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RESEARCH BRIEF

Ohio providers' practices and barriers to use of reproductive life plans and long-acting reversible contraception with patients and clients

Natalie DiPietro Mager, PharmD, MPH[1,2]; Brad Lucas, MD[1,3]; Michelle Clark, RN[1,4]; Molly Kelly, RN[1,4]; Patricia Gabbe, MD[1,5]

[1]Ohio Collaborative to Prevent Infant Mortality, Columbus, OH

[2]Ohio Northern University, Ada, OH

[3]Buckeye Health Plan, Akron, OH

[4]Ohio Department of Health, Columbus, OH

[5]The Ohio State University, Columbus, OH

Corresponding Author: Natalie DiPietro Mager • Ohio Northern University • 525 S. Main St, Ada, OH • 419-772-3971 • n-dipietro@onu.edu

ABSTRACT

Background: Creating reproductive life plans, assessing pregnancy intent, and discussing long-acting reversible contraception (LARC) can reduce unintended pregnancies and promote women's health before and between pregnancies. The primary objective of this study was to collect information from Ohio health workers on knowledge, use, barriers, and perceptions of reproductive life plans. Secondary objectives were to determine whether health workers systematically ask female clients/patients about pregnancy intent, include information on LARC when discussing contraceptive options, or encounter barriers to these practices.

Methods: A 13-item survey was sent electronically utilizing a snowball sampling design to Ohio Collaborative to Prevent Infant Mortality members and to nurses and providers working with women of reproductive age in Ohio who had current certifications listed in public access state licensure files. Chi-square tests were performed to identify associations between response to survey questions (yes/no) and respondent position (physician/advanced practice nurse/nurse).

Results: Four hundred fifty-two responses were analyzed; 81% were physicians, advanced practice nurses, or nurses. Among respondents, 47% indicated routinely asking all reproductive age females if they plan to become pregnant in the next year; 47% indicated knowledge of reproductive life plans; 28% reported using reproductive life plans with clients/patients; and 72% reported discussing LARC with clients/patients. Significant differences in these practices were seen based on respondent position. The most commonly reported barriers were provider attitudes/knowledge, client/patient attitudes, workflow disruption, and time.

Conclusions: Inconsistencies were seen in the delivery of these practices. There is a need for education about these practices and to develop solutions to barriers.

Key words: pregnancy intent; reproductive life plan; long-acting reversible contraception; unintended pregnancy

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INTRODUCTION

Unintended pregnancy refers to a pregnancy that was desired later or never. Unintended pregnancies can detrimentally affect maternal and child health outcomes and result in economic and social challenges for women and families.[1,2] Approximately 45% of all pregnancies in the United States and 55% in Ohio are unintended.[3,4]

There are several strategies health workers can employ to reduce unintended pregnancy. These include systematically asking patients or clients about pregnancy intent, working with patients or clients to develop reproductive life plans, and discussing highly effective forms of contraception (such as long-acting reversible contraception or LARC) with women of reproductive age. These strategies also serve to improve women's health and birth outcomes by facilitating safe birth spacing and by providing opportunities to address medical, behavioral, or social issues as needed before and between pregnancies.[5-7] Systematic inquiry about pregnancy intent involves asking a woman of reproductive age at every encounter whether she would like to become pregnant or could possibly become pregnant in the next year and provides health workers important information and guides next steps to provide either preconception or contraception counseling and to refer women as appropriate.[5] Programs such as The One Key Question® Initiative have been developed to facilitate implementation of this practice in primary care.[8] Reproductive life plans are comprehensive tools that women can utilize to set life goals around childbearing during the family planning process and may identify potential risks that need to be addressed before pregnancy to improve outcomes.[9] For women who want contraception, information on LARC should be shared as they are among the most effective methods available and they can be easily removed and result in a return to fertility. LARC use is widely recognized as an integral path to birth spacing and the pregnancy preparation that can coincide.[6,7]

In Ohio, the Ohio Collaborative to Prevent Infant Mortality (OCPIM) was formed with stakeholders from across the state to address the issue of high infant mortality.[10] Seven action groups were formed within OCPIM. Due to the high rate of unintended pregnancy in Ohio,[4] Action Group 2: Promoting Optimal Women's Health Before, During, and After Pregnancy decided to first focus on reproductive life plans, pregnancy intent, and LARC. As it was not known how often these practices were being performed in Ohio, an exploratory survey was conducted to collect baseline

data with the intent to inform action steps if needed to increase use of these practices.

METHODS

Setting:

The study was conducted in Ohio with providers working with reproductive-age women.

Design:

The study utilized an electronic survey disseminated via email to capture the information of interest. The primary objective of the survey was to collect information on knowledge, use, barriers, and perceptions related to reproductive life plans. Secondary objectives were to assess whether health workers were systematically asking female clients/patients about pregnancy intent, including information on LARC when discussing contraceptive options, or encountering barriers to these practices.

Participants:

Members of the Ohio Collaborative to Prevent Infant Mortality as well as nurses and providers (family medicine, family practice, internal medicine, general practice, gynecology, and obstetrics/gynecology [ob/gyn]) with current certifications listed in public access state licensure files received the survey. Survey recipients were asked to complete the survey and to forward it on to other health workers they know in the state who work with reproductive-age women.

Procedures:

A 13-item survey instrument was developed. The survey questions were entered into Qualtrics Labs Inc (Provo, UT) software. This tool was pilot-tested by volunteers of the Ohio Collaborative to Prevent Infant Mortality before distribution to assess face validity and to check for any technical difficulties. A cover letter stating the purpose of the survey and encouraging recipients to complete the survey, even if they were not familiar with the concepts described in the cover letter, was drafted to accompany the survey.

The cover letter containing the link to the survey was sent via email to members of the Ohio Collaborative to Prevent Infant Mortality and to nurses and providers with current certifications listed in public access state licensure files. A snowball sampling technique was utilized whereby email recipients were asked to forward the survey email to colleagues in Ohio who work with reproductive-age women. Surveys were completed anonymously. No incentive was offered for responding to the survey. The survey results were collected in April-June 2016. The survey was deemed exempt by the Ohio Northern University Institutional Review Board.

Measures/outcomes:

Four survey questions assessed demographic information (geographic location – county and state; position; type of agency/worksite). Multiple-choice questions assessed whether respondents routinely asked women of reproductive age whether they plan to become pregnant in the next year; respondents' knowledge, use, and perceived benefits of reproductive life plans; and whether respondents included LARC when discussing contraceptive options with their female patients or clients. Barriers preventing current implementation of these three practices were assessed through multiple choice and free text responses. The final survey item was optional and consisted of a free text box where respondents could leave any feedback or comments.

Statistical analysis:

Quantitative data were analyzed using Microsoft Office Excel 2013 (Redmond, WA), IBM SPSS version 22 (Armonk, NY), and ESRI ArcMap (Redlands, CA). Chi-square tests were performed to identify associations between response to survey questions (yes/no) and respondent position (physician/advanced practice nurse/nurse) with statistical significance defined a priori as < 0.05. A thematic qualitative analysis was performed on the open-ended responses. Inductive coding was performed manually by one researcher on the team creating a flat frame of categories that grouped similar thoughts, ideas, or experiences submitted by survey respondents. The researcher conducted three rounds of review of the open-ended responses; the first two rounds of review were used to generate the final list of codes and the third round was performed to assign responses to the final code.

RESULTS

Five hundred thirty-nine individuals completed at least 70% of the survey. Of those, 85 were excluded for reasons such as not working in Ohio; retired; unemployed; work does not include direct contact with clients/patients; or work focuses on the elderly. Data from 452 individuals were analyzed, 95% of which completed the survey in its entirety. Table 1 lists their demographic characteristics. Physicians, advanced practice nurses, and nurses comprised 81% of survey respondents. The most common worksites for physicians who responded to the survey were private practice (39%), health center (23%), and federally-qualified health center (FQHC) (9%); for advanced practice nurses, health center (26%), FQHC (14%), and private practice (13%); and for nurses, local health department (33%), FQHC (16%), and health center (13%).

Table 1: Demographic characteristics of survey respondents (n=452)

Characteristic	n (%)*
Position	
Advanced practice nurse	126 (28%)
Community health worker	9 (2%)
Medical assistant	5 (1%)
Midwife	5 (1%)
Nurse	90 (20%)
Other, please specify (free text responses included case manager, counselor, health educator, home visitor)	40 (10%)
Physician	150 (33%)
Social worker	18 (4%)
Blank	2 (0.4%)
Agency/Worksite	
Community hub	5 (1%)
Family health center	29 (6%)
Family private practice	35 (8%)
Federal	6 (1%)
Federally qualified health center	65 (14%)
Health plan	13 (3%)
Home visiting	7 (2%)
Internal medicine	19 (4%)
Local health department	52 (12%)
Mental health	16 (4%)
Ob/gyn health center	35 (8%)
Ob/gyn private office	44 (10%)
Other, please specify (free text response included academic medical center, college health center, correctional facility, hospital, free clinic, family planning clinic, mobile clinic, retail clinic, urgent care)	94 (21%)
Pediatric health center	24 (5%)
Pediatric private office	3 (0.6%)
School	2 (0.4%)
State health department	2 (0.4%)

* percentages may not total 100 due to rounding

Figure 1. Geographical distribution of survey respondents (n=452)

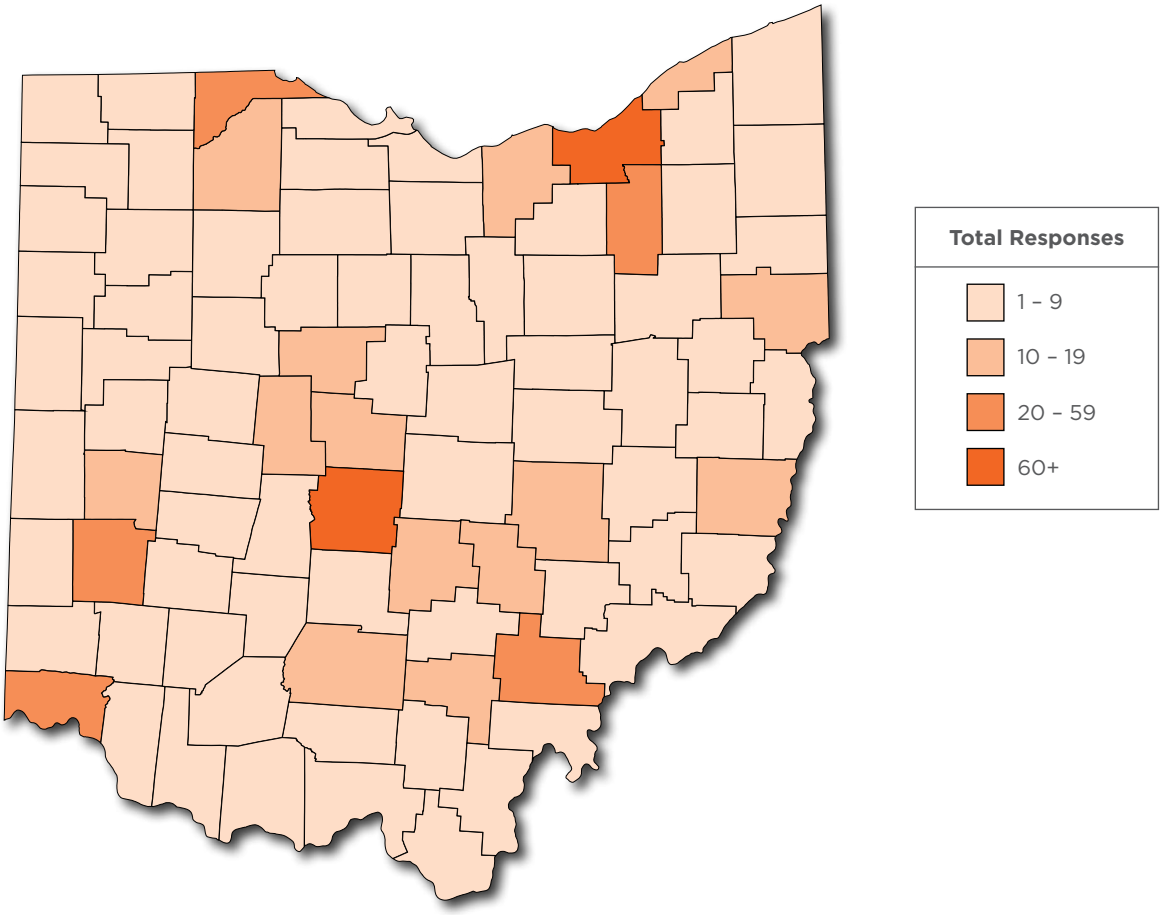

Figure 1 illustrates the distribution of respondents by county. At least one survey response was received from each of Ohio's 88 counties. The two counties with the highest number of survey respondents were Franklin and Cuyahoga, where Columbus and Cleveland are located respectively. Table 2 shows respondent's practices and knowledge regarding systematic inquiry about pregnancy intent, reproductive life plans, and LARC.

Table 2: Respondents' self-reported practices and knowledge (n=452)

Characteristic	Yes n (%)	No n (%)	Blank n (%)
Do you routinely ask all reproductive-age females in your practice if they plan to become pregnant in the next year?	214 (47%)	235 (52%)	3 (0.7%)
Do you know what a reproductive life plan is?	214 (47%)	231 (51%)	7 (2%)
Do you use reproductive life plans with your patients/clients?	125 (28%)	302 (67%)	25 (5%)
Do you include discussion about long-acting reversible contraception (LARC) when you advise on contraception options with your patients/clients?	325 (72%)	122 (27%)	5 (1%)

* percentages may not total 100 due to rounding

Systematic Inquiry about Pregnancy Intent

Forty-seven percent of respondents answered yes to the question "Do you routinely ask all reproductive-age females in your practice if they plan to become pregnant in the next year?" More nurses (55%) and physicians (52%) reported this practice as compared to advanced practice nurses (33%, p<0.001). The majority of respondents at three types of worksites indicated routinely asking this question of their clients/patients: local health departments (85%), ob/gyn private practice (82%), and ob/gyn health center (74%); at all other worksites, the majority of respondents did not routinely use this practice. Barriers to this practice included disruption in organizational workflow (n=41), client/patient attitudes (n=38), and provider attitudes/knowledge (n=13).

Reproductive Life Plans

Forty-seven percent of survey respondents indicated knowledge of reproductive life plans. The majority of nurses (74%) responding to the survey answered yes to the question, while the majority of advanced practice nurses (58%) and physicians (71%) answered no to the question (p<0.001). The only worksite for which the majority of respondents reported knowledge of reproductive life plans was the local health departments (90%); at all other worksites, the majority of respondents did not know what a reproductive life plan is.

When asked "Do you use reproductive life plans with your clients/patients?", 28% of survey respondents answered yes. Among nurses, 50% reported use of reproductive life plans with their clients/patients; among advanced practice nurses and physicians the percentage dropped to 17% and 15%, respectively (p<0.001). The only worksite for which the majority of respondents reported using reproductive life plans was local health departments (81%).

Frequency of reproductive life plan use with patients/clients was also assessed (Table 3). Respondents were asked to indicate on a 1-10 scale whether they thought reproductive life plans were helpful for their patients/clients (1=most helpful, 10=not at all helpful). The mean response was 5.1 (standard deviation 2.5). Barriers to this practice included provider attitudes/ knowledge (n=62), client/patient attitudes (n=51), disruption in organizational workflow (n=29), and time (n=9).

Table 3: Frequency of use of reproductive life plans with patients/clients (n=125)	
Frequency	n (%)
Annually	43 (34%)
At every visit	22 (18%)
With any changes	20 (16%)
With new clients/patients	14 (11%)
Other, please specify (free text responses included every 6 months, occasionally/ intermittently, patient request, postpartum, provider request)	25 (20%)

Long-Acting Reversible Contraception (LARC)

Seventy-two percent of survey respondents said that they include discussion about LARC when advising on contraception options with their clients or patients. Eighty-nine percent of physicians and 73% of nurses, compared to 58% of advanced practice nurses, reported this practice ($p<0.001$). Fifty percent or more of respondents from nearly all worksites answered yes to discussing LARC; the only exceptions were pediatric health center (29%) and mental health (18%). Barriers to discussing LARC included "lack of knowledge" (n=13), "institutional barriers" (e.g., Catholic institution, only provide barrier methods, etc) (n=6), "unable to provide" (n=5), "patients already pregnant" (n=2), "religious beliefs" (n=2), "not a first choice" (n=1), "not safe" (n=1), and "pediatrics practice" (n=1).

Open-Ended Comments

Seventy-one survey respondents provided comments at the end of the survey. Common themes emerged. Nine respondents indicated that while they do not use a formal process to discuss reproductive life plans, they believe they probably cover the necessary elements with their patients/clients; one respondent indicated "I do contraception counseling but have not formally done reproductive life planning with patients. Will consider this formal addition to care" [advanced practice nurse]. Two expressed concern about introducing additional paperwork or another process into their sessions with clients/patients, and one respondent indicated that while supportive of the practice, clinic workflow did not permit use of reproductive life plans. Several (n=6) indicated they would like additional information about the practices discussed in the survey, with one respondent requesting a staff education or lunch-and-learn meeting. Other representative comments included: "It all sounds good but I don't exactly know what reproductive life plans are" [family medicine physician]; "I am not familiar with reproductive life plans but I am not opposed to using them" [advanced practice nurse]; 'I'm sorry to say I don't know exactly what a reproductive life plan consists of" [advanced practice nurse]; "I think if I knew more I would talk about this with patients" [advanced practice nurse].

DISCUSSION

To our knowledge, this is the first study performed on a statewide level that collected information from multiple types of health workers from various worksites on all of these practices in a single survey. This survey reached a large number of various health workers in different worksites across the state who interact with women of reproductive age. The results of the survey revealed that there were some gaps and inconsistencies in regards to the conversations around contraceptive choices and reproductive life plans in Ohio. The majority of survey respondents were not knowledgeable about reproductive life plans and thus were not using reproductive life plans, and were not routinely asking women of reproductive age about their intent to become pregnant in the next year. This represents missed opportunities to help women identify the most effective contraceptive option and to improve outcomes by proactively identifying and addressing necessary issues prior to pregnancy.

Education about reproductive life plans and best practices associated with their use, including how frequently health workers should have this discussion with women, should be made widely available. As this practice seems to be most prevalent in local health departments, health departments may consider reaching out to medical providers in their community to share information about reproductive life plans to promote its use in private practices. Health workers should also be made aware of the importance of routinely asking women about their intent to become pregnant. While this practice seems to be occurring more regularly at local health departments and ob/gyn clinics, there is a great need to educate those at other worksites about this technique. Based on the feedback received by survey respondents, many are interested in receiving education to facilitate appropriate care and referrals based on patient/client response to reproductive life plans; algorithms for preconception care may be useful.[11,12]

Barriers reported by survey respondents should be addressed so that they can adopt these practices at their worksites. While it was encouraging that the majority of survey respondents did include LARC when discussing contraceptive options with patients/clients, some of the barriers reported in the free text box warrant further education for health workers. Some respondents indicated that the reason they do not discuss LARC is because they do not have enough information and/or do not feel knowledgeable about it. Additionally, responses that represent potential misconceptions, such as I only see pregnant patients, pediatric practice, and not safe, should be addressed through educational programming. Respondents from health centers that serve a small percentage of women of reproductive age did not usually discuss LARC; as a smaller number of survey responses were received from these worksites, a survey focused on those worksites may be conducted to more fully assess practice at these locations.

Limitations to these results include possible respondent bias. However, the cover letter explicitly asked recipients to take the survey, even if they were unfamiliar with the topic. Additionally, due to the non-random sampling technique, these results may not be representative of practices among all disciplines, worksites, or counties in Ohio. As this was an exploratory study to gather baseline information regarding the practices and barriers, there were no previous data from which to derive power calculations. Therefore, it is possible that there were differences among respondents that were not detected due to inadequate sample size.

Few studies asking similar questions to this survey regarding reproductive life plans or LARC have been conducted in the United States at a statewide level; results were comparable to those seen in Ohio. In Delaware, a survey was sent in January 2011 to members of the Delaware Academy of Family Physicians, the Delaware Chapter of the American Academy of Pediatrics, and the Delaware Chapter of the American College of Obstetrics and Gynecology to assess knowledge of various aspects of preconception health care.[13] Among the 94 respondents, 34% indicated that they "often" or "always" discussed reproductive life plans with patients while 28% indicated that they "rarely" or "never" discussed reproductive life plans with patients. Barriers to this practice were not assessed. In California, a study conducted in September 2011 surveyed a sample of medical directors of the state's Medicaid family planning program.[14] Of the 587 respondents, 74% reported discussing intrauterine devices and 49% reported discussing implants with "most" or "many" patients needing contraceptive services. The investigators found that there were misconceptions among some respondents regarding populations eligible for LARC and appropriate timing of LARC insertion.

Future research may involve targeted surveys focused on certain worksites or provider types in Ohio. Additionally, based on these baseline survey results, strategies to increase use of these practices across the state are being developed. For example, OCPIM Action Group 2 has posted various reproductive life plans used by state and local health departments online,[15] and an online LARC toolkit is currently in development. A follow-up survey should be performed after these and other forthcoming strategies have been implemented to assess the impact of these programs.

PUBLIC HEALTH IMPLICATIONS

Preventing pregnancy until it is desired enables women to address medical, behavioral, and social risks and improves outcomes. Reproductive life plans, systematic inquiry about pregnancy intent, and LARC counseling can be incorporated into encounters with women to identify needed reproductive health services, reduce unintended pregnancies, and promote optimal women's health before and between pregnancies. Health workers in Ohio need additional education about these practices which can help to reduce the barriers to use. Solutions to barriers such as insufficient knowledge of LARC and ability to educate patients on reproductive life plans need to be developed and implemented at local and state levels.

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