Perspectives on Long-acting Reversible Contraceptives among Adolescent and Young Adult Women in the United States: A Qualitative Metasynthesis

By
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First Reader

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ABSTRACT

Background: Adolescent and young adult women in the United States (U.S.) are at increased risk for unintended pregnancy, yet utilization of long-acting reversible contraceptives (LARC) among this population is low. To improve understanding of LARC utilization in this population, this review aims to synthesize qualitative evidence exploring adolescent and young adult women’s perspectives on LARC utilizing methods of qualitative metasynthesis.

Methods: After searching multiple electronic databases and reference lists, qualitative studies identifying determinants of LARC use among adolescents and young adults published between 2000–2017 were identified. Studies were selected if participants were U.S. adolescent or young adult women and the central focus of the study was about LARC use. The thematic analysis method of qualitative metasynthesis developed by Thomas and Harden was used to analyze, synthesize, and interpret the findings.

Results: From 969 papers, 8 unique studies were included after several rounds of screening. Study methodology included individual interviews (n = 8), focus groups (n = 3), and telephone interviews (n = 1), with several studies incorporating multiple qualitative data collection methodologies into their study design, including data from 144 U.S. adolescents and young women. Five main themes emerged from the studies of adolescent and young adult women’s perspectives on LARC: knowledge, contraceptive counseling, short-acting methods of contraception, individual needs, and fear and anxiety.

Discussion: Adolescents and young adult women in the U.S. have varied views on LARCs. Participants expressed both positive and negative views of LARCs and valued different aspects of the methods in comparison to others. Participants also discussed a lack of knowledge of LARCs and the importance of the role of providers in contraceptive decision-making. These
varied experiences and views should be taken into consideration in future work aimed at improving access to LARC for adolescents and young adult women.

BACKGROUND

Unintended Pregnancy
In the U.S., 75% of adolescent pregnancies are unintended and 59% of young adult pregnancies are unintended compared with 31–42% of pregnancies of older women.\textsuperscript{1} Rates of unintended pregnancies are the highest among sexually active teens and among young women 18–24.\textsuperscript{2,3} In 2011, the highest rate of unintended pregnancy was among women 20–24 years old followed by women 18–19 years old.\textsuperscript{4} When rates were recalculated to include only sexually active teens, women 15–19 have the highest unintended pregnancy rate of any age group.\textsuperscript{3} In 2011, the teen pregnancy rate in the U.S. hit an all time low of 52.4 pregnancies per 1,000 women ages 15–19, a decline of 50% from the peak rate of 117 per 1,000 women ages 15–19 in 1990.\textsuperscript{5} However, the U.S. teen pregnancy rate remains double the rates found in other industrialized nations such as France (25 per 1,000) and Sweden (29 per 1,000).\textsuperscript{6} While the U.S. has primarily funded abstinence-only sex education and typically does not introduce sex education until secondary school, countries with lower teen pregnancy rates introduce comprehensive sexual education in primary school, a large contributing factor to their lower rates of adolescent unintended pregnancy.\textsuperscript{7–12}

In 2010, teen pregnancy accounted for approximately $9.5 billion in costs to U.S. taxpayers.\textsuperscript{13} Births from unintended pregnancy are at risk for adverse health outcomes including low birth weight and preterm birth.\textsuperscript{14,15} Additionally, teen pregnancy and birth are significant contributors to high school dropout rates and children of adolescent parents are more likely to have lower school achievement, more health problems, give birth as an adolescent, and face unemployment.\textsuperscript{15}
Contraceptive Use among Adolescents and Young Adults

Even when contraception is used, 48% of unintended pregnancies result from incorrect or inconsistent use of contraception. Adolescents and young adult women at risk of pregnancy are less likely to use contraception and more likely to discontinue their current method than older women, and also have the highest rates of contraceptive nonuse. In 2011–2013, only 47.4% of women 15–24 reported current contraceptive use compared to 67.4% of women 25–34 and 70% of women 35–44 (31% of women 35–44 reported sterilization as their contraceptive method). Of young women ages 15–24 reporting contraceptive use at the time of the 2011–2013 National Survey of Family Growth, the pill was the most popular contraceptive method with 47.3% of contraceptive users reporting use. Other methods used by current contraceptive users were 21.4% condom, 10.5% long-acting reversible contraceptives (LARC), 8.5% injectable, 4.7% withdrawal, 1.7% other method, and 1.6% female sterilization. Incorrect and inconsistent use of contraception is most likely to occur with methods requiring user adherence such as pills or condoms rather than LARC methods that do not require daily or monthly adherence.

LARC Methods

LARC methods include several versions of the intrauterine device (IUD) and the contraceptive implant, and are the most effective contraceptive option. Only 0.05–0.8% of women experience unintended pregnancy while using LARC. LARCs are 20 times more effective than other more popular methods such as oral contraceptive pills, the patch, or the ring, and require a single act of insertion for long-term use and require no user adherence such as taking a daily pill, or using a new contraceptive ring monthly. The Contraceptive CHOICE Program in St. Louis eliminated the cost of LARCs for adolescents and resulted in a significant reduction in the teen pregnancy rate. Similarly when the Colorado Family Planning Initiative eliminated the cost
of LARCs, the fertility rate among women 15–19 decreased by 26% and the fertility rate among women 20–24 declined 12%.

Complications regarding the Dalkon Shield IUD in the 1970’s have resulted in hesitancy from providers and consumers regarding promotion and use of IUDs as a contraceptive method especially among younger women despite published literature documenting the safety and effectiveness of modern LARCs as well as endorsement by the American College of Obstetricians and Gynecologists (ACOG), the American Academy of Pediatrics (AAP), and other leading health organizations.

Adolescent Utilization of LARCs
In recent years, use of LARCs in the U.S. has increased, however only 5% of all women 15–24 used LARC in 2011–2013 compared with 11.1% of women 25–34. Uptake of LARCs in the U.S. is most highly concentrated among women ages 25–29 and 30–34, indicating that LARCs are used more for birth spacing than to prevent or delay childbearing. Until recently, LARCs were only considered an appropriate contraceptive for adult women, especially those who had already at least one child.

LARC methods have been shown to be acceptable to adolescents and young women. When the Contraceptive CHOICE project eliminated contraceptive costs and presented LARC as an option to all populations, 69% of 14–17 year olds chose LARC, while 61% of 18–20 year olds chose LARC. Among adolescent and young adult LARC adopters in the Contraceptive CHOICE project, 63% of participants aged 14–17 chose the contraceptive implant while 29% of 18–20 year olds chose the implant, demonstrating a greater preference among adolescent women for the implant. However, in another study measuring LARC use among adolescents, those who had
already given birth were substantially more likely to have used a LARC method than nulliparous young women. 25,27,33,34

**Barriers**
Barriers to LARC utilization among adolescents and young adults include lack of knowledge, cost, incorrect knowledge, and persistent stigma related to the history of LARCs in the U.S. 18,35–37 While LARCs are the most cost-efficient contraceptive option over a long-term period of time, high upfront costs including costs caused by cost-sharing are a significant barrier despite large benefits of contraceptive coverage under the Affordable Care Act. 6,15,31,38,39 Additionally, many healthcare providers do not believe that LARCs are appropriate for adolescent and young adult patients, despite recommendations from ACOG and AAP to counsel adolescents on all available contraceptive methods. 6,18,34,37,40 Other barriers can include state policies that allow health plans to opt out of covering contraceptives, the lack of availability of confidential reproductive health services for minors, the lack of adequate sexual health education including accurate information about contraceptives, and the history of coercion. 10,11,39 Lastly, another barrier is the history of racism, sterilization and coercion associated with these methods. 41–44

**Reproductive Autonomy and Justice**
There is much enthusiasm for the potential that LARC methods have to reduce unintended pregnancy rates, however too much enthusiasm for LARC as one approach to decrease unintended pregnancy can lead to the adoption of contraceptive programs that undermine women’s reproductive autonomy. 44 Programs designed to promote LARC must put the priorities, needs, and preferences of individual women first, not the promotion of a specific contraceptive method. 44,45 When considering current low use of LARC methods among adolescent and young adult women, the aim should be to reduce barriers to accessing LARC in order to improve access for all informed individuals who want to use them. 45
Programs designed to promote LARC also cannot ignore the U.S. historical context of these methods related to coercive practices targeting disadvantaged groups. \(^{41,42}\) Historical occurrences of forced sterilization as well as coercive practices surrounding devices such as Depo-Provera and Norplant targeted at poor women and minority women. \(^{41,42}\) These past occurrences of targeted LARC promotion, which were guided by discriminatory practices, must be acknowledged and factored into future work of designing and implementing contraceptive services and programs that promote women’s individual preferences, priorities, and choices. \(^{43,44}\)

While LARCs have been shown to be the most effective contraceptive option, they should not be considered as the primary approach to decrease unintended pregnancies. Contraceptive methods do not address prevalent social determinants of unintended pregnancy such as economic inequality, lack of health care, and stigma related to sexuality. \(^{44-46}\) Use of LARC methods must be driven by women’s own expressed desires for the method and not by a programmatic intent to reduce population-level unintended pregnancy rates by encouraging populations most at risk for unintended pregnancy to use them. \(^{44}\) LARC promotion should expand and not restrict availability of contraceptive options and accessibility contraceptive methods for all women. \(^{44-46}\)

However, there may be populations such as adolescent and young adult that are less informed about LARC and experience differential access to LARC than older age groups, thus, work should be done to improve access to LARC in order to increase the likelihood that women of all ages will be counseled on all available contraceptive methods.

**METHODS**
I utilized the thematic analysis method of qualitative metasynthesis developed by Thomas and Harden, which is derived from both Noblit & Hare’s method of qualitative meta-ethnography and Sandelowski and Barroso’s method of qualitative metasynthesis to analyze the published
findings of qualitative research on determinants of LARC utilization among U.S. adolescent and young adult women.

Qualitative research synthesis is used to intentionally analyze data across qualitative studies. Individually, qualitative studies may have limited impact on practice or policy, however synthesizing multiple studies helps to identify gaps and omissions in a particular body of research. This facilitates the development of evidence-based practice and policy and also makes qualitative results more useful, especially to clinicians, researchers, and policy makers.\textsuperscript{47-49} This method of analysis synthesizes existing qualitative studies in order to construct greater meaning through an interpretive process beyond the results of a single study.\textsuperscript{48,50,51} The analysis process infers deeper insights from a body of work that may not have been inherently clear from a single study.\textsuperscript{48}

Utilization of varying methods of qualitative research synthesis have increased in recent years, most especially in research fields that seek to develop evidence-based policies and practices, such as health care access and women’s health.\textsuperscript{48,49} There is not one predominant method for qualitative research synthesis that is utilized in the literature, although well-known methods are Noblit and Hare’s method of meta-ethnography and Sandelowski & Barroso’s method of qualitative metasynthesis.\textsuperscript{51,52} Thomas & Harden’s method of thematic analysis is a derivative of both meta-ethnography and metasynthesis and uses many guiding principles from both. However, it provides a specific method for literature search and analysis and utilizes common qualitative research analysis methods to identify and develop themes in the body of chosen literature.
**Literature Search Strategy**

After consultation with Mary White, the Global Public Health Librarian at the University of North Carolina at Chapel Hill Health Sciences Library, search terms, and a database search strategy was determined. EMBASE, PubMed, Scopus, Web of Science, Gender Watch, and Women’s Studies International search engines were used on January 24, 2017 to search for published qualitative research findings from January 2000–January 2017 using relevant keywords (Table 1). The literature search was restricted to post-2000 as most literature before this date focuses on LARC methods such as Norplant and Dalkon Shield that are no longer on the market, also since 2000, many new advancements in this field have been made including the approval of new LARC methods and the approval of LARC methods for use in nulliparous women. While the WHO defines adolescents as young people ages 10–19 and young people as individuals up to age 24, the age range of 14–29 was chosen to reflect inconsistencies of defining adolescence and young adulthood in the literature and to ensure inclusion of sufficient literature. When discussing young women seeking contraceptive care and adolescent pregnancy, age 14 is often the youngest age analyzed. In contrast, the age band when discussing young adulthood often expands past the age of 24.

Literature identified from the search was imported into F1000Workspace reference manager and all duplicates were removed. To ensure that important evidence not captured in the database search was not missed, manual search strategies were also performed included citation searches of systematic reviews and review articles on the topic of adolescent and young adult utilization of LARC. The reference sections of articles selected for full article review were also reviewed for potential articles.
**Literature Review Process**
The inclusion process went through three main review stages: title review, abstract review, and full-text review. Title and abstract review were utilized to exclude studies based on predetermined inclusion and exclusion criteria (Table 2). Full text review determined applicability based upon the main goal of this qualitative research synthesis as well as inclusion and exclusion criteria.

### Table 1. Search Terms

<table>
<thead>
<tr>
<th>Categories</th>
<th>Search Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Determinants</strong></td>
<td>Barriers OR uptake OR facilitators OR “increasing use” OR awareness OR knowledge OR attitudes OR recommendations OR benefits OR accessibility OR access OR cost OR disparities OR determinants OR communication OR acceptability OR myths OR factors</td>
</tr>
<tr>
<td><strong>LARC</strong></td>
<td>“Long-acting Reversible Contraceptives” OR “long acting reversible contraceptives” OR “Long-acting Reversible Contraceptive” OR “long acting reversible contraceptive” OR “long-acting reversible contraception” OR “intrauterine device”</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td>“Young adults” OR adolescence OR adolescent* OR teen* OR “young women” OR “young adult women”</td>
</tr>
</tbody>
</table>

### Table 2. Inclusion and Exclusion Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Included studies</th>
<th>Excluded studies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Topic</strong></td>
<td>Nulliparous women, Dual method use, LARC as emergency contraception, removal or discontinuation, postpartum contraception, pregnant women, post-abortion contraception, insertion and service delivery, educational interventions</td>
<td></td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td>Women ages 14–29</td>
<td>Women younger than 14, and older than 29</td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td>United States</td>
<td>Countries outside of United States</td>
</tr>
<tr>
<td><strong>Date</strong></td>
<td>Published after 2000</td>
<td>Published prior to 2000</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>Using a qualitative design</td>
<td>Using a quantitative or mixed methods design</td>
</tr>
<tr>
<td><strong>Data</strong></td>
<td>Individual interviews, focus groups, online discussions, observations</td>
<td>Quantitative questionnaires or surveys</td>
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Methods of Qualitative Research Synthesis
The analysis of selected literature was guided by the qualitative metasynthesis technique of Sandelowski and Barroso, which served as the main framework to analyze the chosen studies.  

The specific methods of analysis are utilized from Thomas & Harden’s method of qualitative thematic analysis, which was developed as a method from both meta-ethnography and metasynthesis. Qualitative metasynthesis is an integration of qualitative research findings that do not just summarize the findings of multiple qualitative studies, but interpret the studies and create inference and interpretations that are not found in any one qualitative study but instead are inferences derived from analyzing all qualitative results as a whole sample. The three main stages of analysis include 1) free line-by-line coding of the findings of primary studies, 2) the organization of the “free codes” into related areas in order to construct descriptive themes, and 3) the development of analytical themes.

As outlined by Thomas & Harden and consistent with the guidelines of Sandelowski & Barroso, study findings for chosen literature were considered to be all of the texted labeled as “Results” or “Findings” in published articles, texted labeled as “Discussion” or “Conclusion” was not considered to be part of the study findings. All study findings were entered as separate documents into ATLAS.ti qualitative analysis software.

The synthesis of published qualitative literature was conducted in three phases, which are outlined in more detail below.

Phase 1
During the initial phase of analysis, each line of text was coded and codes were created from the study findings themselves instead of from concepts defined in the literature review conducted prior to analysis. There were eight relevant qualitative studies examining determinants of LARC utilization among adolescents and young adult women identified. After the study results were
entered into ATLAS.ti, each line of text was coded according to its content and meaning. This initial phase of coding allowed for the translation of concepts from one study to another. As each study was coded, new codes were added to the list of codes, and codes were modified as needed. Every sentence of the study findings had at least one code applied, while most were coded using several codes (e.g. “too young,” “effectiveness,” and “peace of mind”). Before completing this phase of the synthesis, all study results were reviewed again after creation of the code list to ensure consistency of interpretation and to evaluate whether any additional coding was needed. This process created a total of 64 initial codes.

Phase 2
After the first stage of analysis and the development of an initial list of codes, the codes underwent an initial review process and were put into initial groupings based on codes from phase 1. This included consolidating codes and also creating new overarching codes in order to capture the meaning of groups of initial codes. Based on initial coding, a hierarchical grouping was created for codes that described themes that were “facilitators” of LARC use, “barriers” of LARC use and “both barriers and facilitators” of LARC use and a coding tree was created for all three. This coding tree examined the relationship between these three groups with connections drawn across coding tree structures. This process resulted in several layers of codes resulting in a total of 12 main descriptive themes.

Phase 3
The third stage of analysis involved utilizing the descriptive themes developed in the second phase of analysis in order to go beyond the findings and content of the included studies. Perspectives of LARC utilization discussed in the preliminary literature review were revisited and compared against the descriptive codes developed in the second phase of analysis. Through this phase of analysis, more abstract and analytical themes began to emerge. This process of
comparing codes against perspectives from the literature was repeated until the 12 broader themes developed in the second phase of analysis could be sufficiently encompassed by five main themes.

RESULTS
Study Selection and Characteristics
The literature search yielded 969 results with 19 duplicates. A total of 950 studies were screened for possible inclusion, and 13 full manuscripts were reviewed (Figure 1). The 950 unique articles underwent title review utilizing previously determined inclusion exclusion criteria (Table 2). As it was difficult to search for solely qualitative studies while searching databases and reference lists, articles were evaluated on study design and appropriate subject area during the title review process. This stage in the literature search process excluded studies that were conducted outside of the U.S., did not have a qualitative study design, and did not have the right subject focus resulting in the exclusion of 906 articles during this stage. After title review, 44 articles were selected for abstract review. After abstract review, 13 articles underwent full-text review.

Figure 1. Study Selection Process
In total, 8 studies were selected after several rounds of screening. These selected manuscripts included 341 U.S. adolescents and young women including those who did not have past experience with LARCs and those who had past experience with LARCs. Study methodology included individual interviews (n = 8), focus groups (n = 3), and telephone interviews (n = 1), with several studies incorporating multiple qualitative data collection methodologies into their study design. Characteristics and details of chosen studies can be found in Table 3.

Five main themes emerged from the studies of adolescent and young adult women’s perspectives of LARCs. These main themes are: knowledge, contraceptive counseling, short-acting methods of contraception, individual needs, and fear and anxiety.

Knowledge
Lots of Information
Four studies described the emphasis on becoming informed about all aspects of LARCs among young women and adolescents.\textsuperscript{57–60} Participants in these studies noted that once they were more informed about LARCs, where they would be inserted or placed, the potential side effects, and the possibility of removal, that they felt much more reassured about these methods. A participant in the Brown et al. paper noted that after hearing negative information about LARCs from a family member, receiving accurate and in-depth information from a provider was very reassuring.\textsuperscript{57}

Information from Different Sources
In addition to being well informed about LARCs, participants in two studies noted that information from multiple and varied sources was also important in determining LARC uptake.\textsuperscript{57,58} Participants from the Murphy et al. study noted that in addition to learning about LARCs from their healthcare providers, it was also important and helpful to learn about them through their social network (friends and family), published information such as pamphlets, as
well as television commercials and information on the Internet.\textsuperscript{58} An additional source of information that was mentioned as instrumental to considering LARC uptake was personal accounts of LARC experience from individuals who were current or prior users of LARC.

**Contraceptive Counseling**

*Providers*

Five studies discussed the role of providers in the decision to utilize LARCs. The role of providers was discussed as both a facilitator and a barrier to the potential use of LARCs.\textsuperscript{46,57–59,61} Providers were cited as the most important source when considering use of a new contraceptive method and were also mentioned as having the potential to play a positive role in the decision making process through providing information, reassurance, and even self-disclosing their own individual use of LARC. However, participants also discussed that LARCs were not a contraceptive option that their providers were discussing with them and also mentioned that when LARCs were discussed with providers, their providers had told them that they were not eligible for a LARC due to their young age and/or nulliparity.

*Supportive Counseling*

A supportive contraceptive counseling experience was viewed as a facilitator of LARC use among participants. Providers who took past contraceptive and health experience into consideration, gave patients a large quantity of information on LARCS and other contraceptives and also answered questions about inaccurate negative beliefs and misperceptions about LARCs that patients had heard were perceived as supportive. In particular, participants in the Rubin et al. paper, mentioned a trusting relationship with their healthcare provider as essential.\textsuperscript{60} Participants also described the supportive and trusting relationship with their provider as the factor that changed their minds about LARCs despite a previous negative opinion and also cited that while they had received information from outside sources and gone to their provider to ask
about LARC, a supportive counseling visit was instrumental in their ultimate decision-making process.

**Negative Counseling Experience**

Both negative counseling experiences and providers not counseling young women about LARCs were mentioned as approaches that could undermine provider-patient trust and also decrease receptiveness to LARC recommendations from providers and result in an unsatisfactory counseling experience in this population. Participants described feeling disrespected or patronized during the contraceptive counseling experience as a negative counseling experience. Participants experienced this both from the singular suggestion of their provider that they use LARC with language from providers insinuating that LARCs were their only option because they were not responsible enough for other contraceptive methods requiring more user adherence. This rejection of the promotion of LARCs by providers was discussed in the Higgins et al. study by participants who linked their providers’ promotion of LARC to historical instances of coerced sterilization due to their race or ethnicity or socioeconomic status. 46

Participants also felt disrespected and patronized by the lack of suggestion or mention of LARC from their provider during their past counseling appointments. Participants mentioned that this was often due to providers viewing them as too young or viewing their nulliparous nature as an exclusionary criterion for being eligible for LARC. In relation, it was mentioned that participants felt pressured by their providers to use non-LARC methods without regard for their own individual needs and preferences.
Table 3: Characteristics of Studies Included in Analysis

<table>
<thead>
<tr>
<th>Study Author (date)</th>
<th>Aim</th>
<th>Sample Size</th>
<th>Sample Characteristics</th>
<th>Setting</th>
<th>Data Collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown et al. 2013</td>
<td>To explore IUD adoption process among adolescents and identify role of medical provider in this process</td>
<td>n = 20</td>
<td>Females 15-24&lt;br&gt;Current and past users of IUDs&lt;br&gt;San Francisco&lt;br&gt;Recruited by provider referral</td>
<td>San Francisco&lt;br&gt;Recruited by provider referral</td>
<td>Individual interviews</td>
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<tr>
<td>Higgins, Kramer, &amp; Ryder 2016</td>
<td>To examine user attitudes about potential provider bias in LARC promotion to young women</td>
<td>n = 50</td>
<td>Women 18-29&lt;br&gt;Phase 1: Any history of contraceptive use&lt;br&gt;Phase 2: former or current LARC users&lt;br&gt;Dane County, Wisconsin&lt;br&gt;Community-wide recruitment</td>
<td>Dane County, Wisconsin&lt;br&gt;Community-wide recruitment</td>
<td>Focus groups &amp; Individual interviews</td>
</tr>
<tr>
<td>Kavanaugh et al. 2013</td>
<td>To explore patient and provider perspectives regarding LARCs for adolescents and young adults</td>
<td>n = 48</td>
<td>Administrative directors at public funded sites that provide family planning&lt;br&gt;Facility Clients: females 16-19 and 20-24 visiting facility for family planning services&lt;br&gt;Title X funded clinics providing family planning with both high (&gt;6%) and low (&lt;2%) percentages of LARC provision among young women</td>
<td>Title X funded clinics providing family planning with both high (&gt;6%) and low (&lt;2%) percentages of LARC provision among young women</td>
<td>Telephone interviews, focus group discussions, and individual interviews</td>
</tr>
<tr>
<td>Murphy, Burke, &amp; Haider 2016 (In Press)</td>
<td>To explore how adolescents viewed LARC as an innovation to be adopted or rejected and how that affected their decisions about LARC</td>
<td>n = 22</td>
<td>Women 15-22 who had vaginal intercourse in the past 6 months&lt;br&gt;6 participating clinical sites</td>
<td>6 participating clinical sites</td>
<td>Individual interviews</td>
</tr>
<tr>
<td>Potter, Rubin &amp; Sherman 2014</td>
<td>To explore urban minority adolescent female attitudes and beliefs about IUDs and to identify barriers</td>
<td>n = 21</td>
<td>Women 14-21&lt;br&gt;Heard about IUD, but never used one personally</td>
<td>Recruited from two urban school-based health clinics and one community health center in the Bronx</td>
<td>Individual interviews</td>
</tr>
<tr>
<td>Study Author (date)</td>
<td>Aim</td>
<td>Sample Size</td>
<td>Sample Characteristics</td>
<td>Setting</td>
<td>Data Collection</td>
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<tr>
<td>Rubin et al. 2016</td>
<td>To examine adolescent and young adults’ priorities, values, and preferences affecting choice to use an IUD</td>
<td>n = 27</td>
<td>Women 16 and older who had an IUD insertion appointment</td>
<td>Outpatient adolescent medicine clinic within an academic children’s hospital in the Bronx, New York</td>
<td>Individual interviews</td>
</tr>
<tr>
<td>Schmidt et al. 2015</td>
<td>To improve understanding of adolescents reasons for choosing IUDs</td>
<td>n = 43</td>
<td>Young women enrolled in the Contraceptive CHOICE project who chose an IUD as an adolescent (14-19 years old)</td>
<td>University clinical research site in St. Louis, MO, also site of original study</td>
<td>Focus groups &amp; Individual interviews</td>
</tr>
<tr>
<td>Sundstrom et al. 2015</td>
<td>To explore why young women reject and do not choose LARC methods</td>
<td>n = 53</td>
<td>Women 18-24 Women who participated in first phase of study (web survey) on contraceptive knowledge, attitudes, and behaviors and expressed familiarity with LARC were invited to participate.</td>
<td>College of Charleston campus</td>
<td>Individual interviews</td>
</tr>
</tbody>
</table>
Short-Acting Methods of Contraception

Short-acting Methods as the Norm

Participants in four studies discussed how short-acting methods of contraception or non-LARC methods were perceived as the norm among their social network, which resulted in increased perceptions of safety and method effectiveness among users of non-LARC methods.\textsuperscript{57–59,61} Participants also discussed that they were happy and capable of proper use of their current contraceptive methods and did not see any advantage to changing methods. They also did not see how an IUD or implant could be more effective than the method they were currently using. Participants also mentioned that the Affordable Care Act had made their current method free, further increasing its appeal and disincentive to switch contraceptive methods.

Bad Experience with Other Methods

Experiences with non-LARC methods also served as a facilitator of LARC use among some participants, who described bad previous experiences with various short-acting methods as well as ineligibility for hormonal contraceptives. Participants viewed LARCs as having advantages over methods requiring constant refills and reminders for their low maintenance qualities and the minimization or elimination of side effects often present in hormonal methods (or higher-dose hormonal methods).

Individual Needs

Attributes

Participants had varying reactions to the different qualities of LARCs emphasized by providers and other sources of information. The most universally praised attribute was the effectiveness of LARCs with almost all adolescents and young adult women mentioning a strong desire to prevent pregnancy and knowing that LARCs were the most effective option.

However, opinions were mixed on the long-acting aspect of LARCs, which was discussed in six of the selected studies.\textsuperscript{58,60–63} Participants viewed the long-acting nature of LARCs as a deterrent
for the method describing them as too permanent, and did not want to invest in them for only a short time if their life and relationship plans changed. LARCs were also viewed as a much larger commitment than other contraceptive methods. Additionally, some young adult women participants noted that while the long-acting nature of LARCs would have been much more appealing to them as younger teens when they knew they would definitely use the method for the entire suggested length of time. The long-acting nature was a positive attribute for others who stated that it would be reassuring to have an effective contraceptive method for a long-period of time because they knew they wanted to wait at least 5–10 years to have children.

*Logistics*
In addition to viewing LARCs as a more serious method, participants also viewed LARC as a more complex method, particularly in regard to initiation and decision-making especially as LARCs would require an insertion appointment with a provider and follow-up. Instead of being able to try several methods easily to find the right fit, adolescents and young women viewed deciding to use a LARC as a much more serious decision with a more involved initiation process.

However, there were positive benefits of LARCs in terms of logistics, with participants mentioning an extremely positive aspect of LARCs would be that they would be able to move away to college or maintain a busy schedule without having to worry about their contraceptive method.

*Choice*
It was viewed as a positive that participants could initiate use of LARC, with the choice to remove it if and when they decided to have children. Participants inferred that the high effectiveness of LARC would provide them with more choice in their life trajectory because they would not be worried about consequences of unintended pregnancy.
Participants also expressed negative perspectives related to choice. They reported that in the past, providers had undervalued their own personal decisions and choice when it came to choosing a contraceptive method. In regard to LARC, they feared the reoccurrence of this especially with a method that would more difficult to discontinue or change. Additionally, participants mentioned the perception that providers had minimized the potential side effects or associated pain of a particular contraceptive method in the past in order to make that method more appealing, minimizing their own choice. Participants also mentioned that it could sometimes be difficult to request a method different from the one suggested by their provider.

**Anxiety and Fear**
Participants expressed negative reactions about aspects of LARC that caused anxiety and also described being fearful of LARC.

*Negative reaction*
Participants described having a negative reaction when learning about LARCs, especially due to pain and uncertainty about having an unfamiliar object inserted into their arm or uterus. For many participants, initial information about LARCs did not make them eager to learn more about the method. A factor related to these reactions to LARCs was negative opinions and experiences from participants’ social networks. An additional negative reaction that participants had was the lack of control that they would have on the insertion and removal process, especially in comparison with other contraceptive methods.

*Fear*
Participants were also fearful of LARCs. Reasons for fear included fear of pain during general use and especially during physical or sexual activity, fear of insertion, fear of expulsion, fear of having a foreign object inside of them, and fear that LARCs would harm their fertility.
DISCUSSION
This paper examined the literature reporting adolescent and young adult women’s perspectives on LARC. This review emphasizes that adolescents and young women have a wide variety of perspectives on LARC and highlights five key themes to consider when designing and implementing contraceptive services and programs for this population.

This qualitative synthesis explores the varied views that adolescents and young adult women have on LARC. These perspectives demonstrate that a wide variety of determinants may have influence on the decision of this population to initiate these methods and may be different than the determinants that influence older women to initiate use. Increasing and improving knowledge of LARCs among adolescents and young adult women through a wide variety of methods and strategies is important to improve access to LARC by adolescents and young women.

In particular, utilizing information to dispel prevalent misperceptions and inaccuracies related to LARC will be instrumental in increasing awareness and increasing access. Another aspect related to increased knowledge and quality of knowledge among this population is to improve contraceptive counseling between patients and providers.

Access to accurate information as well as respectful and comprehensive counseling about a range of contraceptive methods is essential for adolescent and young adult women. LARC may be the most effective contraceptive option for adolescents and young adult women and have the potential to positively impact unintended pregnancy rates among this population, however LARC may not be the contraceptive method that meets the needs and preferences of this population. Disparate attitudes regarding LARC and various attributes and logistics of LARC method insertion and removal among adolescents and young adult women should be examined and valued, especially those that are unique to young women. In particular, the long-acting aspect of
LARC may be more appealing to older women than younger women as they most likely have more clarity on their reproductive life plan and other life plans. Adolescent and young adult women may also be unwilling to initiate a long-acting method requiring an anticipated painful insertion and painful side-effects when they are unsure of how long they will use the method for and may already be happy with their current method. Reasons for non-use among this population may be very different than reasons for non-use among older populations.

Additionally, it should also be taken into consideration that the success of contraceptive programs should not be based on how many LARCs are distributed, how many pregnancies are prevented, or how many tax dollars are saved, but how many individuals are respected and cared for when it comes to planning their reproductive future. While a focus on contraceptive effectiveness may make sense from a public health perspective, effectiveness may not be the most important factor that women consider when deciding on a new contraceptive method. LARC promotion should expand and not restrict contraceptive options for all women. This specific focus on adolescent and young adult women seeks to increase knowledge and access to a population with limited access to LARC in order to allow this population access to the full range of contraceptive options available to them.

The strengths of this metasynthesis include the extensive search of the literature and the exclusion of papers utilizing the same set of data allowing for a variety of qualitative study settings and viewpoints to be analyzed. Another strength of this paper is its potential to inform future policy and research through the analysis of published qualitative data from the population of interest. It also makes already published qualitative results more accessible to these individuals.
This metasynthesis may be improved by the inclusion of a study team to conduct the analysis collaboratively in order to compare coding notes and to inform a more layered analysis. An additional limitation of this paper is that qualitative research synthesis is still an emerging practice that is not widely recognized. In relation, the synthesis of qualitative evidence maybe viewed as less reproducible and rigorous as the synthesis of quantitative evidence. LARCs are considered as a category of contraceptive methods and this paper does not consider individual methods separately, which would make this analysis stronger as individuals may have strong preferences towards different aspects of IUDs or implants. Additionally, this paper only considers the perspectives of adolescents and young adult women and not young men or parents. This topic would benefit from additional research done from the perspectives of providers and other individuals who encounter adolescents and young adult women in the clinical setting where contraceptive education and decision making takes place. Also, while this synthesis has the ability to combine perspectives on LARC from across several studies, this work cannot be utilized to speak for all U.S. young women.

Future work
Future work should seek to increase and improve knowledge about LARC in this population, improve patient-provider communication about contraceptives among adolescents and young adult women while emphasizing the importance of individual choice, and seek to eliminate long-held negative views on LARC that may be particularly internalized by young women. In addition, future work should take into consideration the wide variety of views this population has on LARCs and contraceptives and include young women population in the design and implementation of programs and research in the future.
However, work done in this area should prioritize the autonomy of adolescents and young adult women and not to let the clinical and public health implications of LARC use overshadow the needs of the individual. Future work should also expand upon the work from this review and conduct further research in order to improve understanding of LARC and all contraceptive options among adolescent and young adult women. This work should also seek to differentiate between LARC methods in this research, especially as this analysis demonstrated that the “long-acting” aspect of LARC might be less appealing to adolescent and young adult women. While LARC has become the adopted term for this group of methods, future work should also seek to create new terminology to describe these methods beyond length of use and take into consideration priorities of all users when doing so. This future work will gain further understanding of perspectives of adolescent and young women on LARC and other contraceptives in order to eliminate differential access to knowledge and counseling on particular methods and allow all contraceptive users the ability to choose the method that best fits with their priorities and life plan.
References


