A comparison of three approaches to collecting data on pregnancy attempt duration among women with a history of primary infertility

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Introduction

• Primary subfertility is defined as ≥12 months of unprotected intercourse without achieving a pregnancy among nulligravid couples.
• Primary subfertility affects 13.2% of women of reproductive age in the US and 24.3% of women who report actively trying to conceive.
• The duration of time attempting pregnancy, or time at risk of pregnancy (TARP), are central to the definition of infertility (or subfertility).
• Differences in how researchers and clinicians collect data on biological TARP, intentional pregnancy attempt duration, or behavioral time “actively” trying to conceive can influence key findings in the field and how clinical management proceeds.

Objective

• The aim of this study is to examine how women with a history of primary subfertility recall their time at risk for pregnancy, when asked with different three questions.

Methods

• The Fertility Experiences Study (FES) is a retrospective cohort study of women with primary subfertility conducted at the University of Utah between April 2010 and September 2012.
• Questions about pregnancy attempt duration were repeated over the course of the FES using three different approaches: a single question, a series of specific questions about dates (date approach), and a question about dates of actively trying.
• The three questions approaches were examined with regard to different thresholds for subfertility: subclinical (<12mo), clinical (≥12mo), WHO recommendation (≥24mo), and more severe subfertility (≥48mo).
• A multinomial logistic regression analysis was conducted to calculate unadjusted and adjusted relative-risk ratios (RRR) to separately estimate the risk of TARP overestimation and TARP underestimation associated with a variety of factors.

We found significant discrepancies in reported attempt duration between the question approaches.

Table 1. Three Approaches to Collecting TARP data

<table>
<thead>
<tr>
<th>Approach</th>
<th>Single Question</th>
<th>Date Approach</th>
<th>Active Date Approach</th>
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<tbody>
<tr>
<td>Description</td>
<td>“What was the longest period of time where you were not doing anything to prevent pregnancy but did not get pregnant?”</td>
<td>“Please provide specific dates when you were at risk for pregnancy.”</td>
<td>“Was there a point during this attempt when you “actively” started trying to get pregnant? What date did you actually start trying to get pregnant?”</td>
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Results

• Only a third (34%) of women accurately reported their longest attempt duration based on a single question, as compared to information obtained using the date-based approach (+/- 3 months) • 37% overestimated • 29% underestimated • Women who accurately reported their longest TARP and those who misestimated longest TARP differed by BMI, education level, attempt outcomes, and length of time between start of first attempt and time of interview.

The sensitivity and specificity of the single question as having been at risk for pregnancy who do not self-identify using the single question as having been at risk for fertility.

Discussion

• The design of this study excluded women with self-reported attempt durations of less than 1 year (based on a single question approach) and therefore is not generalizable to women who do not self-identify using the single question as having been at risk for pregnancy for less than one year.
• The risk of misestimation was significantly lower for women who had experienced a pregnancy (with or without live birth). This may be due in part to an isolation effect and the fact that they have a specific event to link the end of their pregnancy attempt.
• We believe the date-based approach used during the in-depth phone interview was the best measure available in this study, as trained study staff checked for chronological of events and were able to answer any questions that the participant may have had about what constituted the beginning and end of a discrete attempt.

Conclusions

• Future research should explore differences in reporting of biological TARP and “active” behavioral time trying to conceive in a prospective manner in order to better understand the relationship between behaviors and attitudes toward pregnancy in infertile populations without telescoping effect or potential for recall bias.
• Clinicians and researchers should recognize the limits of a single question when assessing fertility.
• Detailed attempt histories using multiple approaches can capture a more nuanced assessment of time at risk of pregnancy.

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Acknowledgements

R21HD02103-01A1, Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)

Department of Family and Preventive Medicine, Health Studies Fund Utah Population Database (UPDB) Utah Center for Reproductive Medicine (UCRM), Salt Lake City, UT Reproductive Care Center (RCC), Sandy, UT