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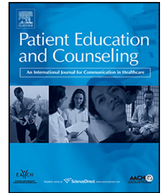

Patient perception, preference and participation

Perceptions of a reproductive health self-assessment tool (RH-SAT) in an urban community health center

Jennifer K. Bello [a,b,*], Katlynn Adkins [c], Debra B. Stulberg [a], Goutham Rao [a,b]

[a] Department of Family Medicine, The University of Chicago, Chicago, USA
[b] Department of Family Medicine, NorthShore University Health System, Evanston, USA
[c] The University of Chicago Pritzker School of Medicine, Chicago, USA

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ABSTRACT

Objective: Physicians face barriers to incorporating recommended contraceptive and preconception health services, including reproductive life plans (RLPs), into primary care. With promising findings from early studies of RLPs, we examined the impact of a novel reproductive health self-assessment tool (RH-SAT) on reproductive health counseling.
Methods: We created the RH-SAT for an urban community health center population and trained providers on preconception and contraceptive guidelines. Semi-structured interviews were conducted to assess perceptions of the tool with 22 patients and with all 15 providers at the clinic. Transcripts were thematically analyzed using a grounded theoretical approach.
Results: Patients and providers reported the RH-SAT presented new and thought-provoking material that promoted patient participation and facilitated counseling.
Conclusion: This RH-SAT is acceptable and useful to patients and providers in an underserved urban health center. In accordance with Medical Communication Alignment Theory (MCAT), increased patient participation in reproductive health discussions may alert providers to patient interest in these topics.
Practice implications: This study provides preliminary evidence that the RH-SAT can help overcome barriers to reproductive health counseling in primary care. Providers may wish to incorporate tools into their practice to improve communication with patients about their reproductive health goals.
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1. Introduction

Many women in the United States become pregnant when they do not feel ready or when they face risk factors associated with adverse pregnancy outcomes. While primary care providers have the opportunity to help women prevent unwanted pregnancy and improve their health prior to conception, this opportunity is often missed [1,2]. Almost half of all pregnancies in the United States are reported as unintended, a rate that has remained unchanged for several decades [3]. In addition, unintended pregnancies have found to be associated with risky maternal behaviors and adverse birth outcomes [4]. In a nationally representative sample of reproductive age women, 52% of respondents reported at least one risk factor that could negatively impact a future pregnancy, including smoking, alcohol consumption, obesity, or diabetes [5].

The connection between pregnancy intention and health outcomes is complex, because while unintended pregnancy and adverse birth outcomes disproportionality affect women who are poor and members of ethnic minorities [3], these groups also experience a higher prevalence of preconception risk factors that can negatively affect maternal and child health [5]. The universal application of the concepts of intendedness of birth and pregnancy planning are problematic, because not only do some women believe planning a pregnancy is not something within their control [6], planning may actually be a distinct concept from wanting to be pregnant [7]. A woman's beliefs and actions surrounding pregnancy are linked to her community, her partner, and her values about childbearing, making it difficult to capture with a dichotomous measure [8]. Recognizing that many women experience pregnancies in the face of preconception risk factors, regardless of whether or not they fit within a framework of planning, addressing women's reproductive goals and preconception health can improve pregnancy outcomes by promoting the overall health of women [9].

The high rate of reported unintended pregnancy in addition to the prevalence of preconception risk factors among women of reproductive age have led the Centers for Disease Control and Prevention (CDC), the American College of Obstetrics and Gynecology (ACOG), and the American Academy of Family

* Corresponding author at: 1001 University Place, Evanston, IL 60201, USA. Tel.: +1 224 364 7303/314 704 4450; fax: +1 847 570 8011.
E-mail address: jbello@bsd.uchicago.edu (J.K. Bello).

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Physicians (AAFP) to recommend that clinicians not only incorporate reproductive health counseling into each clinical encounter, but also encourage all women of reproductive age to create a reproductive life plan (RLP) [9–11]. An RLP is a key component of preconception care meant to help each woman optimize her health before pregnancy or avoid pregnancy until it is desired by assessing her reproductive goals and discussing contraceptive options and/or healthy preconception behaviors in each clinical encounter [12,13]. There is evidence that provision of reproductive health counseling itself can impact patient behaviors. Women who receive contraceptive or preconception counseling are more likely to use contraceptives and carry out healthy preconception behaviors such as pre-pregnancy daily multivitamin consumption and cessation of alcohol consumption before pregnancy [14,15]. Early studies of formal RLPs to improve reproductive health counseling have been promising. One study found that women who completed an RLP designed as a preconception risk assessment form in a family planning clinic were more likely to report a subsequent intended rather than unintended pregnancy [13]. Another found that a set of reproductive life planning questions asked prior to primary care visits led patients to feel more at ease in raising reproductive health topics during their visit [16].

Despite national recommendations and evidence that contraceptive and preconception counseling, including RLPs, are acceptable and can impact patient behaviors, these services have not become a routine part of practice in primary care. For example, one study found that only 32% of women reported receiving preconception care services prior to pregnancy [15]. Barriers to provision of preconception care exist for both patients and providers. Physicians report a lack of knowledge of recommended interventions, limited time [17], and inadequate tools and training needed to implement preconception care [18]. Lack of patient knowledge and demand for services also present substantial barriers [17]. An interventional cohort study found many women lack knowledge of healthy preconception health behaviors, including folic acid use, control of chronic conditions, and importance of seeking a clinic appointment to discuss reproductive health [19]. One reason women may not seek preconception services is because they are not activated, meaning they lack the skills and confidence to manage their preconception health. While the concept of patient activation has not been applied to the reproductive health setting, in studies of healthy patients and those with chronic medical problems, individuals with higher levels of activation were more likely to come to a healthcare visit prepared with a list of questions, engage in preventative behaviors, and have better health outcomes [20,21].

There is evidence that interventions that increase patient participation during clinic visits can enrich provider–patient communication. According to Medical Communication Alignment Theory (MCAT), active communication by patients during clinic visits, such as asking questions and expressing concerns, signals which topics are most important to the patient and prompts providers to address those topics more fully than they might otherwise [22]. Thus when women do not actively seek reproductive health services, providers may not prioritize the topic during a busy primary care visit. Previous studies have shown that patients who were given prompts prior to their visits, such as a list of health topics or a help card with questions to consider asking, had increased participation, a greater sense of control, and increased satisfaction with counseling [23–25]. However, there have been no studies to date assessing the impact of patient prompts on reproductive health counseling.

This study examines how a patient prompt, the reproductive health self-assessment tool (RH-SAT), given before a primary care visit can impact the provider–patient interaction around reproductive health counseling. This patient prompt is a novel type of RLP that provides patients the opportunity to give forethought to reproductive health topics. It was designed for use in a primary care clinic serving a low-income African-American population. The purpose of this hypothesis-generating study is to apply qualitative methodology to (1) assess patients' and providers' perceptions of a novel reproductive health self-assessment tool (RH-SAT), and (2) determine patients' and providers' perceptions of optimal reproductive health counseling to understand ways to improve the quality of counseling in primary care.

2. Methods

2.1. Study intervention

A novel RH-SAT called "My Reproductive Hopes," with a Flesch–Kincaid reading level of 4.8, was created specifically for the low-income African-American women served by the study clinic. The tool was designed in three steps: (1) the CDC's recommendations and current research on RLPs were reviewed to develop content; (2) experts in the field were consulted, including a leader in the development of preconception health recommendations, a family planning researcher, and maternal child health staff at the intervention clinic with knowledge of the patient population; and (3) the tool was pre-tested to ensure acceptable language and content with 8 women in the target population. The RH-SAT asks women to consider their feelings about pregnancy and provides information on reproductive health topics. Based on patient feedback and consistent with the literature [6–8], the tool's title and content embrace that women may not know how they feel about pregnancy or may choose to not plan their pregnancies. Table 1 illustrates content from the RH-SAT.

The RH-SAT was implemented as part of a clinic-level intervention at a community health center in Chicago that serves a low-income African-American population. All women 18–44 years old who entered the clinic for a visit between July 2 and October 19, 2012 were eligible to receive an RH-SAT that was distributed by the front desk staff or a medical assistant who instructed the women to review the tool and decide if they wanted to show it to their provider during their visit. In addition to the tool, women were given a consent-to-contact form they could complete and return to a locked box. As part of the clinic's larger efforts to improve maternal child health in the patient population, providers received a brief training by members of the research team prior to July 2, 2012 reviewing the guidelines for incorporating preconception health and reproductive goals assessment into primary care. Providers completed a 10-item quiz assessing their knowledge of the topics before and after training. The average score improved from 72% before the training to 90% after the training ($p < 0.001$).

2.2. Study participants

Women aged 18–44 who received a booklet and returned a consent-to-contact form were recruited prospectively during the intervention period. As the focus of this intervention was on routine primary care, women who were pregnant, within 12 months of their most recent birth, permanently sterilized and/or had their primary reason for visit related to contraception or family planning were excluded. Sample size was determined based on the goal of theme saturation, which is reached when the data collected captures the range of experiences in the population.

All 15 providers who were in practice from July 2 to October 19, 2012 were recruited by email after the intervention period. Due to the limited number of providers, sample size was determined by the total number of providers rather than theme saturation. All participants were given a $30 gift card upon completion. All

Table 1
Reproductive health self-assessment tool (RH-SAT) content.

Page 1: **My Reproductive Hopes**

Women have different feelings about pregnancy. Feelings often change when…

- You get older or your kids get older
- You get a new partner, married, or divorced
- Your job or school plans change

Instructions: Go through this booklet and think about your hopes and wishes.
Your doctor can help you find ways to achieve your hopes.
Talk with your doctor about any questions you might have.

1. **If you want kids or want more kids some day,**
   Answer all of the pink questions on page 2 inside
2. **If you do not want kids or any more kids,**
   Answer all of the green questions on page 3 inside
3. **If you are not sure how you feel about having kids right now,**
   Answer all of the blue questions on page 4 on the back

This booklet was designed for women who are not currently pregnant and for women who partner with men. If you are pregnant or if you only partner with women, you are still invited to complete this booklet. Many women may find it helpful to learn how to improve their reproductive health.

Page 2: **If you want (more) kids now or in the future…**

1. **How many (more) kids do you hope to have?** _____
2. **You may or may not have kids already. When do you hope to become pregnant or pregnant again?**
   □ As soon as possible
   □ Sometime in the next 12 months
   □ 1-5 years from now
   □ More than 5 years from now
3. **Your health affects getting pregnant and staying pregnant. Your health also strongly affects the health of your baby. It is best to improve your health before you get pregnant. Your doctor can help. Check the things you want your doctor to talk to you about.**
   □ Vitamins to be healthy before pregnancy, like folic acid
   □ How your family history can affect your pregnancy
   □ How your weight can affect your pregnancy
   □ Ways to reduce stress □ Ways to quit smoking
   □ How to cut down on drinking alcohol
   □ How medications you are taking can affect pregnancy
   □ How earlier pregnancies can affect your next pregnancy
   □ I am not sure if I am able to get pregnant
   □ How long to wait to get pregnant after having a baby, miscarriage, or abortion
   □ Anything else___________________________________
4. **Show this booklet to your doctor if you want.**
   You can also talk to your doctor today about ways you can have a healthy pregnancy now or in the future.
5. **Do you want to wait to get pregnant?** □ Yes □ No
   If Yes, please answer all of the green questions on page 3.

Page 3: **If you do not want (more) kids right now…**

1. **Do you…** □ Want to wait to have kids later
   □ Want no (more) kids
   □ Want to learn about birth control but are not sure how you feel about having kids
2. **What have you tried in the past to prevent pregnancy?**
   □ Birth control pills □ Depo-Provera Shot
   □ Ortho Evra patch □ Condoms □ Essure
   □ Tubal ligation (tubes tied) □ Nuva Ring
   □ No sex (abstinence) □ Implanon (the implant)
   □ Natural Family Planning □ My partner pulls out (withdrawal)
   □ Intrauterine device (IUD) □ My partner had a vasectomy
3. **Trying to prevent pregnancy can be hard. Did you have problems with any of the birth control methods you used in the past? Check the things that may have happened.**
   □ Stopped birth control because of side effects
   □ Got pregnant on birth control
   □ Missed your doctor appointment for birth control
   □ Forgot to take birth control
   □ Forgot to use condoms every time you had sex
   □ Was not planning on having sex, but it just happened
4. **What do you want to do to prevent getting pregnant *now*?**
5. **Your doctor can help you to prevent pregnancy right now. What kind of help would you like from your doctor? Check the things you want your doctor to talk to you about.**
   □ Side effects of birth control
   □ How effective different birth control methods are
   □ How condoms are the only birth control that prevent STDs
   □ The types of birth control that might be best for you now
   □ Common problems some women have with birth control
   □ If birth control can keep you from getting pregnant later
6. **Show this booklet to your doctor if you want. You can also talk to your doctor today about how to prevent getting pregnant.**

Page 4: **If you are not sure how you feel about having kids...**

1. **Women have many different feelings about pregnancy. Some women...**
   - **Cannot decide whether or not they want to get pregnant**
   - **Want to get pregnant but without planning, it will just happen**
   - **Would be happy with or without (more) kids**
2. **How would you say you feel about pregnancy right now?**
   □ You are ready to be pregnant
   □ You are not ready to be pregnant
   □ You are not sure how you feel about pregnancy right now
3. **If you are not sure what you want, you may not use birth control all of the time. If you are sexually active, you could get pregnant. Even if you are not ready to be pregnant, it is important to be healthy when it happens so you and your baby have the best chance of being healthy. Check the things you want your doctor to talk about.**
   □ Vitamins to be healthy before pregnancy, like folic acid
   □ How your family history can affect your pregnancy
   □ How your weight can affect your pregnancy
   □ Ways to reduce stress □ Ways to quit smoking
   □ How to cut down on drinking alcohol
   □ How medications you are taking can affect pregnancy
   □ How earlier pregnancies can affect your next pregnancy
   □ Birth control you can use until you are ready for pregnancy
   □ I am not sure if I am able to get pregnant
   □ How long to wait to get pregnant after having a baby, miscarriage, or abortion
   □ Anything else ________________________________
4. **Show this booklet to your doctor if you want. You can also talk to your doctor today about ways you can be healthy now, before you get pregnant.**
5. **Do you want to read about birth control?** □ Yes □ No
   If Yes, please answer all of the green questions on page 3 inside.

participants provided oral informed consent. This study was approved by the Institutional Review Board of the University of Chicago.

2.3. Procedures

Patient participants were contacted within 3 days of their clinic visit to determine eligibility. Eligible women participated in a semi-structured phone interview within 7 days of their clinic visit that lasted approximately 30 min. Women were asked questions about their perceptions of the RH-SAT and their experiences with reproductive health counseling in general. Patients were informed that there were no correct or wrong answers, their answers would not be disclosed to their provider or affect their medical care, and they were free to not answer any questions. After the interview, women answered 9 demographic survey questions.

Providers participated in a semi-structured, face-to-face interview, which lasted approximately 30 min in a private office. Providers were asked questions about their perceptions of how the training and RH-SAT impacted the reproductive health counseling they provided as well as their experience with this type of counseling in general. Providers were informed there were no correct or wrong answers and they were free to not answer any questions. After the interview, providers completed a survey with 7 demographic questions.

2.4. Data analyses

Both patient and provider interviews were recorded using a digital audio recorder. Interviews were transcribed verbatim by a member of the research team after interview completion. Two members of the research team independently reviewed the interviews in batches of 3–5 before proceeding with additional interviews. The informal analysis of themes from early interviews was used to determine theme saturation and informed later data collection.

Transcriptions were coded in a qualitative data management program (Atlas.ti Scientific Software Development, GmbH, Berlin, Germany) according to themes decided on by the two investigators through an iterative process. Themes were allowed to emerge from the data inductively through a grounded theoretical approach [26]. Coded transcripts were reviewed and assessed for inter-reviewer agreement. Discussion among investigators resolved any inconsistencies in interpretation. Emergent themes were illustrated with specific quotations.

3. Results

Three hundred and nineteen RH-SATs were distributed between July 2 and October 19, 2012. Study enrollment ended on September 12 when theme saturation was reached after completion of 22 interviews. Prior to September 12, 187 booklets were distributed and 99 consent-to-contact forms were returned. The research team was able to contact 47 of the 99 women by phone, 22 of whom were eligible and completed an interview (Fig. 1). All 15 providers working at the clinic between July 2 and October 19, 2012 consented to participate and completed interviews.

Table 2 describes demographic characteristics of the patient participants. A majority of the women interviewed self-identified as African-American ($n = 21$) and roughly half reported completing 1–3 years of college ($n = 11$). Over half of the women reported seeing a female doctor ($n = 15$) who they considered their primary provider ($n = 16$). Table 3 describes demographic characteristics of the provider participants. Over half of the providers interviewed were female ($n = 9$), identified as white ($n = 9$), and had been employed at the clinic for 1–4 years ($n = 9$).

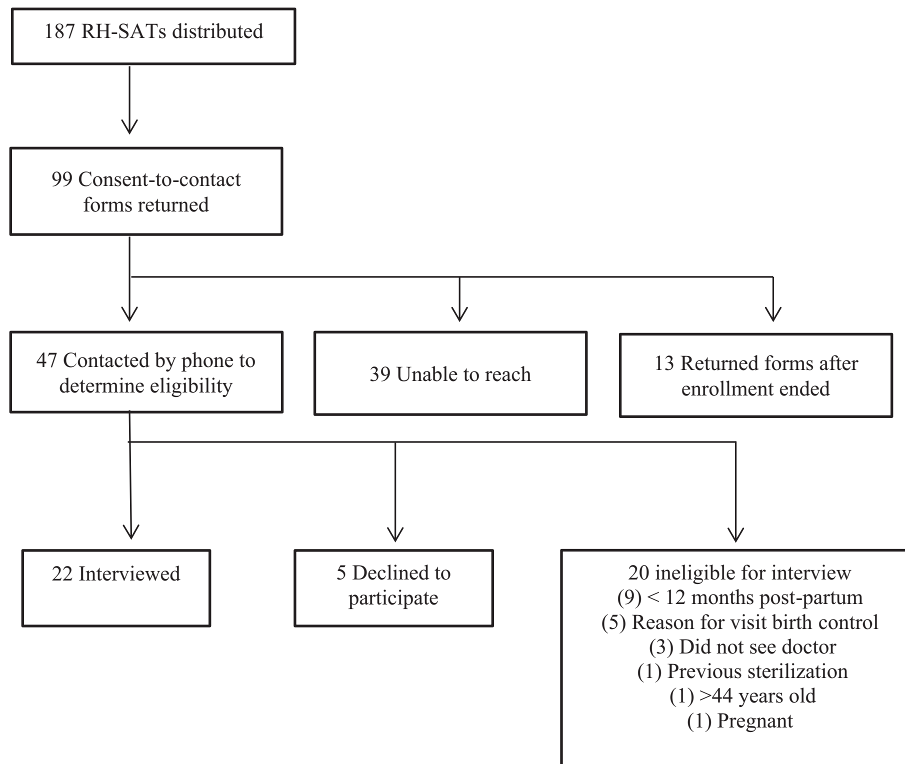

Fig. 1. Flow diagram of patient enrollment, July 2–September 12, 2012.

Table 2
Patient participant demographics ($n = 22$).

	n (%)
Race[a]	
Black or African American	21 (96)
White	1 (5)
Asian or pacific islander	0
American Indian/Alaskan Native	1 (5)
Other	1 (7)
Ethnicity	
Non-Hispanic	22 (100)
Age	
18–24 years	6 (27)
25–30 years	4 (18)
31–35 years	7 (32)
36–44 years	5 (23)
Education level	
<4 years of high school	2 (9)
4 years of high school	4 (18)
1–3 years of college	11 (50)
4 years of college or more	5 (23)
Currently in school	8 (36)
Currently employed	9 (41)
Children	
0	5 (23)
1	6 (27)
2	7 (32)
3 or more	4 (18)
Currently in relationship	17 (77)
Type of relationship ($n = 17$)	
Married	2 (12)
Cohabiting	8 (47)
Neither	7 (41)
Provider characteristics	
First time at clinic	2 (9)
First time seeing this provider	8 (36)
Primary care provider	16 (72)
Female provider	15 (68)

[a] Respondents were able to report more than 1 race.

Table 3
Provider participant demographics ($n = 15$).

	n (%)
Race[a]	
Black or African American	1 (7)
White	9 (60)
Asian or pacific islander	5 (33)
American Indian/Alaskan Native	0
Other	1 (7)
Ethnicity	
Non-Hispanic	14 (9)
Gender	
Female	9 (60)
Age	
25–35 years	7 (47)
36–40 years	5 (33)
41–46 years	3 (20)
Family medicine provider type	
Resident	6 (40)
PGY1, *n*	2
PGY2, *n*	2
PGY3, *n*	2
Attending	6 (40)
Nurse practitioner	1 (7)
Maternal child health fellow	2 (13)
Length of employment at study clinic	
<1 year	4 (27)
1–4 years	9 (60)
5–16 years	2 (13)
Years out of residency ($n = 9$)	
<1 year	1 (11)
1–4 years	5 (56)
5–16 years	3 (33)

[a] Respondents were able to report more than 1 race.

3.1. Qualitative results

3.1.1. Patient and provider perceptions of the RH-SAT

3.1.1.1. Effective format. Both patients and providers felt the RH-SAT was displayed in an effective format that was informational and easy to use. Providers felt that patients having filled out the booklet streamlined the visit by organizing the patients' thoughts.

3.1.1.2. Thought-provoking content. Many patients said the RH-SAT contained thought-provoking content, including new information they had not previously considered about preconception health and reproductive goals. In addition, the RH-SAT prompted many patients to self-reflect about these topics. Almost all providers felt the education prior to the intervention period challenged the way they present reproductive health topics, specifically that they often assume patients do not want to be pregnant rather than eliciting their pregnancy goals. Some providers, especially residents, said this was their first introduction to the topic of preconception health.

3.1.1.3. Facilitated reproductive health counseling. Many women actively participated during the clinic visit by showing the RH-SAT to their provider and using it to remember questions they wanted to ask or to ask questions they had not considered prior to completing it. Providers said that patients who had completed the RH-SAT appeared to have given more forethought to their reproductive goals and they engaged in a more focused and patient-driven discussion about reproductive health. Table 4 gives examples of participants' perceptions of the RH-SAT.

3.1.2. Factors that influence satisfaction with and quality of reproductive health counseling

3.1.2.1. Patient-initiated counseling. Most patients said they would feel comfortable bringing up contraception, preconception health, and their reproductive goals with their primary provider at every visit because they feel it is their providers job to listen. However, providers said that patients only bring up contraception when it is their reason for the visit, and that patients rarely, if ever, bring up preconception health. All of the providers would prioritize a topic if their patient were to bring it up. In addition, several providers who reported rarely addressing preconception health with their patients explained they would spend more time learning about and discussing the topic if their patients brought it up. Finally, providers felt that when patients bring up reproductive health topics the conversation is more focused because it is driven by the patients' needs rather than by information the provider chooses to offer.

3.1.2.2. Provider-initiated counseling. Many patients wanted their providers to initiate more conversations about preconception health and pregnancy plans because it is their providers' job to bring up these topics. Many providers bring up contraception at every visit, while others rely on their patients to bring it up. However, providers report rarely bringing up preconception health or pregnancy plans because of time limitations and their belief that patients are not interested. When providers initiate conversations about reproductive health, they often provide more general educational counseling that is not focused on the patients' particular goals. Many providers believe this general counseling takes more time because patients have not given forethought to the topics.

3.1.2.3. Attitudes and assumptions about pregnancy. Several patients expressed that while they often do not know how they

Table 4
Patient and provider perceptions of the RH-SAT and provider training.

Patient responses ($n = 22$)		Provider responses ($n = 15$)	
Sub-themes	Illustrative quotations	Sub-themes	Illustrative quotations
Theme 1: Effective format			
Ease of use	I thought it was very informational. It asked questions that I could understand and also relate with, and questions I've never thought of.	Time/efficiency	[The RH-SAT] made the visit much faster. I already had the answers to the questions that I potentially would have asked... I think it streamlined the visit. It organized the patient's thoughts a little bit more.
Theme 2: Thought provoking content			
Self-reflection of novel content	I really never have [thought about health before pregnancy]... It wasn't something that has been presented. It's like you just get the baby and when you're pregnant you just go and talk to the doctor during the pregnancy. But BEFORE the pregnancy, if you really thought about some of these things, then you would kind of do a little more, different things.	Challenge assumptions	I do like how [the provider training] kind of changed my counseling. I sometimes feel like we force birth control on people that really don't want it... it was good to take a step back and realize people might actually want to get pregnant. It really has made me take a step back and think about the way I'm presenting things.
Theme 3: Facilitates reproductive health counseling			
Prompt to ask questions	I'm glad that I had the booklet to help me remember to ask him about those questions. So, that booklet helped me out a lot...we had a good visit yesterday.	Patient-driven counseling	Well, it was nice because [the patient] could guide the conversation. It wasn't so much me. I could just ask them what they were thinking or what they got from [the RH-SAT].
Promotes communication	I think the booklet is what helped me talk to him about it. He said, "Hey, you're 31, what do you want to do?" And, I'm like, "Well, I don't know. But I do know I don't want to get pregnant again and have an abortion. So I want to prevent this now into the future".	Increased patient awareness	The women that had it and had filled it out seemed to be much more thoughtful about the situation than if I ask out of the blue, "What's the future hold for you and childbearing?"

Table 5
Patient and provider perceptions of factors that influence reproductive health counseling.

Patient responses ($n = 22$)		Provider responses ($n = 15$)	
Sub-themes	Illustrative quotations	Sub-themes	Illustrative quotations
Theme 1: Patient-initiated counseling			
Feel comfortable bringing up any topic	I think it's only because I've had such a long term relationship with my doctor that I do feel comfortable asking those questions...If you don't have a relationship with somebody, you're not gonna feel comfortable talking to them, and they can't read your mind so they're definitely not gonna ask the questions that you're thinking about.	Patients rarely bring up pregnancy plans or preconception health	1. Because it is so rare I think if somebody said they did want to [get pregnant], I would shift the focus and try to figure out, you know, are they ready based on any other medical conditions or things. 2. [If patients brought up preconception health] it would definitely make me feel the need to learn more information about it, and therefore be able to better counsel them.
Provider's job to listen	Yeah, maybe when I was younger I would feel very, you know, a little uncomfortable about bringing up [problems with trying to conceive] on the first doctor's visit. But now that I know if you're a doctor, you're a doctor. You're here to listen. You know, help solve the problem.	Focused, patient-driven counseling	When a patient brings up the contraception topic, she usually brings it up with a decision made. I wanna have babies, or I want contraception. I would have to say [this is] easier and focused and more guided.
Theme 2: Provider-initiated counseling			
Should ask about pregnancy plans and preconception health	Yes, [doctor's should ask when you want to be pregnant] because if you educate [women] on their options, I think that it will be easier to plan getting pregnant...And it could prevent unwanted pregnancies. Or it could help someone that is trying to conceive.	Providers rarely bring up pregnancy plans or preconception health	I think it's limited time, the high number of complaints that have to be addressed in that specific and very limited time. Well, guess what...preconception counseling, why would I even address it when someone didn't even say that they're interested to get pregnant.

Table 5 (*Continued*)

Patient responses (*n* = 22)		Provider responses (*n* = 15)	
Sub-themes	Illustrative quotations	Sub-themes	Illustrative quotations
Provider's job to bring up	I feel like it's kind of their job. If they don't ask then, I feel like, you know, what are they here for? I feel uncomfortable [bringing] this subject up to them because they are not making me feel comfortable by asking me. So I'd probably feel uncomfortable asking them.	General educational counseling	In those situations where somebody's ambivalent, I'm not getting a lot of response from the patients. So, I'm saying "so how do you feel about this?" "I don't know." "Do you want to do this?" "Ah, not really." So sometimes I feel like I'm delivering a lecture which is maybe the best I'm gonna be able to do, hoping that will stimulate some thought and maybe a return visit.
Theme 3: Attitudes and assumptions about pregnancy			
Pregnancy planning	Like I said, pregnancies are never planned. And you never know, a hundred percent of the pregnancies, they're never planned. Some are! But some aren't. And a lot of people, they've never asked these questions [from the RH-SAT]. And some people don't know what to ask their doctors.	Patient indifference	If they're not on any [birth control] and they say, "Oh, I don't want to be on anything." Then I'll say, "Okay, well when do you want to be pregnant?" And, you know, most of them don't want to be for a while. Or they'll say, "Oh, I don't care, if it happens it happens, but I don't really want to be," and that's harder. I don't know necessarily how to handle that.

feel about becoming pregnant at a certain time and that pregnancy cannot be planned for some women, preconception health information and knowledge of questions to ask their provider would be useful to them. Many providers feel their patients are indifferent about the idea of pregnancy because they do not want to be pregnant but are not trying to prevent it. In these situations, providers feel they are unable to have an open dialog with their patients, and some expressed that they do not provide preconception counseling believing patients they perceive to be indifferent will not take prenatal vitamins or change their health behaviors. Table 5 gives examples of factors that influence reproductive health counseling.

4. Discussion and conclusion

4.1. Discussion

Our findings indicate that patients and providers believe this novel RH-SAT is acceptable in the primary care setting and has the potential to improve the quality of reproductive health counseling by increasing patient awareness and participation in discussion of these topics. In addition, the study findings indicate the RH-SAT has the potential to positively impact women's health behaviors by activating patients to consider their reproductive goals and by prompting patients to initiate and participate in discussions of these topics with their providers.

Our results indicate that both patients and providers rarely initiate discussions of reproductive goals and preconception health, though both groups indicated these topics are important components of primary care. Evidence that exposure to the RH-SAT increased patient awareness and initiation of counseling suggests that this tool may be one way to address these barriers. Consistent with the literature on patient prompts [23–25], patients who completed an RH-SAT remembered to ask questions about reproductive health during their visit, leading to increased patient participation. In accordance with the Medical Communication Alignment Theory (MCAT), providers reported they prioritize discussion of topics that patients bring up [22]. Patients find reproductive goals assessment to be important and relevant to their care, but limited knowledge and need of prompting to remember to ask questions limit patients' ability to ask for counseling. With limited time and multiple issues to be addressed during primary care visits, a patient prompt like the RH-SAT can help patients remember to ask questions they feel are important about their reproductive health, potentially leading providers to prioritize their concerns or schedule a separate visit to discuss these topics. Further, when patients give forethought to reproductive health topics, providers tend to offer more patient-centered counseling that takes less time because it is focused on the patient's specific goals rather than on providing general information.

Of particular interest, the RH-SAT may be useful for facilitating communication between providers and their patients who appear to be indifferent about pregnancy. While many providers reported challenges in providing reproductive health counseling to patients they believed to be indifferent, our findings suggest that providers may get this perception in some cases not because of actual indifference about pregnancy, but because many patients have not considered these topics before and may not identify with ideas of pregnancy planning. By providing patients with a tool that raises awareness of reproductive health topics in a way that acknowledges women may not know how they feel about pregnancy or choose to plan, the RH-SAT is a resource for overcoming this specific barrier to communication that many of the providers reported.

The study findings demonstrate several ways primary care providers can improve reproductive health counseling. Many providers appreciated being introduced to a framework for counseling centered on assessing women's pregnancy goals, and it is likely that other providers would benefit from similar education. In addition, many residents were never exposed to preconception care in their training prior to participation in this study. Despite the creation of evidence-based preconception practice guidelines [18] and positive findings from one study evaluating a preconception health curriculum among primary care residents [27], additional efforts need to be made to incorporate these topics into medical education.

While this study explored qualitative perceptions instead of measuring patient-oriented outcomes, the findings point to a potential impact on women's health behaviors. There is evidence that asking about pregnancy plans and preconception health can increase pregnancy planning and improve preconception behaviors [13,15]. More research is needed to determine if a reproductive health self-assessment tool in the primary care setting is as effective. In addition, providers reported offering more personalized counseling when patients initiated the discussion after completing the booklet. Increased personalization in counseling has been shown to impact women's contraceptive behaviors [14], leading us to believe that incorporation of the RH-SAT into primary care visits may be able to change reproductive health behavior by impacting the provider–patient interaction through increased patient participation. Finally, prior studies of patient activation in the chronic disease setting have found that patients who are more activated have better health outcomes [20]. Findings from our study suggest that this self-assessment tool has the potential to activate patients to consider their reproductive health goals, promote provider incorporation of these topics into visits, and may ultimately lead to a change in patient behaviors.

Future work should include expanding the study of the RH-SAT to other populations, including teenagers, non-English speakers and other socioeconomic groups, who may have different reproductive health needs. While this qualitative study suggests that the RH-SAT increased patient awareness and participation in the clinic visit, we plan to test this hypothesis in future studies by measuring the effect of the RH-SAT on patient knowledge, activation, and participation. Finally, as the purpose of reproductive health assessment is to help women achieve their reproductive goals, future work should study patient-oriented outcomes, including contraceptive adherence and preconception health behaviors.

This study has several limitations. The participants and providers were drawn from a single clinic making it difficult to generalize the findings to different settings. In addition, this intervention requires support from clinic administrators as well as staff participation in an altered workflow, which can be challenging to sustain. These limitations aside, we believe this study represents an important starting point and a framework for further research in this area.

4.2. Conclusion

Primary care providers have a unique opportunity to impact women's and children's health by providing patient-centered reproductive health counseling. Using the RH-SAT as a prompt can increase patient awareness and participation in discussions of reproductive health topics. Consistent with the Medical Communication Alignment Theory (MCAT), increased patient participation has the potential to impact provider communication by promoting discussion of topics patients feel are important. In addition, increasing provider education and engagement with patients has the potential to impact provider practice and increase discussion of preconception health including assessment of women's reproductive goals.

4.3. Practice implications

A reproductive health self-assessment tool is one way to overcome the many barriers primary care providers face in delivering preconception and contraceptive care. Providers should consider incorporating a self-assessment tool like the RH-SAT into their practice to promote patient participation and facilitate high-quality patient-centered reproductive health counseling.

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Conflicts of interest

The authors have no conflicts of interest to disclose.

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