Participant Satisfaction with a Hormonal Intrauterine Device (IUD) Counseling Video

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Abstract

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INTRODUCTION: The purpose of this study was to conduct a secondary analysis on hormonal IUD participant feedback data to assess the feasibility of implementing an anticipatory counseling video on a large scale to reach diverse audiences. This analysis also informs future versions of the video for patients representing diverse sociodemographic groups.

OBJECTIVES: The primary objectives of this study include: 1. Examine differences between demographic groups based on counseling video ratings; 2. Summarize qualitative feedback on the video; and 3. Provide recommendations for improving the video based on participant feedback.

METHODS: This secondary analysis is based on data from a randomized 1:1, double-blinded, placebo controlled online randomized trial conducted at the University of Washington. Both qualitative and quantitative approaches utilizing Microsoft Excel were used to analyze quantitative demographic data and qualitative IUD anticipatory counseling video feedback from the intervention group only (N=94). Qualitative data from the study questionnaire was coded to compare themes among participants from three locations to explore anticipatory counseling video recommendations using a transcendental phenomenology approach.

RESULTS: Participants had a generally favorable opinion of the components and quality of the video. They also had some recommendations to make improvements for future versions of this video. Overall, the study participants liked the visual diagrams and the ease of understanding of the video, and the least liked component was the length of the video.

DISCUSSION:

Given that participants mostly liked the video and felt it had educational value, clinics that offer counseling and insertion of IUDs should consider implementing anticipatory guidance videos to help their patients understand what to expect the first few months when using this contraceptive method.

1. Introduction

Anticipatory counseling is associated with addressing the needs of the population of interest, improved efficacy, adherence, and health outcomes. Anticipatory counseling, also known as anticipatory guidance, is important because it is utilized by clinicians to support the health and development of their patients, while preventing or reducing the risks of illness and injury (C&TC, 2023). In the delivery of anticipatory counseling, cultural competency should be at the forefront because it improves the relevance and satisfaction of preventative education for patients. Components of cultural competence can look like having providers that match the race/ethnic background of their patients, making modifications to preventative education delivery that include aspects of the culture, or language options other than English to mention a few (Villagran, 2022). For example, one study focused on the anticipatory guidance preferences of Latina migrant farmworker mothers, which highlighted their preferred forms of delivery for health promotion interventions. Some of their preferred methods included comic book-style handouts, games, food replicas, text in English and Spanish, and digital video discs, over black-and-white photos or cartoon-like illustrations (Kilanowski, 2013). Kilanowski's study provides an example of research at the intersection of culturally appropriate interventions and anticipatory guidance.

Users of hormonal intrauterine devices (IUDs) often experience changes in their usual menstrual bleeding patterns during the first 6 months of using the device, which is a common reason for discontinuing the method (Godfrey, 2020). To address these issues and to promote increased duration of IUD use, a counseling video was developed and tested to help new hormonal IUD users anticipate and understand any side effects they may experience after having their chosen device placed (Godfrey, 2020). The video was designed specifically for patients who chose to use a hormonal IUD for the first time, which is one component of creating a targeted intervention. This video was informed by hormone IUD users in Seattle and filmed in Seattle, and thus reflects the demographics of Seattle, a mostly white and Asian population (Gilmore, Kelly, et al., 2018; Godfrey, 2020). Intervention participant feedback was collected

post-viewing the anticipatory counseling video and this study is a secondary analysis which aims to explore the feedback on the video about what to expect in the first 6 months after hormonal IUD placement. This study explored differences in participant feedback based on characteristics such as race, income and education levels, age, and insurance status. The analysis of participant feedback can serve to better understand the feasibility of implementing this anticipatory counseling video on a larger scale and its ability to reach diverse audiences, as well as to inform future versions of the video for patients representing certain sociodemographic groups.

For this reason, it is important to note data about IUD contraceptive use in the United States. While 65% of the U.S. female population ages 15 to 45 use a contraceptive method, only 14% use IUDs (Guttmacher, 2021). Contraceptive users who have had a child are more likely to choose an IUD or implant than users who have not had any children (Guttmacher, 2021). According to the Kaiser Family Foundation analysis of the National Growth Family Survey from 2015-2017, Hispanics had the highest uptake (16%) compared to whites (14%) and Blacks (12%). Those with a bachelor's degree or higher had the highest uptake (18%), compared to high school graduates (14%), some college (13%), and less than high school (9%). Those with a high income (defined as 400% above the federal poverty level (FPL)), had the highest uptake of IUDs (16%), followed by those between 100% to 399% FPL (13%) and those below 100% FPL (11%) (KFF, 2020). Along the same lines, those with private insurance had the highest IUD uptake (15%), followed by those with Medicaid (11%) and those who were uninsured (10%) (KFF, 2020).

Godfrey's study asked about participant satisfaction with the counseling video including information about their background sociodemographic factors. This secondary analysis intentionally focused on exploring the participant perceptions of the anticipatory counseling video according to different populations based on race, income and education levels, age, and insurance status, including what similarities or differences these populations experienced. The

video's applicability to diverse populations determines its capacity to be integrated across diverse clinical settings, while reducing in-person time for anticipatory counseling. This exploratory study will add to the literature because research is lacking regarding anticipatory counseling videos related to hormonal IUD use and the benefits of delivering anticipatory counseling via video format.

When exploring how an intervention is perceived by different populations, it is equally important to acknowledge the cultural relevance and the design of the interventions for the audience of interest. Culturally tailored interventions lead to improved participant engagement and understanding of the content. A study that developed a culturally targeted video focused on increasing awareness of ovarian and breast cancer knowledge, and the use of genetic counseling and testing services (GCT) for Latina women living in the US, showed significant improvement in the population's knowledge, positive attitudes, anticipatory positive emotions and intentions to participate in a research study. It also showed a reduction in negative attitudes and attitudinal ambivalence (Hurtado de Mendoza et. al, 2019). A separate study that developed a series of videos created specifically for parents with low socio-economic status (SES) backgrounds aimed to enrich the home language environment by promoting parental knowledge of early brain development and language learning found that "targeted interventions" are effective when they address the needs of the population of interest. (Leung et. Al., 2022). The term "targeted intervention" refers to addressing a specific characteristic of a group or population such as age, gender, race or ethnicity, a diagnosis, or any other characteristic in a population of interest that can impact how the group responds to an intervention, which potentially can lead to greater efficacy, greater adherence, improved health outcomes and cost savings (Beck, 2010).

Another way interventions are used in health is through the delivery of anticipatory counseling. Anticipatory counseling is used in medical practices to help patients anticipate and prepare for what to expect at some point in the future, such as the growth of their child, cancer

treatment side effects, and diabetes disease management (CDC, training slide 7, nd; Reisinger, 1980). Anticipatory counseling is generally recommended by clinicians because they see patients and if a population is knowledgeable about what to expect before a health procedure or treatment, patients will be better able to feel prepared to receive a health treatment or service. Some clinical studies have listed anticipatory counseling as a recommendation for specific secondary effects that cancer treatment patients experience. They have also emphasized anticipatory counseling for adolescents in STI and pregnancy prevention efforts (Feng, 2018; Kim, 2009; Dull et. al, 1998). Lesnewski added that anticipatory guidance regarding side effects makes hormonal contraception easier to use for patients (Lesnewski, 2021). Although these studies demonstrate the benefits of anticipatory counseling, literature is still lacking about videos for anticipatory counseling. One study that has shown the efficacy of an anticipatory guidance video was developed for IUD users. The video discusses what to expect from the IUD placement and post-placement symptoms; the study shows that the video has worked by improving IUD continuation (Godfrey, 2020). The secondary analysis of this study focused on determining what various populations had to say about the IUD video.

2. Methods

In 2019, Godfrey et. al conducted the Anticipatory Counseling on LNG-IUS Continuation, Utilization and Satisfaction: A Continuation Study (ACCUSS). This study randomized 185 new hormone IUD users in Seattle, Chicago and Los Angeles into control and intervention groups, the latter of which viewed an anticipatory counseling video about what to expect in the first six months after IUD insertion. The video utilized clinical providers and personal experiences from IUD users to explain how the IUD works, side effects such as bleeding and cramping, and provided resources with medically accurate information. Participants, who were already scheduled to receive an IUD, were included in the study after completing consent, and providing demographic, baseline, and post-video knowledge questionnaires, and were randomized 1:1

intervention or control arms. The intervention group (N=how many people completed surveys) watched the IUD anticipatory counseling video, while the control group watched a similar video with alternative information about wellness exams. Both groups received the same study questionnaire after watching their assigned video (See Appendices A and B). Results of this study showed that intervention group participants highly rated the video overall and had improved knowledge about the IUD method, however, the video did not show a significant impact on IUD continuation, satisfaction and healthcare use when compared to the control group participants. This study provides a secondary review of data from the post-video questionnaire collected from the intervention group (N=94).

Using data collected in ACCUSS, this study explored participant responses about the hormonal IUD anticipatory counseling video (Godfrey, 2020). This study aimed to: 1. Understand differences between demographic groups based on counseling video ratings; 2. Summarize qualitative feedback on the video; and 3. Provide recommendations for improving the video based on participant feedback.

Recommendations for how to improve the video were developed after evaluating data from the post-intervention questionnaire. Free-text responses provided qualitative data which was reviewed to identify common themes across different subgroups, and any feedback unique to specific demographic groups. In addition, Likert scale questions provided quantitative data to compare video feedback across subgroups. Likert scale questions used a rating scale of Strongly Dislike (1) to Strongly Like (5). Average overall liked rating, the average, and standard deviation for each Likert scale question were calculated (See Table 2).

Study setting

Patients enrolled in this study were recruited from three women's health and family planning clinics from three locations: the University of Washington (UW) affiliated clinics in Seattle, WA

(Seattle), the University of California Los Angeles Medical Center Gynecology Clinics Los Angeles, CA (Los Angeles) and the Stroger Hospital of Cook County Tile X Clinic in Chicago, IL (Chicago). UW acted as data coordinating center (DCC) and study activities received Institutional Review Board approval from UW and UCLA with a reliance agreement, and from Cook County Hospital and Health Systems for the Stroger Hospital. The data analysis for this study was conducted in Bakersfield, California under the supervision of graduate's thesis committee from the UW through enrollment in the Online Executive Master of Public Health.

Study participants

This study focused on the 94 participants in the hormonal IUD anticipatory counseling video intervention group from the ACCUSS Study. Patients were eligible for the study if they were at least 18 years old, had not used a hormonal IUD in the previous two years, and were patients at one of three study clinics in Seattle, Chicago, or Los Angeles. Participants had to be willing to complete all baseline questionnaires in the clinic, have a working phone, email, and internet access, and be able to verbally understand and read English. Patients were not eligible if they had a childbirth within four weeks prior to the study or had used a hormonal IUD in the prior 2 years.

Data collection

The data used for this study were previously collected and de-identified. The study questionnaires were administered between February 2018 and September 2018 through REDCap. The baseline questionnaire collected demographic information and baseline IUD knowledge; the post-video questionnaire collected information on participants' experience of the video. This study focused exclusively on data from the demographic and post-video questionnaires.

Study design

The study on which this secondary analysis is based was a randomized 1:1, double-blinded, placebo controlled online randomized trial conducted at UW. Qualitative and quantitative approaches were both used to analyze data from this prospective randomized controlled multi-site trial in which 185 women new to hormonal IUD were randomized to watch an anticipatory counseling video. The intervention group viewed a human-centered 6-minute video which contained information about expected side-effects including cramping and bleeding during the first 6-months of IUD use. Using a human-centered design approach in the video involved inclusion of details from personal experiences of actual IUD users, recommendations for when to seek medical attention and reputable online sources for further information about using the IUD device. This video was based on anticipatory counseling practices that promote women's contraceptive continuation and optimize their adherence. The control group watched a video about wellness and cancer screening guideline updates and encouraged hormonal IUD users to seek care regularly regardless of annual contraceptive prescription needs status. The control group video did not discuss or inform participants about hormonal IUD side effects or about what to expect if and when having an IUD placed.

This study used both qualitative and quantitative approaches utilizing Microsoft Excel to analyze demographic data and open-ended responses regarding IUD anticipatory counseling video feedback. Qualitative data from the study questionnaire was coded to compare themes among participants from three locations to explore anticipatory counseling video recommendations.

The post-video questionnaire evaluated the strengths and weakness of the IUD anticipatory counseling video and collected suggestions for future uses of anticipatory counseling videos regarding hormonal IUDs. The demographic data was used to determine if there were differences among participant responses from different subgroups. The qualitative data were analyzed for themes that could help contextualize and explain why any differences might exist.

The primary outcomes from participants' short responses were assessed and quantified by using a transcendental phenomenology approach, a qualitative research method which is known to support health professionals in learning about and understanding a phenomenon in the lived experiences of others (Neubauer, 2019). For this study, this approach was appropriate because learning more about how the various participants experienced the hormonal IUD video might help medical providers understand what components of the video should remain the same and which could change to make improvements to future versions of the video. The transcendental phenomenology approach applied in this study also supported the vigilant bracketing process in the thematic qualitative data analysis, which reduces the researcher's bias by removing her own assumptions, perceptions and categories from the data (Neubauer, 2019). This allowed the personal participant experiences with the IUD video to be analyzed and highlight themes, sub-themes, and comments using language from the participants.

This study looked at the relationships between demographic variables and video feedback, to determine whether different groups of participants experienced the video differently, more specifically, explored the relationship between geography, race, income and education levels, and insurance status in experiences of participants while watching the hormonal IUD anticipatory counseling video. Our hypothesis was that we would find differences and similarities in responses based on participant's geography, race, income and education levels, and insurance status

Data quality

After collected data was transferred to the Excel platform, it was crosschecked for any transfer errors. Because this study conducted a secondary analysis, the previous team already cleaned up the data set and removed missing and problematic data.

Data analysis

For this study, all previously collected data were prepared by the following process for analysis. First, all survey responses from the intervention group collected in the REDCap survey were exported and then imported into a Microsoft Excel Workbook. Qualitative data from the free form responses in the REDCap survey was extracted to conduct a thematic analysis in order to identify key themes and recommendations. Qualitative data was organized by site to see if there were any differences in the participants by study site. After reviewing the qualitative data, an inductive coding process was applied to create a codebook and is included in Figure 1. Each participant response was highlighted by a general theme: negative feedback and positive feedback. Then responses were separated by specific themes and sub-themes pulled from participant responses and then recoded by color, one for each sub-theme (Medelyan, 2023).

3. Results

The study intervention cohort consisted of 94 participants who were receiving an IUD. Fifty-one percent of the women who participated were 27 years old or older and forty-eight percent of the women who participated were 18 to 26 years old. Forty percent of the cohort was non-Hispanic white, 23.4% were non-Hispanic Black, 14.9% were non-Hispanic Asian, 14.9% were Hispanic, 3.2% listed another race, and 3.2% did not list a race or ethnic background. Fifty-six percent of the participants attended some college, college, or vocational school, 22.3% earned a professional or graduate degree, and 21.3% received a high school diploma, GED, or less. Fifty-five percent of participants had private insurance, 27.7% had public insurance, and 13.8% were uninsured. Table 1 displays the characteristics of the full intervention cohort and the cohort stratified by the three geographic locations, Seattle, Los Angeles, and Chicago.

Table 1: Intervention Participant Demographics

Variable	Seattle n (%) 30 (31.9)	Los Angeles n (%) 29 (30.9)	Chicago n (%) 35 (37.2)	Intervention Total n (%) 94 (100)
Race				
Asian	8 (26.7)	5 (17.2)	1 (2.9)	14 (14.9)
Black	0	2 (6.8)	20 (57.1)	22 (23.4)
Hispanic/Latino	1 (3.3)	6 (20.7)	7 (20.0)	14 (14.9)
White NH	20 (66.7)	15 (51.7)	3 (8.6)	38 (40.4)
Other Race*	0	1 (3.4)	2 (5.7)	3 (3.2)
Missing	1 (3.3)	0	2 (5.7)	3 (3.2)
Age				
18-26	22 (73.3)	11 (38.0)	12 (34.3)	45 (47.9)
27+	8 (26.7)	18 (62.0)	22 (62.9)	48 (51.0)
Missing	0	0	1 (2.8)	1 (1.1)
Education Level				
High School/GED or less	2 (6.7)	3 (10.3)	15 (42.9)	20 (21.3)
Some college/ College/Vocational School	25 (83.3)	12 (41.4)	16 (45.7)	53 (56.4)
Professional or graduate degree	3 (10.0)	14 (48.3)	4 (11.4)	21 (22.3)
Insurance Status				
Public	6 (20.0)	2 (6.9)	18 (51.4)	26 (27.7)
Private	24 (80.0)	25 (86.2)	3 (8.6)	52 (55.3)
Don't know/Other	0	1 (3.4)	2 (5.7)	3 (3.2)
Uninsured	0	1 (3.4)	12 (34.3)	13 (13.8)

*Other Race includes Native American, Multiracial, Other-Not Specified

Participants who watched the IUD counseling video were asked to evaluate the video content across multiple domains. The survey items asked participants to rate how they liked: the video overall, the visual diagrams, the stories provided by women with hormonal IUDs, the information delivered by the healthcare providers, the overall flow of the video, ease of understanding, satisfaction with the information, and the length of the video. Study participants were asked to rate each statement by selecting from a scale of strongly agree (5), agree (4), neutral (3), disagree (2), and strongly disagree (1). This rating scale was converted to a number scale from five to one for the study analysis. The study looked at the overall rating for each survey item by calculating the average participant ratings and standard deviations. The average participant ratings of the study video are provided in Table 2 and are broken down by subgroups of interest.

Table 2: Average Participant Ratings of Study Video (1 = Strongly Dislike, 5 = Strongly Like) Overall likability score (average score (SD))

Variable	Please rate how you liked this video overall (avg (SD))	The visual diagrams (avg (SD))	The stories provided by women with hormonal IUDs (avg (SD))	The information delivered by the healthcare providers (avg (SD))	The overall flow of the video (avg (SD))	Ease of understanding (avg (SD))	Satisfaction with the information (avg (SD))	Length of the video (avg (SD))
Total Study Population n = 94	**4.24 (0.68)**	**4.38 (0.59)**	**4.34 (0.74)**	**4.46 (0.63)**	**4.25 (0.67)**	**4.48 (0.59)**	**4.42 (0.62)**	**4.21 (0.81)**
Location								
Seattle	**4.32 (0.67)**	**4.50 (0.51)**	**4.43 (0.69)**	**4.48 (0.58)**	**4.25 (0.52)**	**4.56 (0.51)**	**4.50 (0.58)**	**4.22 (0.70)**
LA	**4.14 (0.76)**	**4.36 (0.68)**	**4.11 (0.96)**	**4.32 (0.72)**	**4.14 (0.89)**	**4.54 (0.64)**	**4.29 (0.71)**	**4.21 (0.88)**
Chicago	**4.25 (0.62)**	**4.28 (0.58)**	**4.34 (0.79)**	**4.56 (0.56)**	**4.35 (0.55)**	**4.35 (0.61)**	**4.47 (0.57)**	**4.19 (0.87)**
Race								
Asian	**4.23 (0.60)**	**4.23 (0.60)**	**4.38 (0.51)**	**4.46 (0.52)**	**4.15 (0.55)**	**4.38 (0.51)**	**4.38 (0.51)**	**4.00 (0.85)**
Black	**4.30 (0.57)**	**4.40 (0.60)**	**4.55 (0.51)**	**4.55 (0.51)**	**4.47 (0.51)**	**4.53 (0.51)**	**4.55 (0.51)**	**4.32 (0.82)**
Latina	**4.00 (0.85)**	**4.20 (0.56)**	**4.00 (1.20)**	**4.40 (0.83)**	**4.13 (0.92)**	**4.20 (0.68)**	**4.33 (0.72)**	**4.07 (0.80)**
White	**4.22 (0.76)**	**4.46 (0.62)**	**4.22 (0.87)**	**4.42 (0.69)**	**4.17 (0.77)**	**4.53 (0.59)**	**4.35 (0.71)**	**4.22 (0.81)**
Age								
18-26	**4.30 (0.67)**	**4.48 (0.55)**	**4.39 (0.72)**	**4.52 (0.59)**	**4.27 (0.62)**	**4.53 (0.59)**	**4.50 (0.59)**	**4.17 (0.85)**
27+	**4.21 (0.67)**	**4.26 (0.62)**	**4.21 (0.91)**	**4.43 (0.63)**	**4.26 (0.70)**	**4.43 (0.59)**	**4.37 (0.62)**	**4.23 (0.77)**
Education Level								
HS/GED or less	**4.21 (0.63)**	**4.32 (0.58)**	**4.26 (0.93)**	**4.61 (0.51)**	**4.33 (0.59)**	**4.22 (0.65)**	**4.47 (0.51)**	**3.89 (0.99)**
Some College/ College/ Vocational	**3.53 (1.43)**	**4.47 (0.58)**	**4.35 (0.75)**	**4.46 (0.62)**	**4.31 (0.71)**	**4.58 (0.58)**	**4.51 (0.65)**	**4.34 (0.76)**
Professional/ Graduate	**4.00 (0.65)**	**4.20 (0.62)**	**4.20 (0.89)**	**4.35 (0.75)**	**4.05 (0.60)**	**4.45 (0.51)**	**4.15 (0.59)**	**4.20 (0.70)**
Insurance Status								
Public	**4.16 (0.69)**	**4.40 (0.65)**	**4.52 (0.51)**	**4.46 (0.58)**	**4.32 (0.56)**	**4.32 (0.56)**	**4.40 (0.58)**	**4.04 (0.81)**
Private	**4.29 (0.71)**	**4.43 (0.61)**	**4.22 (0.87)**	**4.40 (0.68)**	**4.17 (0.75)**	**4.60 (0.58)**	**4.43 (0.68)**	**4.29 (0.77)**
Uninsured	**4.27 (0.47)**	**4.09 (0.30)**	**4.09 (1.14)**	**4.73 (0.47)**	**4.36 (0.50)**	**4.45 (0.52)**	**4.36 (0.50)**	**4.27 (1.01)**

Overall, on a scale of one to five, participants were satisfied with the video content across multiple domains with most average ratings above 4. The ease of understanding received the highest rating at 4.60 out of 5 with a standard deviation of 0.58 from participants who have private insurance. The overall rating of the video received the lowest rating at 3.53 out of 5 with a standard deviation of 1.43 from participants who have some college, college or vocational education level. Those with a high school education, GED or less rated the length of the video the lowest at 3.89 out of 5 with a standard deviation of 0.99.

Participants were also asked three open-ended questions so they could express in their own words what they liked about the video, what they did not like, and what they would change to improve it. When reviewing their comments, four themes were identified: Positive Feedback

Video Content, Negative Feedback Video Content, Patient Stories, and Length of the Video. Figure 1 includes several illustrative quotes from study participants organized by theme.

In the positive feedback video content theme, participants generally commented about the quality of the information they received in the video about the IUD such as its side effects, the visuals used to explain how it works, and the diverse backgrounds of the individuals in the video. Fifty-seven participants wrote positive comments about the video, of these, 31 comments related to appreciation for the patient stories, nine comments related to the medical information provided, eight comments mentioned the clarity of the information, six comments included diagrams, and four comments stated appreciation for the diverse representation of IUD users.

In the negative feedback video content theme, participants generally wrote about their interest in more information about the IUD, feelings about the patient stories, and the length of the video. A total of 12 participant comments expressed interest in more information with facts about the IUD, the mood swings and side effects, and information about the insertion and removal process. Four comments from participants said they felt like the patients' stories "could be better" or that there were "too many" patient stories. Three participants reported feelings of fear or unease related to the content about IUD side effects discussed in the video.

The theme of patient stories contained 31 comments about liking the various experiences shared by IUD users and the diversity of the patients in the video. The study participants liked the personal stories, hearing IUD users talk about their experiences and that there was a variety of experiences. The comments also mentioned liking the race and ethnicity and gender represented in the video.

For the length of video theme, all eight comments emphasized shortening the video. The video shown to the intervention participants was 6:00 minutes long. Participants mentioned that the video was "very long" and "could be shortened by thirty seconds or one minute." However,

some of these participants requested that the amount of information provided stayed the same. All but one of the participants who suggested the video was too long were under the age of 30.

Figure 1: Illustrative Quotes

Theme	Definition	Sub-themes	Illustrative Quote	Participant Info (site, age in years, race)
Positive Feedback	This code represents participant compliments and positive comments about the knowledge provided, people in the video, clarity and conciseness of the video, and visuals and diagrams.	Gained knowledge	*"I liked that it addressed the common side effects and warned me about things that could be uncomfortable but are normal."*	Seattle, 19, white
		Quality of speakers	*"Had woman who have had variety of IUD experiences, varying lengths of having IUD, various races, someone who didn't present as typically feminine."*	Seattle, 24, Asian
		Good visuals/diagrams	*"I enjoyed the diagrams of females who got the IUD which demonstrated the time periods where symptoms may occur; showing that some have them and others don't."*	Seattle, 24, white
		Clear information delivery	*"The stories, diagrams, and how concise the information was presented."*	LA, 29, Latina
Negative Feedback	This code represents participant suggestions or negative comments about wanting more information (facts, side effects, mood swings, insertion and removal process), patient stories, feeling scared, or the length of the video.	Not enough information	*"Talk about more of the benefits, how long it lasts, etc."*	LA, 20, Latina
		Quality of Speakers	*"I think it would have been more effective to have the healthcare providers make eye contact with the camera. I also think it would be beneficial to have younger women (teens to college age) in the video."*	Seattle, 20, none listed
		Number of testimonies	*"Too many testimonies from individuals with IUD, it become repetitive."*	Seattle, 19, white
		Feeling scared	*"Scared me a little knowing that the cramping and bleeding can last up to 6 months. Is this constant or just infrequent? How uncomfortable can it get?"*	LA, 21, white
		Did not like/want more diagrams	*"The diagrams and visual aids could be more helpful. I felt that they were not beneficial in watching this video. Perhaps a different choice of visual aids."*	Chicago, 44, Black

Patient Stories (Testimonials)	This code represents participant comments about the stories, testimonies, and people in the video.	Personal experiences	*“That they had multiple women explain their experience with the IUD and that they each had varying experiences. I felt that it gave me a better overall understanding of what to expect and what to do if any side effects happened. I also liked that it went into detail of how the side effects can present themselves and different ways to combat them.”*	Seattle, 25, white
Length of Video	This code represents any comments about video length.	Video too long	*“It seemed very long and would like to have more information from women who had negative side effects that got better.”*	Chicago, 29, white
		Video is short	*"It's short but informative."*	Chicago, 27, Latina

This study conducted a secondary analysis of participant feedback on an IUD anticipatory counseling video. The analysis results demonstrate that participants liked the components and quality of the video and also had some recommendations to make improvements for future versions of this video. Overall, the study participants liked the visual diagrams and the ease of understanding of the video, and the least liked components was the length of the video.

Latina participants responded most positively to the visual diagrams, while Asian and Black participants responded most positively to the stories provided by the women with hormonal IUDs and the information delivered by the healthcare providers. Participants provided critical feedback about the length of the video and eight recommended that the video be shorter by 30 to 60 seconds, while maintaining the amount of content and information provided. For example, 31 participants mentioned they liked the stories provided by the women with hormonal IUDs and that the experiences shared had varying experiences of IUD users, which demonstrates personal anecdotes should continue to be included in future versions of this video. Eight participants mentioned that the information was clear and concise, which helps to explain the rating results for ease of understanding. Twelve participants mentioned they would like more information about the IUD and suggested including details about the insertion and removal process and details about the side effects such as mood swings to make the video better.

4. Discussion

The major finding in this study was that participants liked the video overall and thought that it was easy to understand. Participants highly rated the video across multiple domains. This result demonstrates that an anticipatory counseling video can be a way to educate patients about the hormonal IUD.

The study results demonstrate that diverse populations based on race, income and education levels, age, and insurance status overall supported the contents of the IUD anticipatory counseling video. This supports the claim that anticipatory counseling about IUDs can be delivered via video format to provide a patient with information about what to expect before receiving a procedure along with the possible secondary effects. Anticipatory counseling videos can be a tool to help patients in prevention interventions.

While some participants said they wanted the video to be shorter, others emphasized that they wanted more information about side effects and how to manage them. It is important to note that having a ready-made anticipatory counseling video may make certain aspects of the counseling less personalized to the individual patient. For example, one participant wanted the video to make a case for why the IUD was the best option for her, but a video may struggle to do that for everyone. This suggests that different IUD users may have different needs in terms of the video content. While most participants commented on liking the patient stories, there were some participants that thought there were too many stories. Some of the participant comments that contradicted each other were related to the visuals and diagrams used in the video. Six participants said they liked the visuals and diagrams and three said they did not like the visuals at all and requested more or suggested having different kinds of visuals to understand how the IUD works.

Based on what the participants said, the research team can make some adjustments to the IUD video. Though participants overall had positive feedback about the video, if the research team decides to make a follow up or new version of the video, they might consider shortening the length of the video, keeping the personal stories, and information provided by the healthcare providers to help viewers gain knowledge about the IUD. The research team should also consider adding more information about secondary effects and visuals that explain the insertion and removal process. The study team might also consider making a different version of the video for different age groups considering that a few participants suggested having younger IUD users in the video. Further research is needed to understand the components that maximize benefits of anticipatory counseling videos. More research is needed to understand how to integrate anticipatory counseling videos in telehealth and the needs of the diverse community in the USA.

Study limitations must be noted. The video's applicability in its current state is limited by the demographics of the intervention participants and testing locations. First, the video discussed in this study was shown to participants in large cities and has not been tested in rural or suburban communities. However, the diverse demographics of participants involved in the study may represent some of the demographics similar to those of rural and suburban communities. Second, the study was only conducted with women who already decided they wanted an IUD and were not involved in making a choice from various contraceptive methods. Study participants were a convenience sample, suggesting they are more likely to have a good reaction to the video. The purpose of the IUD anticipatory counseling video was to learn about the method and did not offer other methods. A similar anticipatory counseling video could be offered and studied for other popular contraceptive methods like the combined oral contraceptive pill or the arm implant (Nexplanon). Due to lack of enough qualitative data in the hormonal IUD post video questionnaire written responses, a full qualitative data analysis was

not performed as stated in the original proposal. Instead, data analysis focused on quantitative data with limited inclusion of qualitative feedback to help explain similarities or differences between subgroups.

A major strength of this study involved recruiting participants from three major cities which generated more representation of women in the study. This means that participants were diverse not only in race and ethnicity but also in life experiences. Another strength of the study is the total number of participants from each city. This study adds to the literature, which lacks more information about the benefits and use of anticipatory counseling videos paired with hormonal IUD insertion.

Given that overall participants liked the video and felt it had educational value, clinics that offer counseling and insertion of IUDs should consider implementing anticipatory guidance videos to help their patients understand this contraceptive method. Additionally, due to the increase in the uptake of telehealth services during the COVID-19 pandemic, anticipatory counseling videos like the one analyzed in this study, can have the opportunity to be integrated in the treatment plan of contraceptive care across clinics, including telehealth services delivered. Clinicians should consider getting the perspective on the video of other constituencies in the future to expand its applicability. This study is one of the first to expand on the literature about hormonal IUD anticipatory counseling videos.

5. Appendices

A. REDCap Demographics Survey

Demographics

Please fill out the demographic information below. This is survey #2 out of 5 today.

Where did you get (or plan to get) your IUD inserted today?	◯ Seattle ◯ Chicago ◯ Los Angeles
What is your age today?	_____
Which best describes your current marital status?	◯ Married or in a domestic partnership ◯ Divorced, widowed, separated ◯ Never married ◯ Other
Other (please specify)	_____
Are you Hispanic or Latina, or of Spanish origin?	◯ Yes ◯ No
What is your race? (If more than one race, select all that apply)	☐ Asian (Chinese, Filipino, Japanese, Korean, Vietnamese, Indian, Other Asian) ☐ Black or African American ☐ Native Hawaiian or Pacific Islander (Guamanian or Chamorro, Samoan, Other Pacific Islander) ☐ American Indian or Alaska Native ☐ White ☐ Other
Other (specify):	_____
What is the highest grade or level of education you completed?	◯ Some high school or less ◯ High school graduate or GED ◯ Some college ◯ Vocational school ◯ College degree ◯ Professional or graduate degree
Including employment earnings, investment earnings and other income of all household members, what is your current, pre-tax annual total household income?	◯ $15,000 or less ◯ $15,001 to $25,000 ◯ $25,001 to $35,000 ◯ $35,001 to $50,000 ◯ $50,001 to $75,000 ◯ $75,001 to $100,000 ◯ $100,001 to $150,000 ◯ $150,001 to $200,000 ◯ More than $200,000
How many persons live in your household (including yourself, partners, parents, siblings and children)?	_____

What type of medical insurance do you currently have? [mark all that apply]	☐ None ☐ Medicaid/Medi-Cal/Apple Health ☐ Disability or Medicare ☐ Insurance through your job or that you buy on your own ☐ Military or VA ☐ Student health insurance ☐ Parent's insurance ☐ Don't know ☐ Other
Other (specify)	_____
What birth control methods have you used before? (mark all that apply)	☐ Birth control pills ☐ Contraceptive patch ☐ Vaginal ring (NuvaRing™) ☐ Shot (3-month injectable, Depo-Provera™) ☐ Condoms (male or female) ☐ Diaphragm (Caya™) ☐ Cervical cap ☐ Copper IUD (ParaGard™, non-hormonal IUD) ☐ Hormonal IUD (Mirena™, Skyla™, Liletta™, or Kyleena™) ☐ Hormonal implant (Norplant™, Implanon™, or Nexplanon™) ☐ Spermicide ☐ Withdrawal (pulling the penis out of the vagina just before ejaculation) ☐ Today™ sponge ☐ Jelly or cream ☐ Foam ☐ Suppository, insert ☐ Calendar rhythm, Standard Days or Cycle Beads method ☐ Emergency contraception pills (Plan B One Step™, Next Choice™, Ella™) ☐ Partner's vasectomy ☐ Another method ☐ None
Have you ever been pregnant? (This includes pregnancies that may have ended in live birth, cesarean section, stillbirth, abortion, miscarriage or ectopic pregnancy)	◯ Yes ◯ No
How many pregnancies have you had in the past?	◯ 1 ◯ 2 ◯ 3 ◯ 4 ◯ 5 ◯ 6 ◯ 7
What year was the first pregnancy?	_____
Was this pregnancy planned or unplanned?	◯ Planned ◯ Unplanned

What was the outcome of this pregnancy?	◯ Live-birth ◯ Miscarriage or Stillbirth ◯ Abortion/Termination ◯ Tubal or ectopic
What year was the second pregnancy?	_____
Was the second pregnancy planned or unplanned?	◯ Planned ◯ Unplanned
What was the outcome of the second pregnancy?	◯ Live-birth ◯ Miscarriage or Stillbirth ◯ Abortion/Termination ◯ Tubal or ectopic
What year was the third pregnancy?	_____
Was the third pregnancy planned or unplanned?	◯ Planned ◯ Unplanned
What was the outcome of the third pregnancy?	◯ Live-birth ◯ Miscarriage or Stillbirth ◯ Abortion/Termination ◯ Tubal or ectopic
What year was the fourth pregnancy?	_____
Was the fourth pregnancy planned or unplanned?	◯ Planned ◯ Unplanned
What was the outcome of the fourth pregnancy?	◯ Live-birth ◯ Miscarriage or Stillbirth ◯ Abortion/Termination ◯ Tubal or ectopic
Was year was the fifth pregnancy?	_____
Was the fifth pregnancy planned or unplanned?	◯ Planned ◯ Unplanned
What was the outcome of the fifth pregnancy?	◯ Live-birth ◯ Miscarriage or Stillborn ◯ Abortion/Termination ◯ Tubal or ectopic
What year was the sixth pregnancy?	_____
Was the sixth pregnancy planned or unplanned?	◯ Planned ◯ Unplanned

What was the outcome of the sixth pregnancy?	◯ Live-birth ◯ Miscarriage or Stillborn ◯ Abortion/Termination ◯ Tubal or ectopic
What year was the seventh pregnancy?	_____
Was the seventh pregnancy planned or unplanned?	◯ Planned ◯ Unplanned
What was the outcome of the seventh pregnancy?	◯ Live-birth ◯ Miscarriage or Stillborn ◯ Abortion/Termination ◯ Tubal or ectopic
Other method (specify)	_____
During the past 12 months, what was the average amount of bleeding that you had during your periods?	◯ Light (10 or fewer pads/tampons) ◯ Moderate (11-20 pads/tampons) ◯ Moderately heavy (21-30 pads/tampons) ◯ Heavy (more than 30 pads/tampons) ◯ Too variable or irregular to say ◯ No bleeding

B. REDCap Post Viewing Content Questions

Post Video Viewing Content Questions

Now please answer these questions about the video.

This is survey #5 out of 5 today. After this you will be directed to complete tax information so we can email you your $20 Amazon e-gift card.

Please rate how you like this video overall? [please pick only one option]	◯ Strongly like ◯ Like ◯ Neutral ◯ Dislike ◯ Strongly dislike
Was there anything in the video that you found confusing? (check all that apply)	☐ Nothing ☐ The video was confusing in general ☐ The video message was not clear ☐ The words were hard to understand ☐ There was too much information presented ☐ The video message did not relate to me ☐ Other:
Other (specify):	_____

Please rate how you like the following aspects of the video:	
The visual diagrams	◯ Strongly like ◯ Like ◯ Neutral ◯ Dislike ◯ Strongly dislike
The stories provided by women with hormonal IUDs	◯ Strongly like ◯ Like ◯ Neutral ◯ Dislike ◯ Strongly dislike
The information delivered by the healthcare providers	◯ Strongly like ◯ Like ◯ Neutral ◯ Dislike ◯ Strongly dislike
The overall flow of the video	◯ Strongly like ◯ Like ◯ Neutral ◯ Dislike ◯ Strongly dislike
Ease of understanding	◯ Strongly like ◯ Like ◯ Neutral ◯ Dislike ◯ Strongly dislike

Satisfaction with the information	◯ Strongly like ◯ Like ◯ Neutral ◯ Dislike ◯ Strongly dislike
Length of the video	◯ Strongly like ◯ Like ◯ Neutral ◯ Dislike ◯ Strongly dislike
What is the best way to make this video available to women like you who are considering getting or just got their hormonal IUD inserted (check all that apply):	☐ Show it on a TV or tablet at a clinic or doctor's office ☐ Post it onto YouTube for public viewing ☐ Create a free mobile app ☐ Other (specify):
Other (specify):	_____

Please give us some feedback about this video:

What, if anything, did you particularly like about the video?	_____
What, if anything, did you particularly dislike about the video?	_____
How can we improve this video?	_____

References

Akdemir, Y., & Karadeniz, M. (2019). The relationship between pain at IUD insertion and negative perceptions, anxiety and previous mode of delivery. *The European Journal of Contraception & Reproductive Health Care*, *24*(3), 240–245. https://doi.org/10.1080/13625187.2019.1610872

Beck, C., McSweeney, J. C., Richards, K. C., Roberson, P. K., Tsai, P.-F., & Souder, E. (2010). Challenges in tailored intervention research. *Nursing Outlook*, *58*(2), 104–110. https://doi.org/10.1016/j.outlook.2009.10.004

Child and Teen Checkups (C&TC). (2023). *Anticipatory Guidance: Birth to 10 years*. Minnesota Department of Health. https://www.health.state.mn.us/docs/people/childrenyouth/ctc/antguide0to10.pdf

Cypress, B. (2018). Qualitative Research Methods: A Phenomenological Focus. *Dimensions of Critical Care Nursing*, *37*(6), 302–309. https://doi.org/10.1097/DCC.0000000000000322

Dull, P., & Blythe, M. J. (1998). PREVENTING TEENAGE PREGNANCY. *Primary Care: Clinics in Office Practice*, *25*(1), 111–122. https://doi.org/10.1016/S0095-4543(05)70327-4

Feng, L. R., Suy, S., Collins, S. P., Lischalk, J. W., Yuan, B., & Saligan, L. N. (2018). Comparison of Late Urinary Symptoms Following SBRT and SBRT with IMRT Supplementation for Prostate Cancer. *Current Urology*, *11*(4), 218–224. https://doi.org/10.1159/000447222

Gilmore, K., Ojanen-Goldsmith, A., Callegari, L. S., & Godfrey, E. M. (2018). The first 6 months: Developing a user-informed anticipatory counselling video about the levonorgestrel intrauterine system. *BMJ Sexual & Reproductive Health*, *44*(4), 248–253. https://doi.org/10.1136/bmjsrh-2018-200055

Godfrey, E. (2020). *Amendment to Anticipatory Counseling on LNG-IUS Continuation, Utilization and Satisfaction: A Continuation Study*. IIR-US-2014-866.

Guttmacher. (2021, April 7). *Contraceptive Use in the United States by Method*. Guttmacher Institute. https://www.guttmacher.org/fact-sheet/contraceptive-method-use-united-states

Hurtado-de-Mendoza, A., Graves, K. D., Gómez-Trillos, S., Carrera, P., Campos, C., Anderson, L., Luta, G., Peshkin, B. N., Schwartz, M. D., Cupertino, A.-P., Gonzalez, N., & Sheppard, V. B. (2019). Culturally Targeted Video Improves Psychosocial Outcomes in Latina Women at Risk of Hereditary Breast and Ovarian Cancer. *International Journal of Environmental Research and Public Health*, *16*(23), 4793. https://doi.org/10.3390/ijerph16234793

Kaiser Family Foundation. (2020, September 9). Intrauterine Devices (IUDs): Access for Women in the U.S. *KFF*. https://www.kff.org/womens-health-policy/fact-sheet/intrauterine-devices-iuds-access-for-women-in-the-u-s/

Kilanowski, J. F. (2013). Anticipatory Guidance Preferences of Latina Migrant Farmworker Mothers. *Journal of Pediatric Health Care*, *27*(3), 164–171. https://doi.org/10.1016/j.pedhc.2011.08.004

Kim, H.-J., Barsevick, A. M., & Tulman, L. (2009). Predictors of the Intensity of Symptoms in a Cluster in Patients With Breast Cancer. *Journal of Nursing Scholarship*, *41*(2), 158–165. https://doi.org/10.1111/j.1547-5069.2009.01267.x

Lesnewski, R. (2021). Initiating Hormonal Contraception. *American Family Physician*, *103*(5), 291–300.

Leung, C. Y. Y., Trinidad, J. E., & Suskind, D. L. (2022). Video-Based Anticipatory Guidance on Early Cognitive and Language Development in the First 6 Months: A Randomized Controlled Trial. *The Journal of Pediatrics*, *245*, 227-229.e1. https://doi.org/10.1016/j.jpeds.2022.03.008

Medelyan, A. (2019, October 11). *Coding Qualitative Data: How To Code Qualitative Research (2023)*. Thematic. https://getthematic.com/insights/coding-qualitative-data/

Neubauer, B. E., Witkop, C. T., & Varpio, L. (2019). How phenomenology can help us learn from the experiences of others. *Perspectives on Medical Education*, *8*(2), 90–97. https://doi.org/10.1007/s40037-019-0509-2

Nguyen, L., Lamarche, L., Lennox, R., Ramdyal, A., Patel, T., Black, M., & Mangin, D. (2020). Strategies to Mitigate Anxiety and Pain in Intrauterine Device Insertion: A Systematic Review. *Journal of Obstetrics and Gynaecology Canada*, *42*(9), 1138-1146.e2. https://doi.org/10.1016/j.jogc.2019.09.014

Reisinger, K. S., & Bires, J. A. (1980). Anticipatory Guidance in Pediatric Practice. *Pediatrics*, *66*(6), 889–892. https://doi.org/10.1542/peds.66.6.889

Villagran, M. A. L. (2022). Cultural Competence in Research. *School of Information Student Research Journal*, *12*(1). https://doi.org/10.31979/2575-2499.120103