile as the binary.

**Data Analysis**

All statistical analyses were performed in SAS 9.4 for Windows (SAS Institute Inc, Cary, NC). Descriptive statistics and bivariate analyses were performed. Unadjusted logistic regression models were used to examine the association between the aforementioned variables and respondents’ delivery of the model, defined as use of a facilitative leadership style. We did not control for socio-demographics and clinic characteristics (provider/facilitator role, size of practice, and percent Medicaid patients), because chi-square tests did not show significant associations between these characteristics and delivery of the model or satisfaction with the current model (results not presented).

**Results**

**Participant Demographics**

Forty-one providers across 24 clinical sites completed the online survey, corresponding to a 42% individual and 49% site response rate. As presented in Table 1, 44% of respondents identified as the Billing Provider and 41% identified as Staff Facilitators. Of all respondents, 44% have facilitated CenteringParenting groups for 4 or more years and 90% attended the Basic Facilitation Training offered by the Centering Healthcare Institute. Thirty-seven percent were physicians. Of those providers who designated their specialty, 47% were family medicine, 47% pediatrics, and 5% other. Ninety-seven percent of providers stated that they accept all patients who use Medicaid.

**Provider Satisfaction With CenteringParenting**

On a scale of 1 (not at all strongly) to 5 (very strongly), providers responded with ratings between 4.10 and 4.52 when asked how strongly they believe the CenteringParenting model achieved each of its four stated objectives (see Table 2). Providers felt that the CenteringParenting model most successfully achieved its objective of empowering families with the skills and knowledge to be active participants in their children’s healthy development, with an average response of 4.52 (SD = 0.63). When asked how well the CenteringParenting curriculum addresses the psychosocial needs of their patients, providers reported an average of 3.87 (SD = 0.73).

Providers rated their satisfaction with their ability to address the concerns of their patients in the group care setting (using CenteringParenting) an average of 4.10 (SD = 0.72)
versus 3.55 (SD = 0.91) in the individual setting. They responded with an average of 4.35 (SD = 0.77) with regard to how well the group care setting encouraged caregivers to share personal information.

Providers also rated the need for the CenteringParenting curriculum to include the following 5 trauma-related content areas: exposure to violence in childhood; a definition of “toxic stress”; the effect of toxic stress on child development; the roles of fatherhood in child development; “serve and return” interactions between mother and child. The average response for each of the above content areas varied from 4.33 (SD = 0.96) to 4.52 (SD = 0.74). When then asked how well the CenteringParenting model addresses the trauma-related content areas that are already present in the curriculum (including: patient concerns regarding intimate partner violence; the common outcomes of exposure to violence in childhood; maternal stress reduction; and maternal child attachment), the average response for each varied from 3.38 (SD = 1.01) to 4.28 (SD = 0.80).

When asked to what extent the CenteringParenting curriculum and/or group care setting improved their ability to elicit patient concerns of unmet basic social needs, the average response was 3.58 (SD = 1.00). Between 40% and 60% of respondents felt that the CenteringParenting model allowed them to better connect their patients with affordable housing, childcare, employment opportunities, and access to fresh produce. One provider explained, “By giving moms a trusting environment, probing questions, and more time in which to make their needs known.” Another provider stated, “This seems to happen almost naturally in conversation about parenting challenges. I find that patients talk more openly with peers than they do with me in a one on one visit.” Several providers highlighted increased time

### Table 2. Provider Perspective on CenteringParenting Model and Curriculum (1 Being “Not at All” and 5 Being “Very”).

|                                              | N  | Mean | SD  |
|----------------------------------------------|----|------|-----|
| Satisfied with one’s ability to address the  | 29 | 3.55 | 0.91|
| concerns of your patients when in the        |    |      |     |
| individual care setting                      |    |      |     |
| Satisfied with the CenteringParenting        | 29 | 4.10 | 0.72|
| model’s ability to address the concerns of   |    |      |     |
| your patients in the group care setting      |    |      |     |
| Believe that the group care setting          | 34 | 4.35 | 0.77|
| encourages mothers to share personal         |    |      |     |
| information about themselves that they       |    |      |     |
| would not have otherwise shared in an        |    |      |     |
| individual setting                           |    |      |     |
| How well your overall clinical training and  | 34 | 3.88 | 0.88|
| experience prepared you to address the       |    |      |     |
| psychosocial needs of your patients          |    |      |     |
| Feel comfortable supporting and advising     | 34 | 3.47 | 1.05|
| families who experience trauma?              |    |      |     |
| Feel comfortable delivering trauma-informed | 34 | 3.18 | 1.06|
| care?                                        |    |      |     |
| How strongly do you believe the             |    |      |     |
| CenteringParenting model achieved each of   |    |      |     |
| the following objectives:                    |    |      |     |
| To establish a standard of care for infants  | 31 | 4.10 | 1.11|
| and children                                |    |      |     |
| To help clinicians shift their thinking to   | 31 | 4.29 | 0.86|
| a prevention based, family focused, and      |    |      |     |
| developmentally oriented direction           |    |      |     |
| To foster partnerships between families,     | 31 | 4.42 | 0.67|
| clinicians, and communities                 |    |      |     |
| To empower families with the skills and     | 31 | 4.52 | 0.63|
| knowledge to be active participants in their |    |      |     |
| children’s healthy development               |    |      |     |
| How well does the CenteringParenting        | 30 | 3.87 | 0.73|
| curriculum address the psychosocial needs of |    |      |     |
| your patients                               |    |      |     |
| How well does the CenteringParenting         |    |      |     |
| curriculum address the following specific    |    |      |     |
| subjects:                                   |    |      |     |
| Patient concerns regarding intimate partner  | 29 | 3.45 | 0.91|
| violence                                     |    |      |     |
| The common outcomes of exposure to violence  | 29 | 3.38 | 1.01|
| in childhood                                |    |      |     |
| Maternal stress reduction                    | 29 | 4.24 | 0.91|
| Maternal-child attachment                    | 29 | 4.28 | 0.80|
| How important do you feel it is for the      |    |      |     |
| CenteringParenting curriculum to include    |    |      |     |
| each of the following content areas:         |    |      |     |
| Exposure to violence in childhood (ie,      | 30 | 4.37 | 0.81|
| interpersonal, familial, or community        |    |      |     |
| violence)                                    |    |      |     |
| A definition of “toxic stress”               | 30 | 4.33 | 0.96|
| The effect of toxic stress on child         | 30 | 4.43 | 0.82|
| development                                  |    |      |     |
| Roles of fatherhood in childhood development | 29 | 4.52 | 0.74|
| “Serve and return” interactions between      | 29 | 4.41 | 0.78|
| mother and child                             |    |      |     |
| Describe the CenteringParenting curriculum   |    |      |     |
| as a “trauma informed” curriculum            | 29 | 3.47 | 1.05|
|                                              |    |      |     |

*On a Likert-type scale, 1 = not at all, 5 = very; 2, 3, and 4 were unlabeled.
for discussion with the provider and peers as a strength, while some noted that lack of privacy in the group care setting may inhibit disclosure of social needs. Measures of clinician satisfaction and delivery of CenteringParenting had no significant associations in unadjusted logistic regression models (results not presented).

Provider Self-Efficacy

The average provider Self-Efficacy in Group Care score was a 93.63 out of 110 (SD = 11.52).

Unadjusted logistical regression analyses demonstrated that the provider Self-Efficacy in Group Care score was significantly associated with curriculum content being discussed with a facilitative approach (odds ratio [OR] = 1.08; 95% CI 1.00-1.17), but was not significantly associated with sessions having felt more like “peer groups” than “classrooms” (OR = 1.06; 95% CI 0.98-1.14).

Level of Comfort With Trauma-Informed Care

When asked how comfortable they feel supporting and advising families who experience trauma (on a scale of 1 (not at all) to 5 (very)) providers answered with an average of 3.47 (SD = 1.05), and when asked how comfortable they were delivering TIC, with an average of 3.18 (SD = 1.06). Forty-five percent of respondents would describe the CenteringParenting 2016 curriculum as “trauma informed.”

Unadjusted logistical regression analyses demonstrated that providers who feel comfortable supporting and advising families who experience trauma are more likely to report that core content was discussed with a facilitative approach (OR = 22.16; 95% CI 2.25-218.30) as compared to their less comfortable peers, and also that sessions felt more like “peer groups” than “classrooms” (OR = 11.88; 95% CI 1.19-118.50).

Discussion

CenteringParenting facilitators and support staff reported high self-efficacy with their ability to deliver effective group care. Self-efficacy with group care was associated with stronger delivery of the model.

Bandura’s social cognitive theory defines self-efficacy as the belief that a person can perform a behavior or complete a task. Self-efficacy is malleable, and theoretically higher levels are associated with improved performance and skill level in a myriad of fields, including smoking cessation and obesity counseling, screening for risky behaviors during adolescent well-visits, and physician adherence to clinical guidelines and interventions to improve provider self-efficacy have been studied. Therefore, self-efficacy in group care may be a target for interventions aimed at improving CenteringParenting model delivery.

Consistent with prior qualitative studies of clinician satisfaction, we found that providers express high satisfaction with the model. Specifically, providers feel that the CenteringParenting model successfully achieves its stated objectives and that its core content is delivered with a facilitative rather than didactic approach. Providers believe that the unique group care setting promotes important conversations between patients, providers, and peers that may not otherwise take place in the individual care setting. Providers also believe the model modestly improves their ability to elicit patient concerns of unmet basic social needs.

With regard to areas for improvement, responses demonstrated robust interest in the inclusion of additional content addressing psychosocial factors and adversities in future versions of the curriculum. Such findings underscore the call amongst providers for greater incorporation of TIC into primary care.

Our exploratory logistic regression models suggest future longitudinal research studies investigate factors that boost provider self-efficacy with group care and further explore the impact of self-efficacy on provider delivery of group care and patient engagement, as well as an association between increasing provider comfort with TIC and group care outcomes.

This study has limitations worth noting. This is a relatively small sample of providers. The assessment of the outcomes regarding CenteringParenting model delivery and benefits are based on provider self-report. We lack other measures of model fidelity and patient experience and outcomes, and we do not analyze the data with fidelity. Additionally, the Self-Efficacy in Group Care score, although adapted from a reliable and partially validated instrument, has not been tested for reliability or validity.

In summary, providers appear highly satisfied with the CenteringParenting curriculum. Providers feel self-efficacious in implementing group care across diverse clinical sites and patient demographics, and higher self-efficacy and comfort in TIC may improve delivery of the model. Providers working within this model may also benefit from training in and curriculum material on TIC practices.

Declaration of Conflicting Interests

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References

1. Coker TR, Windon A, Moreno C, Schuster MA, Chung PJ. Well-child care clinical practice redesign for young children: a systematic review of strategies and tools. *Pediatrics*. 2013;131(suppl 1):S5-S25.

2. Connor KA, Duran G, Faiz-Nassar M, Mnari K, Minkovitz CS. Feasibility of implementing group well baby/well woman dyad care at federally qualified health centers. *Acad Pediatr*. 2018;18:510-515.

3. Jones KA, Do S, Porras-Javier L, Contreras S, Chung PJ, Coker TR. Feasibility and acceptability in a community-partnered implementation of CenteringParenting for group well-child care. *Acad Pediatr*. 2018;18:642-649.

4. Osborn LM. Group well-child care. *Clin Perinatol*. 1985;12:355-365.

5. Bialostozky A, McFadden SE, Barkin S. A novel approach to well-child visits for Latino children under two years of age. *J Health Care Poor Underserved*. 2016;27:1647-1655.

6. Rushton FE, Byrne WW, Darden PM, McLeigh J. Enhancing child safety and well-being through pediatric group well-child care and home visitation: the Well Baby Plus Program. *Child Abuse Negl*. 2015;41:182-189.

7. Shah NB, Fenick AM, Rosenthal MS. A healthy weight for toddlers? Two-year follow-up of a randomized controlled trial of group well-child care. *Clin Pediatr (Phila)*. 2016;55:1354-1357.

8. Dodds M, Nicholson L, Muse B 3rd, Osborn LM. Group health supervision visits more effective than individual visits in delivering health care information. *Pediatrics*. 1993;91:668-670.

9. DeLago C, Dickens B, Phipps E, Paoletti A, Kazmierczak M, Irigoyen M. Qualitative evaluation of individual and group well-child care. *Acad Pediatr*. 2018;18:516-524.

10. Graber LK, Roder-Dewan S, Brockington M, Tabb T, Boynton-Jarrett R. Parent perspectives on the use of group well-child care to address toxic stress in early childhood. *J Agress Maltreatment Trauma*. 2019;28:581-600.

11. Ko SJ, Ford JD, Kassam-Adams N, et al. Creating trauma-informed systems: child welfare, education, first responders, health care, juvenile justice. *Prof Psychol Res Pract*. 2008;39:396-404.

12. Garner AS, Shonkoff JP; Committee on Psychosocial Aspects of Child and Family Health; Committee on Early Childhood, Adoption, and Dependent Care; Section on Developmental and Behavioral Pediatrics. Early childhood adversity, toxic stress, and the role of the pediatrician: translating developmental science into lifelong health. *Pediatrics*. 2012;129:e224-e231.

13. Gullett H, Salib M, Rose J, Stange KC. An evaluation of CenteringParenting: a group well-child care model in an urban federally qualified community health center. *J Altern Complement Med*. 2019;25:727-732.

14. Bloomfield J, Rising SS. CenteringParenting: an innovative dyad model for group mother-infant care. *J Midwifery Womens Health*. 2013;58:683-689.

15. Axboe MK, Christensen KS, Kofoed PE, Ammentorp J. Development and validation of a self-efficacy questionnaire (SE-12) measuring the clinical communication skills of health care professionals. *BMC Med Educ*. 2016;16:272.

16. Centering Healthcare Institute. *CentringParenting® Facilitator’s Guide*. Boston, MA: Centering Healthcare Institute; 2016.

17. Substance Abuse and Mental Health Services Administration. SAMHSA’s Concept of Trauma and Guidance for a Trauma-Informed Approach. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2014.

18. Gist ME, Mitchell TR. Self-efficacy: a theoretical analysis of its determinants and malleability. *Acad Manage Rev*. 1992;17:183-211.

19. Thompson SC, Schwankovsky L, Pits J. Counselling patients to make lifestyle changes: the role of physician self-efficacy, training and beliefs about causes. *Fam Pract*. 1993;10:70-75.

20. Ozer EM, Adams SH, Gardner LR, Mailloux DE, Wibbelsman CJ, Irwin CE Jr. Provider self-efficacy and the screening of adolescents for risky health behaviors. *J Adolesc Health*. 2004;35:101-107.

21. Cabana MD, Rand CS, Powe NR, et al. Why don’t physicians follow clinical practice guidelines? A framework for improvement. *JAMA*. 1999;282:1458-1465.

22. Loeb DF, Leister E, Ludman E, et al. Factors associated with physician self-efficacy in mental illness management and team-based care. *Gen Hosp Psychiatry*. 2018;50:111-118.

23. Barlow SE, Salahuddin M, Butte NF, Hoelscher DM, Pont SJ. Improvement in primary care provider self-efficacy and use of patient-centered counseling to address child overweight and obesity after practice-based changes: Texas Childhood Obesity Research Demonstration study. *Child Obes*. 2018;14:518-527.

24. Sturgiss E, Haesler E, Elmitt N, van Weel C, Douglas K. Increasing general practitioners’ confidence and self-efficacy in managing obesity: a mixed methods study. *BMJ Open*. 2017;7:e014314.