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Self-removal of long-acting reversible contraception: A content analysis of YouTube videos

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Abstract

Objective: To explore publicly available information about the self-removal of long-acting reversible contraception (LARC) on a popular video-sharing website.

Study Design: We conducted a comprehensive keyword search of YouTube videos related to self-removal of long-acting reversible contraception (LARC)—namely intrauterine devices (IUDs) and implants. We analyzed video content to explore demographic characteristics, method and duration of LARC use, and motivations and experiences of self-removal.

Results: Our keyword search identified 58 videos that met the criteria for inclusion, including 48 videos that featured individuals who removed an IUD and 10 who removed an implant. Collectively, videos had over four million views. We identified most video creators as white (53%), 31% as Black, and 14% as Latinx. Users were motivated to remove their own device by both preferences and barriers to formal care. Most individuals in our sample (n=56/58) successfully removed their device and described their experience in positive terms related to the ease of removal. Reasons for LARC discontinuation included negative side effects, fear of potential side effects, and desire for pregnancy.

Conclusion: This study builds upon prior research by describing publicly available information about LARC self-removal. The overrepresentation of Black women in our sample may reflect a higher prevalence of LARC self-removal among this population. Positive experiences of self-removal and high levels of viewer engagement with online videos suggest a need for provider counseling on LARC removal at the time of insertion.

Implications: Prior to LARC insertion, patients should be made aware of any financial requirements for discontinuation. Provider counseling for self-removal at the time of insertion will likely minimize health risks and affirm patient reproductive autonomy.

Keywords

Self-removal; IUD; implant; online; contraceptive attitudes; discontinuation

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1. Introduction

Over the last 20 years, the proportion of contraceptive users turning to long-acting reversible contraception (LARC) in the United States is steadily rising; 14% were using an intrauterine device (IUD) or contraceptive implant in 2018 compared to just 2.4% in 2002 [1,2]. This trend occurred in tandem with dramatic declines in reproductive healthcare access in the United States, including a change in Title X regulations that reduced the number of family planning providers [3], restrictive anti-abortion policies that led to the closure of clinics that provide contraception and abortion services [4,5], and new challenges of sexual and reproductive healthcare access during the COVID-19 pandemic [6,7]. Notably, at the beginning of the pandemic, the American College of Obstetrics and Gynecology advised their members to continue offering insertion of LARC “where possible” but to “postpone routine LARC removals, if possible, and counsel LARC users on the effectiveness of extended use beyond the labeled duration” [8,9].

Given the presence of barriers to clinic-based LARC removal, we build on two recent studies that explore public interest and experience with the self-removal of intrauterine devices [10,11]. Extant knowledge on this topic is limited. One study found that people discussing self-removal on websites and online forums experienced barriers to clinic-based removal [10]. Another study invited women seeking provider-removal to attempt self-removal in the clinic setting; roughly half of patients were unwilling to attempt self-removal and only 20% of those who attempted were successful [11]. In contrast, we are not aware of any existing research on the self-removal of contraceptive implants. Given the concurrent increase in use of implants among women in the United States [2], further inquiry into people’s experiences seeking implant removal is needed.

Due in part to racialized perceptions and experiences with birth control, researchers also examine racial patterns regarding the self-removal of LARC. Historian Dorothy Roberts (1999) describes women of color, particularly Black women, being misled or misinformed by doctors who did not explain the cost of discontinuing LARC, leading to self-removal at home [12]. In other cases, doctors refused to remove LARC before its expiration date, likewise leading to self-removals (ibid). Contemporarily, Foster et al. (2014) found that Black women were particularly interested in self-removing their IUD when invited to do so in a clinic setting, though most participants, regardless of race, were unsuccessful in removing their device [11].

In this study, we contribute to this nascent body of research by analyzing publicly available narratives of IUD and implant self-removal on YouTube. People increasingly rely on the internet as a primary source of health information [13,14]. As part of this trend, researchers are investigating people’s health-seeking strategies and the information available online for a wide range of reproductive health needs [10,15–20]. An analysis of videos on YouTube allows us to examine the demographic characteristics of people who attempt self-removal of LARC outside of the clinic setting and share their experience online—data that was not available in previous studies [10,11,21]. While extant work is limited to studies of IUDs, our data is novel in that we include experiences of implant self-removal. Although the self-removal of implants is likely less prevalent than the self-removal of IUDs, the existence

of videos on YouTube allows us to explore experiences of both phenomena. Importantly, our analysis grants insight into the information and narratives people may encounter about self-removal while searching online, including *who* self-removes and shares their experience on YouTube, why they wish to discontinue LARC and remove their device at home, and the quality and outcome of their experiences. These portrayals likely shape would-be-patient decisions and are therefore critical for informing best practices of clinic-based counseling at the time of insertion.

2. Material and Methods

2.1 Sample and search strategy

We produced a comprehensive list of YouTube videos using two separate keyword searches related to the self-removal of contraceptive implants and intrauterine devices (see Appendix A for keyword search terms). All videos were compiled from January-March 2021. To prevent the influence of algorithm-based results dependent on the authors' personal search histories, we used an incognito window to conduct all searches. Videos were excluded from our analysis if they (1) only portrayed clinic-based LARC removal, (2) did not include a person on-screen who considered or attempted self-removal, (3) were recorded in languages other than English, or (4) were otherwise unrelated to our inquiry. The final sample size was determined with a discontinuation rule of 50 videos; when 50 consecutive videos of each keyword search did not meet our eligibility criteria, no further videos were included.

2.2 Analysis

A coding guide was designed to capture both quantitative and qualitative video content. Upon compiling our list of videos for analysis, each author separately recorded the characteristics, motivations, and experiences of people who attempted self-removal and shared a video of their experience on YouTube for half of the videos. For each video, we recorded the number of views, number of "likes" and "dislikes", and number of viewer comments. Additionally, we documented and analyzed the top two viewer comments for each video. Top comments are those which are visible directly below the video; they rise to the top of the comments section through an algorithm that considers factors such as the date it was posted, the number of likes or dislikes it has received, and the number of user responses to each comment.

To assess the demographic characteristics of video subjects, each author separately recorded their perceptions of the LARC user's race and ethnicity, age group, and gender. Because these three characteristics were not always explicitly stated in the videos, user profiles, or online descriptions, we recorded our perceptions of LARC users' characteristics separately for all videos and then evaluated our intercoder reliability. Although this method of attribution is imperfect and may fail to reflect how an individual self-identifies in terms of race or gender, the aim of this approach is to describe the characteristics of video subjects as they are likely perceived by viewers on YouTube. We had high intercoder reliability, recording similar demographic characteristics in 95% of cases. In the few instances when our perceptions differed, we conducted a second review of videos together to reach agreement. We also wrote detailed memos while watching each video. These memos

included information about subjects' perceptions and attitudes towards their LARC device, reasons they wished to discontinue LARC, why they attempted removal at home, and their experiences of self-removal. To analyze this qualitative content, we developed a coding scheme based on themes and patterns that emerged during our first round of observations. We then assigned codes to our recorded memos for each video.

This study did not involve human subjects and was deemed exempt from requiring approval by the Institutional Review Board at The University of Texas at Austin.

3. Results

Our final sample includes 58 videos that portrayed people's experiences with self-removal of an IUD or implant. Table 1 presents descriptive characteristics of all individuals who attempted self-removal and separately by the method of LARC they used. Approximately 83% ($n=48/58$) of videos depicted the self-removal of an IUD, while the remainder ($n=10/58$) showed the self-removal of a contraceptive implant. Videos featuring IUD self-removals differed from those featuring implants in important ways. All IUD users had already attempted (47 were successful) self-removal prior to recording their videos, except one woman whose partner removed her IUD in real-time off-screen. In contrast, nine out of the 10 implant users performed a live, on-screen removal of their device.

Table 2 presents descriptive statistics of viewer engagement with the videos included in our analysis. Collectively, all videos were uploaded between 2012–2020 and viewed over four million times. Although videos uploaded more recently had less time for viewer engagement, the median number of views was still high at 10,473 views per video. Videos also had 68,972 likes, 6,273 viewer comments, and video creators had over five million subscribers. Although a much smaller proportion of videos featured the self-removal of an implant ($n=10$), these videos had a higher average number of views (median 23,097 vs. 9,533) and comments (median 44 vs. 14) compared to videos of IUD self-removals. In contrast, videos of IUD self-removals had a higher average number of likes (74 vs. 67).

In our analysis of the top comments for each video, three primary themes emerged: positive affirmations, viewer's consideration or attempt of self-removal, and complaints about LARC. We provide representative quotes of user comments to illustrate each of these themes in Table 3, along with the number of videos that received a comment from each category. Twenty-eight videos ($n=28/58$) included a positive affirmation for the video creator. These comments often had an encouraging tone and reflected the viewer's gratitude for the information provided. The second-most common theme to arise from comments was the viewer's own intentions and experiences of self-removal. Twenty-five videos ($n=25/58$) included a comment from a viewer who stated they had either removed their own LARC device after watching the video or intended to do so soon. Finally, 19 out of 58 videos had a comment from a viewer who complained about their method of LARC. These comments most often expressed frustration with negative side effects or barriers to removal.

In Table 4, we highlight the primary themes that arose from our qualitative analysis of LARC users' reasons for and experiences of self-removal. We found three main motivations

for self-removal among LARC users. Roughly half of our sample (n=30/58) described a desire to remove their method at home out of personal preference or convenience (n=28/48 IUD users and n=2/10 implant users). These individuals, including two women whose partners removed their contraceptive implant at home, framed removal as a simple process, saying “When they do this [remove the implant] at the doctor, they do the exact same thing” and “They don’t do anything special when you go to the doctor. They just pull it [the IUD] out.” Another woman felt comfortable with self-removal because her provider left the strings long and counseled her on how to remove it. Others noted the inconvenience of an in-clinic removal and said that self-removal “saved me a trip to the doctor”. Several LARC users, upon deciding to discontinue, found other people’s stories online and were encouraged to attempt their own removal. In comparison to preference-based motivations for self-removal, a large proportion of LARC users described barriers to clinic-based removal, including cost or lack of insurance (n=15/48 IUD users and n=4/10 implant users) and long waiting times for an appointment (n=11/48 IUD users).

Within our sample of LARC users who attempted self-removal, most were successful (n=56/58). Experiences of removal varied according to method of LARC but were most often described in positive terms. IUD users described the experience using phrases such as “quick and easy” or “painless”. Although one implant user was unable to remove the device after 20 minutes, the remainder (n=9/10) successfully removed their implants at home and expressed happiness following their removal or surprise related to the low level of pain. Most individuals (n=36/58) removed their device without any support or assistance from another person, however, this varied dramatically according to the method. Most (n=9/10) implant users had a support person that removed their device, compared to just a quarter of IUD users (n=13/48). While most IUD users simply pulled the IUD out using their hands, implant users all relied on specific supplies, which were often described or visibly displayed in the video. Items included latex gloves, small forceps, a sharp blade, alcohol, cotton gauze, and bandages. In eight of the 10 videos featuring implant self-removal, users specifically described the need for a new or sterilized blade. Although most videos reflected a positive experience of self-removal, we identified roughly a third of all video creators who encountered challenges, including difficulty grasping the strings of their IUD or challenges removing the implant (n=17/48 IUD users and n=3/10 of implant users).

Reasons for LARC discontinuation were consistent with a previous analysis of US-based internet forums wherein people discussed IUD self-removal [10], with the most commonly-cited reason being negative side effects (both actual and potential), followed by a desire for pregnancy.

4. Discussion

Decisions to attempt self-removal of LARC among people who shared their experiences on YouTube were shaped by both preferences and barriers to clinic-based care. Consistent with a previous study of clinic-based access to IUD-removal [34], individuals who cited financial barriers often discovered high costs or insurance requirements upon contacting their provider to inquire about removal. The elimination of all out-of-pocket costs associated with LARC removal would greatly improve access, however, in absence of such a policy, we suggest

two ways to improve contraceptive counseling for LARC users: First, providers should support the reproductive autonomy of their patients by clearly describing any procedural or financial requirements of removal prior to the insertion of LARC. Second, given the presence of information on YouTube about LARC self-removal, largely portrayed in a positive light, providers should proactively discuss the risks and best practices for safe self-removal of LARC. This could include a conversation between the patient and provider about the desired length of the IUD strings, risks associated with self-removal, and available resources when the patient encounters barriers to clinic-based removal. Such discussions would likely improve patient-provider trust and enhance reproductive autonomy.

By shedding light on mainstream narratives of LARC self-removal, this study contributes further evidence of the tension between the growing prevalence of LARC use and reproductive autonomy. Nationally representative estimates from 2011–2015 found that, compared to white and Hispanic women, a significantly smaller percentage of Black women (7%) are current LARC users [26]. Despite being a lower proportion of LARC users overall, Black women made up almost a third of our sample. This may reflect a higher prevalence of LARC self-removal and is consistent with previous research which suggests that autonomous control may be an especially important feature of contraceptive method preference among Black women [11,27,28]. Black women may also be more likely to use online platforms such as YouTube for the exchange of health-related information, particularly since Black LARC users tend to be younger than their white counterparts [26]. While we are unable to disentangle the factors that may have led to the overrepresentation of Black women in our sample, our findings inform strategies for contraceptive counseling and provision that may contribute to reproductive justice and mitigate any risks associated with self-removal.

We analyzed videos created by a self-selecting group—people who attempted to remove a LARC device at home and shared a video about their experience on YouTube. Although this data source is novel, we are unable to draw conclusions about the population prevalence of LARC self-removal, disparities in access to clinic-based removal, or how preference for self-removal may vary across demographic groups. Individuals who fail to remove their device or have negative experiences of attempted self-removal may be less likely to share their stories online. Our goal, however, was not to describe the experience of all people who attempt self-removal, but rather to explore narratives of LARC self-removal on an accessible and widely used video-sharing website. As the first content analysis of online videos describing LARC self-removal, this study provides important data about the characteristics, motivations, and experiences of a group of people that are often invisible to researchers and healthcare providers. With more than four million views, the videos in our sample represent an important source of information for women who wish to discontinue LARC and, whether due to preferences or barriers, seek information online. We hope our findings will motivate further research exploring prevalence and demographic differences in LARC self-removal.

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Appendix

Appendix A:

Keyword search terms used to produce a comprehensive list of YouTube videos related to the self-removal of LARC

Desired video content	Keyword search
IUD self-removal	(iud OR mirena OR skylara OR kyleena OR iiletta OR paragard) AND (“self-removal” OR diy OR home)
Implant self-removal	(implant OR nexplanon OR implanon) AND (“self-removal” OR DIY OR home)

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Table 1:

Characteristics of people who attempted to remove their own intrauterine device or implant at home and shared their experience on YouTube (n=58)

Characteristics	Contraceptive method		
	Total	IUD	Implant
Gender			
Woman	57	47	10
Non-binary	1	1	0
Age group			
<20	3	2	1
20–29	39	32	7
30–39	14	14	1
40 or older	2	2	0
Unknown [†]	0	0	1
Race/ethnicity			
White	31	24	6
Black	18	16	2
Latina	8	7	1
Native American	1	1	0
Unknown [†]	0	0	1
Previous childbearing			
Has children	22	19	3
No children / not discussed	36	29	7
Type of IUD			
hormonal		34	
copper		14	
Duration of LARC use prior to attempted self-removal			
< 6 months	8	8	0
6 months – 1 year	7	6	1
1–5 years	26	25	1
>5 years	3	3	0
Not discussed	14	6	8
Total	58	48	10

Note: Percentages may not sum to 100 due to rounding.

[†]One woman who removed an implant never showed her face on-screen

Viewer engagement with YouTube videos portraying the self-removal of long-acting reversible contraceptive methods (n=58)

Table 2:

Viewer Engagement	Total	Median (Range)	IUD	Median (Range)	Implant	Median (Range)
Views	4,237,349	10,473 (23: 1,911,945)	1,999,986	9,533 (23: 454,167)	2188731	23097 (267: 1,911,945)
Likes [†]	68,972	81 (0: 46,000)	21,808	74 (0: 8,000)	46,540	67 (4: 46,000)
Comments ^{††}	6,273	16 (0: 3,138)	2,629	14 (0: 445)	3644	44 (1: 3,138)
Subscribers	5,059,371	84 (0: 3,200,000)	951745	98 (0: 849,000)	3210426	57 (15: 3,210,000)

[†]The likes/dislikes feature was disabled for one video and is not included

^{††}Four video creators disabled comments and nine videos had no comments

Table 3:

Illustrative quotes of viewer comments from 45 YouTube videos, by method of LARC and theme[†]

IUD self-removal videos	Implant self-removal videos
Positive affirmations (n=28)	
(n=21)	(n=7)
Short, sweet, and straight to the point! This is the most helpful video I have watched about removing the iud	Quick and clean, Good Job!
I appreciate your video because I am honestly contemplating pulling it out myself.	I will pay this person to please do mine.
Considered or attempted self-removal of LARC (n=25)	
(n=20)	(n=5)
Thank you so much! I watched other videos and tried for like an hour and I watched this one and once you said to use the thumb and pointer finger I got it out! I'm so empowered and happy!	I just removed mine today. 2 hours myself. I had to cut really deep in the tissue but got it and couldn't be happier :)
Watched your video. Went to bathroom. Came out iud free.	Doing this this week. This thing is the devil!
Complaints about LARC (n=19)	
(n=14)	(n=5)
Watching this video made me feel so understood. I've had my IUD now for approximately 3 years ... Getting my IUD inserted was by far one of the most terrifyingly painful experiences of my life. The pain was literally just as you described it. I also almost passed out from the pain. The whole experience was honestly scaring.	Please tell me how to do this , i want this out of me like TOMORROW ! And i'm so ready this is the worst !!!
I got my Mirena in December 2014 and have gained 20 pounds, had crazy carb cravings, felt really bloated in the belly. Went to the doctor in April 2016 to take it out but they talked me out of it, saying the weight gain was due to getting old. well, I spent three next month making a real conscious effort to lose weight and ended up gaining weight, so I went back in last week and had it removed. I feel great.	If I would've know it was this easy I would've taken it out, I went from weighing 165 to 210 and I was eating all my normal foods, then I tried diets and cleanses but nothing worked for me and I got really depressed about my weight so thanks for this video
I've been bleeding for almost 4 months. [The implant] does a great job with keeping me not pregnant, but the stress acne, horrible cramps and depressive episodes are NOT worth it!	Literally bought all the stuff to do this on Amazon because the effects of it that is has on my body are not great :(

[†]Four video creators disabled comments and nine videos had no user comments

Table 4:

Motivations and experiences of people who attempted self-removal of a long-acting reversible contraceptive device and shared their experience on YouTube (N=58)

	Total	%	Method of LARC			
			IUD (n=48)	% IUD users	Implant (n=10)	% implant users
<u>Reasons for self-removal of LARC</u>						
Cost/ lack of insurance	19	32.8	15	31.3	4	40.0
Waiting time for an appointment	11	19.0	11	22.9	0	0.0
Preference/ Convenience	30	51.7	28	58.3	2	20.0
<u>Experience of LARC self-removal</u>						
Successful removal	56	96.6	47	97.9	9	90.0
Easy	38	65.6	35	72.9	3	30.0
Little pain	36	62.1	32	66.7	4	40.0
Had support person for removal	22	37.9	13	27.1	9	90.0
Difficult (time, grasping IUD strings or implant, etc.)	17	29.3	14	29.2	3	30.0
<u>Reasons for LARC discontinuation</u>						
Desired pregnancy	10	17.2	9	18.8	1	10.0
Negative side effects	32	55.2	31	64.6	1	10.0
Fear of potential side effects	15	25.9	7	14.6	2	20.0

Note: themes within each category are not mutually exclusive. For example, a video subject may have been motivated to discontinue LARC because they desired pregnancy *and* they experienced negative side effects.