

# Prevalence and Course of Unwanted, Intrusive Thoughts of Infant-Related Harm

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## Abstract

**Objective:** Unwanted, intrusive thoughts (UITs) of infant-related harm are a common postpartum phenomenon and can be classified into thoughts of accidental harm (TAHs) and thoughts of intentional harm (TIHs). Our study's objective was to complete a comprehensive, comparative analysis of TAHs and TIHs by commenting on their prevalence, course, characteristics (time, distress, and impairment) and most intense period.

**Methods:** A total of 763 English-speaking pregnant women across British Columbia were recruited to participate in a prospective cohort study. Study

data were collected between February 2014 and February 2017. UITs were assessed by semistructured interviews twice during the postpartum period.

**Results:** The prevalence of TAHs and TIHs in the postpartum period was 95.8% and 53.9%, respectively. The most common TAHs included thoughts of the baby suffocating or dying from sudden infant death syndrome; the most common TIHs included thoughts of neglect. On average, TAHs are more prevalent, time-consuming, and result in greater interference compared to TIHs. The most intense period for TAHs (5.74 weeks postpartum) and TIHs (within first 8 weeks postpartum) was

identified. During this period, over 40% of participants reported moderate or extreme distress related to UITs. For most, UITs decreased in frequency or completely resolved by 6 months postpartum, and most participants did not report clinically significant symptoms.

**Conclusion:** UITs are a normative and typically self-resolving occurrence in the postpartum period. UITs' most intense period signifies a time of heightened vulnerability. Increased education is necessary to normalize and reduce distress associated with UITs.

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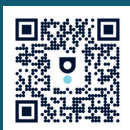
Unwanted, intrusive thoughts (UITs) of infant-related harm are a ubiquitous experience for most, if not all, new parents.<sup>1-3</sup> UITs of infant-related harm may occur in the form of thoughts, images, or urges involving accidental harm coming to the infant, known as thoughts of accidental harm (TAH) such as "What if my baby falls off the bed?," or harming the infant on purpose, known as thoughts of intentional harm (TIHs) such as "What if I strangle my baby?." UITs of both accidental and intentional infant-related harm are experienced as unwanted and intrusive; they are ego-dystonic and frequently distressing to those who experience them.<sup>4</sup> The purpose of the current study was to document the prevalence and course of UITs of accidental and intentional infant-related harm in the first 6 months postpartum and their characteristics (time taken, distress, and impairment caused) at their most intense period.

UITs can lead to mental health difficulties if the individual makes negative interpretations of the content

and/or occurrence of their thoughts (eg, "The fact that I am having this thought/image/impulse means I am a bad or dangerous person"). The most common mental health difficulty associated with UITs is obsessive-compulsive disorder (OCD),<sup>5</sup> an anxiety-related difficulty characterized by obsessions (recurrent UITs), compulsions (repetitive behaviors intended to reduce the distress associated with obsessions or prevent some terrible outcome), or both. UITs can become obsessions if they are recurrent, are persistent, and cause significant anxiety or distress. UITs that are neither recurrent nor persistent are not referred to as obsessions.

Of particular importance is that these thoughts have not been associated with an increase in physical aggression toward the infant.<sup>4,6</sup> Indeed, new mothers who report UITs of intentional infant-related harm are no more likely to report engaging in aggressive behaviors with their infants than mothers who do not.<sup>5</sup> Furthermore, while UITs of intentional harm are highly prevalent (reported by approximately one

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## Clinical Points

- Unwanted, intrusive thoughts (UITs) of accidental and intentional harm related to the infant are underresearched yet have important implications for maternal mental health.
- UITs of accidental and intentional harm related to the infant are a common and normative postpartum experience. They, however, cause clinically significant distress for a large number of new mothers at their peak and may merit early education classes.
- The maintenance of clinically significant symptoms related to UITs or their exacerbation by the second and sixth months postpartum may be a cause for concern.

half of new mothers), maternal aggression remains rare, with prevalence estimates around 3–5%.<sup>4,6</sup> The association between postpartum UITs of infant-related harm with neglect and sexual harms have not yet been empirically investigated.

Although infant-related UITs are reported by both parents,<sup>1,7</sup> the majority of the work in this area has been conducted with new mothers.<sup>3,4,6,8,9</sup> While research has been limited to Western populations of higher socioeconomic status, the available data indicate that UITs are more distressing and are experienced for a longer duration by mothers compared with fathers.<sup>1</sup> It has been hypothesized that this is likely a function of the fact that mothers typically spend comparatively more time with their infant.<sup>1</sup>

To date, 4 studies of high methodological quality—including a pilot study from our research team<sup>4</sup>—have assessed the prevalence of UITs of infant-related harm in unselected samples of postpartum women.<sup>1,3,4,8</sup> One additional article reported the overall prevalence of TIHs, in the context of assessing TIHs and infant safety, using the dataset used for the present study.<sup>6</sup> Findings demonstrate some variability, with prevalence estimates for postpartum UITs of infant-related harm ranging from 69% to 100%.<sup>1,3,4,8</sup> Three studies specifically assessed the prevalence of UITs of intentional harm, resulting in estimates of 21.1%,<sup>1</sup> 32.6%,<sup>3</sup> and 49.5%.<sup>4</sup>

The highest estimates are from the studies with the most extensive list of UITs of intentional harm.<sup>4</sup> Specifically, prevalence estimates of infant-related TAHs and TIHs have been higher in studies in which checklists of thoughts have been provided (ie, 90.7%–100%),<sup>3,4,8</sup> compared with studies in which minimal examples have been provided and participants are required to recall and list their own UITs (ie, 68.8%).<sup>1</sup>

The most common UITs of infant-related harm are images of the baby suffocating, dying from sudden infant death syndrome (SIDS) and being hurt in accidents for TAHs,<sup>3,4,7,9</sup> and screaming at and shaking the baby for TIHs.<sup>4</sup> In our pilot study of primiparous women, UITs of

infant-related harm began abruptly (63.2%), and within 24 hours of giving birth (58.3%).<sup>4</sup> By 4 weeks postpartum, UITs decrease in frequency or cease for over half of first-time mothers.<sup>4</sup>

## CURRENT STUDY

While the existing research provides evidence for the high prevalence of UITs of infant-related harm and gives an idea of the general course of these UITs over the postpartum period, it is limited by the use of (a) relatively small, convenience samples (ie,  $N \leq 120$ ); (b) variability in study methodology and reporting UIT prevalence estimates; and (c) limited in-depth analyses of the life span and characteristics of UITs. No single study has performed a comprehensive assessment of the nature of infant-specific postpartum UITs by reporting their (a) date and quality of onset (ie, gradual or sudden), (b) severity, (c) period course, and (d) most intense week. Further, the following elements deemed critical to ensuring the valid assessment of UITs of infant-related harm are often missing: (a) comprehensive lists of thoughts, (b) steps to normalize UITs and maximize honest and open disclosure, (c) reports separately for TAHs and TIHs, (d) an assessment of the clinical significance of UITs (eg, through the Yale-Brown Obsessive Compulsive Scale [YBOCS]), and (e) language to assist participants in distinguishing between UITs and worry thoughts. Given their ubiquity, the potential consequences, and remaining gaps in knowledge, a fuller understanding of new mothers' experience of UITs of infant-related harm is needed.

The current study addresses these gaps in knowledge, includes all of the above-listed methodological elements needed for a valid assessment of UITs of infant-related harm, and is the first study to identify the time when UITs are at their most intense, information which may help to identify a time of heightened vulnerability for postpartum women.

Specifically, our study goals are as follows:

1. To document for UITs of infant-related harm (separately for TAHs and TIHs):
  - a. Period prevalence for
    - i. birth to interview 1 at approximately 2 months postpartum;
    - ii. interview 1 to interview 2 at approximately 6 months postpartum; and
    - iii. the entire first 6 months postpartum;
  - b. Time and nature of onset (ie, gradual or sudden);
  - c. Course;
  - d. Time, distress, and interference associated with the thoughts of
    - i. birth to 6 months postpartum and

- ii. the most intense week from birth to 6 months postpartum.
2. To compare TAHs and TIHs in terms of the following:
  - a. Period prevalence from birth to approximately 6 months postpartum;
  - b. Time occupied by the thoughts; and
  - c. Distress and impairment during their most intense period.

## METHODS

Data for the current report of findings were taken from a larger, prospective cohort study.<sup>10</sup> Only study methodology relevant to the current study is presented here. More information can be found in our study protocol.<sup>10</sup>

### Ethics

This study received ethics approval from the University of British Columbia Behaviour Research Ethics Board (#H11-03266), the Vancouver Island Health Authority (H2012-054), the Vancouver Coastal Health Authority (V11-03266), and the Fraser Health Authority (#FHREB 2013-55). Written consent for postpartum assessments was obtained from all participants at the first postpartum survey, and oral consent was obtained prior to each telephone interview.

### Inclusion/Exclusion Criteria

For this research, we sought a representative sample of pregnant and new mothers in British Columbia (BC), Canada. Consequently, to be eligible to participate in the study, individuals were required to be pregnant, be at least 19 years old, speak English, and live in BC at the time of recruitment. There were no additional exclusion criteria.

### Recruitment/Participants

Across the full sample (N = 763), pregnant women were recruited proportionally using direct approach (ie, approached by a study member while awaiting their prenatal appointments), from all major birthing hospitals in BC (85.3%), and indirectly via community (13.3%) and rural (1.4%) advertisements. Study data were collected between February 2014 and February 2017. Five hundred forty-five participants completed the 2 postpartum interviews, including the questions on UITs. On average, participants were 32.65 years old (SD = 4.81; range: 18–46.75) at the time of recruitment (see Table 1). A flowchart highlighting how participants joined and dropped out of the full study can be found in the study protocol (Collardeau et al<sup>10</sup>). The women who dropped out did so because (a) they could not be reached, despite several attempts, (b) they were busy or working and no longer able to participate due to time constraints, or (c) they had at-risk pregnancies or

Table 1.

### Demographic Characteristics (N = 545)<sup>a</sup>

Variable	N	%
<b>Education</b>	545	
High school or lower	48	8.8
13–16 years (college degree)	282	51.7
17+ years (graduate program or equivalent)	215	39.5
<b>Relationship status</b>	547	
Married or cohabiting	521	95.2
Divorced or separated	6	1.1
Single	20	3.7
<b>Ethnic heritage</b>	544	
European	308	56.6
East Asian	64	11.8
South Asian	37	6.8
Southeast Asian	30	5.5
Aboriginal	14	2.6
Mixed	49	9.0
Other	42	7.7
<b>Parity</b>	527	
Primiparous (first child during this study)	302	57.3
Multiparous	225	42.7
<b>Mode of delivery</b>	242	
Vaginal	156	64.5
Cesarean	86	35.5
<b>Baby admitted to ICU</b>	241	
Yes	31	12.9
No	210	87.1

<sup>a</sup>Only participants who provided information on TAH and ITH were included.  
Abbreviations: ICU = intensive care unit, ITH = thoughts of intentional harm,  
TAH = thoughts of accidental harm.

concerns about their newborn's health and no longer had the time and resources to participate. It is not uncommon to lose participants between pregnancy and early parenting. The demands of early parenting are very intense, and for some people this makes participating in research overly challenging.

### Procedure

Participants completed 3 separate telephone interviews and online questionnaires. One interview was conducted prenatally, but no UITs were assessed. UITs were assessed during the 2 postpartum interviews (ie, interview 2 and interview 3). Postpartum interviews were conducted at approximately 2 months (mean = 9.09 weeks, SD = 1.94; range = 5.0–15.0 weeks) and 5 months postpartum (mean = 21.27 weeks, SD = 3.83; range = 11.0–38.0 weeks). At each of these interviews, participants were asked to report on the most intense period for each type of UITs since the birth (at the first postpartum interview) and since the last postpartum interview (at the second postpartum interview). Participants who reported distressing and/or impairing symptoms at the time of the interviews were asked by the interviewers whether they were interested in receiving more support when it came to dealing with their UITs and/or symptoms. Participants were additionally provided with potential resources in the

community and, if necessary, spoke to the principal investigator and connected with a treatment provider.

## Interviewers

There were a total of 10 interviewers. Interviewers had, at a minimum, completed an undergraduate degree in psychology or a related discipline, and most were enrolled in a counseling or clinical psychology graduate degree program at the University of British Columbia or the University of Victoria. All interviewers were trained by the principal investigator or a senior interviewer. The principal investigator is a licensed clinical psychologist.

## Assessment Tools

The postpartum intrusion interview<sup>4</sup> is a semistructured interview designed to assess UITs of accidental and intentional infant-related harm. The interview contains lists of examples of UITs for both TAHs and TIHs. Participants are also asked for any UITs not included on the checklists, and information pertaining to UITs onset timing and characteristics.

To optimize honest reporting, participants were reassured that UITs of infant-related harm are a typical postpartum experience. The interviewer clearly indicated that reports of UITs *alone* were not sufficient to warrant a report to child protective services and did not indicate that the mother was a risk to her child. Interviewers were encouraged to share a personal example of UIT when first explaining UITs to participants to further normalize their occurrence. To the extent possible, we sought to employ parents as interviewers. When this was the case, they would share UITs they had experienced with their own infants. When the interviewer was not a parent, they would share a nonperinatal example of a UIT. Sharing of personally experienced UITs was typical but not required of interviewers.

The YBOCS<sup>11,12</sup> is a 10-item, clinician-administered measure of the severity of obsessions and compulsions.<sup>11</sup> Interviewer ratings are using a 5-point Likert scale. The YBOCS has demonstrated good internal consistency, and test-retest and interrater reliability.<sup>13,14</sup> Of note, this tool has been widely used among postpartum women, in conjunction with semistructured interviews assessing UITs of infant-related harm.<sup>3,4</sup>

YBOCS questions were modified to focus exclusively on postpartum UITs of infant-related harm (TAHs and TIHs separately) and associated behavioral responses. In the current report of findings, only the YBOCS severity subscale, consisting of time, distress, and interference, was employed. The YBOCS was administered at both postpartum assessments, with the YBOCS severity subscale administered with respect to (a) the past week and (b) the most intense period either since the birth or first postpartum interview. The severity subscale has shown good construct validity.<sup>15</sup> Resistance and control subscales were not included.

## Data Analysis

**Descriptive statistics.** Data were analyzed using SPSS version 29<sup>16</sup> and R v3.5.3.<sup>17</sup> Prevalence estimates of UITs and their respective behavioral responses are presented in percentages with 95% confidence intervals, calculated with the Wilson procedure with a correction for continuity.<sup>18</sup> Frequencies of specific UITs are presented descriptively by commenting on mean and standard deviation. The difference in proportion between TAHs and TIHs was calculated.<sup>19,20</sup> Wilcoxon signed-rank tests were used to compare TAHs and TIHs.

R v3.5.3 was used to model the average time taken, and distress and impairment caused by TAHs and TIHs over the postpartum period, for participants who reported experiencing at least once TAHs or TIHs, respectively. R v3.5.3 was also used to model the variation in percentage of participants who reported clinically significant time taken, and distress and impairment caused by TAHs and TIHs over the postpartum period (data from all participants used for these analyses). There were N = 240 who indicated accidental harm thoughts at any point and who also provided YBOCS data. For the proportion clinically significant, the denominator was 543 (had to have provided at least 1 of the 2 interviews and have YBOCS data at least at 1 of them as well). There were N = 154 who indicated intentional harm thoughts and who also provided YBOCS data.

To maximize representativeness, we used data weighting based on summary statistics provided to us by Perinatal Services BC<sup>21</sup> over the time period of the study. We used a raking procedure implemented in the “anesrake” package<sup>22,23</sup> to weight the respondents based on location of delivery (hospital name or home), parity, and maternal age. All subsequent analyses employed these weights to reduce bias associated with frequency discrepancies from the population. Due to the potential of curvilinear relationships, we used generalized additive mixed modeling (GAMM) with the participant ID as a random effect and survey weights included as implemented in the “mgcv” package.<sup>24</sup> GAMMs allow for flexible line fitting and do not impose a specific shape on the curve (eg, linear or polynomial), while still allowing for estimation of the dependent variable and accounting for autocorrelation. Finally, mixed-effects models use all available data and are not restricted to analysis of those with both interviews.

## RESULTS

### Prevalence of Harm Thoughts (TAHs and TIHs)

Across both postpartum assessments, 95.8% (95% CI, 93.7–97.3) of participants reported at least 1 TAH. When asked about their experience of TAHs, 95.7% (95% CI, 93.1–97.3) of participants reported at least 1 between



the birth and the first interview, and 87.1% (95% CI, 83.6–90.0) reported at least 1 between the first and second interview.

Conversely, 53.9% (95% CI, 50.0–58.1) of participants reported at least 1 TIH at any time postpartum. When asked about their experience of TIHs, 49.6% (95% CI, 44.7–54.6) of participants reported at least 1 between the birth and the first interview, and 39.6% (95% CI, 35.1–44.2) reported at least 1 between the first and second interview.

The difference between the proportion of participants reporting TAHs and TIHs across the postpartum period was 40.6% (95% CI, 35.7–45.3) and was significant ( $z = 15.27$ ;  $P < .01$ ).

### Most Commonly Reported Harm Thoughts (TAHs and TIHs)

The most common TAHs were “your baby might stop breathing,” “your baby might die of SIDS,” and “you will fall while carrying your baby and he/she will be harmed.” In contrast, the most common TIHs were “intentionally leaving your baby when they need you,” “screaming at your baby,” “shaking your baby,” and “intentionally hitting your baby too hard when burping them.” For participants who completed both interviews, the prevalence and frequencies for specific TAHs and TIHs can be provided by the author upon request.

### Course of UITs Over the Postpartum Period

**Onset of harm thoughts (TAHs and TIHs).** Participants were asked to report retrospectively about onset during the postpartum interviews. Among women who reported both TAHs and TIHs, a Wilcoxon signed-rank test showed that TAHs occurred significantly earlier than TIHs ( $Z = -11.12$ ,  $P < .001$ ).

Most participants experienced their first TAHs in the first month postpartum (82.1%). For a minority, TAHs started later postpartum (9.8%) or before the baby’s birth (8.1%). Again, most participants experienced their first TIHs in the first month postpartum (61%), with a minority of experiencing their first TIHs later postpartum (38.6%) or before the baby’s birth (0.4%).

The thoughts began abruptly (46.9% for TAHs and 58.3% for TIHs) for some or gradually (42.5% for TAHs and 35.6% for TIHs) for others.

**Change over time.** When asked about how the frequency of UITs of harm changed over time, the majority of participants (76.7%–81.7%) felt the thoughts became less frequent or stopped (see Table 2).

**Time, distress, and impairment.** For (a) the week prior to each postpartum interview and (b) for the most intense period since the baby’s birth, participants provided information on the time occupied by the UITs, and the amount of distress and impairment they caused.

**Previous week.** At 5 weeks, participants tended to spend on average 5–10 minutes per day on TAHs; by 20 weeks

Table 2.

### Reported Frequency of UITs at Postpartum Interviews 1 and 2

Frequency of UITs	TAHs		TIHs	
	1st Interview	2nd Interview	1st Interview	2nd Interview
Decreased/stopped	76.7%	76.8%	81.7%	84.2%
Constant	19.5%	16.0%	15.4%	11.2%
Increased	3.8%	7.2%	2.8%	4.6%

Abbreviations: TAHs = thoughts of accidental harm, TIHs = thoughts of intentional harm, UITs = unwanted, intrusive thoughts.

postpartum, this had dropped to less than 5 minutes a day. From 5 to slightly more than 30 weeks postpartum, on average, distress and impairment were consistently below the mild range (ie, mild begins at a score of 1.0, and distress and impairment were consistently below this). The time taken and impairment caused by TAHs decreased significantly over time in a linear fashion ( $P < .01$ ). Distress also seemed to be trending downward, but the change was not significant (Figure 1).

The fitted regression models were as follows:

time taken =  $1.247 - 0.012 * \text{weeks}$

distress =  $0.853 - 0.006 * \text{weeks}$

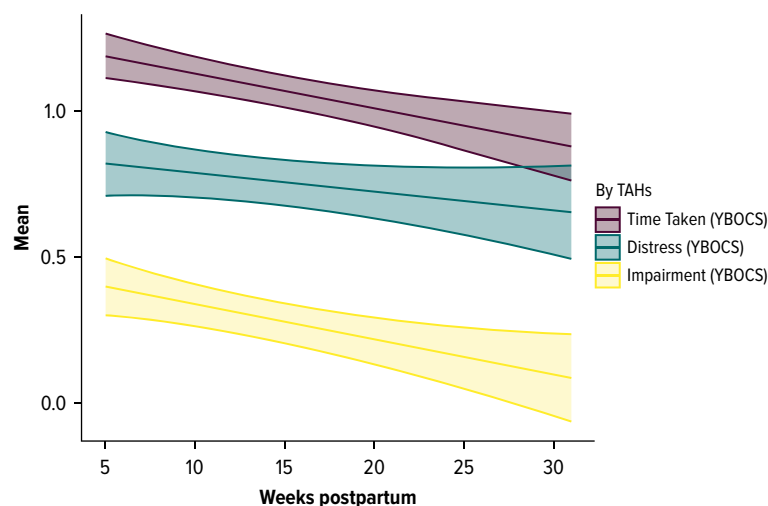
impairment =  $0.459 - 0.012 * \text{weeks}$

Similarly, the percentage of participants from the full sample for whom TAHs took a clinically significant amount of time (more than 1 hour) decreased significantly ( $P < .01$ ) from 2.63% at 9.09 weeks ( $SD = 1.94$ ) to 0.34% at 21.27 weeks ( $SD = 3.83$ ). The percentage of participants for whom their TAHs caused clinically significant distress seemed to decrease (nonsignificantly) from 5.89% at 9.09 weeks ( $SD = 1.94$ ) to 3.93% at 21.27 weeks ( $SD = 3.83$ ). Lastly, the percentage of participants for whom their TAHs caused clinically significant impairment decreased significantly ( $P < .01$ ) from 3.47% at 9.09 weeks ( $SD = 1.94$ ) to 1.29% at 21.27 weeks ( $SD = 3.83$ ).

The amount of time taken, on average, by TIHs was consistently below 5 minutes a day across the 5 to 25 weeks postpartum and then fell even further thereafter. On average, participants reported minimal distress in response to TIHs across the 30 weeks postpartum in which this was assessed. At 5 weeks (peak), distress in response to TIHs was mild and gradually fell to very low by 25 weeks postpartum. Impairment, on average, remained very low throughout the period. For TIHs, our analyses suggested curvilinear relationships between amount of time taken and distress with weeks postpartum, while there was not a significant trend over time for impairment (Figure 2).

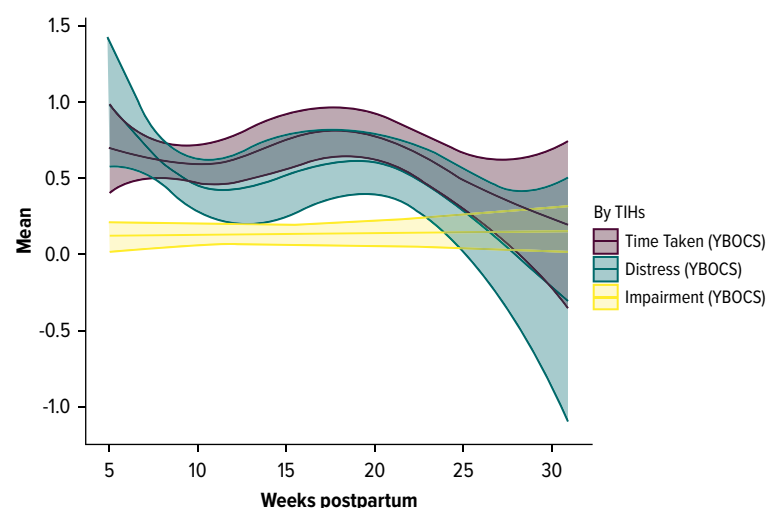
Similarly, the percentage of participants from the full sample for whom TIHs took a clinically significant amount of time (more than 1 hour) seemed to decrease (nonsignificant) from 0.43% at 9.09 weeks ( $SD = 1.94$ ) to 0% at 21.27 weeks ( $SD = 3.83$ ). The

**Figure 1.**  
**Average Time Taken and Distress and Impairment Caused by TAHs by Time Since Delivery**



Abbreviations: TAHs = thoughts of accidental harm, YBOCS = Yale-Brown Obsessive Compulsive Scale.

**Figure 2.**  
**Average Time Taken and Distress and Impairment Caused by TIHs by Time Since Delivery**



Abbreviations: TIHs = thoughts of intentional harm, YBOCS = Yale-Brown Obsessive Compulsive Scale.

percentage of participants whose TIHs caused clinically significant distress decreased significantly ( $P < .01$ ) from 4.01% at 9.09 weeks ( $SD = 1.94$ ) to 1.64% at 21.27 weeks ( $SD = 3.83$ ). Lastly, the percentage of participants whose TIHs caused clinically significant impairment seemed to decrease (nonsignificant) from 0.57% at 9.09 weeks ( $SD = 1.94$ ) to 0.40% at 21.27 weeks ( $SD = 3.83$ ). The very low percentages of participants spending a clinically significant amount of time on this and experiencing

clinically significant impairment may account for our nonsignificant findings.

**Most intense period.** Participants also indicated what they considered to be the most intense period in terms of their experience with UTIs. For TAHs, this occurred on average at 5.74 weeks ( $SD = 5.48$ ; range: 0–31 weeks) and usually in the first month postpartum (53.9%). For the majority (72.5%), it lasted 1–2 weeks. For 9.18% of women, the thoughts remained constant over the postpartum period. The most intense

Table 3.

**TAHs and TIHs: Most Intense Period<sup>a</sup>**

	TAHs (n = 520)	TIHs (n = 291)
<b>Time occupied by the thoughts</b>		
Average (SD)	1.44 (SD = 0.51)	1.24 (SD = 0.27)
Mode	ie, about 30 min/d	ie, about 5–10 min/d
Clinically significant time ( $>1$ h)	$\leq 5$ min/d 16.5%	$\leq 5$ min/d 6.5%
<b>Distress associated with the thoughts</b>		
Average (SD)	1.44 (SD = 0.84)	1.48 (SD = 0.89)
Mode	ie, mild	ie, mild
Clinically significant distress ( $\geq$ moderate)	Mild 44.4%	Mild 46.0%
<b>Interference associated with the thoughts</b>		
Average (SD)	0.78 (SD = 0.98)	0.44 (SD = 0.81)
Mode	None	None
Clinically significant interference ( $\geq$ moderate)	21.7%	10.0%

<sup>a</sup>Only participants who have reported TAHs or TIHs and have provided information for the most intense period are included. Time spent on UITs was rated on the following scale: 0 = none; 1.10 = up to 5 min/d; 1.20 = 5–10 min/d; 1.30 = 10–15 min/d; 1.40 = 15–30 min/d; 1.50 = 30–60 min/d; 2 = moderate (1–3 h/d); 3 = severe (3–8 h/d); 4 = extreme (8+ h/d). Distress and interference were rated on the following scale: 0 = none; 1 = mild; 2 = moderate; 3 = severe; 4 = extreme. Abbreviations: TAHs = thoughts of accidental harm, TIHs = thoughts of intentional harm.

period for TIHs usually occurred in the first 2 months postpartum (64.2%) and lasted 1–2 weeks (69.0%). See Table 3 for details regarding time, distress, and impairment for TAHs and TIHs during the most intense period.

Among women who reported a most intense period for both TAHs and TIHs, a Wilcoxon signed-rank test showed that TAHs were rated as more time-consuming ( $Z = -6.73$ ,  $P < .001$ ) and as creating more interference with daily life ( $Z = -6.72$ ,  $P < .001$ ) than TIHs. No significant difference ( $Z = -1.48$ ,  $P = .139$ ) was found in the distress experienced because of TAHs and TIHs.

## DISCUSSION

The purpose of this research was to document core aspects of postpartum UITs of infant-related harm. In this work, we distinguish between UITs involving accidental, infant-related harm and UITs involving intentional, infant-related harm. This is a distinction unique to our research group with implication for mental health and infant safety.

Similarly to our pilot study, almost all new mothers (96%) reported TAHs, which frequently started within a week of the baby's birth (66%). The most commonly reported TAHs included thoughts about the baby dying (eg, due to SIDS or stopping breathing) and harm to the baby as a result of their caregiver falling. For approximately half of participants (47%), the onset of their TAHs was abrupt. At their peak, which occurred at approximately 6 weeks postpartum, TAHs took approximately 30 minutes a day and were mildly distressing and not impairing. However, for some, at their peak, TAHs took over an hour a day (17%) and were moderately to severely distressing (44%) and impairing

(22%). For most participants ( $>75\%$ ), TAHs diminished in frequency or stopped altogether by 6 months postpartum.

In comparison, about half of our participants (54%) reported TIHs, which typically began a little later than TAHs at 2–4 weeks postpartum. TIHs involving infant neglect or verbal abuse were endorsed more often than TIHs of physical abuse. For over half of participants who reported TIHs (58%), they indicated that they began abruptly. TIHs were most intense at the first 2 months postpartum. At this time, they took no more than 5 minutes a day and were mildly distressing and not impairing. Like TAHs, TIHs were experienced as clinically significant for some participants. Specifically, TIHs took over an hour a day for 7% of those who reported them and caused moderate to severe distress for 46% and impairment for 10%. TIHs also diminished in frequency or stopped completely by 6 months postpartum for most participants (75%+). TIHs were rated as less time-consuming and impairing than TAHs, but not different in terms of the distress they caused. TAHs and TIHs tend to begin abruptly and early in the postpartum period. However, TIHs tend to begin somewhat later than TAHs (ie, 4 weeks postpartum compared with 1 week postpartum).

This is the second assessment of the prevalence of postpartum TAHs and TIHs by our research group. In our pilot work, 100% of participants reported TAHs, and 49.5% reported TIHs. Our new findings are in keeping with this work, but the prevalence of TIHs was even higher in our new analysis. Not only were TAHs reported by close to all participants, but TIHs were reported by 53.9% of participants. Together, our pilot and now our new findings based on a larger sample provide strong support for the contention that not only are TAHs a

normative postpartum experience but also are TIHs. From these 2 studies, we now also have strong evidence that TIHs do not represent a risk to infant safety and that parents who report these types of UITs are not at increased risk of harming their infants.<sup>4,6</sup> This knowledge allows us to provide meaningful and reassuring education to pregnant and postpartum women, their families, and care providers. Given their early onset during the postpartum period, education should ideally be provided during the pregnancy.

Our findings provide additional evidence for the early onset of UITs in the postpartum period, and the types of TAHs and TIHs most commonly experienced already documented in the literature.<sup>3,4,6,8</sup> With our extensive list of UITs assessed, the most common TAHs involved thoughts of suffocation, SIDS, and the infant falling or being dropped.<sup>4</sup> This suggests that these are core concerns of new parents, and knowing this may allow for additional education regarding the actual risk of these events occurring. With respect to TIHs, we see that thoughts of abandoning the infant, screaming at the infant, or shaking the infant were the most common in this and in our earlier study. It will be crucial to further educate health care providers about the occurrence of the most common TAHs and TIHs in order to properly support their patients (eg differentiate between UITs of intentional harm related to the infant and more worrisome thoughts such as ego-syntonic or psychotic thoughts, screen for OCD if appropriate, and provide some psychoeducation).

Our study provides novel information about the course of UITs over the postpartum period. The time, distress, and impairment associated with TAHs and TIHs decreased for each over time, and, reassuringly, by 9 weeks postpartum, few new mothers reported clinically significant distress related to their thoughts (4% for TIHs and 6% for TAHs). For TAHs, time, distress, and impairment peaked at 5 weeks postpartum. For TIHs, distress peaked at 5 weeks postpartum, and time peaked at 15–20 weeks postpartum. Despite a downward trend for each of the metrics, our analyses provided a curvilinear relationship for TIHs across time for both the time taken and the distress associated with the thoughts. Extremely few participants reported clinically significant TIH-related impairment, so no trend over time was observed. Given their different evolution across times, clinically significant symptoms for TIHs and TAHs may have different risk factors. TAHs might peak a few weeks after the birth, as new parents are still acutely aware of their infants' vulnerability, and decrease as the baby visibly gains strength. On the other hand, it is possible that the occurrence of TIHs may be influenced by the new mothers' overall exhaustion and distress, thus peaking later, at a time when the cumulative sleep deprivation is higher and supports may be less present (eg, partner returned to work). Those hypotheses need to be investigated in future research.

Despite the fact that, on average, neither TAHs nor TIHs were experienced as highly time-consuming, distressing, or impairing, there was nevertheless a substantive proportion of participants for whom this was not the case for the time they retrospectively identified as the most intense. This was clearest for peak distress. Among participants who reported TAHs, approximately 44% experienced them as moderately to severely distressing at their peak. Similarly, among participants who reported TIHs, 46% experienced them as moderately to severely distressing at their peak. This represents a significant number of new mothers who may experience clinically meaningful distress—albeit for a limited period of time—in response to infant-related harm thoughts. Additional efforts to provide prenatal education about postpartum harm thoughts are warranted.

Despite their high prevalence and the high level of distress they cause during the most intense period, TAHs and TIHs decreased in frequency and intensity whether naturally or as a result of study participation (and the normalization of their occurrence). Thus, UITs may respond well to noninvasive interventions (eg, a health care provider normalizing their occurrence). UITs of infant-related harm thus tend to be a naturally time-limited, albeit distressing, phenomenon for most new mothers. Similarly, maternal OCD prevalence seems to follow a similar pattern, whereby it peaks during the postpartum period before naturally decreasing.<sup>25</sup> New mothers who continue to experience clinically distressing, time-consuming, and impairing UITs past the second and sixth months postpartum may be at greater risk for OCD and require treatment. Further research is needed to investigate the relationship between UITs and OCD, as well as predictors of continued postpartum UITs severity.

## Limitations and Future Directions

A minority of participants joined the study after childbirth and may have been attracted to the study because of their experience with UITs (study recruitment materials included mention of postpartum harm thoughts). Study generalizability is limited by our sample characteristics as the majority of participants were highly educated and in a committed relationship, suggesting they may have benefited from higher resources and support. Despite our efforts to encourage participants' disclosure of UITs of infant-related harm, it is possible that some participants may have remained fearful of endorsing UITs of intentional infant-related harm, leading to an underreporting of those thoughts even in the present study. Further, our study was carried out in one province of Canada, a Western and affluent country, and prior to the COVID pandemic. Replication across different social and cultural groups, and within different countries, is warranted. Replication within the context of COVID becoming prevalent is also warranted, as it may have changed the frequency of some TAHs (eg, TAHs related to



viral infections). Finally, participants' reports on the most intense periods for TAHs and TIHs were retrospective, which may have introduced some inaccuracies in their reports. Future research should address these limitations.

## Clinical Implications

Findings from this research reaffirm that TAHs and TIHs are a common and normative experience in the postpartum period. Both prevalence estimates and the course of UITs in terms of the time taken and distress and impairment they cause suggest that for most new mothers, UITs in the postpartum period may naturally resolve over time. Nevertheless, the high level of distress TAHs and TIHs causes to many new mothers at their peak merits early education classes about UITs in the postpartum period. The maintenance of clinically significant symptoms related to UITs or their exacerbation by the second and sixth months postpartum may be a cause for concern.

## Article Information

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**Additional Information:** Data on the prevalence and frequencies of specific unwanted intrusive thoughts of infant-related harm (types of accidental harm and intentional harm) are available from the authors on request.

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