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Provider use of a participatory decision-making style with youth with ADHD and their caregivers and visit satisfaction

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ABSTRACT

Objective: To examine whether youth with ADHD who received a question prompt list and video intervention and their caregivers were more likely to: (a) be asked about their treatment preferences, (b) have their input included into treatment decisions, (c) rate their providers as using more of a participatory decision-making (PDM) style, and (d) be more satisfied with their visits.
Methods: Youth with ADHD were randomized to a pre-visit question prompt list intervention or usual care. Visits were audio-recorded; youth were interviewed after visits; caregivers completed questionnaires. Multivariable linear regression was used to analyze the data.
Results: 102 youth with ADHD and their caregivers participated. Providers included youth and caregiver input into ADHD management decisions during 12 % and 20 % of audio-taped visits, respectively. Youth and caregivers of youth who were in the intervention group were significantly more likely to rate providers as using more of a participatory decision-making style. Black youth and caregivers were significantly less likely to rate their providers as using a participatory style than non-Black youth. Youth and caregiver ratings of provider use of a participatory style were significantly associated with greater visit satisfaction.
Conclusion: Both youth and caregivers rated providers high on using a participatory decision-making style. Yet providers could include youth and caregiver input more into ADHD management decisions. Black youth and caregivers rated providers lower on using a participatory decision-making style than non-Black youth and caregivers. Youth and caregivers were more satisfied with visits where they rated their providers as using a more participatory style.
Practice implications: Providers should include both youth and caregiver input into ADHD management decisions. Providers should attempt to use a more participatory decision-making style with Black youth and caregivers.

1. Introduction

ADHD is a chronic mental health condition that can have long-term negative consequences for youth [1]. Moreover, youth with ADHD have poorer quality-of-life and functioning than youth without ADHD [2–11]. The majority of youth with ADHD are cared for in primary care settings [12–18]. The very nature of living with ADHD and the stigma associated with it may inhibit youth and their parents from discussing it with one another and their providers.

Both the Institute of Medicine and the American Academy of Pediatrics emphasize the importance of shared decision-making and how it can potentially help improve patient outcomes [19–21]. Prior research found that adolescents wanted to feel involved in their care and supported by both parents and health care providers as being important contributors to treatment decision-making [22–24]. Other research has illustrated that inviting adolescents to participate in their care is an

Abbreviations: PDM, Participatory decision-making; SCT, Social Cognitive Theory.

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important factor that can lead to shared decision-making [25]. Effective communication between youth, caregivers, and providers could lead to improved adherence to treatment recommendations [26]. Gardiner and Dvorkin [27] emphasized that youth contributing to treatment plans could improve their adherence and improve outcomes.

Little is known about how to improve family engagement and provider-patient communication about ADHD and its treatment in primary care settings [28–31]. Moreover, few studies have examined the quality of child-parent-provider communication about ADHD [11,30,31]. Brinkman et al. [31] conducted a pre/post open trial with seven pediatricians that focused on educating physicians to increase shared decision-making during ADHD visits, but there were no significant changes in child outcomes. Our prior research found that providers only included youth input into ADHD treatment regimens during 3 % of visits and parent input during 4.5 % of visits [30].

In a pediatric asthma randomized controlled trial of an asthma question prompt list/video intervention to increase youth question-asking, providers only included youth input into their treatment regimens during 2.5 % of visits and caregiver input during 3.3 % of visits [32]. Also, youth in the intervention group were significantly more likely to rate their provider as using a participatory decision-making style than youth in the usual care group [32]. Other research has found that providers are more likely to engage in shared decision-making with older youth and college educated mothers [33,34]. Additionally, female children were more likely to be involved in shared decision-making during cancer visits than male children [34].

Brinkman [33] found that shared decision-making occurred more with White families than with non-White families during ADHD pediatric visits. Similarly, in an asthma study, White caregivers were significantly more likely to rate providers as using a participatory decision-making style than non-White caregivers [32]. Additionally, a study found that Hispanic parents rated providers as using less of a participatory decision-making style during pediatric visits than non-Hispanic White patients in West Texas [35].

Prior work in pediatric asthma has found that if youth and caregivers rated their providers as using more of a participatory decision-making style that youth and caregivers were respectively more satisfied with visits [32]. Similarly, researchers found that parents were more satisfied with the care their children received in the Pediatric Intensive Care Unit (PICU) if providers engaged in more family centered care [36]. Ngui and Flores [37] found that Black/White disparities in caregiver satisfaction disappeared when controlling for family centered care measures. Another study discovered that Spanish-speaking parents were less satisfied with certain aspects of provider communication during well child visits than non-Spanish speaking parents [38].

To encourage youth to be more actively involved during visits, we created an ADHD question prompt list and an educational video intervention in partnership with two youth advisory boards and by conducting focus groups with youth with ADHD, caregivers, and providers [39,40]. The intervention seeks to motivate youth to ask questions about ADHD to help them better understand how to manage the condition after leaving the clinic visit. We conducted a randomized, controlled trial of the intervention and found that it significantly improved whether youth asked one or more questions about ADHD during audio-taped visits and if youth did ask one or more questions, then providers educated them more about ADHD medications [40].

However, it was unclear when we examined youth question-asking and provider education whether the intervention was associated with providers including youth and caregiver input into ADHD treatment management decisions more often during the audio-taped visits. This study examined whether youth who received the question prompt list and video intervention and their caregivers were more likely to: (a) be asked their treatment preferences and have their input included into ADHD treatment management decisions during audio-taped visits and (b) rate their providers as using more of a participatory decision-making (PDM) style and be more satisfied with their visits.

2. Materials and methods

2.1. Description of intervention

The question prompt list and video intervention aimed to motivate youth to ask the questions that they have about ADHD and its treatment so that they can better understand how to manage their ADHD after leaving the doctor's office. The intervention is based on Social Cognitive Theory (SCT) and was co-designed with youth [39,41–43]. Self-confidence or self-efficacy is a central component of SCT and our pre-visit ADHD video/question prompt list intervention sought to increase youth self-efficacy in asking questions about ADHD during visits. The intervention uses pre-visit wait time to encourage youth to be actively involved during ADHD visits.

The video used in the intervention was 11 minutes in length and had six themes: talking to your doctor about your ADHD, controlling ADHD without medication, ADHD medications, ADHD and school, ADHD and relationships, talking to your caregivers about ADHD. Each theme encouraged youth to ask more questions during their medical visits about these areas. Each theme had its own video that ranged in length from one to two minutes. The final one-page ADHD question prompt list, which was also co-designed with youth, had 22 questions and was written at the fourth grade reading level (Fig. 1).

2.2. Procedure

Twenty-two providers from two private pediatric practices in North Carolina (NC) agreed to participate in the study. One clinic was in a rural area and one was in a suburban area. Clinic staff referred potentially eligible patients who were interested in learning more about the study to a research assistant. During pre-visit wait time, the research assistant explained the study, obtained written caregiver consent and youth assent, and administered an eligibility screener. Children were eligible if they were: ages 11–17 years; spoke and read English; had an ADHD diagnosis; were present for an ADHD visit; and screened as having predominantly inattentive subtype, hyperactive/impulsive subtype, or combined inattention/hyperactivity on the Vanderbilt parent assessment scale [6–8]. Caregivers were eligible if they were at least 18 years of age, spoke and read English, and were the youth's legal guardian. Youth were enrolled between May 2021 and August 2022.

The study statistician prepared the randomization envelopes. Youth were randomized within providers to the intervention or usual care group, and opaque envelopes were prepared for the research assistants at each site. A group of envelopes was prepared for each enrolled provider. Youth in the intervention group watched the video with their caregivers on an iPad. Depending on the clinic, they either watched it in a private area before the visit or they watched it with earphones in the waiting area. Youth then received the one-page ADHD question prompt list to complete before their visits. Providers were blinded to the youth's group assignment. All visits were audiotape recorded and all youth were interviewed after their medical visits by a research assistant while their caregivers completed questionnaires. Youth and caregivers each received $25 for their time.

2.3. Measurements

Youth age, caregiver years of education, caregiver age, and provider age were measured as continuous variables. Youth and provider sex were measured as dichotomous variables. Youth, caregiver, and provider race were measured using five categories: White, African American, Native American/American Indian, Asian American, or multiple races. Provider type was measured as: physician, physician assistant, nurse practitioner. Youth report of how well the provider knows them was measured using the following categories: very well, moderately well, slightly, and hardly at all.

Patient ID: _____ **Date: _____**

Questions that youth with ADHD often ask:

Read these questions and put checks by the ones you want to ask your provider.

About ADHD:

- ☐ Do a lot of people have ADHD?
- ☐ Are there different kinds of ADHD?
- ☐ Will I grow out of ADHD?

About managing ADHD at home:

- ☐ Does exercise help with ADHD?
- ☐ Should I reduce my screen time to help with ADHD?
- ☐ Does meditation or yoga help with ADHD?
- ☐ What can I do to feel better at home?

About managing ADHD at school:

- ☐ What should I tell my teacher about my ADHD?
- ☐ Will it hurt my school performance if I keep my ADHD private?
- ☐ Can I get any additional time to complete a test?
- ☐ How can I learn to make friends?

About ADHD treatment:

- ☐ How will my ADHD medicine affect me?
- ☐ What are the side effects of my ADHD medicine?
- ☐ Should I take my ADHD medicine while I am at school?
- ☐ Is it okay to take my ADHD medicine with my other medicines?
- ☐ Will I ever be able to stop taking ADHD medicine?
- ☐ Should I take my ADHD medicine before I play sports?
- ☐ Are there ways to treat my ADHD that don't involve taking medicines?
- ☐ How does my ADHD medicine work?
- ☐ Do I have to take my ADHD medicines every day?
- ☐ What can I do to help my appetite?
- ☐ Would talking to a counselor help my ADHD?

Write any other questions you have in the space below:

Fig. 1. ADHD Question Prompt List.

2.4. Youth and caregiver rating of provider use of a participatory decision-making style

Youth and caregiver rating of providers' participatory decision-making (PDM) style was measured using the 3-item scale developed by Kaplan et al. (1995) [44]. The items were: (1) "If there were a choice between treatments for your (your child's) ADHD, would your provider ask you to help him/her make the decision? (definitely yes=5, yes=4, unsure=3, no=2, definitely no=1)"; (2) "How often does your provider make an effort to give you some control over your (your child's)

treatment? (very often=5, often=4, sometimes=3, hardly at all=2, not at all=1)"; and (3) "How often does your provider ask you to take some of the responsibility for your (your child's) treatment? (very often=5, often=4, sometimes=3, hardly at all=2, not at all=1)". A summary score ranging from 0 to 100 was calculated [44]. Higher scores reflected youth and caregivers rating their providers as being more participatory [44–46].

2.5. Youth and caregiver satisfaction with visits

Youth and caregiver satisfaction were measured after the visits. A 12-item Child Satisfaction Questionnaire was used to measure provider-youth rapport and the youth's comfort with communication during the medical visit [47]. Youth were asked to rate how often certain doctor behaviors occurred (e.g. the doctor explained things so I could remember them) and the response categories included: never, not often, sometimes, often, and very often. Youth scores could range from 12 to 60 on the scale, with higher scores indicating greater satisfaction. The instrument has been validated for use in children ages 6–14 and has a Cronbach's coefficient alpha of 0.89. Previous research demonstrates that the Child Satisfaction Questionnaire is significantly associated with children's descriptions of providers on an adjective checklist measure [47].

Caregiver satisfaction was measured using the 26-item Caregiver Medical Interview Satisfaction Scale. Caregiver responses were on a 7-point Likert scale with 1 =strongly disagree, 4 =neutral, and 7 =strongly agree. Caregiver scores could range from 26 to 182, with higher scores indicating greater satisfaction. Previous research has demonstrated that this scale is significantly associated with objective ratings of provider interpersonal skill during medical visits, and it has a Cronbach's coefficient alpha of 0.92 [48–50].

2.6. Communication during visit

All the medical visit audiotapes were transcribed verbatim with identifiers removed. Three research assistants were trained to code the transcripts using a detailed tool developed and used in prior ADHD communication work [51–53]. The transcriptionists and coders were blinded as to whether patients were in the intervention or usual care groups. The coders recorded whether the provider asked the youth and the caregiver for ADHD management preferences and whether the provider included youth and caregiver input into the treatment regimen. The three coders coded 30 out of 100 (30 %) of the same transcripts throughout the study period to assess inter-rater reliability. Inter-rater reliability ranged from 0.82 to 0.97.

2.7. Analysis

All analyses were conducted using SPSS (IBM SPSS, Armonk, New York). Provider race was recoded into a dichotomous variable (White, non-White). Youth and caregiver race was recoded into two variables-Black, non-Black and Native American, non-Native American. First, we computed descriptive statistics for all variables. Next, using chi-square statistics, we examined whether the intervention impacted whether the providers asked for youth and caregiver treatment preferences and whether they included youth and caregiver input into treatment decisions during the audio-taped visits. We then used Pearson chi-square or independent t-tests to examine how the demographic variables were associated with whether providers asked for youth and caregiver preferences during audio-taped visits and whether they included their input. We then used multivariable linear regression to examine how (a) study group (intervention, usual care), (b) youth sex, age, being Black, being Native American, how well the youth rates the provider knowing them, (c) years of caregiver education, and (d) provider age, race, and gender were associated with youth ratings of provider use of a participatory decision-making style. We also examined how caregiver age, being Black, being Native American, gender, education, whether their child was in the intervention or usual care group, and provider age, race, and gender were associated with caregiver ratings of provider use of a participatory decision-making style.

We then investigated how youth gender, age, being Black, being Native American, youth rating of provider use of a participatory decision-making style, youth rating of how well the provider knows them, study group (intervention, usual care), and provider age, race, and gender were associated with youth satisfaction with their visit. Finally, we examined how caregiver age, gender, being Black, being Native American, education, rating of provider use of a participatory decision-making style, whether their child was in the intervention or usual care group, and provider age, race, and gender were associated with caregiver satisfaction with their visit.

3. Results

Twenty-two providers agreed to participate in the study and 21 of these providers enrolled patients. Providers ranged in age from 25 to 57 years (mean age=41.1 years, standard deviation=9.4 years). Fifteen of the 21 providers who had patients enrolled in the study were female. Thirteen providers were White, 4 were Native American, 3 were Asian American, and one was multiple races. No providers identified as Hispanic or African American.

The participation of the patients in the trial is shown in the CONSORT (Consolidated Standards of Reporting Trials) diagram (Fig. 2). One hundred and seventy-four patients approached the research assistant to learn about the study. Thirty-three patients refused to participate because of lack of time or interest. Thirty-nine participants did not meet inclusion criteria (35 youth did not meet ADHD criteria and 4 caregivers did not speak English). One hundred and two families participated in the trial.

Of the 102 enrolled families, 52 were randomly allocated to the experimental intervention group and 50 were allocated to usual care. Two of the visits did not have a usable audiotape recording. Table 1 presents the demographic characteristics. Thirty-one percent of the youth were Black and 12.7 % were Native American. Fifty-six percent of the youth saw physicians, 38 % saw physician assistants, and 6 % saw nurse practitioners.

Providers asked youth for their treatment preferences during 18 % of audio-taped visits and caregivers during 20 % of visits. Providers included youth input into the treatment regimen decisions during 12 % of visits and caregiver input into treatment regimen decisions during 20 % of visits. Youth being randomized to the intervention group did not significantly influence whether providers asked about youth or caregiver treatment preferences or whether they included youth or caregiver input into treatment regimens during the audio-taped visits. Youth being asked for their input into ADHD management decisions by the provider during the audio-taped visits was significantly associated with youth rating their provider as using more of a participatory decision-making style ($t = 1.7$, $p = 0.05$). Youth and caregivers being Black or Native American were not significantly associated with providers asking for or including youth and caregiver input into ADHD management decisions during audio-taped visits.

Youth with ADHD rated their providers high on using a participatory decision-making style (mean=78.4, standard deviation=14.1, range=27–100). Table 2 presents the multivariable linear regression results predicting youth ratings of provider use of a participatory style. Youth in the intervention group were significantly more likely to rate their providers as using a participatory decision-making style than youth in usual care (unstandardized beta=6.8, 95 % confidence interval=1.7, 11.8). Older youth were significantly more likely to rate providers as using a participatory decision-making style (unstandardized beta=1.7, 95 % confidence interval=0.26, 3.2), whereas Black youth (unstandardized beta=-8.8, 95 % confidence interval=-15.3, −2.4) were significantly less likely to rate their providers as using a participatory

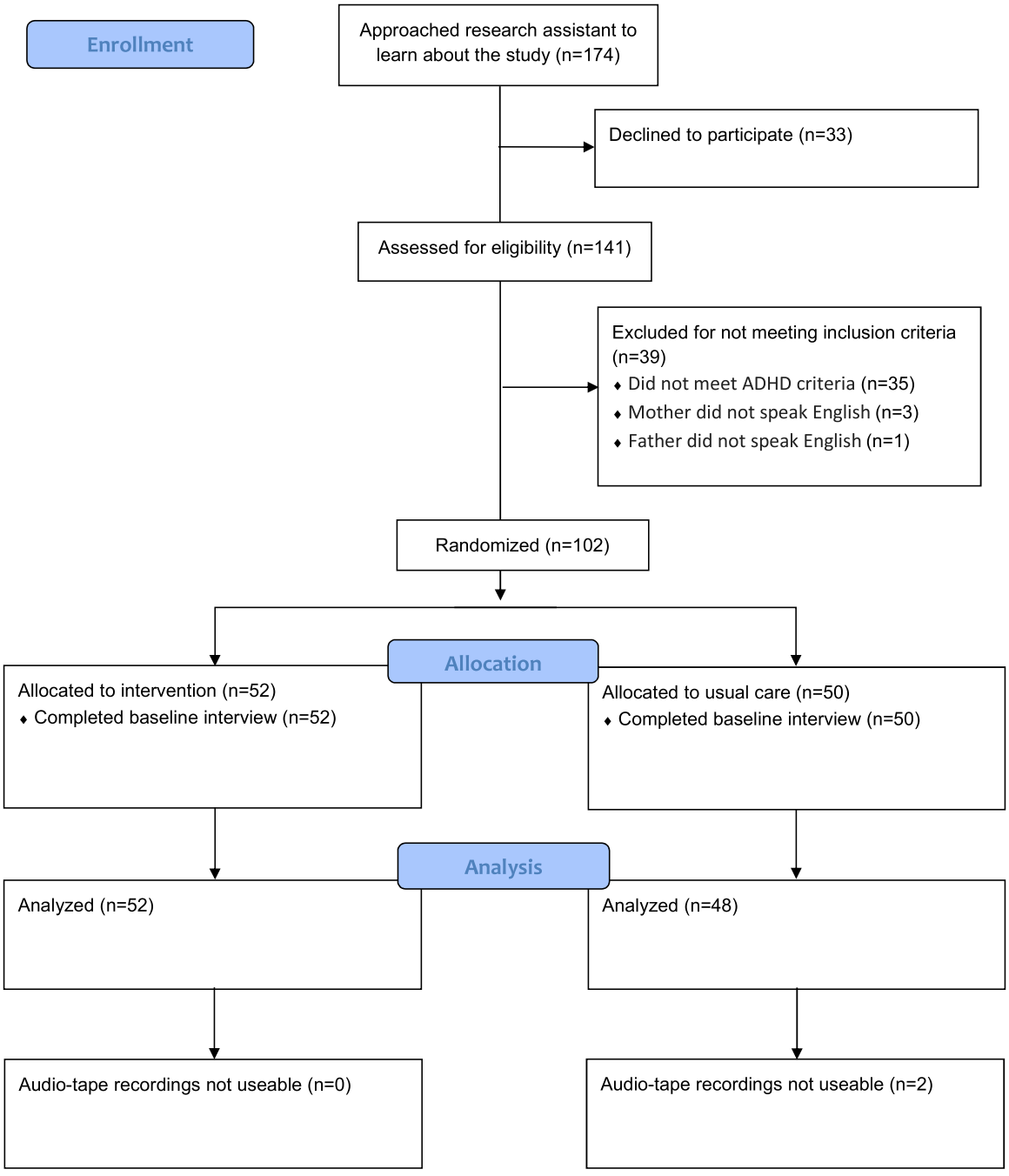

Fig. 2. CONSORT flow diagram of randomized controlled trial participants.

decision-making style.

Table 2 also presents the multivariate linear regression results predicting caregiver ratings of their child's provider's participatory decision-making style. Caregivers rated the youth's provider high on using a participatory decision-making style (mean 84.3, standard deviation=13.1, range=53–100). Black caregivers were significantly less likely to rate their providers as using a participatory decision-making style than non-Black caregivers (unstandardized beta=-8.8, 95% confidence interval=-15.2, -2.4). Caregivers rated White providers as being significantly less likely to use a participatory decision-making style than non-White providers (unstandardized beta=-5.2, 95 % confidence interval=-10.4, −0.05).

Table 3 presents the linear regression results predicting youth satisfaction with their visits. Youth who rated their provider as using more of a participatory decision-making style were significantly more satisfied with their visits (unstandardized beta=0.10, 95 % confidence interval=0.01, 0.19). Youth who rated their providers as knowing them better were significantly more likely to be satisfied with their visits (unstandardized beta=2.9, 95 % confidence interval=1.4, 4.3).

Table 3 also presents the linear regression results predicting caregivers' satisfaction with their visits. Older caregivers were significantly more satisfied with their visits than younger caregivers (unstandardized beta=0.33, 95 % confidence interval=0.01, 0.67). Native American caregivers were significantly more satisfied with their visits than non-Native American caregivers (unstandardized beta=10.5, 95 % confidence interval=0.28, 20.7). Caregivers who rated their providers as using a more participatory decision-making style were significantly more satisfied with their visits (unstandardized beta=0.36, 95 %

Table 1
Youth, caregiver, and provider socio-demographic characteristics (N = 102).

Characteristics	Percent (N)
Youth Gender	
Male	63.7 (65)
Female	36.3 (37)
Youth Black	
Yes	31.4 (32)
No	68.6 (70)
Youth Native American	
Yes	12.7 (13)
No	87.3 (89)
How well youth reports provider knows them	
Very well	42.2 (43)
Moderately well	38.2 (39)
Slightly	13.7 (14)
Hardly at all	5.9 (6)
Caregiver Gender	
Male	12.7 (13)
Female	87.3 (89)
Caregiver Black	
Yes	29.4 (30)
No	70.6 (72)
Caregiver Native American	
Yes	13.7 (14)
No	86.3 (88)
Provider Gender	
Male	36.3 (37)
Female	63.7 (65)
Provider Race	
White	54.9 (56)
Non-White	45.1 (46)
Provider Type	
Physician	55.9 (57)
Physician Assistant	38.2 (39)
Nurse Practitioner	5.9 (6)
	Mean (SD), Range
Youth Age	13.4 years (1.7), 11–17 years
Caregiver Age	48 years (10.2), 25–73 years
Caregiver Education (in years)	12.5 years (2.7), 3–25 years
Provider Age	43.6 years (9.3), 25–57 years

SD=standard deviation

confidence interval=0.09, 0.63).

4. Discussion and conclusion

4.1. Discussion

Providers included youth and caregiver input into ADHD management decisions during 12 % and 20 % of the audio-taped visits, respectively. Providers included youth and caregiver input quite a bit more in treatment management decisions than they did in a pediatric asthma study where providers only included youth and caregiver input during 2.5 % and 3.3 % of visits, respectively, and in a prior ADHD study where they included youth and caregiver input during 3 % and 4.5 %, respectively [30,32]. It is encouraging that providers are including youth and caregiver input into ADHD management decisions more often than they did in earlier studies [30,32]. Additionally, we found that youth being asked for their input into ADHD management decisions by the provider was significantly associated with youth rating their provider as using more of a participatory decision-making style (t = 1.7, p = 0.05).

Both youth and their caregivers rated their providers high in using a participatory decision-making style. However, caregivers rated providers higher for using a participatory decision-making style than youth did (caregiver mean score=84.3, standard deviation=13.1, whereas youth mean score was 78.4 with a standard deviation of 14.1). Older youth significantly rated providers as using more of a participatory decision-making style, whereas Black youth were significantly less likely to rate providers as using a participatory decision-making style than

Table 2
Multivariable linear regression predicting youth and caregiver rating of provider use of a participatory decision-making style (N = 101).

Youth rating of provider participatory decision-making style	**Beta (95 % Confidence Interval)**
Independent Variables	
Youth gender-male	2.6 (−2.7, 7.9)
Youth age	1.7 (0.26, 3.2)*
Youth race-Black	−8.8 (−15.3, −2.4)* *
Youth race-Native American	−2.9 (−11.0, 5.2)
Youth rating of how well provider knows them	1.8 (−1.4, 5.0)
Whether youth was in intervention or usual care group	6.8 (1.7–11.8)* *
Years of caregiver education	−0.46 (−1.4, 0.47)
Provider age	−0.21 (−0.70, 0.28)
Provider race-White	−3.2 (−8.4, 1.9)
Provider gender-female	−9.2 (−18.7, 0.27)
Caregiver rating of provider participatory decision-making style	**Beta (95 % Confidence Interval)**
Independent Variables	
Caregiver age	0.09 (−0.40, 0.58)
Caregiver race-Black	−8.8 (−15.2, −2.4)* *
Caregiver race-Native American	−3.0 (−10.9, 4.8)
Caregiver gender	0.14 (−9.6, 9.9)
Caregiver education (in years)	0.43 (−0.52, 1.4)
Whether youth was in intervention or usual care group	−0.67 (−5.7, 4.3)
Provider age	0.03 (−0.23, 0.29)
Provider race-White	−5.2 (−10.4, −0.05)*
Provider gender-female	−6.9 (−14.6, 0.86)

95 % CI= 95 % Confidence Interval
*p < 0.05, * * p < 0.01, * ** p < 0.001

Table 3
Multivariable linear regression predicting youth and caregiver satisfaction with visits (N = 101).

Youth satisfaction with visit	**Beta (95 % Confidence Interval)**
Independent Variables	
Youth gender-male	−0.57 (−2.9, 1.8)
Youth age	0.43 (−0.24, 1.1)
Youth race-Black	1.7 (−1.3, 4.6)
Youth race-Native American	0.30 (−3.3, 3.9)
Youth rating or provider participatory decision-making style	0.10 (0.01, 0.19)*
Youth rating of how well provider knows them	2.9 (1.4, 4.3)* **
Whether youth was in intervention or usual care group	1.6 (−0.69, 4.0)
Provider age	0.16 (−0.06, 0.38)
Provider race-White	1.6 (−0.78, 3.9)
Provider gender-female	3.0 (−1.3, 7.3)
Caregiver satisfaction with visit	**Beta (95 % Confidence Interval)**
Independent Variables	
Caregiver age	0.33 (0.01, 0.67)*
Caregiver gender	−4.4 (−14.6, 5.8)
Caregiver race-Black	−5.0 (−13.6, 3.6)
Caregiver race-Native American	10.5 (0.28, 20.7)*
Caregiver education (in years)	0.11 (−1.1, 1.4)
Caregiver rating of provider participatory decision-making style	0.36 (0.09, 0.63)* *
Whether youth was in intervention or usual care group	0.04 (−6.5, 6.5)
Provider age	0.32 (−0.32, 0.96)
Provider race-White	3.9 (−2.9, 10.7)
Provider gender-female	−4.0 (−16.7, 8.7)

95 % CI= 95 % Confidence Interval
*p < 0.05, p < 0.01, * ** p < 0.001

non-Black youth. Black caregivers were significantly less likely to rate providers as using a participatory decision-making style than non-Black caregivers. Future research could explore how to improve provider use of a participatory decision-making style with Black youth and caregivers in a way that is more acceptable to them [54].

Despite Black youth and caregivers being less likely to rate their providers as using a participatory decision-making style, providers were not significantly less likely to ask for or to include Black youth and caregiver input into ADHD management decisions during the audiotaped visits. This suggests that asking for and incorporating input might need to be tailored for Black families so that they believe their providers are using a participatory decision-making style with them. Future research should examine how youth and caregivers from different racial and ethnic groups want their providers to involve them in decision making during visits [54].

Youth and caregivers of youth in the intervention group were significantly more likely to rate their providers as using a more participatory decision-making style than those in usual care. Yet providers only asked for youth and caregiver input into ADHD management decisions during 18 % and 20 % of visits, respectively. Future research could explore how to encourage providers to ask both youth and caregivers for input into ADHD treatment management decisions.

Youth were significantly more satisfied with their visits if they thought their provider knew them better as a person. Future research should examine what factors impact how well youth believe that their provider knows them as a person so that interventions can be designed to increase this belief.

Both youth and their caregivers were more satisfied with visits if they rated their providers as using more of a participatory decision-making style. This finding is similar to prior work in pediatric asthma that found that if youth and caregivers rated their providers as using more of a participatory decision-making style then youth and caregivers were respectively more satisfied with visits [32]. Our results are also similar to other studies that found that caregivers were more satisfied if their providers engaged in more family centered care [36,37]. Interventions could be developed to encourage providers to engage in more family centered care or to empower families to be more involved in care so that the visits become more family centered. Future work could also give caregivers question prompt lists to use during visits so both youth and their caregivers are encouraged to ask more questions during visits.

4.1.1. Limitations

The study is limited in generalizability in that it was conducted in two pediatric clinics in North Carolina. Additionally, we do not know how many patients referred by clinic staff chose not to talk to the research assistant. We could not ask the clinic staff to track these numbers because of the busyness of the clinics and our promise not to interrupt workflow. Even though youth were randomized within providers, there was no evidence of contamination since the intervention was successful at increasing youth question-asking in the intervention group but not the usual care group. Another limitation is that the providers might have been unblinded if the provider noticed the youth using the one-page question prompt list during the visit. Another limitation could be that the youth and caregiver ratings of provider use of a participatory decision-making style were so high because of social desirability bias.

4.2. Conclusion

Both youth and caregivers rated providers high on using a participatory decision-making style. Yet providers could include youth and caregiver input more into ADHD management decisions during visits. Black youth and caregivers rated providers lower on using a participatory decision-making style than non-Black youth and caregivers. Youth and caregivers were more satisfied with visits where they rated their providers as using a more participatory style.

4.3. Practice implications

Providers should include both youth and caregiver input into ADHD management decisions. Providers should attempt to use a participatory decision-making style that is more acceptable to Black youth and caregivers.

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CRediT authorship contribution statement

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Declaration of Competing Interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Betsy Sleath reports financial support was provided by The Duke Endowment. Betsy Sleath reports financial support was provided by The University of North Carolina at Chapel Hill Eshelman Institute for Innovation. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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