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Shared Decision-Making for Contraceptive Counseling Among Women Seeking Services at Safety Net Clinics in South Carolina and Alabama

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ABSTRACT

Shared Decision-Making for Contraceptive Counseling Among Women Seeking Services at Safety Net Clinics in South Carolina and Alabama

by

Dumisa Nyarambi

Shared decision-making (SDM) for contraceptive counseling and method initiation is a hallmark of patient-centered care; SDM is associated with patient satisfaction, method continuation, and the prevention of pregnancy and short inter-pregnancy intervals. To achieve a high-quality experience for women Person-centered approach to counseling is the preferred approach to achieve SDM. Demographic factors and women's perceptions of their providers have been linked to decision-making. Literature is lacking on SDM practices in safety net clinics, particularly in local health departments. Exploring these constructs is important to inform practices and policies for family planning. This research aimed to examine: 1) the influence of sociodemographic factors on SDM; 2) the influence of SDM on contraceptive method choice; and 3) the effect that women's perceptions of their providers might have on SDM and associated contraceptive method choice, among non-white women in South Carolina and Alabama. Secondary data were from a longitudinal study that surveyed women of reproductive age (16 to 44 years) from the two states. The data used for this research were collected from non-white women between October 2018 and September 2020 as part of a larger evaluation effort. Bivariate and multinomial analyses were conducted to assess associations and relationships. In Study 1, significant differences in SDM were observed for income and age, with younger women and lower income women having increased odds of engaging in SDM compared to older and higher income counterparts. In Study 2, multinomial analysis indicated that, compared to those who maintained autonomy over their decision, those whose decisions were shared and provider-driven had higher odds of choosing a short-acting method over a less

effective method (OR = 1.608 and OR = 2.314, respectively). In Study 3, associations between SDM and women's perceptions of providers were observed. Compared to those who maintained decision-making autonomy and had positive perceptions of providers, those who engaged in SDM and those whose decisions were least autonomous were more likely to choose a short-acting method over other, less effective contraceptive methods. There is need to further examine whether SDM is underutilized in these settings.

DEDICATION

This dissertation is dedicated to my daughters, Munashe and Rumbidzai. Thank you for loving me well during this journey; and providing a sense of urgency to get this done so you can ‘have me back’. I know that now you fully understand the big picture.

To my mother, you modeled the family and career balance. Thank you for setting the bar high, and inspiring me.

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Thank you, God for seeing me through this doctoral program; I acknowledge that you have ordered my steps and brought me this far. Indeed, you are my refuge; my God in whom I trust.

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Chapter 1. Introduction

Unintended pregnancy, which is defined as a pregnancy that is unwanted or mistimed, is considered an indicator of the reproductive health of a population. Almost half (45%) of pregnancies in the United States (US) are unintended (Finer & Zolna, 2016). Among women aged 15 to 44, up to 48% have experienced an unintended pregnancy (Curtis et al., 2016; Finer & Zolna, 2016; MacCallum-Bridges & Margerison, 2020; Yazdkhasti et al., 2015). Unintended pregnancies are socially disadvantageous to women and their infants (Finer & Kost, 2011; Sonfield & Kost, 2015). The annual public expenditure associated with unintended pregnancy is $21 billion (Iseyemi et al., 2017; MacCallum-Bridges & Margerison, 2020). A cost-benefit analysis illustrated that policy changes to improve contraception access and decrease the national expense of unintended pregnancy will result in $4 in savings for every dollar spent (Haider et al., 2013). Studies suggest that unintended pregnancies fall disproportionately on younger, non-white women with lower education and income (MacCallum-Bridges & Margerison, 2020; Smith et al., 2016). Achieving health equity and eliminating disparities is one of the Healthy People 2030 overarching goals; the focus for the next ten years will be to increase family planning services and contraceptive use (National Academies of Sciences, Engineering, and Medicine, 2019). Promising strategies to achieve these goals include: patient-centered contraceptive counseling; expanding contraception access by equipping safety-net clinics to provide a comprehensive range of contraception choices; and addressing hierarchical barriers (Hale et al., 2020).

Contraceptive counseling plays an integral part in facilitating contraception initiation among women of reproductive age. Contraceptive decisions can be made by the patient or by the provider, or the two can make a shared decision. SDM for contraceptive counseling and method initiation is a hallmark of patient-centered care and is associated with patient satisfaction, method continuation and prevention of unintended pregnancy and short inter-

pregnancy intervals. The various contraceptives available to women allow for a choice between short- and long-acting methods, and also permanent and barrier methods. While all contraceptives are designed to prevent pregnancy, there are some that are more effective than others. There are multiple ways to assess contraceptive effectiveness. Contraceptive effectiveness for short-acting and less effective methods is measured either assuming consistent and correct use (i.e., perfect use) or assuming inconsistent and incorrect use (i.e., typical use). In contrast, effectiveness metrics for implants and intrauterine devices (IUDs) center method continuation over adherence. We therefore see a difference in measuring success by continuation versus adherence (Halpern et al., 2013). The risk of unintended pregnancy increases with the use of the least effective methods and is an important point to discuss during contraceptive counseling. Contraception uptake is the first step in unintended pregnancy prevention.

SDM is designed to ensure that women's preferences and priorities are considered during contraceptive counseling (Dehlendorf, Grumbach, et al., 2017a). This type of decision-making encourages patient autonomy. In contrast, provider-driven decision-making is least autonomous and considered coercive. In patient-driven decision-making, the opinions of the provider are elicited by the patient for consideration; however, the patient maintains the most influence over the decision (Dehlendorf, Kimport, et al., 2014). This study examined SDM in contrast to provider- and patient-driven decision-making.

Local health department (LHDs) and Federally Qualified Health Centers (FQHCs) are safety-net health care centers that provide preventive health and primary care services to populations that are underserved, uninsured and underinsured. Safety-net centers have a shared mission of providing care to individuals irrespective of their ability to pay for the services. Known as the provider of "last resort," they serve a disproportionate number of non-white communities, underserved US citizens, Medicaid-insured patients and others in vulnerable positions (Nguyen et al., 2016). Their family planning services are, therefore, of great

importance to those at risk of unintended pregnancy (Shah et al., 2019). FQHCs are community-based health care providers that receive funds from the Health Resources and Services Administration (HRSA) Health Center Program to provide primary care services in underserved areas. They must meet a stringent set of requirements, including providing care on a sliding fee scale based on ability to pay, and operating under a governing board that includes patients. FQHCs may be Community Health Centers, Migrant Health Centers, Health Care for the Homeless, and Health Centers for Residents of Public Housing. The defining legislation for FQHCs (under the Consolidated Health Center Program) is Section 1905(l)(2)(B) of the Social Security Act (Cottrell et al., 2019).

Contraceptive counseling provides opportunities for women to engage in discussions regarding intentions and decisions to initiate contraceptive use. The clinic visit provides a critical opportunity to facilitate decisions that will prevent unintended pregnancy. Numerous barriers to contraception uptake have been observed including challenges with patient-provider communication; lack of training and provider self-efficacy for contraceptive counseling; directive and coercive decision-making; sociocultural perceptions and attitudes; and clinic-level barriers (Brandi & Fuentes, 2020; Holt, Reed, et al., 2020; Janiak et al., 2018; Senderowicz, 2019).

SDM in contraceptive counseling has been discussed in previous studies that suggest its association with method continuation, patient satisfaction, pregnancy prevention and increased inter-pregnancy intervals. SDM has also been explored as it relates to outcomes in a variety of diseases and clinical practices and has been recommended by scholars and clinicians alike as best practice for patient outcomes. In addition, the Affordable Care Act, Section 3506 encourages healthcare providers to adopt SDM (Barry & Edgman-Levitan, 2012; Kew et al., 2017; Lee & Emanuel, 2013). Among women who receive care at FQHCs, contraceptive SDM has been reported as expected and desired (Cusanno et al., 2018; Dehlendorf et al., 2013; Stones et al., 2017). SDM has been shown to significantly improve outcomes for those with lower literacy and advantage (Durand et al., 2014). Higher rates of unintended pregnancy

among non-white women warrant purposeful practice to facilitate SDM through a conducive contraceptive counseling experience.

Purpose of the Study

Many factors influence women's decisions to initiate contraception. Providers need to be aware of these factors to be effective in their counseling strategy. Studies suggest that the majority of women desire SDM in contraceptive counseling and that SDM is associated with a higher likelihood of method adherence, satisfaction, and continuation. The importance of SDM in healthcare has been reinforced by policy-driven initiatives such as the Affordable Care Act and the patient-centered medical home. In the United Kingdom and in Europe, similar initiatives have been adopted (Légaré & Witteman, 2013). Zeal et al. (2021) conducted a study to explore women's preferences for their contraceptive education and found that 87% of those surveyed indicated that clinicians were their preferred and most trusted source of information about contraceptives. These findings underscore the need for clinicians to champion trust, relationship-building and dialogue for SDM.

While some studies have explored women's preferences and experiences with SDM in safety net clinics, there is sparse literature on the prevalence of SDM in contraceptive counseling in LHDs in South Carolina (SC) and Alabama (AL). These two states are located in the southeast region of the country, where the rate of unintended pregnancy is higher than the national average, with more than 50% of pregnancies being unintended (Kost, 2012). According to the Guttmacher Institute, 50% of pregnancies in SC and 55% of pregnancies in AL are unintended (Kost, 2015). It is during contraceptive counseling that decision-making occurs, and therefore, the purpose of this study is to explore the prevalence of SDM in contraceptive counseling by sociodemographic factors. In addition, the study will explore the associations between SDM in contraceptive counseling and various contraceptive method choices and between SDM and women's perceptions of providers in safety net clinics in SC and AL.

Significance and Contribution of the Study

LHDs and FQHCs provide services to publicly insured and uninsured individuals. Around 50% of these individuals are women who experience elevated health risks and risks of unintended pregnancies (Cottrell et al., 2019; Goodman et al., 2017). The preferences and priorities of this sub-group of women are often overlooked. The lack of literature on contraceptive decision-making in LHDs and FQHCs in the US south makes this study important. South Carolina health departments are sole recipients of Title X funding and are usually the only providers of services, especially in rural communities. The SC Department of Health and Environmental Control (DHEC) and the AL Department of Public Health (ADPH) provided family planning services to the majority of participants in this study. Exploration of SDM in two southern states may add to practice and policy recommendations for contraceptive counseling to increase patient-centered counseling practices and contraception uptake and continuation that subsequently reduce unintended pregnancies.

Guiding Conceptual Frameworks

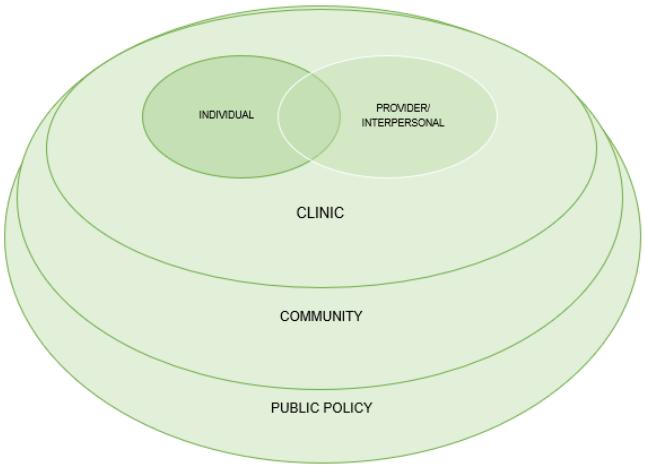
This research is guided by two conceptual frameworks in accordance with the purpose of the study. The Social-Ecologiocal Model, which provides a context in which SDM occurs, is important to consider when looking at current trends and outcomes in contraceptive counseling.

Social-ecological (SEM) models illustrate the multi-factorial levels of influence that impact individual behaviors (Bronfenbrenner, 1977). Acknowledging the effect of these influences on an individual's behavior should inform practice for person-centered counseling. In two relevant studies, Harper et al. (2018) and White et al. (2016) explored contraception use among immigrants in the Birmingham, AL area using the SEM to identify barriers to access. Reducing stigma and creating socially conducive environments to make reprodcutive decisions were reported as desired in study findings. Harper et al. (2016) found that improving access to health services was cruicial to prevention efforts. In a study that explored faciltators and

barriers to contraceptive care amoung young women, Katz-Wise et al. (2020) used the SEM for their study framework. Both studies recognized the complex and non-linear nature of sexual and reproductive health care. The SEM framework theorizes the personal and individualized nature of pregnancy, pregnancy prevention and decision-making around contraceptive choice and uptake. The research aims proposed in this study will approach SDM with an understanding of the interplay among policy, community, social and cultural norms, interpersonal interactions (with the provider, family and social networks), and the individual (Chernick et al., 2015).

Figure 1.1

Social-ecological framework for factors influencing contraceptive shared decision-making

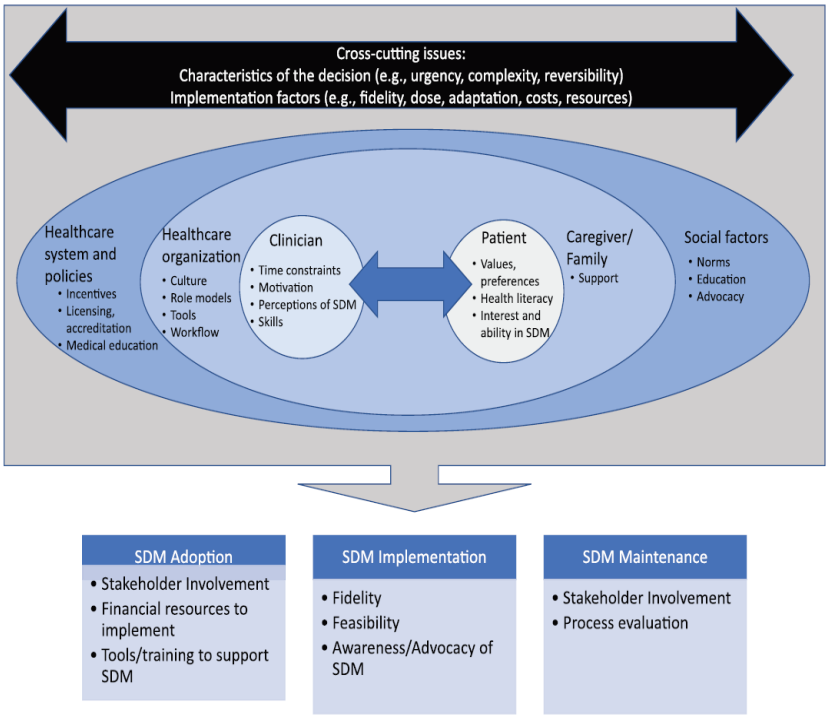


The Conceptual Framework for Shared Decision-making (Figure 1.2) theorizes that SDM is influenced by multiple influences in a hierarchical system. The framework recognizes that the interaction between the patient and provider occurs within organizational and contextual factors which present barriers to the practice of SDM (Tan et al., 2018a). Adoption of SDM would be the first step in moving toward practice. Stakeholder engagement, financial investment, and training tools and support would be a requirement for adoption. Implementation of SDM would entail fidelity, dose and the advocacy initiatives. For SDM maintenance, processes would need to be evaluated, with a continued focus on keeping providers and other organizational stakeholders

involved in facilitating it as routine practice. This reality impacts patients' perceptions of their provider, as well as their method choice. Furthermore, Tan et al. (2018) suggest that implementation science, that focuses on multi-level contextual factors, may be the key next step in ensuring SDM adoption and implementation as routine practice in clinical settings.

Figure 1.2

Conceptual framework for factors influencing shared decision-making adoption, implementation, and maintenance



Reprinted with Permission: Tan, A. S. L., Mazor, K. M., McDonald, D., Lee, S. J., McNeal, D., Matlock, D. D., & Glasgow, R. E. (2018). Designing Shared Decision-Making Interventions for Dissemination and Sustainment: Can Implementation Science Help Translate Shared Decision Making Into Routine Practice? *MDM Policy & Practice*. https://doi.org/10.1177/238146831880850

Research Aims

This study was conducted to assess patients' perceptions of the contraceptive counseling they received at LHDs and FQHCs. The study seeks to examine contraceptive decision-making outcomes in LHDs and FQHCs and to explore potential associations between: 1) shared decision-making and demographic factors; 2) decision making outcomes and contraceptive method outcomes during the clinic visit; and 3) perceptions of providers during counseling and decision-making outcomes.

Aim 1: To identify the influence of education, income, age, parity and marital status on shared decision-making in contraceptive counseling among non-white women.

H_a – There are differences in shared decision-making among non-white women based on education and marital status; we anticipate married women and those with higher educational attainment will engage in shared decision-making more often than their counterparts.

Aim 2: To identify the influence of shared decision-making on contraceptive method choice among non-white women.

H_a There are differences in contraceptive method choice based on shared decision-making; women who engage in shared decision-making will choose long-acting reversible contraception and more effective contraceptive methods whereas those who do not engage in shared decision-making will choose short-acting and less effective contraceptive methods.

Aim 3: To identify if the effect of shared decision-making on contraceptive method choice is modified by women's perceptions of their provider.

H_a There is an interaction effect between shared decision-making and women's perceptions of their providers associated with contraceptive method choice.

Summary of Evidence

Contraceptive Services in Local Health Departments

Local health departments (LHDs) are among the publicly funded facilities that provide family planning services to underserved women of child-bearing age. They serve an important role in increasing contraception use in rural communities where reproductive healthcare is often inadequate. Nationwide, the majority of LHDs (61%) serve geographical areas that are home to populations of less than 50,000 people (Evans et al., 2018). While they serve a vulnerable population, research finds that LHDs fall behind other Title X-funded centers with regards to contraceptive access (N. Hale et al., 2018). In South Carolina, the Department of Health and Environmental Control (DHEC), which receives Title X funding, provides family planning services through its health department clinics to women of lower wealth who are underserved and those enrolled in Medicaid (Hale et al., 2016). A study that investigated the scope and quality of family planning provided in publicly funded health centers found that health departments fared relatively well in their availability of a wide range of contraceptive methods, with the exception of IUDs and implants. In addition, they were found to have comprehensive written protocols for contraceptive counseling. These protocols followed recommended practices for providing Quality Family Planning Services (QFP) using a client-centered approach to contraceptive counseling. The barriers to access identified in the study were lack of same day appointments, lack of weekend or evening hours, and lack of electronic appointment-making systems on their websites (Carter et al., 2016). Evans et al. (2018) conducted a study on availability of long-acting reversible contraception in Kansas health departments and found that only 29.4% of ninety-eight LHDs surveyed reported discussing contraception with child-bearing women at all visit types, which exemplifies a policy failure to address reproductive health (Evans et al., 2018). There are very few studies that have been conducted in LHDs regarding

contraception access and none that we are aware of on contraceptive SDM. This phenomenon further validates the research aims and analyses conducted as a part of this study.

Contraceptive Services in Federally Qualified Health Centers

Federally Qualified Health Centers (FQHCs) provide primary and preventive care services that include contraception and family planning for over 20 million patients. Approximately 28% of these individuals are women of child-bearing age. Almost all patients who receive care at these clinics are low income, with incomes that fall below the federal poverty level. Considering that the number of women of childbearing age has doubled over the last decade, it is anticipated that FQHCs will continue to provide services to even more women. In 2014, women received services at LHDs and FQHCs that resulted in the avoidance of 2 million unintended pregnancies (Frost et al., 2016).

Contraceptive Counseling in FQHCs

Contraceptive counseling during clinic visits is the opportune time for women to make choices about their method and to initiate contraceptive uptake. Studies conducted in FQHCs suggest that, across the US, the approach to counseling is varied (Biggs et al., 2018; Rivlin & Isley, 2018; Stones et al., 2017). In a study conducted in 2011 among 423 FQHCs, variability in the scope of family planning services provided was identified in the following areas: 1) availability of contraceptive methods; 2) level of counseling; and 3) on-site services vs. those available by prescription or referral (Wood et al., 2014).

A study conducted in South Carolina suggested that contraceptive counseling that is comprehensive, while avoiding pressuring the patient towards a particular method, would improve their experience and facilitate decision-making that is informed (Mann et al., 2019). According to Stones, Stulberg and Kottenstette (2017), a qualitative study conducted among African American patients of a Community Health Center (CHC) in Chicago revealed that women reported a desire for comprehensive counseling and care, respect, and an equitable

setting in which to receive it. Young, immigrant Latina women in a Baltimore (CHC) who participated in a qualitative study reported a desire for trust and effective communication with primary care providers (PCPs) to allow for shared decision-making (Carvajal et al., 2017).

Patients' Perceptions of their Providers in Contraceptive Counseling

Trust and effective communication have also been cited in a focus group study of women seeking postpartum contraception. The women in this study suggested that providers listen to them and consider their preferences in the counseling conversation (Sundstrom et al., 2019). The Patient Provider Communication about Contraception study was conducted in six clinics in the San Francisco Bay area; some of the participating clinics were safety net clinics. Dehlendorf et al. (2016) developed an 11-item Interpersonal Quality in Family Planning (IQFP) care scale for the study to measure patient-centeredness during contraceptive counseling. The results of this study indicated that those patients who perceived their family planning care was of high interpersonal quality were more likely to use a moderately or highly effective method and also to maintain their method at 6 months. The results of this study illustrated that patient-reported measures of interpersonal care predicted an improvement in contraceptive use. In addition, the results of the study provide support for the elicitation of the patient's perspective as well as the need for establishing rapport that facilitates decision-making (Dehlendorf et al., 2016). Oakley et al. (2018) conducted a study which found that participants, who were minority women, cited provider mistrust as a factor that influenced their utilization of health services, their contraception choices, and their dissatisfaction with the quality of care they received.

Insight into how SDM is operationalized in the process of counseling is a key factor in understanding the nuances and complexity of practicing it. A study conducted to explore how SDM is used in contraceptive counseling analyzed transcripts obtained from a larger study and found that participants' perceptions of SDM entailed the iterative process of the provider and

patient going back and forth in sharing and discussing information, with the patient being given the opportunity to retain the final choice (Chen et al., 2019).

Barriers to Shared Decision-Making

Numerous studies indicate decision-making barriers resulting from institutional factors, provider factors, and patient factors. There may be instances where the patient and provider approach contraceptive counseling with different goals, assumptions and varied expectations, which does not provide an ideal situation for SDM and positive outcomes (Lucke, 2017; Satterwhite et al., 2019). One study conducted by Donelly et al. (2014) showed that women and providers tend to have dissimilar information priorities; this highlights the need for a focus on contraceptive counseling that is patient-centered. The study also highlighted the research that has shown women encounter hinderances to SDM due to pressure to choose a specific method and erroneous or outdated contraception information on risks, benefits, and characteristics of methods.

The following tenets of the socioecological model describe the multi-level factors affecting SDM in contraceptive counseling.

Public Policy

The US is still making advances toward policies that uphold reproductive health autonomy and rights in contraception decision-making. A framework for healthcare decision making coined by Charles et al. (1997) suggested three phases of decision making: 1) sharing of information; 2) deliberation; and 3) decision-making. Washington is the only state that has explicitly recognized shared decision-making as an alternative and standard beyond the traditionally practiced informed consent process. The state has enacted legislation that provides tangible incentives, supporting the training of health care providers to engage in SDM and partnering with stakeholders to establish patient decision aids certification criteria (Spatz et al., 2016). Initiatives to support SDM have been adopted by the Centers for Medicare and Medicaid

Services (CMS). One such example is reimbursement of procedures for lung cancer screening where the provider has documented counseling and SDM in the medical record. Additionally, there are 33 quality metrics that Accountable Care Organizations (ACOs) are evaluated on if they participate in the Medicare Shared Savings Program. They include patient and caregiver experience with SDM (Spatz et al., 2017). Public health law and policy are yet to promote patient-centered standards obtained by shared decision-making (Spatz et al., 2016). This is why studies such as this one must be conducted, to inform policy with evidence from the population being served, particularly in safety net clinics.

Community Factors

A study conducted by Yee and Simon (2010) indicated that minority women are likely to have more social, cultural and religious influences that drive their contraception decision-making than their white peers. The influence of social networks on contraceptive behavior has been examined in numerous studies. These studies indicate that social networks are trusted source of contraception information, particularly for younger patients. This underscores the need to heighten providers' awareness about the extent to which social influence and norms have an influence on contraception uptake (Levy et al., 2015).

Institutional Factors

Institutional factors are perhaps the most relevant to contraceptive decision-making, because it is where the clinic visit takes place and where the interaction between patient and provider occurs. According to Akers et al. (2010), patient-provider communication and relationships are highly associated with contraception decision-making. Evidence suggests clinics that do not have access to providers trained in women's health experience barriers in the counseling process. An additional issue is time that clinics allow for counseling. The iterative back and forth process that facilitates SDM cannot be achieved in a 15-minute time allocation. Providers also deal with competing medical issues which pull them away from focusing on a

quality interaction during counseling (Akers et al., 2010). The absence of preferred method and same-day service provision, both of which are commonly cited barriers from women presenting for their postpartum visit, present institutional level barriers to women's decision making (Colemann-Minahan et al., 2018). This dilemma forces the counseling to default to directive counseling where the provider makes the decision based on availability of certain methods in the clinic. Counseling protocols have been cited as a barrier to decision-making and initiation. If the protocols are not favorable to the patient, it is unlikely that the SDM can take place (Janiak et al., 2018).

Provider Factors

The provider's role in contraception decision-making cannot be overemphasized. Numerous studies indicate provider barriers that include personal biases and negative beliefs about particular contraceptive methods, lack of knowledge, training, and self-efficacy, assumptions about the patient's risk of pregnancy, expectations that the patient should initiate the conversation, and lack of communication between the health provider and other providers who provide care to the patient (Phillibert et al., 2017). Unless a particular method is contraindicated for the patient, that method should be discussed as an option to enhance SDM and provide an environment in which patient-centered care is practiced (Lesnewski et al., 2013). The lack of trust of providers by their patients creates a barrier to SDM. To build trust, providers should engage in strong patient relationships by approaching the patient with the intent to engage in SDM (Carjaval et al., 2017). Negative clinical encounters due to directive counseling and perception of pressure to choose more effective methods create barriers to SDM and influence future health seeking behaviors of women (Gomez et al., 2017; Schivone et al., 2017). The provider's failure to explicitly provide enough information that is accurate, balanced and comprehensive (for informed decision-making) presents an additional barrier to patients being actively involved in choosing their preferred method of contraception (Meier et al., 2019; Nelson

et al., 2019). Evidence form recently conducted studies highlights the lack of consistency and quality of postpartum contraceptive counseling by providers, which are barriers to the decision-making process (Jou et al., 2017; Katherine C et al., 2015). The inability for providers to provide culturally competent healthcare, for patients of diverse backgrounds, that prioritizes shared decision making is yet another barrier to achieving SDM in contraceptive counseling (Hawley & Morris, 2017).

Patient (Individual) Factors

Patients present various barriers to contraceptive counseling and SDM, a phenomenon which has been identified in several research studies. Those that hamper SDM include: familiarity with specific methods and not others; pre-existing preferences based on religious beliefs; sociocultural influences; pregnancy ambivalence; and infrequent sexual activity. Yee and Simon (2010) suggest that social networks, including family members, friends and media sources, are key sources of information for women and influence their decision-making during counseling. Similarly, the chance of SDM may be curtailed by women who engage in counseling with a predetermined choice of method based on knowledge of the method from someone that they know (Paul et al., 2020). This finding is echoed in a study that explored women's decisional needs for contraceptive method choice which found that decision making may be difficult when the patient approaches the counseling with preconceived ideas of what may be best for them (Marshall et al., 2018). For some women, social norms, stigma and historical context influence their comfort with SDM, which may result in a desire to hold their autonomy to make the decision (Smith et al., 2016). The influence of negative experiences with specific methods such as long-acting reversible contraceptives (LARC) can deter the process of shared decision-making where providers push this method. Ideally, providers should engage patients in discussions that elicit their needs and goals for contraception in making the best choice (Brown et al., 2019).

Racial/Ethnic Differences in Preferences for Contraceptive Counseling

Evidence suggests that race and ethnicity play a role in contraceptive counseling preferences (Finer & Kost, 2011; Smedley et al., 2003). Historical incidents of limiting fertility among poor minority women have influenced provider distrust and contributed to reproductive health disparities and rates of contraceptive use. According to the National Survey of Family Growth (NSFG) unintended births by Hispanics and blacks were at 42.9% and 53.5%, respectively, as compared with unintended birth for non-Hispanic whites at 30.7%. Of the estimated 82% of adolescent pregnancies that are unplanned, the rates among Hispanics (107 per 1,000 women) and Blacks (117 per 1,000 women) remain around three times as high as non-Hispanic whites (43 per 1,000) (Haider et al., 2013). Conspiracy beliefs around sterilization affect attitudes toward provider recommendations and contraception safety (Thorburn & Bogart, 2005). Black women and Spanish-speaking Latinas were found to desire more autonomy in the decision-making process, desiring the their provider to share their opinion only if elicited (Gomez & Wapman, 2017a). A study conducted among 1,783 women in clinics across the US concluded that minority women preferred contraceptive methods that they were able to stop at any time, that they could use only during sexual intercourse, and that did not have any effect on the menstrual cycle. The outcome of this study provided evidence that the methods preferred by minority women were more likely to be less effective methods (Jackson et al., 2016a). The implication of these results was that this group of women had higher risk for unintended pregnancy. Racial and ethnic differences in contraceptive preferences were also cited in a study that used data from the Examining Contraceptive Use and Unmet Need Study. Results of this study indicated that minority women were more likely than white women to consider contraceptive methods that did not contain hormones and that protected against sexuality transmitted infections. Minority women also had higher odds of perceiving contraception as primarily a woman's responsibility (Callegari et al., 2017). In a study that examined the impact of race and ethnicity in obtaining family planning services, minorities were more likely to be

counseled about sterilization and other contraceptive methods than their white counterparts (Borrero et al., 2009). Another study that was conducted to identify the information priorities for women and providers, respectively, showed that women received biased counseling based on their socioeconomic status and/or racial/ethnic background (Donnelly et al., 2014). Hawley and Morris (2017) indicated the need for SDM resources that are culturally appropriate to help remove barriers to women engaging in the decision-making process for contraception methods. Similar findings were reported in a study addressing shared decision making that empowers patients to have an active role in decisions concerning their health care; it is important for providers to acknowledge ethno-racial status as a critical mediating variable (Whitley, 2009). These data suggest that the need for patient-centered contraceptive counseling exists among all women, and particularly among non-white women.

Benefits of Contraception Shared Decision-Making

SDM has been adopted in a variety of clinical settings based on evidence from studies that it facilitates patient compliance, positive health outcomes, and satisfaction (Cannon et al., 2019). Policies to promote shared decision-making are being adopted across the US and internationally due to increasing evidence that there are benefits to using this approach (Dehlendorf et al., 2017a; Elwyn et al., 2010; Gonzalez et al., 2019).

Facilitating Shared Decision Making

There are various decision-making tools that have been developed and tested for purposes of encouraging shared decision-making. The World Health Organization's decision-making tool for contraception initiation ensures that the patient has actively discussed contraception choice with the health care provider. It has been used in various settings but has seen limited use in the US (Chin-Quee et al., 2007; Farrokh-Eslamlou et al., 2014; Kim et al., 2007). Heil et al. (2016) recommended the use of this tool, citing that the quality of family planning counseling improved when using the protocol**.** Institutions such as the University of

California San Francisco have actively pursued research regarding shared decision making in contraceptive counseling. These studies, which are being conducted in the community, are crucial to engaging community stakeholders in research that addresses SDM (Chen et al., 2019; Craig et al., 2014; Dehlendorf et al., 2016; Dehlendorf, Fitzpatrick, et al., 2017; Jackson et al., 2016a). Testing of decision-making aids has been conducted in several communities among women of reproductive age. A systematic review conducted in 2012 with over 31,000 patients showed that women who received a decision-making aid and engaged in SDM participated more in the process of making contraceptive decisions and had more accurate expectations of the benefits and risks of methods discussed (Stacey et al., 2017). Contraceptive decision-making studies provide insight into women's preferences and priorities, and support advocacy of SDM policies contraceptive counseling as standard care at state and organizational levels.

A study conducted in four San Francisco safety net clinics assessed the My Birth Control tool and concluded that its use may have a positive impact on implementing patient-centered contraceptive counseling (Holt, Reed, et al., 2020). My Birth Control (UCSF) is a tablet-based tool for decision support and is designed to improve the contraceptive counseling experience (Dehlendorf et al. 2019). Providers were engaged in the study to assess their impressions on using My Birth Control, and the study concluded that the providers felt it was an appropriate tool to use and feasible for incorporating into clinical practice. This study exemplified success in facilitating a quality decision making interaction for contraceptive counseling. There are other decision-making tools that have been developed and used. The Family Planning National Training Center "Birth Control Method options chart" provides comprehensive information on contraceptive methods from most effective to least effective, and highlights method side effects, use, risk for pregnancy and effect on menstrual cycle (Rowe et al., 2016). Bedsider.org Method Explorer is a decision aid which neither solicits patient preferences nor supports provider involvement, leaving no room for SDM (Hoopes et al., 2016).The Planned Parenthood My Birth Control App elicits the patient's preferences but does not support provider involvement, a

situation that does not encourage SDM (Krauskopf, 2019). We see that most choices for decision-making tools fail to facilitate SDM but rather merely provide information.

The use of patient decision-making aids has been documented in various studies, with success and positive outcomes. A review of 86 Cochrane trials suggested that the use of these aids resulted in the following: 1) increase in knowledge; 2) accurate risk perception; 3) reduction in number of patients remaining passive or undecided; and 4) more decisions made that were consistent with the values of the patient (Barry & Edgman-Levitan, 2012). In a study conducted in five SC Department of Health and Environmental Control (DHEC) clinics, shared decision aids were used to supplement usual care. The use of the aids did not place extra time demands on nurse practitioners or staff. All the sites involved in the study showed a significant increase in LARC uptake during the period of time that the aids were in use. The authors indicated that the benefit from use of shared decision aids was validated and that the resource was adopted for use in all public health clinics in the state (George et al., 2015).

Using Implementation Science for Sustaining Routine Practice

Recommendations and tools alone are not enough to move the concept of shared decision-making into routine clinical practice. Growing recognition for the need to invest in patient-centered research has been evidenced by the instituting of the Patient-Centered Outcomes Research Institute (PCORI). Implementation science plays a role in translating SDM into practice by addressing contextual factors at multiple levels and having a coordinated approach to engaging stakeholders. In a study conducted among researchers, clinicians, patient advocates, policy makers, healthcare system leaders and funders (n= 88), researchers presented recommendations for SDM that were applicable to clinical practice and policy at multiple levels. The summary of recommendations included in their study were: designing a guide for implementation of SDM in clinical settings; disseminating educational curricula on SDM; and influencing policies to increase SDM use (Tan et al., 2018a). Washington State

legislature has been an SDM policy champion that other states can emulate (Spatz et al., 2016, 2017). The concepts can be adapted and modified for contraceptive decision-making.

The Patient Centered Care Approach

The Department of Health and Human Services Office of Population Affairs (OPA) has initiatives to measure the quality of contraceptive care (Gavin et al., 2017). In response, the UCSF Person-Centered Reproductive Health Program has recently developed a Patient-Centered Contraception Counselling (Figure 1.4) measure for the purpose of measuring patient-centeredness. The measure gives providers and health care organizations an opportunity to drive their quality improvement for better patient counseling experiences. The measure, which can be self-administered by patients, assesses three domains of patient-centered contraceptive counseling: 1) interpersonal connection; 2) adequate information; and 3) decision support as shown in Figure 3 (Dehlendorf et al., 2018).

Figure 1.3

The Domains of Patient-Centered Contraception Counseling

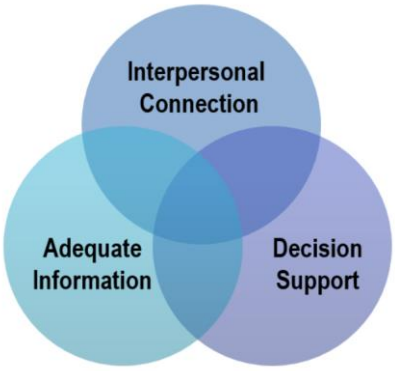


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Figure 1.4

The Patient-Centered Contraception Counselling Scale

This survey is about your visit at [clinic name] on [date]. Your answers are private. Your healthcare providers will not see your individual answers.

Think about your visit. How do you think [provider name] did? *Please rate them on each of the following by circling a number.*	Poor	Fair	Good	Very good	Excellent
Respecting me as a person	1	2	3	4	5
Letting me say what mattered to me about my birth control method	1	2	3	4	5
Taking my preferences about my birth control seriously	1	2	3	4	5
Giving me enough information to make the best decision about my birth control method	1	2	3	4	5

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Chapter 2. Sociodemographic Influences on Shared Decision-Making Among Non-white Women in Safety Net Clinics in South Carolina and Alabama

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Abstract

Objective: Shared decision-making (SDM) is a goal of patient-centered contraceptive counseling. Demographic factors must be considered as part of patient-provider communication and decision-making. The objective of this study was to examine the influence of demographic factors on SDM among women receiving services in safety net clinics in South Carolina and Alabama.

Methods: We surveyed 1,220 non-white women about their contraceptive counseling experiences in local health departments (LHDs) and federally qualified health centers (FQHCs) between October 2018 and September 2020. We analyzed their responses with chi-square analysis and multinomial regression.

Results: Income and age were significant predictors of decision-making, with younger women ($p<.01$) and women with lower income ($p<.05$) compared to older women with higher income.

Conclusion: This study adds to the limited research on contraceptive decision-making in LHDs and FQHCs. Differences in decision-making by age and income illustrate the importance of person-centered contraceptive counseling where the provider facilitates SDM, particularly among non-white patients receiving services in safety net clinics.

1. Introduction

Patient-centered contraceptive counseling is essential to facilitating shared decision-making (SDM) between patient and provider. The goal of SDM is to ensure patient autonomy and personal preference, which are associated with better health outcomes and increased satisfaction with care [1]. Racial and ethnic disparities persist with regards to making decisions to choose and use contraceptive methods, with non-white women more often than their counterparts. choosing less reliable methods. Studies indicate that non-white women have concerns about the side effects and safety of hormonal contraceptives [2]. Non-white women have higher rates of pregnancy while using hormonal and non-hormonal methods than their white counterparts. [3]. Studies note that even when access barriers are removed, disparities in access to contraceptive care persist among racial and ethnic groups as well as among women of varying socioeconomic status [4].

The socioecological model has been used to understand the nature of contextual factors and environmental constraints (characterized by high poverty and unemployment, structural challenges, and community disinvestment) that go beyond individual control. The study found that neighborhood constraints and peer and partner norms influenced decision-making among young women. The implications for practice are that these issues should be discussed with family planning providers because of their influence on contraception decision-making, particularly among adolescents [7].

Contraceptive decision-making and utilization are influenced by both socioeconomic and demographic factors [8]. Studies indicate that Black women and Spanish-speaking women desire greater autonomy in the contraception decision-making process, with the provider sharing their opinion, if elicited. Studies conducted across health disciplines indicate that older, lower income Black patients who are less educated prefer to be less involved in their health care decision-making processes [9]. In contrast, in a study conducted with women aged 18 to

29 years, the appeal of SDM in contraceptive counseling was the liberty to gather information about methods not only from the health care provider but also from other sources such as female family members, friends and the internet. Participants expressed skepticism and mistrust of providers which led them to desire autonomy in their decision-making [10]. There is limited research on socioecological factors and SDM in contraceptive counseling in safety net clinics in the US South. The objective of this study was to better understand SDM among non-white women by examining the influence of demographic factors on SDM in safety net clinics in South Carolina and Alabama.

2. Materials and Methods

2.1 Study Design

We used data collected between October 2018 and October 2020 as part of larger evaluation effort in which South Carolina (SC) is the intervention state and Alabama (AL) is the comparison state. These data were collected from patients recruited in LHDs and FQHCs located across South Carolina and Alabama. The study focused on 1,220 non-white women whose eligibility to participate was determined prior to them being enrolled in the study. Eligible women were between the ages of 16 and 44 years, not pregnant (at enrollment), had no history of tubal ligation, hysterectomy or infertility diagnosis, were not planning to be pregnant in the next 12 months, were sexually active or planned to be, and had discussed birth control with their provider during the clinic visit on the day they enrolled. Study staff screened participants to determine their eligibility. Participants were asked to complete a pre-counseling survey prior to seeing their provider. The pre-counselling survey collected sociodemographic information and included questions about their history of contraceptive method use and sexual activity over the past 3 months. After seeing their provider women were asked to complete a post-counseling survey and a one-week follow-up survey. The post-counseling survey included questions about what was discussed during contraceptive counseling, their perceptions on how contraceptive

decision-making was made, contraceptive methods outcome, perceptions of their provider in the context of the counseling, pregnancy intentions, and views on abortion. The one week follow-up survey included questions about important features of contraceptives, their perceived self-efficacy for different methods, use of hormonal and inserted methods, sexually transmitted diseases, and whether they had seen any contraceptive advertising messages prior to their clinic visit. Participants received $20 cash after completing the first two surveys and a $10 electronic gift card after completing the one-week follow-up survey. After completing all the components of the baseline survey, participants received follow-up surveys at 3, 6, 12, 18 and 24 months after enrollment. Participants received a $30 electronic gift card for every follow-up survey completed.

2.2 Recruitment

Participant recruitment was conducted in LHDs and FQHCs for women who were seeking family planning services. In-clinic recruitment was conducted by research coordinators who approached patients after they had checked in for their visit. Clinic staff facilitated recruitment by handing out study flyers to patients. Eligible women were consented and then provided their contact information on a patient locator form (PLF). Once they completed the PLF they took the baseline surveys, after which they were considered enrolled in the study.

2.3. Measures

To assess whether or not participants engaged in SDM we asked the following questions to women who indicated they had talked about birth control with their provider: *Did you stop or make a change in your current birth control method?:*and *Did you decide to start a new birth control method?* All participants were then asked the following four questions: *Who made the decision to stop your current birth control method?:Who made the decision to change to another birth control method?*; *Who made the decision to start a new birth control method?*; and *Who made the decision to not start a new birth control method?* The measures constructed based on

the questions in this study have been used in previous studies related to contraceptive counseling [11–13].

SDM was measured on a 7-point scale, with 1 indicating contraceptive decision-making was patient-driven; 4 indicating contraceptive decision-making was shared between the patient and provider; and 7 indicating contraceptive decision-making was provider-driven; SDM was analyzed as a categorical variable. The most appropriate approach for categorizing participant responses into patient-, provider-, or shared decision-making was determined by looking at similar scales used in several of our own survey items assessing participants' perceptions of their providers, as well as in similar contraceptive studies. With these items of reference, we conducted a sensitivity test to check for any differences in two potential coding schemes and found there were no significant differences. We proceeded by using the following coding scheme for decision-making analysis: responses of 6 and 7 were considered provider-driven, responses of 3, 4 and 5 were considered shared, and responses of 1 and 2 were considered patient-driven. The four-part SDM variable was recoded to become a singular variable to allow our analysis to reflect how the contraceptive decision was made, rather than what decision was made (start, stop, change, not start). The SDM variable was further recoded using an algorithm to account for multiple selections for decision-making. Where participants had more than one decision-making selection based on the multiple decisions made, the algorithm defaulted to the least autonomous decision-making selection.

We included the following socioeconomic variables in the adjusted models as potential predictors of SDM: education level (high school graduate or less, some college and above), marital status (not married, now married), age (16 to 25 years, 26 to 44 years), income (< $20,000; $20,000 and above) and parity (yes or no).

All elements of that study were reviewed and approved by the East Tennessee State University Institutional Review Board (IRB).

2.4 Statistical Analysis

Analyses were conducted using SAS Enterprise Guide Software, Version 7. In this analysis, we used descriptive statistics to measure the distribution of independent variables. Bivariate analyses using chi-square test or Fishers exact test (where *n*=<5) were conducted to measure the association between the outcome variable and each explanatory variable, with significance at α=0.05. We conducted multinomial logistic regression analyses to determine the mutually adjusted association between the three levels of decision-making outcome (patient-driven, shared, and provider-driven) and explanatory variables.

3. Results

Descriptive Analysis

The initial study population included 1,220 non-white participants of reproductive age. Exclusions were made for those participants who preferred to not answer and for whom data was missing. After exclusions, 1,081 participants were included in the final analyses (Table 1). Over half (57.3%) of participants were recruited from safety net clinics in Alabama. All participants in the analysis were non-white women and more than half of them (53%) were younger women aged 16 to 25 years. 82% of women reported an annual income below $35,000. More than half of the women (53%) had obtained up to high school education. 91.4% of participants were unmarried.

The majority of women in both states exercised the most autonomous decision making (80%), followed by shared decision-making (15.6%), with the remaining 3.7% experiencing the least autonomous decision-making that was provider-driven.

Bivariate Analysis

While the majority of both younger (79%) and older women (82%) maintained autonomy over their decision-making, younger age (16 to 25 years) was more strongly associated with

engagement in SDM (19%) compared to women aged 26 to 44 years (12%). A similar proportion (82%) of women with an income above $20,000 reported autonomous decision-making, just as 79% of those with income below $20,000 did. In both states, high levels of patient-driven decision-making were observed. There were differences in decision-making by age and income ($p<0.05$) (Table 2). Education level was trending towards significance ($p=0.09$). No significant differences for decision-making were observed for parity ($p=0.14$), marital status ($p=0.74$) or by state ($p=0.4$).

Table 2.1

Characteristics of The Study Population (*n*=1220)

Participant demographics	N	%
Age categories, years		
16-25	632	51.8
26-44	588	48.19
Race/Ethnicity		
Non-White	1204	100
Highest level education		
High school or less	631	52.1
Some college up to postgraduate degree	580	47.89
Income		
Below $20,000	448	37.36
$20,000 -above	751	62.63
Marital status		
Not married	102	8.4
Now married	1112	91.59
Parity		
None	568	47.93
Have	617	52.06
Clinic Type		
LHD	1,002	82.1
FQHC	218	17.9
State		
Alabama	697	57.13
South Carolina	523	42.86

Table 2.2

Bivariate Analysis of Shared Decision-Making by Demographic Factors

	Total Respondents N= 1081	Mostly Provider N=40 %	Mostly Shared N=169 %	Mostly Me N=872 %	p-Value
Demographic Characteristics					
Age					0.0008
16-25	574	2.26	18.6	79	
26-44	507	5.3	12.2	82.4	
Income					0.035
Below $20,000	402	2.2	18.65	79.1	
$20,000 and above	662	4.2	13.8	81.8	
Education					0.09
High school and below	570	2.9	17.7	79.3	
Some college and above	504	4.1	13.2	82.5	
Parity					0.13
Have children	508	3.8	13.2	82.9	
No children	544	3.1	17.5	79.3	
Marital Status					0.73
Now married	92				
Not Married	984	3.5	15.8	80.5	
State					0.40
South Carolina	462	4.1	17	78.8	
Alabama	619	3.4	14.5	82	

Multinomial Regression Analysis

Compared to patient-driven decision-making, SDM was more likely to occur among women aged 16 to 25 years (OR=1.408; CI 0.848-2.091) when compared to those aged 26 to 44 years (Table 3). We did not find any evidence of meaningful differences in shared or provider-driven decision-making across age, parity, marital status, income or education level.

Table 2.3

Multinomial Regression Analysis (with OR and 95%CI) for the Association Between Sociodemographic Factors and Shared Decision-making (Mostly Shared and Mostly Provider vs. Mostly Me)

Regression Results Multinomial Model N=1063

Ref category=Mostly Me

Variable and Measurement		OR	95% CI
Age			
16-25 vs 26-44	Mostly Provider	0.465	(0.209,1.034)
16-25 vs 26-44	Mostly Shared	1.408	(0.948,2.091)*
Income			
Below $20,000 vs $20,000-above	Mostly Provider	0.605	(0.276,1.327)
Below $20,000 vs $20,000-above	Mostly Shared	1.309	(0.926,1.851)
Education			
High school and below vs Some college	Mostly Provider	0.962	(0.482,1.919)
High school and below vs Some college	Mostly Shared	1.244	(0.877,1.766)
Parity			
Have children	Mostly Provider	0.860	(0.398,1.855)
No children	Mostly Shared	0.895	(0.610,1.314)
Marital Status			
Not married vs Now married	Mostly Provider	1.377	(0.401,4.734)
Not married vs Now married	Mostly Shared	1.048	(0.544,2.018)
State			
SC vs AL	Mostly Provider	1.340	(0.687,2.612)
SC vs AL	Mostly Shared	1.172	(0.836,1.644)

**Significant at p<0.05. *Trending towards significance 0.05<p<0.1

4. Discussion

To the best of our knowledge, this study is the first to examine SDM in contraceptive counseling in safety net clinics in South Carolina and Alabama. Our findings demonstrate the relationship between decision-making and intrapersonal factors in the socioecological model. Findings from this study highlight the state of decision-making as it relates to sociodemographic factors. Sociodemographic influences have been noted in previous research exploring predictors of contraceptive use [14,15]; however, this study is unique, as it focused on patients receiving care

in safety net clinics in two southern states. It highlights some unique findings that provide direction for practice and policy.

The findings in this study have important implications for patient-centered contraceptive care and family planning. First, patients overwhelmingly demonstrated a preference of patient-driven decision-making in the context of contraceptive counselling, indicative of trends that non-white women are more likely to resist providers' influence in their decision-making because of mistrust of the health care system [15]. This phenomenon may be perpetuated by the perceived contradictory interests of the patient compared to the provider. Studies indicate that contradictory interests happen when providers prioritize effectiveness of methods while the patient looks for features and control of use as their priorities in contraceptive methods [16].

Providers have approached contraceptive counseling with the intention to encourage their patients to adopt the most effective contraceptive methods, while patients desire to adopt methods that are not provider-dependent and over which they have more control to stop and start [11,12]. These dissimilar priorities hinder SDM. Taking into consideration the history of coercion, the lack of provider trust [17] results in minority patients desiring autonomy [15]. Our results mirror previous findings indicating an overall desire among this population to maintain decision-making autonomy. Our findings indicate that lower age and lower income may be associated with SDM. Younger patients are more likely to welcome provider involvement as they explore their options being new users of birth control. This means that there is significant potential for providers to leverage the willingness of the most vulnerable women to engage in dialogue for contraceptive choices that result in better health outcomes. At the same time, the willingness for SDM also presents a potential for contraceptive coercion among these vulnerable patients. Deliberate effort should be made to cultivate trust, provide adequate information and to encourage discussion on patient priorities and choices in method. Studies indicate that younger women rely on providers for education and clarifying myths to clear or

verify their own concerns[26]. In engaging adolescents and emerging adult patient it will be important to providers to explicitly discuss any need to changes in method if the patient feels it is not the best for them. With the understanding that adherence to method increases with patient satisfaction with method started, providers must understand that autonomy rests with the patient, regardless of their age.

Second, our findings also provide insight into the training needs among family planning providers in safety net clinics. The limited instances of SDM indicate possible lack of provider self-efficacy, provider hesitancy or system-level barriers to practice patient-centered contraceptive counselling [18]. Safety net clinics have historically reported experiencing budget constraints, limiting their on-site provision of long-acting methods and eliminating the possibility of meeting women's contraceptive preferences [19]. Directed efforts need to focus on the implementation of practice that supports patients' needs and preferences reflecting a patient-centered approach to family planning [20,21]. SDM aims to balance out the power differential that exists in patient and provider interactions, particularly among patients with low income [22]. Providers should be aware of the power differential and make extra effort to cultivate dialogue and elicit patient preferences. The implications of more impoverished women engaging in SDM to a greater extent than women with higher incomes are that the provider approach requires attention to personal circumstances. This is particularly important with the knowledge that those with higher income may be in a position to afford certain contraceptives whereas cost may be a barrier to preferred method among lower income women. Lower income and lower age generally ride on each other and therefore providing adequate information on a wide range of methods that meet the patient needs is of importance.

SDM has been noted as the desired approach for contraceptive counselling, but it may not be the desired approach for non-white women. These women may want more autonomy. Our findings of more patient driven decision-making are indicative of patient-centered counseling if

that is what these patients desire. They may also require us to examine whether the SDM approach is not being utilized or underutilized by providers.

This study is not without limitations. As a cross-sectional study, our findings cannot determine causality or temporal sequences. Additionally, response bias due to self-reporting may have caused socially desirable responses for patient perceptions of SDM.

The study does have several strengths. We examined SDM among a sample of participants receiving services in safety-net clinics. These data are relevant to their locality and may be used to advocate for contraceptive counseling practice policies, as well as to influence representatives at local and state levels. Issue briefs and policy papers can be written from our findings and be submitted to policy makers as advocacy tools. Our findings can also inform contraceptive dialogue at the national level, highlighting disparities in family planning and reproductive health services within a region of the country. Given the documented benefits of contraceptive SDM, this study provides insights to practitioners and clinicians working with lower income non-white women into cultural competency in contraceptive care [11,14]. Studies have validated that a culturally competent clinical workforce is synonymous with favorable health outcomes and practices [23,24].

Our findings suggest there is limited evidence of provider coercion related to contraceptive method among these participants. Further research could expand on these findings by examining SDM within a cultural context for non-white patients. Culturally competent care requires the provider to consider the beliefs, perceptions and norms of individuals in facilitating contraceptive decision-making [25]. Further research could also explore provider self-efficacy for SDM facilitation and also whether the goal for this population should be autonomy.

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Chapter 3. The Influence of Shared Decision-Making on Contraceptive Method Choice Among Non-white Women Receiving Services at Safety Net Clinics in South Carolina and Alabama

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Abstract

Objective: Contraceptive method choice is influenced by the contraceptive counseling that women receive. Patient preferences are upheld in a shared decision-making process. Non-white women continue to have unique experiences with decision-making and preferences for methods that are not provider-dependent. A history of systemic racism where minority women seldom had autonomy for their reproductive health warrants examination of current decision-making practices. The objective of this study was to improve understanding of how shared decision-making influences women's choice of contraceptive method.

Methods: We conducted a bivariate analysis and a stratified analysis for decision-making (patient-driven, shared and provider-driven) and contraceptive method choice (long-acting, short-acting and other/least effective) using data collected immediately following a family planning visit. We examined use of short-acting (pills, Depo Provera shot, ring) and long-acting methods (intrauterine device and implant) versus least effective methods (barrier methods, spermicides, natural family planning) by type of decision-making.

Results: Most women chose the least effective contraceptive methods over long-acting or short-acting methods. The majority of women maintained autonomy over decision making, whereas fewer women engaged in SDM and provider -driven decision-making. When compared to those who maintained autonomy for their decision, those whose decisions were provider-driven were more likely to choose a short-acting or long-acting contraceptive method over the least effective methods.

Conclusion: This study highlights the tendency for non-white women to choose methods that are not provider dependent and also that are non-hormonal. The overwhelming patient-driven decision-making reflects the need for improved patient-provider communication and trust that facilitates shared decision-making among women receiving services at safety net clinics.

1. Introduction

Shared decision-making (SDM) in contraception counseling has been addressed in numerous studies and recommended for its association with better outcomes for patients, birth control method continuation, patient satisfaction with chosen method, and longer inter-pregnancy intervals [1,2]. In addition, SDM is associated with increased patient engagement and positive experiences of care [3,4]. Durand et al (2014) suggest that SDM addresses health inequalities by improving outcomes for those of lower advantage and literacy. When it comes to decision-making, the literature indicates that minority women continue to have unique experiences in contraception counseling [5].

The goal of SDM is to facilitate a high-quality counseling experience that is person-centered and provides the patient an opportunity to choose the contraception method(s) that they feel works best for them. In a study conducted by Dehlendorf et al. (2016), patients who rated the quality of their counseling experience highly were more likely to use the method they selected over time and more likely to seek their provider's care in the event of a problem or to change their method. Chen et al. (2019) conducted a study to analyze the use of SDM in contraceptive counseling. They found that women sometimes came to the counseling visit with a strong method preference; however, there were instances where the patient switched methods after engaging in SDM. A previous qualitative study indicated that even when patients have a preferred method, they value hearing about alternative methods, therefore providers should not refrain from the discussion. Engaging in the discussion will show a commitment to patient preferences and autonomy. [6].

While SDM can be enhanced by the interactive process between patient and provider, it must be noted that contraception method choice can be hindered by the unavailability of a preferred method at the time of initial counseling. An identified challenge in health care centers is the lack of on-site contraceptives that facilitate same-day initiation for patients who decide

they are ready for uptake during their clinic visit. For example, the oral contraceptive is the most commonly used form of birth control, yet only 52% of FQHC clinics reported dispensing these on-site [8].

Several factors influence decision-making and contraceptive use including provider dependent contributors such as negative counseling interaction and provider bias motivated by race or economic status of the patient. Additionally, they may have social, religious and cultural influences driving their contraception decisions when compared to their white counterparts [9].

Personal preference and reproductive autonomy are core tenets of patient-centered care (PCC). The PCC approach entails that women of color and low income women have access to the method of their choice and not be targeted for intrauterine devices (IUDs) and implants [7].

Alabama and South Carolina are located in the US South, where more than 50% of pregnancies, higher than the national average, are unintended [10]. While decision-making has been researched in other parts of the US, there is sparse literature on SDM among non-white women receiving services in safety net clinics in the US South.

In this study, we sought to better understand the influence of SDM on birth control method choice among non-white women receiving family planning services at local health departments (LHDs) and federally qualified health centers (FQHCs) in South Carolina and Alabama.

2. Materials and Methods

Study Design

Data for this study were collected between October 2018 and October 2020 as part of larger evaluation effort in which SC is the intervention state and AL is the comparison state. Participants were recruited at LHDs and FQHCs located across SC and AL. The study focused on 1,220 non-white women whose eligibility to participate was determined prior to them being enrolled in the study. Eligibility of women was determined by the following criteria: were

between the ages of 16 and 44 years, not pregnant (at enrollment), had no history of tubal ligation, hysterectomy or infertility diagnosis, were not planning to be pregnant in the next 12 months, were sexually active or planned to be, and had discussed contraception with their provider during the clinic visit on the day they enrolled. Study staff screened participants to determine their eligibility. Participants were asked to complete a brief survey prior to seeing their provider; this survey collected sociodemographic information and included questions about contraceptive history and sexual activity over the past 3 months. Two more brief surveys were completed by each participant after seeing their provider– one immediately following their appointment and one to be completed at their convenience within one week of this appointment. The first survey included questions about their contraceptive counseling visit discussion, perceptions on how contraceptive decision-making was made, contraceptive methods outcome (i.e., did they start, stop, switch methods), perceptions of their provider in the context of the counseling, pregnancy intentions, and views on abortion. The one week follow-up survey included questions about their perceived self-efficacy for different methods, use of hormonal and inserted methods, important features of contraceptives, whether they had seen any contraceptive advertisements prior to their clinic visit and their experiences, if any, of sexually transmitted diseases. Participants received $20 cash after completing the two in-clinic surveys and a $10 e-gift card after completing the one-week follow-up survey. After these initial assessments were completed, participants received follow-up surveys at 3-, 6-, 12-, 18- and 24-months after enrollment; a $30 e-gift card was provided to participants for every follow-up survey completed.

2.2 Recruitment

Research Coordinators conducted recruitment in LHDs and FQHCs by approaching patients after they had checked in for their appointment. Clinic staff facilitated recruitment by handing out research study flyers to patients. Flyers were also posted in clinics to facilitate

recruitment efforts when Research Coordinators could not be on-site. Eligible women were consented and provided their contact information on a patient locator form (PLF). Once they completed the PLF, they completed the three brief surveys described above.

2.3 Measures

The methods proposed in this study have been used in similar studies [11–13]. Patients who had discussed birth control with their provider during the clinic visit were asked two preliminary questions to determine if they engaged in contraceptive counseling during their visit. The following questions were asked: 1) *Did you decide to start a new birth control method?*; and 2) *Did you stop or make a change in your current birth control method?* Possible responses for each of the above questions were: *Yes*, *No*, and *I prefer not to answer*. The responses were coded and dichotomized (*Yes* = 1; *Other* = 0). Women who responded to question 1 and 2 were included in the analysis. SDM was the independent predictor variable and was assessed based on women's response to the question: *Who made the decision to start/stop/change/not start a new method today?* A 7-point scale with the following responses was used to measure this variable: 1 = *I made the decision*; 4 = *Both my healthcare provider and I made the decision*; and 7 = *My health care provider made the decision*.

To determine the most appropriate approach for categorizing participant responses into patient-, provider-, or shared decision-making, we looked at similar scales used in contraceptive studies along with several of our own survey items assessing participants' perceptions of providers. Using these items as points of reference, we conducted a sensitivity test to check for any differences in two potential coding schemes and found there were no significant differences. We proceeded with analysis using the following coding scheme for decision-making: responses of 1 and 2 were considered patient-driven, responses of 3, 4 and 5 were considered shared, and responses of 6 and 7 were considered provider-driven.

We assessed birth control method started by asking: 1) *What new birth control method did you decide to start?* The outcome variable of interest was birth control method choice. Birth control method choices were coded into three categories: long-acting methods (intrauterine devices and contraceptive implants), short-acting methods (vaginal rings, patch and birth control pills) and other/less effective methods (barrier methods, spermicides, male and female condoms, withdrawal, and natural family planning methods including none).Four questions were asked to determine decision-making as follows: *Who made the decision to stop your current birth control method?:Who made the decision to change to another birth control method?*; *Who made the decision to start a new birth control method?*; and *Who made the decision to not start a new birth control method?* By asking four questions there were instances when a participant had a valid response to more than one of the questions. This resulted in several participants having multiple selections for decision-making. The study focus was on how the decision was made rather than what decision was made. This phenomenon required the SDM variable to be recoded to allow our analysis to reflect how the contraceptive decision was made, rather than what decision was made. An algorithm to identify multiple selections for decision-making was constructed. In cases where the participant had more than one decision-making selection based on the decision they made, the algorithm defaulted to the least autonomous decision-making selection ("Mostly Provider").

The outcome variable, birth control method choice was recoded to account for multiple method selections, similar to the SDM variable recoding. In cases where the participant selected two methods based on the decisions they made (stop, start, change or not start BCM), the algorithm captured the most effective method selected.

2.4 Analysis

Statistical analyses were conducted using SAS Enterprise Guide 7 software. First, descriptive analysis was used to explore the total sample. Two-way chi-square tests (x^2 test of

independence) were used to measure bivariate associations between decision-making and birth control method type (long-acting, short-acting and other). Multinomial logistic regression was used to examine the unadjusted effect of SDM on birth control method choice. Analyses compared short-acting versus other methods in one model and then long-acting versus other methods in another model. Finally, all covariates were added to the adjusted multinomial regression models. Adjusted results were also reported for each of these.

2. Results

The initial sample consisted of 1,220 participants of childbearing age. Thirty-nine women were missing responses or preferred not to answer and were removed from the analysis. After exclusions, 1,081 participants (89%) remained in the population, including 462 (42.7%) participants from South Carolina and 619 (57.2%) participants from Alabama. The participants were all non-white women. Of the 1,081 participants, 53% were high school graduates, and 37% reported their income as below $20,000. The majority of participants (91%) reported being not married. In terms of clinic type where services were received, 912 participants (84%) received services in LHDs. In Alabama, 8.3% of participants reported shared decision-making, compared with 7.3% in South Carolina. In contrast, patient-driven decision-making was reported by 46.9% of women in Alabama and 33.6% of them in South Carolina. No significant differences in SDM by state were observed (all p-values > 0.05).

Overall, there were no differences in type of method chosen by decision-making status (Table 1). Among 169 participants who engaged in a shared decision, 67% of them started a short-acting birth control method. Regardless of method, the most prevalent type of decision making was patient-driven. Among women who chose a long-acting contraceptive, 79.6% indicated patient-driven decision-making and 3.7% indicated provider-driven decision-making. Among women who chose a short-acting contraceptive, 74% of them indicated patient-driven decision-making, and 5.7% indicated provider-driven decision-making. Among women who chose the

least effective contraceptives, 82.6% of them drove their decision, while 3.1% of them reported provider-driven decision-making.

Table 3.1

Participant Demographic Characteristics (*n*=1,220)

Participant characteristics	N	%
Age categories, years		
16-25	632	51.8
26-44	588	48.19
Race/Ethnicity		
Non-White	1204	100
Marital status		
Not married	102	8.4
Now married	1112	91.59
Parity		
None	568	47.93
Have	617	52.06
Highest level education		
High school or less	631	52.1
Some college up to postgraduate degree	580	47.89
Income		
Below $20,000	448	37.36
$20,000 -above	751	62.63
Clinic Type		
LHD	1,002	82.1
FQHC	218	17.9
State		
Alabama	697	57.13
South Carolina	523	42.86

Bivariate Analysis

Contraceptive method choice varied across decision-making types although this variation was not found to be statistically significant at the alpha = 0.05 level (Table 2). The most commonly preferred methods were the least effective ones – withdrawal, male and female condoms, natural family planning, spermicides, and cervical caps. Participants reporting patient-driven decision-making were more likely to choose long-acting contraceptive methods. 79% of 54 participants who chose a long-acting method engaged in patient-driven decision-making. Shared decision-making was engaged in by 14% of the 800 participants who chose the least

effective methods; 20% of the 227 participants who chose short-acting methods, and 16% of remaining participants who chose long-acting birth control methods

Table 3.2

Bivariate Analysis of Birth Control Method Choice by Decision-making

Birth Control Method Started	Total Respondents n= 1081	Long Acting n=54 %	Short n=227 %	Other n=800 %	p-Value
Decision-Maker					0.07*
Mostly Me	872	79.6	74	82.6	
Shared	169	5.7	20.3	14.6	
Mostly Provider	40	3.7	5.7	3.1	

**Significant at p<0.05 *trending towards significance 0.05<p<0.1
*** Other includes withdrawal, male and female condoms, spermicides, natural family planning and other female barrier methods

Multinomial Analysis

In unadjusted analysis for the effect of SDM associated with contraceptive method, compared to those who reported patient-driven decision-making, those whose decision was shared were more likely to use a short-acting method of birth control compared to less effective methods (OR=1.608, CI 1.096-2.359 p=0.01). When compared with participants who reported patient-driven decision-making, those who reported provider-driven decision-making were more than twice as likely to use a short-acting method than other less effective methods (OR =2.314 CI 1.142-4.690, p=0.02). In the adjusted model that included all covariates, when compared to autonomous decision-makers, those whose decision was shared were likely to use a short-acting method over other methods (OR= 1.55 CI 1.05-2.28, p=0.02) while those whose decision was least autonomous were more than twice as likely to select a short method over other less effective methods (OR= 2.4 CI 1.180-4.906, p=0.01). From these results we see that the covariates did not provide any meaningful confounding in the adjusted model.

In looking at state differences, we observed that when compared to Alabama participants, South Carolina participants were more than twice as likely to choose a long-acting method (OR 2.553

CI1.429-4.559, p=0.0015). In addition, when compared to those who had no children, those who had children were also more than twice as likely to choose a long-acting method over others (OR 2.31 CI 1.14-4.34).

Table 3.3

Multinomial Regression Analysis (with OR and 95%CI) for the Association Between Birth Control Method Choice and Decision-making Among Participants (Short Method vs. Other and Long Method vs Other) Unadjusted

Regression Results		Short Vs. Other			Long Vs. Other***	
Birth Control Method Ref =Other	n=1009	OR	95% CI	N=838	OR	95% CI
Mostly Provider vs. Mostly Me		2.314	(1.142,4.690)**		1.375	(0.313,6.039)
Mostly Shared vs. Mostly Me		1.608	(1.096,2.356)**		1.215	(0.576,2.561)

**Significant at p<0.05 *trending towards significance 0.05<p<0.1
*** Other includes withdrawal, male and female condoms, spermicides, natural family planning and other female barrier methods

Table 3.4

Multinomial Regression Analysis (with OR and 95%CI) for the Association Between Birth Control Method Choice and Decision-making Among Participants (Short Method vs. Other and Long Vs. Other) Adjusted

Regression Results Multinomial Model Birth Control Method Ref =Other	Short vs. Other***		Long Vs. Other***	
Variable and Measurement	OR	95% CI	OR	95%CI
Age				
16-25 vs 26-44	1.406	(0.986,2.004)*	1.868	(0.971,3.593)*
Income				
Below $20,000 vs $20,000-	0.985	(0.716,1.356)	1.192	(0.653,2.177)

above				
Education				
High school and below vs college	0.963	(0.705,1.316)	0.788	(0.440,1.413)
Parity				
Have children vs. No children	1.139	(0.806,1.611)	2.226	(1.142,4.339)**
Marital Status				
Not married vs Now married	0.779	(0.454,1.338)	0.543	(0.233,1.263)
Decision-Making				
Mostly Provider vs. Mostly Me	2.406	(1.180,4.906)**	1.456	(0.322,6.582)
Mostly Shared vs. Mostly Me	1.552	(1.053,2.287)**	1.174	(0.546,2.524)
State				
SC vs AL	1.239	(0.915,1.678)	2.553	(1.142,4.339)**

**Significant at p<0.05 *trending towards significance 0.05<p<0.1
*** Other includes withdrawal, male and female condoms, spermicides, natural family planning and other female barrier methods
All estimates are derived from logistic regression models adjusted for age, income, education, parity, marital status

3. Discussion

Our study findings illustrate the associations between shared decision-making and contraceptive method choice. Previous studies indicate that provider-driven decision-making is associated with use of long-acting contraceptive methods. We did not find this to be the case in our study. This phenomenon has been indicative of coercive practices frequently discussed by non-white women.[14–16].

However, this study indicates greater preference for short-acting and other methods regardless of decision-making approach. The fact that the overwhelming majority of patients engaged in patient-driven decision-making and chose the least effective methods of contraception could be an indication of their preference for methods that are not provider dependent.

The findings in our study have implications for contraceptive counseling practices. Firstly, provider trust must be established. Less than a quarter of participants engaged in shared decision-making with their provider, with the largest proportion of them utilizing patient-driven

decision-making, across all three strata of method effectiveness. In the cases where decision-making was provider-driven, we observed that the odds greatly increased for choosing short-acting methods. This might be explained by the fact that at LHDs long-acting methods may not be available to patients on the same day, making the Depo-Provera injection, a short-acting method, which is commonly available [17], more appealing, and thus prescribed to women who receive services there. Additionally, access to contraceptive services requires much attention. LHDs have been known to exhibit barriers to access that include lack of same day appointments or ability to schedule appointments with ease.

Second, non-white women are less likely to have correct information about safety of hormonal methods, which is a barrier to them using them. Their avoidance of hormonal methods has been documented in other studies [18]. Providers should focus on providing patients accurate information about hormonal methods while discussing hesitancy and reservations about these moderately effective methods. The fact that women who reported SDM were more likely to get a short-acting method than those whose decision was autonomous indicates that dialogue on hormonal methods' benefits and efficacy is taking place in these clinics in SC and AL. Additionally, a key focus for providers will be facilitating dialogue around contraception use that is correct and consistent. The findings did not provide much evidence to suggest participants in this study experience coercion

Finally, we found that participants recruited in South Carolina were much more likely to choose long-acting methods when compared to participants recruited in Alabama. Women with children were more than twice as likely to choose long-acting methods when compared to those without children. We note that the Choose Well evaluation is currently on-going in SC. One of the goals of Choose Well is to make long-acting methods more available on the same day. This could be indicative that Choose Well efforts are translating into women making decisions for these methods. Furthermore, all women indicated that they were not trying to get pregnant in the immediate future.. This may be explained by their preference for methods that require

limited effort for consistent use on their part. Those whose decision was provider driven were twice as likely to choose a short acting method rather than other, when compared to those whose decision was patient-driven. The implications for practice are that providers should be facilitating shared decision-making with the patient's preferences and interests in mind. A positive result of this study is that there is relatively little provider-driven decision-making and more patient-driven decision-making. This indicates that the women in the study largely made autonomous decisions.

This study has limitations to note. The cross-sectional study design means that findings represent only current shared decision-making practices. Socially desirable responses may also skew findings. Additionally, by grouping contraceptives into categories there is a chance that the findings were driven by specific methods in a category.

The strength of this study is its relevance to contraception counseling practices in light of the recommended practice of person-centered contraceptive counseling which encourages shared decision-making. The findings are indicative of current contraceptive counseling practices in safety net clinics in the region. The volume of autonomous decisions over shared decisions sheds light on provider and clinic level opportunities to formally adopt policies that facilitate and encourage practices that are found to be associated with patient satisfaction and optimal health outcomes[19].

Further research could explore barriers to the routine practice of shared decision-making in safety net clinics, and particularly health departments.

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Chapter 4. Do Women's Perceptions of Their Providers Modify the Effect that Shared Decision-Making has on Contraceptive Method Choice

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Abstract

Objective: Women's perceptions of their providers are closely related to their contraceptive decision-making. Decision-making and perceptions of providers are likely joint predictors of method choice. The objective of this study was to examine whether women's perceptions of their providers have an effect on shared decision-making associated with method choice among women at local health departments (LHDs) and federally qualified health clinics (FQHCs) in the US South.

Methods: We plotted a model for stratified associations between shared decision-making and contraceptive method choice among women with positive perceptions of their provider. We then plotted an adjusted model with all covariates added.

Results: There was an association observed among women with positive perceptions of their providers who engaged in SDM and chose a short acting -method over other methods. Positive associations were also observed for those who chose a short-acting method and whose decision was provider driven . No associations were found among women with poor or moderate perceptions of their providers.

Conclusion: There is a delicate interplay between shared decision-making and women's perceptions of their providers associated with contraceptive method choice. Providers should ensure that their approach to contraceptive counseling upholds their patient's preference, provides a high-quality experience, and facilitates shared decision-making.

Introduction

The United States (US) continues to experience an unmet need for contraception among women of childbearing age, resulting in almost half of the six million pregnancies each year being unintended [1]. This public health phenomenon is perpetuated by the fact that women who are at risk of unintended pregnancy face barriers to accessing and consistently using contraception [2,3]. Healthy People 2030 has a focus on reducing unintended pregnancy by increasing use of contraceptives and family planning services [4]. Reproductive health disparities exist in the US and result in the burden of unintended pregnancies falling more on women of color compared to their white counterparts [5]. Women of color have historically been exploited due to systemic racism [6], and there remains concern about this population having less autonomy over their reproductive health.

Family planning appointments provide an important opportunity for discussing method choice, uptake, correct use and continuation the concept of person-centered reproductive health care has been explored, studied and recommended as a key driver for positive outcomes in contraception uptake. In addition, women's perceptions of their providers are likely to impact their choices for contraception. The Quality for Family Planning (QFP) scale provides an evidence-based benchmark for assessing patient-centeredness during contraceptive counseling [7]. Negative perceptions of providers such as perceived coercion, insufficient information given, and not feeling able to express their preferences and concerns have been found to be associated with dissatisfaction with counseling. Negative outcomes have been reported in numerous studies where non person-centered counseling was conducted and therefore there remains room for improvement in the way providers engage with women who are trying to articulate their preferences and experiences with contraceptive methods[8]. Non-white women have been found to often choose less reliable methods of contraception and consequently experience higher contraception failure rates [9]. When we consider that 95% of unintended

pregnancies occur among women who either used no method or used a method inconsistently or incorrectly, it is imperative that these issues are addressed during contraceptive counselling [10]. The ideal family planning appointment would use a patient-centered approach characterized by shared decision-making [11]. The shared decision-making style of counseling takes into consideration the range of available methods (and their characteristics) and entails that both the provider and patient contribute their knowledge and values or preferences, respectively [12]. It would seem possible that women's perceptions of their providers influence their contraceptive method choices, just as much as shared decision-making would. To our knowledge there are no other studies that have addressed SDM and women's perceptions of their providers as joint predictors of contraceptive method choices in South Carolina and Alabama.

This study will examine the possible effect that women's perceptions of their providers have on shared decision-making associated with contraceptive method choice. The delicate interplay between decision-making and participants' perceptions of providers and their potential to influence contraceptive choice warrants detailed scrutiny. Patients' method selection is significantly impacted by the quality of contraception counseling [13]. Whereas women are frequently found to be dissatisfied with the contraceptive counseling they receive, positive perceptions of providers have been reported to facilitate SDM and contraceptive uptake [14]. These analyses will help us understand patients; perceptions of their provider during their family planning appointment. and will provide direction for providing high-quality quality family planning services.

2. Materials and Methods

2.1 Study Design

We used data collected between October 2018 and October 2020 as part of larger evaluation effort in which SC is the intervention state and AL is the comparison state. These data were

collected from patients recruited in LHDs and FQHCs located across SC and AL. The study focuses on 1,220 non-white women whose eligibility to participate was determined prior to them being enrolled in the study. Eligible women were between the ages of 16 and 44 years, not pregnant (at enrollment), had no history of tubal ligation, hysterectomy or infertility diagnosis, were not planning to be pregnant in the next 12 months, were sexually active or planned to be, and had discussed contraception with their provider during the clinic visit on the day they enrolled. Study staff screened participants to determine their eligibility. Participants were asked to complete a brief survey prior to seeing their provider; this survey collected sociodemographic information and included questions about contraceptive history and sexual activity over the past 3 months. After seeing their provider, women completed two more brief surveys – one immediately following their appointment (post counseling survey) and one to be completed at their convenience within one week of this appointment. The post-counseling survey included questions about topics discussed during the contraceptive counseling visit, perceptions on how contraceptive decision-making was made, contraceptive methods outcome (i.e., did they start, stop, switch methods), perceptions of their provider in the context of the counseling, pregnancy intentions, and views on abortion. The one week follow-up survey included questions about important features of contraceptives, use of hormonal methods and long-acting methods, their perceived self-efficacy for different methods, history of sexually transmitted diseases, and whether they had recently seen any contraceptive advertising messages.

Participants received $20 cash after completing the two in-clinic surveys and a $10 e-gift card after completing the one-week follow-up survey. After these initial assessments were completed, participants received follow-up surveys at 3-, 6-, 12-, 18- and 24-months after enrollment; a $30 e-gift card was provided to participants for every follow-up survey completed.

2.2 Recruitment

Participant recruitment was conducted in LHDs and FQHCs by Research Coordinators who approached patients after they had checked in for their appointment. Clinic staff facilitated recruitment by handing out study flyers to patients.. Women who were eligible were consented and provided their contact information on a patient locator form (PLF). Once they completed the PLF, they completed the three brief surveys described above.

2.3 Measures

We presented the statement, *My provider took my preferences for birth control seriously* and measured the degree to which participants agreed or disagreed with the statement, to measure women's perceptions of their providers. This item was measured on a 5-point Likert-type agreement scale (1=disagree, 2=slightly agree, 3=moderately agree, 4=very much agree, and 5=completely agree). In this analysis, we interpreted the perception item using a stratified analysis approach. The provider perceptions predictor variable was stratified into three levels of perception: positive perceptions (completely agree, very much agree), moderate perceptions (moderately agree), and poor perceptions (disagree, slightly agree) for analysis. Studies that measured patient-centeredness have used similar scales developed by women's health experts [7].

The primary outcome variable – contraceptive method choice – was assessed by asking participants if they started a new contraceptive method during that day's visit. They were then asked *What new birth control method did you decide to start*? Contraceptive methods were coded into three categories: "other" (barrier methods, spermicides, withdrawal, natural family planning), "short -acting methods" (birth control pills, patch, Depo-Provera, vaginal rings) and "long-acting methods" (intrauterine device and implants). The following questions were asked to confirm if contraceptive counseling and uptake occurred: 1) *Did you and your provider talk about birth control during your visit today?* (response options: *Yes/No)*; and 2) *Did you start a new*

birth control method? (response options: *Yes/No)*; and 3) *Who made the decision to start a new birth control method?* The decision-making item was measured on a 7-point scale with the following responses: 1 = *I made the decision*, 4 = *Both my healthcare provider and I made the decision*, and 7 = *My health care provider made the decision*. We looked at similar scales used in contraceptive studies along with several of our own survey items assessing participants' perceptions of providers to determine the most appropriate approach for categorizing participant responses. Three categories of responses were derived: patient-, provider-, or shared decision-making. We conducted a sensitivity test using these items to check for any differences in two potential coding schemes and found there were no significant differences. Analysis proceeded using the following coding scheme for decision-making: patient-driven were responses of 1 and 2, shared were responses of 3, 4 and 5 were considered, and responses of 6 and 7 were considered provider-driven. Similar techniques for coding have been used in previous studies for SDM [15].

The SDM variable was originally coded to collect answers to the following questions: 1) Who decided to start a new method? 2) Who decided to not start a new method? 3) Who decided to change your method? 4) Who decided to stop your current method? The four-part variable was then recoded to become a singular variable to determine decision-making rather than what decision was made. An algorithm detected multiple selections for decision-making. Multiple selections occurred if a participant changed their method (e.g., stop one method and start a new one). The algorithm defaulted to the least autonomous decision-making selection in cases where the participant had more than one decision-making selection based on the decisions they made to start, not start, change or stop a method.

The contraceptive method outcome variable was similarly recoded to account for multiple method selections. In cases where the participant selected two methods based on the decisions they made the algorithm captured the most effective method selected.

2.4 Statistical Analysis

We used SAS Enterprise Guide Version 7.1 for all analyses. We explored possible effect modification between SDM and women's perceptions to identify if the effect of shared decision-making was modified by women's perceptions of their providers. Since women's provider perceptions and SDM were likely formed around the same time, the two variables could be related and were used as joint predictors of contraceptive method choice. Contingency table analysis (Stratified Contingency Table Approach) with 3x3 tables was conducted. A stratified analysis was conducted to observe whether SDM was associated with contraceptive method choice among women who had a positive perception of their provider; the association between SDM and contraceptive method choice among women who had a neutral perception of their provider; and the association between SDM and contraceptive method choice among women who had a poor perception of their provider. This was modeled with multinomial logistic regression with an interaction term added. Sensitivity was tested by combining "poor-moderate" perceptions which resulted in no significant differences from restricted-to-positive results. Additionally, among those who had moderate and poor perceptions, none chose long-acting contraceptive methods (Table 4.2). Effects are reported for the main effects in the unadjusted model and as well as the adjusted model to control for covariates.

3. Results

Descriptive Analysis

After exclusions for participants who preferred not to answer and those with missing data, 1,072 participants were included in the analyses. All participants were non-white women receiving services at local health departments and federally qualified health clinics (safety-net clinics) in South Carolina and Alabama. More than half of the study participants (53%) were between the ages of 16 and 25 and 82% reported an annual income of $20,000 and below. A greater proportion of women were unmarried (91.4%). A higher percentage of participants were

recruited in Alabama (57.3%). More than 90% of women felt their provider took their preferences for contraception seriously, indicated by their selection of positive perceptions of provider.

Table 4.1

Demographic characteristics of participants (*n*=1072)

Participant demographics	N	%
Age categories, years		
16-25	632	51.8
26-44	588	48.19
Income		
Below $20,000	448	37.36
$20,000 -above	751	62.63
Marital status		
Not married	102	8.4
Now married	1112	91.59
Parity		
None	568	47.93
Have	617	52.06
Race/Ethnicity		
Non-White	1204	100
Highest level education		
High school or less	631	52.1
Some college up to postgraduate degree	580	47.89
Clinic Type		
LHD	1,002	82.1
FQHC	218	17.9
State		
Alabama	697	57.13
South Carolina	523	42.86

Bivariate Analysis

There were variations observed for contraceptive method across levels of decision-making. The most commonly preferred methods were the least effective options which included barrier methods, natural family planning, withdrawal, cervical caps, and spermicides. All women who chose a long-acting method reported having a positive perception of their provider (Table 2). No participants who indicated a poor or moderate perception of their provider chose a long-

acting method across all levels of decision-making (Table 4.3). Among women who chose short-acting and less effective methods, there were variations in their perception of providers. For those who had poor to moderate perceptions of providers and chose a short-acting method, 25% were associated with shared decision-making. Among those who had poor to moderate perceptions of their provider and chose other methods, 15% were associated with shared decision-making. In total, of those who had poor to moderate perceptions of providers, 17% were associated with shared decision-making. Among those who had positive perceptions of providers, 15% were associated with shared decision-making, but the overwhelming majority (81%) reported patient-driven decision-making.

For women who had positive perceptions of their providers, the most frequently chosen contraceptive method category across all levels of shared decision-making was less effective methods. The majority of participants (75%) who maintained autonomy over their contraceptive decision-making chose other methods, while 67.5% of participants who engaged in shared decision-making chose other methods. Among those whose decision was provider-driven, 62.5% chose a short-acting method.

Table 4.2

Bivariate Analysis of the Effect of Shared Decision-Making on Contraceptive Method Among Women with Positive Provider Perceptions

Contraceptive Method Started	Other Method N=715 %	Short Acting N=206 %	Long Acting N=53 %	Total	p-Value
Decision-Making					0.07*
Mostly Provider	60.6	33.3	6		

Frequency				33
Shared	66.9	27.2	5.9	
Frequency				151
Mostly Me	75.2	19.5	5.32	
Frequency				790
Total				974

Table 4.3

Bivariate Analysis of the Effect of Shared Decision-Making on Contraceptive Method Among Women with Poor and Moderate Provider Perception

Contraceptive Method	Other Method N=78 %	Short Acting N=20 %	Long Acting N=0 %	Total	p-Value
Decision-Making					0.18
Mostly Provider	66.7	33.3	0		
Frequency				6	
Shared	70.6	29.4	0		
Frequency				7	
Mostly Me	82.7	17.3	0		
Frequency				75	
Total				98	

Multinomial Regression Analysis

Table 4.4 presents the multinomial regression (Model I) estimates of odds ratios for associations between SDM and contraceptive method choice among women with positive provider perceptions. The model for this association was restricted to those who had positive perceptions as necessitated by the data. In unadjusted analysis for the modification effect of shared decision-making and women's perceptions of providers, significant associations were observed in two instances among those who had positive perceptions of their provider. Compared to those whose decision was patient-driven, those whose decision was provider-driven were more likely to choose a short-acting method over other methods (OR 2.4 CI 1.133-5.383 p=.0229). Compared to those whose decision was patient-driven, participants who

engaged in shared decision-making were more likely to choose a short-acting method than other method (OR 1.581 CI 1.054-2.371 p=0.0268).

Table 4.5 presents the adjusted multinomial regression (Model II) estimates of odds ratios. In the adjusted model, all covariates were added, effects remained the same with negligible changes in significance for the same items observed in Model I.

Table 4.4

Multinomial Regression Model for Women with Positive Perceptions of their Provider with Associated Contraceptive Method for Shared and Provider Driven Decisions (Unadjusted)

Odds Ratio Estimates and Wald Confidence Intervals

	Odds Ratio	95% CI	p-value
Long Method: Mostly Provider vs Mostly Shared	1.29	0.67-3.62	0.29
Short Method: Mostly Provider vs Mostly Shared	1.56	0.36-7.31	0.51
Long Method: Mostly Provider vs Mostly Me	1.63	0.36-7.31	0.51
Short Method: Mostly Provider vs Mostly Me	2.47	1.13-5.38	0.02**
Long Method: Mostly Shared vs Mostly Me	1.26	0.59-2.67	0.54
Short Method: Mostly Shared vs Mostly Me	1.58	1.05-2.37	0.02**

**Significant at p<0.05 *trending towards significance 0.05<

Table 4.5

Multinomial Regression Model for Women with Positive Perceptions of their Providers Associated with Contraceptive Method Choice for Shared and Provider Driven Decisions-Adjusted

Odds Ratio Estimates and Wald Confidence Intervals

	Odds Ratio	95% CI	p-value
Long Method: Mostly Provider vs Mostly Shared=Positive perception	1.38	0.26-7.25	0.69
Short Method: Mostly Provider vs Mostly Shared=Positive perception	1.71	0.79-4.01	0.21
Long Method: Mostly Provider vs Mostly Me=Positive perception	1.75	0.38-8.08	0.46
Short Method: Mostly Provider vs Mostly Me=Positive perception	2.64	1.20-5.80	0.01**

Long Method: Mostly Shared vs Mostly Me=Positive perception	1.26	0.59-2.72	0.54
Short Method: Mostly Shared vs Mostly Me=Positive perception	1.54	1.02-2.32	0.03**

**Significant at p<0.05 *trending towards significance 0.05<p<0.1
Adjusted for age, income, marital status, parity, state and education

4. Discussion

The findings of this study illuminate the delicate interplay of shared decision-making and perceptions of providers as factors that influence women's choice of contraceptive method. While several studies have been conducted in various parts of the nation around women's perceptions and decision-making, this study highlights patient's perceptions of these practices in LHDs and FQHCs in South Carolina and Alabama.

Our findings suggest that the women received their preferred method of contraception, and also engaged in SDM. Non-white women tend to not be as concerned with method effectiveness as with method preference. We note that positive perceptions do not translate to choosing long-acting contraceptive methods. This indicates that elicitation of the women's preferences and concerns about methods should be a priority for providers. This elicitation is a tenet of patient-centered care. Satisfaction with a method is associated with method continuation which is more likely to prevent short pregnancy intervals [16]. Interestingly, 100% of women who chose a long-acting method reported positive perceptions of their provider. The findings may indicate that there is little evidence of coercion. If at all it did occur, it may have been reflected by results showing that women whose decision-making was provider driven were more likely to choose a short-acting method than women whose decision was autonomous.

Second, associations were observed among those with positive perceptions whose decision-making was shared. While we planned to look at interactions in this study, the data did not support these analyses. We therefore looked at associations in a sub-population of women who had positive perceptions of their provider. We see that those who selected long-acting

methods all had positive perceptions of their providers. This is a positive outcome, leading us to believe that the long-acting method was the women's choice.

The study is not without limitations. The overwhelming responses for positive perceptions may be indicative of participant bias due to socially desirable responses. For decision-making there may be instances where the iterative process between patient and provider existed but the final decision was made by the patient and thus the designation of their decision-making as patient-driven. The strengths of the study lie in its stratified design which allowed us to look closely at multiple levels of decision-making and perceptions simultaneously. This is crucial for informing practice in safety net clinics.

Recommendations for practice include a focus on patient centered care where autonomy is respected for this population of women. While SDM policies are much needed, providers should deliver person-centered care which may differ from one individual to another. Rather than a goal of pushing for SDM solely, there should be an awareness of the patient preference. Provider initiated dialogue should begin with hearing what the patient priorities are for contraception, including what features are most important to them, and whether a method is a good fit for them personally. This is important when we consider that 95% of unplanned pregnancies occur among women who have used their contraceptive method incorrectly or inconsistently. In addition, provider training to improve self-efficacy for facilitating shared decision-making is important. The enactment of policy for cultural awareness training as part of professional development and subsequent evaluation with provider assessment is recommended. Qualitative studies could delve deeper into what qualifies as shared decision-making versus autonomous decision making from the patient's point of view.

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Chapter 5. Conclusion

Summary of Findings

Shared decision-making (SDM) for contraceptive counseling has been recommended by numerous practitioners and reproductive health advocates. Chen et al. (2019) describe patient's perception of SDM as the iterative process of the provider and patient going back and forth in sharing and discussing information, with the patient being given the opportunity to retain the final choice for contraceptive method. The person-centered nature of shared decision-making is the preferred approach to contraceptive counseling for all women of childbearing age. Previous studies highlight the practice of shared decision-making as desired by patients. Studies have found that shared decision-making is associated with better health outcomes and patient satisfaction, uptake and method continuation. Our study examined women's experiences in the contraceptive clinical encounter, focusing on who made the contraceptive decision, what perceptions the women had of their providers based on whether they took their preferences about birth control seriously, and how demographic factors affect shared decision-making. We found that participants overwhelmingly preferred other methods (barrier methods, natural family planning, spermicides, male and female condoms) over long-acting and short-acting methods (Jackson et. al. 2016). These results reflect the literature findings on non-white patients' preferences for contraceptive methods that are not provider dependent or hormonal (Callegari et al. 2017).

Study 1 Findings

Results for study 1 indicated that there were differences in shared decision-making by income and age. Education was trending towards significance. This indicates that the most "vulnerable" participants were more likely to engage in SDM. No significant differences were observed for marital status, parity, or educational attainment. In the multinomial models, no

significant differences were observed for shared decision making across sociodemographic variables. Our findings contradict the alternative hypothesis that married women and those with higher education would engage in SDM.

Study 2 Findings

Results for study 2 indicated that, overall, there were no differences in type of method chosen by decision-making status. Short-acting method choice was associated with those whose decision was provider-driven and those who engaged in shared decision-making. Covariates did not offer any additional variation in the adjusted model results. These findings are contrary to the alternative hypothesis for research aim 2 that there would be differences in contraceptive method choice with women who engaged in SDM choosing long-acting contraceptive methods.

Study 3 Findings

Results of study 3 indicated that the effects of shared decision-making contraceptive method choice were closely associated with positive provider perceptions. The findings from bivariate analyses showed that there were no differences in shared decision-making associated with contraceptive method choice among women who had poor and moderate perceptions of providers. Among those who had positive perceptions of their provider, there were no differences found for shared decision-making and contraceptive method choice. It was observed that all women choosing long-acting methods had positive perceptions of their providers. This forced us to restrict the model for analyses to those with positive perceptions where we saw associations among those whose decision was provider-driven and those whose decision was shared where short-acting methods were the method of choice. Our hypothesis that an interaction would be occur between SDM and women's perceptions of their providers did not hold as the data allowed us to observe associations for only a subset of the population

The limited occurrences of shared decision-making and the overwhelming number of participants engaging in patient-driven decision-making are likely fueled by factors at various levels of the socioecological model. It is important to note that there are levels at which change can be leveraged. While the immediate socio-demographic circumstances of the patients may not be easily changed, provider and clinic level initiatives can facilitate shared decision-making with evidence-based practices that have been identified in the literature. Providers must be aware of, and use, the three domains of patient-centered counseling: interpersonal connection, decision support and adequate information. Self-efficacy for contraceptive counseling is a crucial component for success. The emphasis on eliciting the patient's preferences for contraceptive attributes is of utmost importance. There is a need for providers to resist the practice of wanting to make rational choices for their patients, and instead consider the patient as an expert, with knowledge that social determinants of health play a role in choices (Gomez et al., 2018).

The findings of this study should be viewed and interpreted with the following limitations in mind:

Social desirability: There is potential for study participants to provide socially desirable responses due to their circumstance of participating in the study at the location they receive their reproductive health services.

Misclassification of how decision was made: In a self-reported study, there is potential for misclassification of decision-making. It is possible that some women engaged in shared decision-making (characterized by the iterative process of back and forth dialogue), but reported maintaining autonomy because they made the final decision. This may also be related to the validity of the SDM measure which has not been used in the literature before.

The strength of this study lies in its novelty in examining the clinical encounter around decision-making and contraceptive uptake in LHDs and FQHCs. By focusing on two states in the US South, the findings become relevant and timely for informing practice in the clinics that serve this population. The findings also provide context and important information that can be used by stakeholders, advocates and policymakers at the local, state and federal level.

Future Implications to Practice and Policy

The use of the patient-centered contraception counseling scale can provide clinic level data for evaluation of counseling practices based on patient satisfaction feedback (Dehlendorf et al., 2018). Providers would need to be supported at the organizational level to sustain routine practice of patient-centered contraceptive counseling. Implementation science is a requirement to achieve SDM practice sustainability. Guides for implementation of SDM in clinical settings, dissemination of educational curricula on SDM, and influencing organizational and state level policies would support the goals (Tan et al., 2018).

The development of a stakeholder action framework at organizational and state is also recommended for family planning stakeholders. In the event that stakeholders formally adopted the framework, they would sign a Memorandum of Understanding that establishes their commitment to financial investment, provider training for person-centered contraception counselling, use of a shared decision-making support tool (e.g., My Birth Control) and the patient-centered contraceptive counselling (PCCC) scale (Dehlendorf et al., 2018; Holt et al., 2020), incentives for providers, and the optimization of electronic health records. Given that the framework would use implementation science tenets that address multi-level and contextual factors for adoption, dissemination and implementation, this action would signify a definite commitment to moving from research to practice.

Cultural competence for contraceptive counseling must be part of the multi-pronged approach to patient-centered care, especially when we consider that the US is fast becoming a

more racially, ethnically and culturally diverse country. Developing an adequately trained public health workforce is a crucial step in achieving Healthy People 2030 goals for addressing health disparities and inequities across the US. Cultural competency has been identified as a skill gap in the Tier 3 workforce tier that comprises organization executives for Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee). The training needs identified align with core competencies for public health. Public Health Workforce Interests and Needs (PHWINS) data is supported by several studies conducted nationally which indicate that non-white women continue to experience health inequities perpetuated by lack of socially and culturally appropriate policies, programs, and services that reflect the diversity of these individuals and populations (Holt et al., 2020). Appropriate training would help to counter the biased counseling received by minority women based on their racial and ethnic background (Donnelly et al., 2014; Hawley & Morris, 2017). It is recommended that training evaluation be adopted and use the Kirkpatrick Four-level Training Evaluation Model with emphasis on level 1 (reaction of providers) and Level 2 (behavior change). Executives and clinical leaders of safety net clinics would be the trailblazers for research to practice in cultural competency training for their respective organizations. In addition, dialogue around contraception use that is consistent and correct is a key focus, considering that 95% of women who experience unplanned pregnancy have used their contraceptive method inconsistently or incorrectly (Kavanaugh & Jerman, 2018). As Rocca and Harper (2012) note, research should examine provider behavior and health system characteristics. A systems-level intervention would consider health services research overlapping concepts: 1) underserved needs; 2) patient-centered care; 3) health literacy; 4) cultural targeting; and 5) cultural competence (Butler et al., 2016). This is especially important because of the history of minority women reporting negative contraceptive counseling experiences (Dehlendorf et al., 2013).

Facilitation of SDM as routine practice would largely benefit from dissemination of best practices through non-traditional sources, outside academic publications (Brownson et al., 2018). The translation gap should be closed so that evidence-based interventions are replicated in safety net clinics. A passive approach to research dissemination will not suffice for impactful change. More focus towards non-traditional dissemination methods is highly recommended, considering the increase in social media, particularly Twitter, for health information sharing.

This foundational study is an initial step in understanding current contraceptive counseling practices in safety net clinics from the patient perspective. The limitations in this study can be built upon and addressed in future research. More insight is needed to understand whether non-white women evaluate their providers based on the contraception counselling received or on whether they leave with their desired method. In the same light, understanding what patients regard as shared decision-making versus patient-driven decision-making is important. Could it be that if the patient leaves with their preferred method, then they assume they made the decision? Given that coercion is associated with the pushing of long-acting methods by providers (Brandi & Fuentes, 2020), there needs to be research that examines if coercion exists for shorter acting and less effective methods. We did not find much evidence to suggest the participants in this study experienced coercion. If coercion did occur, it may have been reflected by results showing that compared to women who maintained autonomy over their decision, those whose decision was provider-driven were twice as likely to choose a short-acting method. We also saw that participants in South Carolina were more than twice as likely to choose a long-acting method than Alabama participants when their decision was provider-driven. It is important to note that during the time study data were collected, many safety net clinics in South Carolina offered both implants and intrauterine devices, whereas safety net clinics in Alabama primarily offered implants

Contribution to the Public Health Scholarship

Our findings reveal high levels of patient satisfaction in safety net clinics in South Carolina and Alabama. These results address a gap in the literature regarding decision-making outcomes in safety net clinics and provide a foundation for broader investigation of factors that influence SDM in these spaces. By shedding light on the infrequency of shared decision-making in practice, we hope these results prompt training initiatives designed to teach best practices in shared-decision making in contraceptive counseling. It is important to note that the findings of this study are encouraging, as they show that patient autonomy is being upheld, and that the patients have positive perceptions of their providers. We also take into account that in LHDs, where most of our study participants were recruited, nurses provide primary care services. The approach of nurses versus that of physician providers may be different.

Conclusion

The fundamental goal of these findings is to uphold women's positive perceptions of providers, ensure that providers respect their patients' preferences for contraceptives, and ensure that reproductive autonomy and optimal health outcomes are achieved. The clinician is still considered the most trusted resource for contraceptive information and counsel (Zeal et al., 2021). Therefore, implementation science will be a key factor in adopting, disseminating and implementing shared decision-making strategies and tools, and the engagement of family planning stakeholders during the research and translation processes will improve the chances of success.

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