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The association between childhood trauma and breastfeeding for a sample of women from Hamilton, Ontario, Canada

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2010

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Abstract

The association between childhood trauma and breastfeeding for a sample of women from Hamilton, Ontario, Canada

By Nikita Boston

Purpose: The goal of this research was to examine the association between childhood trauma (sexual, physical and emotional abuse) and breastfeeding outcomes (initiation, exclusive breastfeeding at 3 months and 6 months and any breastfeeding at 3, 6 and 12 months).
Methods: 257 women from Hamilton, Ontario, Canada were enrolled in a prospective study to assess their maternal and infant behaviors. Mothers were enrolled prenatally and were visited at home at 3, 6, 12, 18 and 24 months. Abuse was determined during the screening assessment at 12-18 weeks gestation. Women were screened for the three forms of abuse using the Childhood Trauma Questionnaire (CTQ). Breastfeeding initiation, exclusivity and duration were assessed at 6 and 12 months postpartum. The association between abuse and breastfeeding was examined using multivariate logistic regression models. Adjustments were made for maternal age, race, education, living with their partner, depression and if the pregnancy was unwanted.
Findings: Childhood physical abuse was significantly associated (at the $p<0.05$ level) with any breastfeeding at 3months [2.6, (1.145, 6.174)], 6 months [2.3 (1.009, 5.171)] and 12 months [5.4 (1.212, 23.839)]. Childhood sexual abuse was significantly associated with any breastfeeding at 6 months [2.437, (1.087, 5.461)]. In all cases the association was that those who were not abused were more likely to still be breastfeeding at those time points when compared to women who were abused. When adjustments were made for the covariates the associations were attenuated and there was no statistical association between abuse and infant feeding practices.
Conclusion: More attention should be paid to associations between childhood abuse and breastfeeding in general, especially the association between childhood physical abuse and later breastfeeding practices. In addition, maternity care professionals need to be educated on this topic to learn how to identify women who may have been abused and provide care to them in a way that is sensitive in order to foster successful breastfeeding when possible.

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Contents

Chapter 1: Introduction

'Breast is best' is a common slogan in breastfeeding promotion because it is well known that breastfeeding is the best source of nutrition for infants. Recently the Agency for Healthcare Research and Quality conducted an extensive synthesis and meta-analysis of the literature available on the benefits of breastfeeding to maternal and infant health in developed countries.[1] This review showed that, in full term infants, breastfeeding reduced the risk of acute otitis media (ear infections), atopic dermatitis (eczema), gastrointestinal infections, lower respiratory tract diseases, obesity, type 2 diabetes and SIDS. In preterm infants; breastfeeding reduced the risk of necrotizing enterocolitis (NEC) and in mothers, breastfeeding reduced the risk of breast and ovarian cancers.

Breastfeeding has substantial economic benefits as well. Bartick et al estimated that if 90% of US infants were exclusively breastfed for the first six months postpartum, the U.S. would save $13 billion per year. Exclusive breastfeeding would additionally prevent an excess of 911 deaths, nearly all of which would be in infants."[2] Further, individual families would save money by not having to buy formula and they would save on treatment for the illnesses that could be averted if they breastfed their children.

Despite these recognized benefits, the rates of breastfeeding in the United States and elsewhere are low. In 2011, according to the CDC's Breastfeeding Report Card, 74.6% of infants in the U.S. were ever breastfed, 44.3% were breastfeeding at six months, and 23.8% were breastfeeding at 12 months. Further only 35% were exclusively breastfeeding at three months, and 14.8% were exclusively breastfeeding at six months. Approximately one quarter of all breastfed infants (24.5%) received formula before 2 days of age.[3]

Some reasons women commonly cite for early cessation of breastfeeding include the need to return to work, problems with breastfeeding (i.e. pain, sore nipples), perceived insufficient milk supply, having twins or several infants to feed at once, being on prescription

medication, smoking and hospitalization of the infant. [4] Self-efficacy is also another commonly cited behavioral determinant in whether a mother continues to breastfeed.[5] Self-efficacy refers to a person's perception of whether they are able to successfully perform the task. This by extension helps them to decide if they will attempt the task and how persistent they will be in trying to achieve success.[6]

Another barrier to breastfeeding could be childhood abuse. Research suggests that childhood abuse reduces the self-efficacy of the victim into adulthood.[7-9] Given millions of child abuse cases are reported in the U.S. each year[10] it is plausible that child abuse may reduce breastfeeding self-efficacy. Other potential pathways include that the abused woman sees herself as objectified by her abuser which in turn can lead to depression and/or lowered self-esteem[11] and as a result potentially reduced breastfeeding. Abuse can also lead to learned helplessness which could lead to depression and/or lowered self-esteem[12] which can affect breastfeeding.

The Department of Health and Human Services sets health objectives (called Healthy People) in ten year increments. The Healthy People 2020 objectives around breastfeeding are that by the year 2020, 81.9% of infants would have ever breastfed, 60.6% of infants will still be breastfeeding at 6 months, 25.5% of infants will be breastfeed exclusively through 6 months, and 34.1% of infants will be breastfed to a year. The percent of breastfed newborns that receive formula supplementation within two days will hopefully be reduced to 14.2%. [13] However, without a clear understanding of the determinants of early cessation and development and implementation of effective strategies to overcome barriers to breastfeeding it is unlikely that these goals will be reached.

Few studies have been conducted that examine the relationship between abuse in childhood and later breastfeeding practices. This analysis explores whether there is an association between childhood abuse and breastfeeding. Since childhood abuse reduces self-efficacy and a lack of self-efficacy is associated with early cessation of breastfeeding, childhood abuse could be a potential pathway toward breastfeeding cessation via self-efficacy. This study will look at the

association between physical, sexual or emotional abuse in childhood and initiation of breastfeeding, duration of breastfeeding at 3, 6 and 12 months and exclusivity of breastfeeding at 3 and 6 months among mothers in Hamilton, Ontario, Canada. The data were collected as part of a prospective study entitled 'Healthy Pregnancy for Great Life Beginnings: Maternal Adversity, Vulnerability and Neurodevelopment (MAVAN)'. In addition to contributing to the broader knowledge base, this analysis will be able to offer data specific to the Canadian context.

Chapter 2: Literature Review

Breastfeeding

'Breast is best' is a well-known slogan in breastfeeding promotion. The reason for this is highlighted by a recent meta-analysis of breastfeeding benefits for mothers and infants conducted by the Agency for Healthcare Research and Quality.[1] The analysis showed that, in full term infants, breastfeeding reduced the risk of acute otitis media (ear infections), atopic dermatitis (eczema), gastrointestinal infections, lower respiratory tract diseases, obesity, type 2 diabetes and SIDS. In preterm infants, breastfeeding reduced the risk of necrotizing enterocolitis (NEC).In mothers, breastfeeding reduced the risk of breast cancer (at least one year of breastfeeding) and ovarian cancers. As a result, the American Academy of Pediatrics recommends exclusive breastfeeding for the first six months of the infant's life, at which time complementary feeding can begin with continued breastfeeding until one year.[14]

Despite these recognized benefits many women in the United States do not comply with the recommendations. In 2011, 74.6% of lactating mothers initiated breastfeeding and by 6 months only 14.8% were exclusively breastfeeding. Epidemiological research points to numerous modifiable and non-modifiable factors associated with a woman's initiation and duration of breastfeeding. Factors often considered to be non-modifiable or outside of a woman's immediate locus of behavioral control include her race[15], age, education, employment, marital status and socioeconomic status.[16] In general, whites, older mothers, more educated mothers, married women, women with fewer children and women with higher income are more likely to breastfeed. Hospital practices including distribution of baby formula/supplemental feeding and not letting the baby sleep in the room with the mother are also known to interfere with initiation and duration of breastfeeding.[17]

Research has also highlighted several factors associated with initiation and duration of breastfeeding that are modifiable through social or individual interventions. These include

problems with lactation including for example, breast pain, sore nipples, and perceived insufficient milk supply and infant having difficulty feeding.[4] Mothers' knowledge about breastfeeding, how early in pregnancy she makes the decision to breastfeed, her levels of confidence and comfort with breastfeeding (public embarrassment) and her use of tobacco and prescription medicines.[4,17] The need to return to work has also been cited as a barrier by some mothers.[4] It is especially a barrier in the United States because the federal law only guarantees 3 months of family/sick leave and pay is not guaranteed.[18]

Of these highlighted determinants, confidence in one's ability to breastfeed, also known as breastfeeding self-efficacy is one of the most commonly cited determinants in whether a mother continues to breastfeed.[19,20] Indeed research in several settings has identified low self-efficacy as a significant predictor of early breastfeed cessation.[6,17,21].[19]

Self-efficacy theory and behavioral constructs

The theory of self-efficacy evolved from Bandura's Social Learning Theory.[22] Self-efficacy refers to a person's perception of whether they are able to successfully perform a given task. This by extension helps them to decide if they will attempt the task and how persistent they will be in trying to achieve success.[6] When deciding on their expectations for a certain behavior a person considers four pieces of information: performance accomplishments, vicarious experience, verbal persuasion, and physiological states.[22] In the case of breastfeeding, the mother would consider her previous experience/performance with breastfeeding, if any, and if it was good then she would view breastfeeding her next baby positively. For a new mother, if she hits the milestones, such as successful latching then this small victory encourages her to continue. Of all the pieces, performance accomplishments are the most powerful.[20,22] Vicarious experience is where other people's experiences and stories factor into the mind of the mother. If she's heard negative accounts she's less likely to engage in breastfeeding, however if she knows of other people who tried and were successful then she is more likely to try as well.[22] Verbal persuasion

works the way it sounds, if the woman is encouraged, especially from a professional or someone viewed as an expert that she will be able to successfully breastfeed then she will view the activity more favorably because she has been led to believe that she can do it.[22,23] Finally, physiological states, for example if the woman becomes filled with panic or anxiety about breastfeeding before she even gets started, then her confidence that she'll be able to complete the task will be impaired.[22]

Dennis highlights the role of choice, effort and thoughts on breastfeeding with a self-efficacy framework.[23] She posits that self-efficacy is important when choosing to breastfeed because people are less likely to do something at which they don't think they'll succeed. Similarly, if breastfeeding is difficult for the mother, perseverance and persistence will keep a mother with high self-efficacy going, however if her self-efficacy is low she will likely give up. Finally, a mother with high self-efficacy will think positively and envision success whereas someone with low self-efficacy may channel their thoughts into thinking they can't breastfeed. [23]

Efficacy is situated within a commonly applied behavioral framework for breastfeeding, the Theory of Planned Behavior (TPB). The TPB is an extension of the Theory of Reasoned Action (TRA) by Ajzen and Fishbein[24]. The TRA has 3 main constructs: attitude, subjective norms and behavioral intention.[24] Here's how TRA would conceivably work for breastfeeding. The mother may know that breastfeeding is good for many reasons so we can say that her attitude toward breastfeeding is positive. The subjective norms would be how the mother perceives people in her social network would react to her breastfeeding. She would then weigh the combination of these two in her mind to determine how she intends to behave. However, Ajzen later posited that intention did not necessarily translate into behavior unless perceived behavioral control existed. In incorporating perceived behavioral control into the TRA, the theory was transformed into the Theory of Planned Behavior.[25,26] Therefore to complete the example, if the mother has weighed her attitude toward breastfeeding and that of her social network (whether positive or negative) and decided that she does want to breastfeed then next comes her perception

of control. She would question if breastfeeding is something she can do successfully and whether she has all the information and resources that she needs. This will factor in to whether she goes through with breastfeeding her infant. If the mother is not confident that she is properly equipped and capable of breastfeeding and others have told her that breastfeeding was difficult and unpleasant then her level of efficacy will be low because she does not perceive this as a situation that she has control over.

Swanson and Power[27] examined the applicability of the TPB to initiation and continuation of breastfeeding. They found significant differences in the behavioral beliefs of breastfeeding mothers versus bottle feeding mothers. Mothers who chose either method reported more positive beliefs toward the method they chose. For subjective norms, mothers also reported more positive subjective norms at baseline and follow up for their chosen feeding method. They also found that behavioral beliefs of breastfeeding and bottle feeding mothers significantly predicted intentions but subjective norms did not. Breastfeeding behavior was predicted by subjective norms. The authors say that since intention was measured post hoc the study wasn't a test of the full model and perceived behavioral control wasn't a significant predictor.

Wambuch used the TPB to assess breastfeeding intention and outcome. Her results did not fully support the TPB but they did show that perceived behavioral control and mother's attitude impacted her decision more than subjective norms did.[28]

This last construct of perceived behavioral control meshes well with some of the underpinnings of the self-efficacy theory to explain whether a mother chooses to breastfeed. If she doesn't feel like she has control of the situation or outcome then she would be less confident that she can breastfeed. It therefore shows a logical pathway that leads from self-efficacy to breastfeeding, which is also demonstrated by the following studies. Loughlin et al found a high correlation between anticipated duration of breasting and maternal confidence. In their study of 94 women who began breastfeeding, 37% of the women who had low confidence in breastfeeding stopped breastfeeding by 8 weeks and only 7% of women who had low confidence in

breastfeeding continued to breastfeed.[29] Mitra et al also found that self-efficacy was a significant indicator of breastfeeding intention,[30] A positive association between self-efficacy and duration and exclusivity of breastfeeding was also found by McCarter-Spaulding et al.[31] Otsuka, Dennis et al found that among bottle feeding mothers low self-efficacy in the hospital was associated with maternal perception of insufficient milk.[32]

In addition to the many barriers and theories already mentioned, some research suggests that exposure to abuse in childhood may also be related to breastfeeding. Given the prevalence of child abuse in the United States this relationship deserves attention. It is hypothesized that abuse influences breastfeeding through 4 primary pathways: self-efficacy, objectification, depression and learned helplessness theories. In the next section I explore the prevalence of child abuse in the US and Canadian contexts and the mechanisms by which abuse may undermine breastfeeding.

Childhood Abuse (Definition and Prevalence)

In 2010, in the United States, there were 479,424 first time victims of child abuse[10] defined as:

"Any recent act or failure to act on the part of a parent or caretaker which results in death, serious physical or emotional harm, sexual abuse or exploitation; or an act or failure to act, which presents an imminent risk of serious harm."[10]

In that same year there were 3.3 million referrals made to child protective services (CPS) of which nearly 2 million were screened. Of those children screened, the majority (78.3%), were neglected, 9.2% of them were sexually abused and 17.6% of them were physically abused. Nearly half, 48.5%, of the victimized children were girls. The racial profile of children reported to CPS was as follows: 44.8% White, 21.9% Black and 21.4% Hispanic.[10] 70-90% of children know the person who is sexually abusing them.[33]

In Canada, Ansara et al reported that the lifetime prevalence of child sexual abuse in 1990-1991 was 12.8% for females and the lifetime prevalence of child physical abuse was 21.1%.[34] The 2003 Canadian Incidence Study of Reported Child Abuse and Neglect tracked a representative sample consisting of 14,200 child maltreatment cases from across the country. The incidence of substantiated child abuse was 21.71 cases per 1000 children; 24% of the sample was physically abused and 3% were sexually abused.[35] These numbers show clearly that in both the United States and Canada child abuse is a prevalent concern.

It should be noted that the prevalence estimates for child abuse differ depending on the definition applied. This is especially true for estimates of sexual abuse. The way the U.S. defines was mentioned above. Here are some other definitions. A study by Fleming et al defined sexual abuse as "all experiences of sexual contact occurring before the age of 12 with a person 5 or more years older, irrespective of consent, and all experiences of sexual contact occurring between 12 and 16 years with a person 5 or more years older, unless wanted or not distressing at the time."[36] Using that definition 20% of their sample experienced childhood sexual abuse. A study by Schuetze defined sexual abuse as "experiencing at least one contact or noncontact episode by either a family or nonfamily member before the age of 18." Using that definition 40% of the women in their study reported childhood sexual abuse.[37] All the researchers agree that official numbers are an underestimate and it should be noted that all these estimates are higher than the official numbers reported by the United States CPS. Finally, David Finkelhor, a leading researcher on child sexual abuse, looked at multiple studies and combined various definitions and estimated that 15-34% of adult women and 3-9% of adult men were sexually abused in childhood.[38]

Long term impact of childhood abuse

A study in New Zealand examined 497 women who reported severe forms of physical, sexual and emotional abuse in childhood. Several negative outcomes were identified resulting

from abuse. For women who experienced any of the three types of abuse they were significantly more likely than the controls: to get pregnant before turning 19 years of age, have low self-esteem, an eating disorder, attempt suicide, have been depressed at some point in their life, have sexual problems, be separated or divorced, be a heavy drinker, be identified as having psychiatric problems or have been a patient in a psychiatric hospital. Those who specifically experienced sexual or physical abuse in childhood also experienced a decrease in socioeconomic status in adulthood.[7]

Briere and Runtz in their study of 277 female college students reported an association between psychological abuse in childhood and low self-esteem in adulthood. Like the New Zealand study they also found that physical abuse was associated with increased aggression toward others and that sexual abuse was related to dysfunctional sexual behavior. Their results show that a combination of physical and psychological abuse was associated with low self-esteem, aggression and dysfunctional sexual behavior in adulthood. [39] Beitchman et al reviewed the long term effects of child abuse and found that when compared to their non-abused counterparts, women who experienced child abuse exhibited signs of anxiety, fear, sexual dysfunction and depression. They also "show evidence of revictimization experiences; show evidence of suicidal ideas and behavior, particularly when they have been exposed to force or violence."[8] A study of older adults (mean age, 67 years) also found that childhood abuse predicted lower levels of self-efficacy in terms of how much control they felt they had over their "vitality and quality of health."[9]

Abuse in childhood has consequences beyond the individual who experiences the abuse. Schuetze observed that child sexual abuse (CSA) predicted maternal depression and it put women at risk of parenting negatively, described as, diffidence in themselves as parents and in their ability to parent, less interest in becoming a mother and difficulty maintaining emotional control when interacting with children and selfishness.[37] She also noted that, "the children of depressed CSA survivors are at risk of adverse developmental outcomes".

Buist did a 3 year follow up of women who had been admitted to the hospital for a major depressive episode postpartum. She found that abused women at 3 years postpartum still had higher depression scores than those who weren't abused as children. Their partners also rated their children as more disturbed (related to sleep, anxiety and depression).[40]

Theory of Learned Helplessness

Low self-esteem and or depression were mentioned in all the studies above as a long term impact of child sexual abuse. A theory that could possibly explain the link between low self-esteem/depression and child sexual abuse is the theory of learned helplessness.[12,41] This theory suggests that when a person discovers that something is out of their control and that their actions cannot determine the outcome this may induce helplessness. It goes on to state that the person needs to have reduced motivation and expectations to be deemed helpless. In determining helplessness three main factors are considered; personal versus universal, stable versus unstable and specific versus global.[12]

Personal versus Universal also known as Internal (I) versus External (E)[12] – The person considers if this is something that they can do and whether others are able to do it. In the case of personal helplessness the person determines that they aren't succeeding because something is flawed within them (e.g. despite my best efforts I cannot cook). The issue is internal not external since others can do it. In universal helplessness there's no one that can achieve the task because it may be deemed impossible: people are unlikely to feel helpless if they can't cure a disease that no one else can, so they attribute that to an external factor not an internal one.

Stable (S) versus Unstable (U)[12] – The person considers whether this is an enduring condition or if it is temporary. For example, no matter what, I will never learn to cook versus I burned the food because I received bad news and was distracted. Stable factors can lead to helplessness because the person feels that there's nothing that they can do about it now or on subsequent occasions whereas unstable factors may not present themselves again.

Specific (Sp) versus Global (G)[12] – The person considers whether this is something that will apply to all situations versus something unique to this situation. For example, I am not good at cooking but I'm good at other things versus I'm bad at everything.

People who render themselves helpless typically see things as internal, stable and global (ISG) and Abramson et al[12] mention that it is such people who are more apt to "helplessness depression with low self-esteem." Though people with helplessness do tend to see things as ISG these dimensions are like a continuum so they could also see things as potentially: internal, unstable, global (IUG); external, stable, global (ESG) or external, unstable, global (EUG). Using sexual abuse as an example, here are the eight dimensions: there's something about me that makes all men think it's ok to do this to me (ISG), there's something I do that upsets men and so this is punishment (IUG), men like to do this (ESG) and sometimes men just need an outlet (EUG). There's something about me that makes him thinks it's ok to do this to me (ISSp), there's something I did that upset him (IUSp), he likes to do this (ESSp) and sometimes he just needs an outlet (EUSp).

The causes that are deemed internal will cause lowered self-esteem because the child will think that the abuse is happening because of something she's doing wrong or there's something else about her that's making this happen. However causes deemed external will not cause lowered self-esteem. Factors deemed to be internal, stable and global are most often where helplessness and depression are seen because the person believes that nothing they can do now or in the future will change the outcome. Conversely little development of helplessness or depression is seen for factors that are considered specific and unstable. The authors (Maier & Seligman) do make sure to note that though helplessness is sufficient to cause depression it isn't a mandatory requirement, since there are lots of other reasons why someone can become depressed.[41] However in child abuse it is easy to see how depression or low self-esteem can ensue. Children are often taught to respect adults and an adult man or woman is much larger than they are so once they realize that this is happening and they want it to stop but despite their

protests they will not be left alone they can become helpless and depression can develop. Especially once they've tried to identify what they have done to make this happen, tried different things to avoid it and still are unsuccessful they eventually internalize this sense of lack of control and transfer it to other sections of life, doubting for example that she'd be able to breastfeed. This sense of helplessness could lead to low depression.[42]

Gross and Keller examined the association of the long term consequences of child physical and emotional abuse with depression and low self-esteem (known correlates of learned helplessness). [43] They found that self-esteem was lower among participants who were emotionally abused or were both physically and emotionally abused as children. Similarly, for depression, participants who experienced either of the two types of abuse or both had more of a tendency toward depression than those who weren't abused.

Given the impact childhood abuse has on self-efficacy and given that we know self-efficacy impacts breastfeeding, it is worth examining if there is an association between childhood abuse and breastfeeding and if this could be yet another reason why some women don't initiate breastfeeding or stop early. The literature drawing a possible link between childhood abuse and breastfeeding is presented below.

Studies examining the relationship between childhood abuse and breastfeeding

A limited number of studies have examined the relationship between childhood sexual abuse and breastfeeding. Most of them have been qualitative. I begin with general review articles then move into, quantitative studies then qualitative studies.

In preparation for a literature review of the influence of child sexual abuse on pregnancy, delivery and the postpartum period, Leeners et al reviewed 43 studies and then chose to use 18 studies for meta-content analysis based on stringent inclusion/exclusion criteria. [44] A strength of their review is that they included studies that were published in German and French in addition to

English. One particularly interesting finding was that the sex of the child also affected the mother. If the child was female, the mother became concerned that her daughter would also be abused and if the child was male it reminded her of the person who victimized her. However overall the studies showed that more abused mothers intended to breastfeed than those who weren't abused and they were at increased risk for postpartum depression and anxiety.[44] The review did not examine the effects of abuse on the duration or exclusivity of breastfeeding. In Bowman's review article of adolescent mothers and childhood sexual abuse she said that intimacy, trust and a connection between mother and baby are needed in order to breastfeed.[45] She posits that prior sexual abuse may bring up emotions that cause mom to become defensive and not breastfeed at all or stop breastfeeding sooner than she would have otherwise.[45] She also mentions that when mothers' breastfeed they sometimes feel sexually aroused and this is uncomfortable for some.

Kendall-Tackett also wrote a review of how breastfeeding might be experienced by a survivor of sexual abuse and victims of violence in the pregnancy phase.[46] She highlighted the fact that depression (also mentioned by Leeners[44]) and post-traumatic stress disorder are common in survivors of child sexual abuse and people currently experiencing intimate partner violence. She also mentioned that lack of support could also affect the postpartum health of abuse survivors.

Prentice, Lu, Lange and Halfon examined the relationship between reported CSA and breastfeeding initiation in a nationally representative sample (n=1220).[47] They found no statistically significant association between childhood physical or emotional abuse and breastfeeding. Interestingly women who were sexually abused in childhood were 2.6 times more likely to initiate breastfeeding than those who weren't. However, among women who initiated breastfeeding, a greater proportion of those who reported no history of childhood sexual abuse breastfed for more than 1 month compared to those who reported abuse, though this result was not statistically significant (the p value was not given in the paper.) Limitations of this study, as

acknowledged by the authors, are that the women were required to self-identify as being abused as opposed to the use of a validated questionnaire and there may have been recall bias for breastfeeding practices.[47]

Bowman et al. conducted a study with 78 Mexican –American adolescent mothers to see if an association existed between CSA, dissociation, breastfeeding and intimate parenting anxiety[48]. Unlike Prentice, no statistically significant association was found, but the results showed that mothers who experienced CSA breastfed more than mothers who didn't experience CSA. Some limitations of this study, as acknowledged by the authors, were the small sample size (it was also a convenience sample) and the use of a parenting anxiety scale that was developed for White Scottish women on Mexican American adolescents. In the future the authors may want to recruit a larger sample of Mexican American adolescents (including some that aren't fluent in English) and try to recruit them from the local community as opposed to parenting classes or pediatric clinics. The fact that these adolescents had access to these resources may indicate that they have some level of social support and other networks that may have helped them to cope with their childhood trauma.

In a case study by Beck[49], a mother who experienced abuse in childhood described attempting to breastfeed and experiencing panic attacks and an emotional disconnect from her baby. The experience made her physically ill and reminded her of her abuse. Between the birth of her first and second child she sought counseling for post-traumatic stress disorder and was able to breastfeed her second child for 3 months. While this firsthand account was helpful in helping us understand some of what is going on behind the numbers, a case study of one individual does not contribute much to the evidence base.

Klingelhafer in her paper presented three case studies in which abused women each felt differently about their breastfeeding experiences. In one case, she asked a mother how she was

able to have sex and marry after her childhood abuse but she was unable to breastfeed. The participant's response was that she and her husband could consent to sex but her baby could not consent to her putting a part of her body in its mouth.[50] In the second case, the mother recounted that when they tried latching the baby in the hospital she started crying and that it was very distressing to her when her family pressured her to breastfeed. She preferred to pump her milk. The author also visited a support group where all the women had successfully breastfed their children after abuse and the participants reported that the group was instrumental in their healing because it provided a support network and helped them realize that this wasn't an isolated experience, they weren't alone, and others had experienced it too.

Wood and Van Esterik[51]did a qualitative study of six Canadian women in which they found, like most other researchers, that the way women handle this issue is unique and personal. As was revealed in quantitative studies on this issue, the women all believed that breastfeeding was best for their baby. However, only two of the six women thought that they were successful in breastfeeding. A limitation of this study, which the authors also acknowledged, was that the women were all attending a healing center for CSA survivors. As a result the women had probably already processed their feelings and had a deeper understanding of what they were experiencing than those who may not have sought help to deal with their abuse.

A qualitative study of 11 Australian women done by Jan Coles showed that women who were sexually abused by a family member either saw breastfeeding as a way to reclaim their body or as a chore that they had to do without much attachment or emotion involved. Across this study and most others the need was emphasized for nurses to be sensitive to the issues related to sexual abuse and breastfeeding and to allow the women to do what is best for them.[52] Coles also used women who self-identified as having been sexually abused and her larger sample size compared to Beck's[49] provides more insight into the issues and thoughts of women experiencing breastfeeding after child sexual abuse.

In *Breastfeeding Medicine*, the journal that published the Klaus[53] article, there was an editorial by Ruth Lawrence[54] highlighting the fact that abuse and neglect are becoming recognized as potentially important barriers to breastfeeding and urging readers to examine why women often report lack of desire as the reason why they don't breastfeed.

These studies all show that the effect of childhood abuse, especially childhood sexual abuse is not to be understated. However, the connection between sex and the breast is not often immediately obvious.

How does sexualization of the breast influence breastfeeding?

The objectification theory states that women commonly view their physical appearance the way they think an observer sees them. This would lead to self-consciousness and anxiety.[11] The authors go on to say that sexual objectification can lead to other forms of oppression such as violence and workplace discrimination. Moreover, the authors of the objectification theory state that the tie that binds the theory together is, "the experience of being treated as a body (or collection of parts) valued predominantly for its use (or consumption by) others." The authors feel that women don't even need to be touched to be objectified; they can be objectified via a gaze or a call. The issue then comes when women start to internalize this treatment. Women who are sexually abused probably do view their experience as being treated like a body. In one of the studies mentioned earlier a participant felt that she wouldn't have been abused if she didn't have large breasts.[53] This sort of anxiety can manifest itself in the form of women constantly worrying about appearance or about being assaulted if they appear too attractive.[11]

The authors also argue that objectification prevents a woman from being her true self when they have to worry about attention being called to their body. They posit that objectification can cause depression and a sense of learned helplessness due to the discrimination that they may experience in relationships (romantic or otherwise) that erode their sense of power.

Women then tend to internalize and worry about things they can't necessarily control such as their body shape or how people view their appearance and this can make them depressed.[55]

A study by Johnston-Robledo et al[55] found that Fredrickson and Roberts'[11] theory of objectification held true for the female college students in their study. Their study results showed that students who were ashamed of breastfeeding were also ashamed of their bodies and of menstruation. Additionally, students who constantly thought about how they looked thought breastfeeding in public was inappropriate. The college students displayed what the researchers called "reproductive shame" when they got their period because they felt it obstructed the view of their body as "objects of desire." There were significant and positive correlations between students being ashamed of their period and being ashamed of breastfeeding. They felt that breastfeeding would have a negative impact on their body (e.g. sagging) and that it was indecent to do especially in front of others. Students who were ashamed of their body also viewed menstrual suppression as a positive thing. Furthermore girls who thought about their appearance frequently also had the desire to surgically enhance their breasts even if it meant they couldn't breastfeed.[55]

Sexualization of the breasts has been examined before and Katherine Dettwyler gives a good overview of the nuances in a chapter of the book *Breastfeeding: Biocultural Perspectives*. The chapter is titled "Beauty and the breast: the cultural context of breastfeeding in the United States." [56] She opens the chapter by mentioning that all mammals have breasts which many of them use for feeding their young.[56] Then she looks internationally at various cultures and then at our Western culture. She points out that in Mali, for instance, the breast is seen solely as food for the baby and that Malians were confused by the notion that American men found breasts sexual. In the Western world, breasts are viewed as highly sexual objects, particularly for the pleasure of males, and she remarks at the fact that American women often get breast implants to increase their sex appeal and that many Westerners see breastfeeding as something to do behind closed doors. This is in high contrast to Mali where women freely breastfeed in public. She goes on to

note that during breast enlargement surgery many times the lactating ability of the breast is not preserved. This further highlights the priority of many Westerners, that is; breasts are more important for sex than they are for infant feeding. Like many breastfeeding proponents before and after her have pointed out she remarks about how in this society it is acceptable for women to show great amounts of their breast in the form of cleavage and wear revealing tops for sexual attraction in public but it is unacceptable for them to use their breasts in public to feed their child.

If breasts are viewed as objects of sexual arousal and not also as a source of food for infants then women who have been sexually abused may feel unattractive or like they are doing something inappropriate when their infant is suckling on their breast. The qualitative literature has also shown us that depending on whether her breasts were part of the abuse or not the touch of the baby and the suckling motion may bring up memories of the abuse.[46,51] The labor and delivery process can be traumatic[53] and it also makes a woman vulnerable as she is exposed in front of the professional attending the birth and all this may work to make her feel uncomfortable and like she lacks control; especially since our society portrays that it's ok to be exposed for sexual purposes but for any other reason our bodies and breasts are a private affair. This may not be the same for women from other cultures and perhaps if they were abused the association between breastfeeding and that abuse may be different than it is for Western women.

Pathways

So far this chapter has looked at studies that connect various parts of the path between childhood abuse and breastfeeding. Here potential pathways to connect them are presented. We know from the literature that self-efficacy plays a significant role in a mother's intention and duration of breastfeeding[19,20] and that abuse can impact self-efficacy.[12,39] As a starting point we began by seeing how the self-efficacy theory and theory of planned behavior may act to work for or against women in helping them to breastfeed. Then we examined how the theory of learned

helplessness could help to explain how childhood abuse could result in reduced self-efficacy, anxiety and mental health issues in the survivors. According to the National Institute of Mental Health depression is likely caused by, "a combination of genetic, biological, environmental, and psychological factors."[57] In addition to genetic risk, the Institute states that an episode of depression could be triggered by stressful situations, trauma or difficult relationships. Pregnancy and childbirth are stressors[53] which can trigger depression and it is easy to see how being abused can be stressful, traumatic and lead to difficult relationships since most abuse is committed by someone known to the victim..[33,58] The anxiety and fear that was mentioned could erode the self-efficacy of women and lead to them feeling paralyzed and as a result not acting for their interests or being assertive.

A study by Rosen and Martin[59] of active duty men and women in the U.S. army found that physical-emotional and sexual abuse in childhood led to characteristics of negative femininity in the women, defined by them, as being gullible, passive, giving in to please others, whiny, fussy, easily upset and emotional. Physical-emotional childhood abuse was the strongest predictor of negative femininity in their study. They pointed out that these items have to do with helplessness in the women and warned that generalization may not be possible since women who join the military may be different from average women. The characteristics of negative femininity connect nicely with the concept of learned helplessness mentioned by the objectification theory as a source of depression in women.[11] Having to give in to others and being tricked can make someone lack confidence. In the Rosen study the positive femininity scale included characteristics such as being warm, helpful, empathic, and altruistic. To their surprise women who were sexually abused frequently displayed characteristics of positive femininity. They suggested that this could be a coping mechanism. Another possible explanation could have to do with cultural attitudes which portray women as passive participants in sex in which their role is to focus on their partner's pleasure and not their own in order to avoid

appearing selfish.[55] If this is the case it would explain why some sexually abused women still breastfeed their babies even if it's uncomfortable for them, so as not to appear selfish. *Figure 1* attempts to pull all the connections together that may point to how abuse affects breastfeeding. It shows that childhood abuse, especially if the abuse is sexual, can naturally lead a woman to view herself as an object for her abuser's pleasure and it also shows that abuse can make a woman depressed[11] and affect her self-efficacy (it typically lowers it)[9]. A study by Tiggemann showed that self-objectification was " moderately strongly correlated with both disordered eating and depressed mood" via a pathway that began with self-objectification and went from self-surveillance to body shame and appearance anxiety, ending in depressed mood.[60]

The relationship between depression and self-efficacy is bidirectional since low control can make someone depressed[11] and depression and feeling helpless about a situation can make someone feel pessimistic[57] or like they have no control. Many of the abused women were also depressed. [44] Dennis showed that breastfeeding self-efficacy was negatively correlated with maternal score on the EPDS when she validated her scale on a sample of Canadian women and then on a sample of Chinese women.[61,62] Based on the studies presented we know that depression and self-efficacy have an impact on breastfeeding.[20] Further studies which highlight the link between postpartum depression and reduced breastfeeding are a qualitative systematic review which showed that women who were depressed were less likely to initiate or continue breastfeeding that those who weren't[63] and a review article on the effects of postpartum depression more broadly.[64] Interestingly the systematic review showed that women who breastfed were less likely to experience depressive symptoms then those who did not breastfeed.[63]

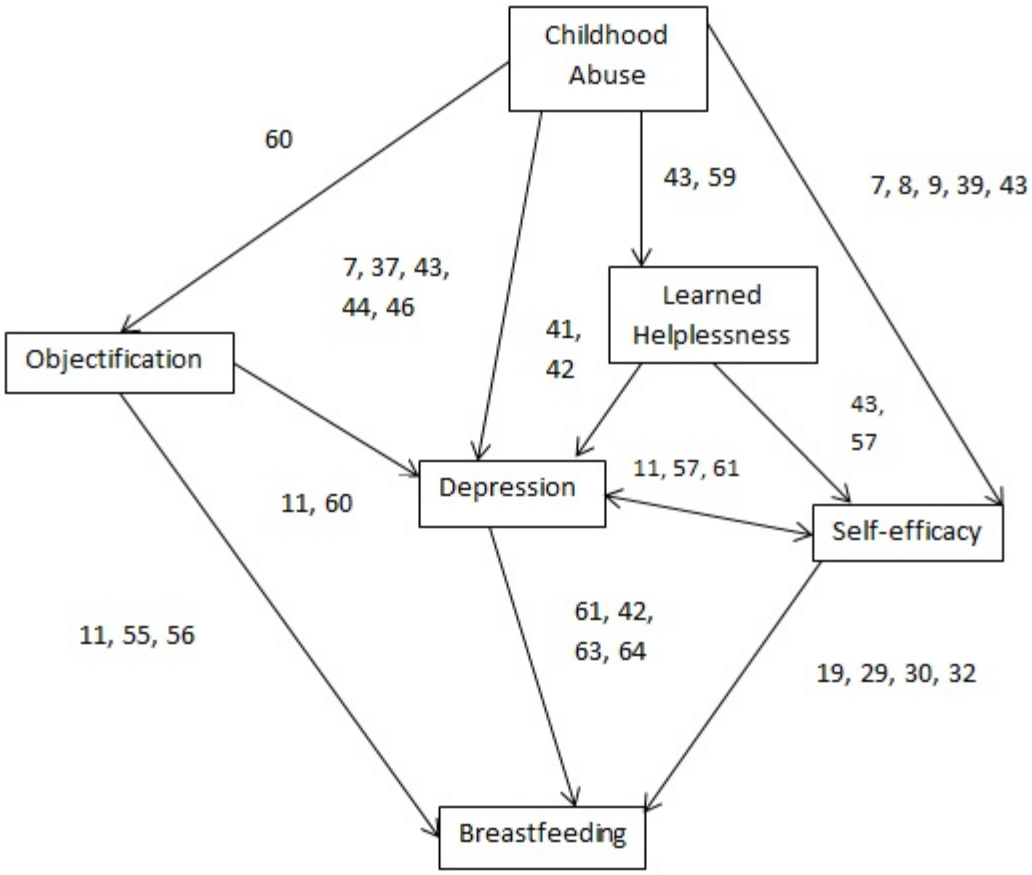

Figure 1: Diagram of potential pathways between childhood abuse and breastfeeding

Why this study?

Few studies have examined the link between child abuse and breastfeeding and they have been highlighted in this chapter. I found studies that looked specifically at childhood sexual abuse and breastfeeding but I could find no studies that specifically looked at physical or emotional abuse and breastfeeding, though Prentice did check for them is his study[47]. This highlights a gap in the literature. However, a few of the studies that looked at childhood sexual abuse and breastfeeding also examined physical and emotional abuse. Given the proportion of

women who experience sexual, emotional and physical abuse as children and its potential ramifications for breastfeeding continued research is needed to understand the association and I hope that my analysis will add to the growing body of research on this issue. More specifically this study observes the relationship of sexual abuse in childhood and its impact on breastfeeding in the Canadian context.

Chapter 3: Methodology and Results

Participants

The data for this study were collected as part of a prospective study conducted by the University of Toronto called 'Healthy Pregnancy for Great Life beginnings: Maternal Adversity, Vulnerability and Neurodevelopment (MAVAN)'. The participants in this study were 257 pregnant women, 12-18 weeks gestation, residing in Hamilton Ontario, Canada. They were recruited from a women's clinic and through the offices of obstetrician/gynecologists and family physicians from 2004 to 2009. In order to be eligible for the study participants needed to be at least 18 years old and fluent in reading, writing and speaking English.

At enrollment (12-18 weeks gestation) women were screened for adversity using a battery of psychosocial tests (Table 1). Women were classified as cases (having experienced adversity) if they scored above designated cutoffs on these screeners and as controls if they scored below. Women with a family history of psychiatric illness according to the Mini International Neuropsychiatric Interview (MINI)[65] or the Research Diagnostic Criteria interview were also classified as cases.[66] Participants were considered ineligible for the study if, at the time of the study, they had a history of bipolar disorder or psychosis, were suicidal or homicidal, or were currently under treatment for another medical condition. If they delivered their baby at less than 37 weeks gestation they were not included in postpartum assessments.

Table 1: Designated cutoff requirements for women in the Hamilton, Ontario sample to be included in the adversity group

Scale	Cut off required to be in adversity group
Edinburgh Postnatal Depression Scale (EPDS)	≥12
Montgomery-Asberg Depression Rating Scale (MADRS)	≥7
Spielberger State-Trait Anxiety Inventory (STAI)	≥45
Hamilton Anxiety Scale (HAMA)	≥18
Interview of Recent Life Events	Score of 2 or more major life events in the preceding six months

Measures

In addition to the psychosocial screeners, participants history of child abuse and neglect was assessed at 12-18 weeks gestation using the Childhood Trauma Questionnaire (CTQ), short form.[67] The childhood trauma questionnaire has been validated and can correctly detect five different dimensions of abuse and neglect: emotional abuse, physical abuse, sexual abuse, emotional neglect and physical neglect. The 28 questions of the CTQ assess a range of abuse and neglect experiences and are scored on a likert scale: never true, rarely true, sometimes true, often true and very often true. Additional psychosocial follow up with the Edinburgh Postnatal Depression Scale (EPDS)[68] was conducted at 3 months postpartum.

Infant feeding practices, including breastfeeding initiation, exclusivity, and formula use were assessed using an interviewer administered questionnaire at 6 and 12 months postpartum.

Analysis

The outcome/dependent variables for this analysis are initiation of breastfeeding, exclusive breastfeeding at 3 and 6 months and any breastfeeding at 3 months, 6 months and 12 months. These variables are all dichotomous yes/no variables.

The exposure variables for sexual, physical and emotional abuse were derived from the following questions from the CTQ short form: I believe that I was sexually, emotionally or physically abused. Because responses were on a Likert scale, the outcome for each abuse category was dichotomized into 1) no, not sexually abused (never true) and 2) yes, sexually abused (rarely-very often true). The same was done for physical abuse and emotional abuse. This dichotomization is based on the decision that rare abuse is still abuse and could have an impact on the woman and we felt that the women's perception of whether they experienced abuse would factor into their decision making on whether or not to breastfeed.

Additionally, two dichotomous (yes/no) variables were created to reflect whether the women experienced any of the three types of abuse and whether they experienced all three types of abuse during her childhood (sexual, physical and emotional).

The socio-demographic/confounding variables available for analysis were mother's race, age and education, whether her pregnancy was wanted, whether the mother was living with her partner and depression at 3 months post-partum. There were 5 categories for race: African, Caucasian, Hispanic, Indian and mixed. Maternal age was grouped into 5 categories: 18-22, 23-27, 28-32, 33-37 and 38-43. Maternal education was categorized into 4 groups: high school, some post-secondary (participants were placed in this group if they indicated attending some portion of trade school or university), diploma and college or above. Living with partner was a dichotomous variable: yes or no. Pregnancy wanted originally had four options: wanted then (wanted to be pregnant at the time they got pregnant), wanted sooner (wanted to be pregnant sooner than when they got pregnant), wanted later (wanted to be pregnant later in life) and didn't want (to be pregnant at all). Wanted later and didn't want were combined and called didn't want the pregnancy. The other two remaining categories: wanted sooner and wanted later remained the same. Postpartum depression, assessed using the Edinburgh Postnatal Depression Scale at 3 months post-partum, was also included; the scale was dichotomized into women with a score less

than 12 (<12) being classified as not depressed and those with a score greater than or equal to 12 (>= 12) as depressed.

Chi square tests were conducted to assess differences in breastfeeding practices according to mother's history of abuse. In the event that a cell count was less than 5 the fisher's exact test was used. The null hypothesis was that there would be no association between abuse and breastfeeding and the alternative hypothesis is that there is some kind of association between abuse and breastfeeding.

Multivariate logistic regression was used to test the association between the exposures of interest (childhood sexual, physical or emotional abuse) and each of the breastfeeding outcomes. Associations were adjusted for mother's race, age and education, whether the mother was living with her partner, if the pregnancy was wanted and depression at 3 months postpartum. All data were analyzed using SAS 9.3. (Cary, N.C)

Results

The mothers ranged in age from 18-43 with the mean maternal age being 30years (SD 5.49) (Table2). The women's highest educational attainment varied with most women having attended college (43.2%). 93.7% of the women lived with their partner. 29.4% of women did not want to be pregnant, 21% wanted to get pregnant sooner than they did and 49.5% of women wanted to get pregnant when they did. The majority of the participants were Caucasian (92.1%), 2% were African, 1.5% Hispanic, 1% Indian and 3.5% mixed. 13% of the women had EPDS scores greater than or equal to 12.

Forty-three women or 17.6% of the study population were sexually abused as children; 18% reported they were physically abused and 39% said that they were emotionally abused. 111 or 45.1% of the women said they had experienced at least one of the three types of abuse while, 19 women or 7.7% reported, they experienced all three types of abuse. *Table 2* presents the descriptive characteristics of the participants overall and stratified on whether they experienced any abuse. The statistically significant demographic in the table was depression score: 8.6% of

women who were depressed at 3 months postpartum had never experienced abuse and 21.5% of women who were depressed at 3 months postpartum had experienced abuse (p=0.0126).

Table 3 shows the differences in breastfeeding practices according to the mother's history of abuse. Based on the results, we see that at the 0.05 significance level, there were statistically significant differences between those who were sexually abused and those who weren't with regards to any breastfeeding at 6 months. That is, 66.4% of women who were not sexually abused in childhood were still breastfeeding at 6 months compared to 44.8% of women who were sexually abused in childhood (p=0.0275). There were also statistically significant differences between those who were physically abused and those who weren't and whether they were breastfeeding at 3, 6 and 12 months. 78% of women who were not physically abused in childhood were still breastfeeding at 3 months compared to 57.1% of those who were physically abused in childhood (p=0.0197). At 6 months it was 66.4% (not physically abused) compared to 46.4% (physically abused) p=0.0438 and at 12 months it was 31.9% (not physically abused) compared to 8% (physically abused) p=0.0148. There were no statistically significant differences for those who experienced any abuse. Those who experienced all 3 types of abuse were not included in the analysis due to small sample size (n=19).

The results of the bivariate and multivariate analyses performed using logistic regression are displayed in *Table 4*. There was insufficient variation in initiation of breastfeeding to test for an association with abuse. For the model of the association between childhood sexual abuse and any breastfeeding at 6 months, women who were not sexually abused were 2.4 times more likely to still be breastfeeding at 6 months than women who were sexually abused. [OR 2.437, CI (1.087, 5.461)] This association was attenuated and failed to be significant after adjusting for confounding [OR 1.628, CI (0.511, 5.192)]. Similarly, the associations between physical abuse and breastfeeding were attenuated and failed to be significant after adjusting for confounding at 3 months [OR 1.9 (0.549, 7.265)], 6 months [OR 1.9 (0.579, 6.224)] and 12 months [OR 5.4,

(0.972, 69.280)]. The odds ratios were insignificant for the bivariate and multivariate adjusted models comparing emotional abuse in childhood and any abuse in childhood and breastfeeding.

Table 2: Descriptive characteristics of 257 women in Hamilton, Ontario overall and stratified by abuse

Characteristic	Overall (%)	Never experienced abuse (n=135), %	Experienced any abuse (n=111) , %	P-value for difference
Age (n=212)				
18-22	6.4	8 (6.9)	5 (5.1)	0.9688
23-27	23.7	27 (23.5)	23 (23.7)	
28-32	31.9	38 (33.0)	30 (30.9)	
33-37	29.2	32 (27.8)	30 (30.9)	
38-43	8.7	10 (8.7)	9 (9.3)	
Education (n=206)				
High School	5.8	7 (6.6)	4 (4.3)	0.5434
Some post-secondary	17.5	16 (15.1)	19 (20.4)	
Diploma	33.5	38 (35.9)	27 (29.0)	
College or above	43.2	45 (42.5)	43 (46.2)	
Living with partner (n=189)				
Yes	93.7	98 (96.1)	73 (90.1)	0.1361*
No	6.4	4 (3.9)	8 (9.9)	
Pregnancy Wanted (n=214)				
Wanted then	49.5	61 (54.0)	42 (44.7)	0.2995
Wanted sooner	21.0	24 (21.2)	20 (21.3)	
No	29.4	28 (24.8)	32 (34.0)	
EPDS (n=190)				
<12	86.3	96 (91.4)	62 (78.5)	0.0126
>= 12	13.7	9 (8.6)	17 (21.5)	
Race (n=203)				
African	2.0	3 (2.6)	1 (1.2)	0.4949*
Caucasian	92.1	104 (91.2)	78 (92.9)	
Hispanic	1.5	3 (2.6)	0 (0.00)	
Indian	1.0	1 (0.9)	1 (1.2)	
Mixed	3.5	3 (2.6)	3 (4.8)	
Type of Abuse/ Exposure				
Sexual (n=245)		NA		
Yes	17.6		43 (39.1)	<0.0001*
No	82.4		67 (60.9)	

Table 2: Descriptive characteristics of 257 women in Hamilton, Ontario overall and stratified by abuse

Characteristic	Overall (%)	Never experienced abuse (n=135), %	Experienced any abuse (n=111) , %	P-value for difference
Physical (n=243)		NA		
Yes	18.5		45 (41.3)	<0.0001*
No	81.5		64 (58.7)	
Emotional (n=246)		NA		
Yes	39.0		96 (86.5)	<0.0001*
No	60.9		15 (13.5)	
All 3 types (n=246)		NA		
Yes	7.7		19 (17.1)	<0.0001*
No	92.3		92 (82.9)	
Any of the 3 (n=246)		NA	NA	
Yes	45.1			
No	54.9			
Breastfeeding/ Outcome				
Initiated (n=187)				
Yes	94.1	99 (93.4)	73 (94.8)	0.7629*
No	5.9	7 (6.6)	4 (5.2)	
EBF 3mths (n=184)				
Yes	50.5	53 (50.5)	38 (50.7)	0.9799
No	49.5	52 (49.5)	37 (49.3)	
EBF 6mths (n=184)				
Yes	13.6	16 (15.2)	8 (10.7)	0.3737
No	86.4	89 (84.8)	67 (89.3)	
Any BF 3 mths (n=184)				
Yes	73.9	79 (75.2)	54 (72.0)	0.6258
No	26.1	26 (24.8)	21 (28.0)	
Any BF 6 mths (n=184)				
Yes	61.7	67 (63.8)	45 (60.8)	0.6831
No	38.3	38 (36.2)	29 (39.2)	
Any BF 12 mths (n=165)				
Yes	27.3	26 (27.7)	19 (27.9)	0.9685
No	72.7	68 (72.3)	49 (72.1)	

*Fisher's exact test used (cell count less than 5)

Table 3: Breastfeeding outcomes of 257 women in Hamilton, Ontario overall and stratified by abuse

	Experienced any abuse			Experienced Sexual Abuse			Experienced Physical Abuse			Experienced Emotional Abuse		
	Yes	**No**	**p-value**	**Yes**	**No**	**p-value**	**Yes**	**No**	**p-value**	**Yes**	**No**	**p-value**
Initiated Breastfeeding, % (n=187)	94.8 (73)	93.4 (99)	0.6922	96.7 (29)	94.1 (143)	1.0000*	89.7 (26)	94.7 (143)	0.3881*	94.0 (63)	93.9 (109)	1.0000
EBF at 3 months, % (n=184)	50.7 (38)	50.5 (53)	0.9799	40.0 (12)	53.0 (79)	0.1931	39.3 (11)	53.3 (80)	0.1722	47.7 (31)	52.2 (60)	0.5635
EBF at 6 months, % (n=184)	10.7 (8)	15.2 (16)	0.3737	10.0 (3)	14.1 (21)	0.7704*	10.7 (3)	14.0 (21)	0.7714*	10.8 (7)	14.8 (17)	0.4468
Any BF at 3 months, % (n=184)	72.0 (54)	75.2 (79)	0.6258	66.7 (20)	75.8 (113)	0.2942	57.1 (16)	78.0 (117)	0.0197	70.8 (46)	75.6 (87)	0.4738
Any BF at 6 months, % (n=184)	60.8 (45)	63.8 (67)	0.6831	44.8 (13)	66.4 (99)	0.0275	46.4 (13)	66.4 (99)	0.0438	61.5 (40)	63.2 (72)	0.8295
Any BF at 12 months, % (n=165)	27.9 (19)	27.7 (26)	0.9685	22.2 (6)	29.1 (39)	0.4672	8.0 (2)	31.9 (43)	0.0148*	26.7 (16)	28.4 (29)	0.8087

This table is the result of several chi square tests

*indicates the use of the Fisher's exact test when one of the cells had a value less than

Table 4: Odds ratios and 95% confidence intervals for the association between a history of child abuse and breastfeeding outcomes for 257 women in Hamilton, Ontario

	Unadjusted OR	95% CI	Adjusted OR	95% CI
Sexual Abuse				
EBF 3 months	1.693	(0.762, 3.761)	1.385	(0.464, 4.133)
EBF 6 months	1.477	(0.411, 5.305)	2.024	(0.388, 10.548)
Any BF 3 months	1.570	(0.673, 3.660)	0.424	(0.095, 1.896)
Any BF 6 months	2.437	(1.087, 5.461)	1.628	(0.511, 5.192)
Any BF 12 months	1.437	(0.539, 3.831)	1.745	(0.466, 6.531)
Physical Abuse				
EBF 3 months	1.766	(0.775, 4.024)	0.822	(0.264, 2.559)
EBF 6 months	1.356	(0.376, 4.894)	1.222	(0.216, 6.900)
Any BF 3 months	2.659	(1.145, 6.174)	1.998	(0.549, 7.265)
Any BF 6 months	2.284	(1.009, 5.171)	1.898	(0.579, 6.224)
Any BF 12 months	5.375	(1.212, 23.839)	8.207	(0.972, 69.280)
Emotional Abuse				
EBF 3 months	1.196	(0.651, 2.199)	0.626	(0.262, 1.496)
EBF 6 months	1.437	(0.562, 3.672)	1.914	(0.587, 6.237)
Any BF 3 months	1.283	(0.648, 2.542)	0.336	(0.108, 1.050)
Any BF 6 months	1.072	(0.592, 2.008)	0.438	(0.169, 1.135)
Any BF 12 months	1.092	(0.534, 2.235)	0.622	(0.253, 1.531)
Any Abuse				
EBF 3 months	0.992	(0.549, 1.795)	0.535	(0.226, 1.266)
EBF 6 months	1.505	(0.608, 3.725)	1.999	(0.640, 6.242)
Any BF 3 months	1.182	(0.604, 2.312)	0.360	(0.123, 1.057)
Any BF 6 months	1.136	(0.615, 2.098)	0.619	(0.253, 1.512)
Any BF 12 months	0.986	(0.491, 1.978)	0.664	(0.272, 1.619)

*= adjusted for all potential confounders i.e. race, depression, living with partner, education, age & pregnancy wanted

Chapter 4: Discussion, Conclusion & Recommendations

The goal of this research was to examine the association between childhood abuse (sexual, physical and emotional) and breastfeeding outcomes (initiation, exclusive breastfeeding at 3 months and 6 months and any breastfeeding at 3, 6 and 12 months). Based on the unadjusted analysis it appeared that childhood physical abuse and sexual abuse on their own negatively affect continued breastfeeding. However, adjustments for socio-demographic factors, depression and wanted pregnancy attenuated the effect.

The prevalence of abuse in this study are relatively consistent to that reported by Ansara et al.[34] 17.6% reported childhood sexual abuse in this study compared to 12.8% in Ansara and 18.5% for physical abuse compared to 21.1% in this study. The findings of this study are contrary to the results yielded by Prentice, Lu et al. [47] After adjusting for confounding they found that women who were sexually abused as children were more likely to initiate breastfeeding than those who weren't; however non-abused women were more likely to continue breastfeeding. A possible reason for this discrepancy is the small sample size and missing data in this study. The Prentice study was conducted on women living in the United States and this study was done on women in Canada so slight cultural differences may also have played a role. Canada has more support for parents: mothers can get up to 15 weeks of maternal benefits and parents can get 35 weeks of parental benefits (shared between them) to be with their new child.[69] These benefits help supplement their income and support them for the time they are at home and not working. Such measures are breastfeeding friendly because it helps eliminate the need for the mother to hurry back to work.

In Bowman's study of Mexican American adolescents she found no statistically significant association between childhood sexual abuse and breastfeeding. This study also found no statistically significant association between childhood sexual abuse and breastfeeding, nor

physical or emotional abuse and breastfeeding. Differences between her study and this one were the population (Mexican American adolescents versus Canadian adults) and the sample size (78 versus 257).

A strength of this study is its prospective nature; women were followed up for a year after birth reducing the possibility of recall bias for breastfeeding outcomes. However qualitative research to understand how this cohort of women made decisions about breastfeeding cessation would enhance the quantitative findings presented here and improve understanding of how women with a history of abuse manage breastfeeding. Such research could help delineate probable pathways between abuse and breastfeeding. Another strength of this study is that it examined the effects of childhood physical and emotional abuse on breastfeeding. This helps contribute to the gap in the literature about physical and emotional abuse.

One limitation of this analysis is the large amount of missing data and small sample size, in some cases as many as 147 observations were excluded from the model due to missing values, leaving as few as 110 women in the model. According to Cohen[70], for a study with 80% power, and an alpha level of 0.05 in order to detect a small effect size 785 women would have been needed. 87 would have been need for medium effect size and 26 for a large effect size. While this study had enough women to detect a medium effect, no effect was detected but the differences between those who continued breastfeeding and those who didn't at 3, 6 and 12 months (*Table 3*) indicate that being physically abused probably has some sort of association with breastfeeding that should be explored further with a larger sample of women. The differences were not as varied for emotional, sexual or any abuse; though sexual abuse did have relatively large differences at any breastfeeding at 3 and 6 months.

Another limitation is that this study is a secondary analysis of a study whose main goal was not to study the impact of child abuse on breastfeeding. Some women who were abused may not have been captured because this analysis used the question that got at their perception of abuse instead of using all five corresponding questions on the CTQ for the type of abuse in

question e.g. sexual or physical or emotional. Lastly, this study did not assess self-efficacy and that has been shown to be a major factor in breastfeeding.[19,23] This would be a good consideration for future research since based on the pathways displayed in *Figure 1* abuse appears to contribute to self-efficacy, learned helplessness and depression. If questions about self-efficacy were explicitly asked as part of research on childhood abuse and breastfeeding it may be possible to establish more direct pathways. I would also recommended more research on the topic of abuse leading women to feel objectified and objectification causing women to become depressed. Though some studies did make those associations they were far more studies available on the path of abuse to self-efficacy and self-efficacy to breastfeeding.

Though this study found no association between childhood trauma and breastfeeding, based on information yielded in the literature review I would certainly echo Klaus's[53] call for maternity care providers to learn about this issue and consider how they can help support survivors of child abuse, especially child sexual abuse. There is a framework and scale on breastfeeding self-efficacy[20] which was built off of Bandura's social learning theory.[23] Questions on the scale include, "I can always position my baby correctly at my breast, I can always stay motivated to breastfeed my baby and I can always safely store my breast milk in the freezer. The questions are divided into 3 factors: technique, support and interpersonal thoughts.[23] I would advocate that providers and others who interface with lactating mothers not only familiarize themselves with these tools but actually use them so that they can assess how much self-efficacy a mother has and provide the encouragement and direction necessary to sustain breastfeeding, whether that be through a lactation consultant, support groups with other mothers, guidance for her partner on how to assist or otherwise. Support groups would be especially useful if programs are being designed around the Theory of Planned Behavior[25] since subjective norms (i.e., what the woman thinks her network would think about a particular activity) factor into her decision making it would be wise to surround her with people who support this positive behavior. There should also be resources available to refer the mother for care and counseling if she needs it.

At the Mercy Hospital in New Zealand hospital women admitted for postpartum mental health issues are routinely screened for abuse.[71] While it is good that they ask at this point, it is important to assess early in the pregnancy, during prenatal care, if the expectant mother has experienced any kind of sexual abuse so that she can be counseled about her childhood abuse and counseled on breastfeeding and how she can work through her potential triggers to make breastfeeding possible. The first prenatal visit would be a good time but worst case scenario the question should definitely be asked by the time she's admitted for labor and delivery.

In her paper on how maternity caregivers can help lessen the impact of sexual abuse in childhood on breastfeeding and childbearing, Phyllis Klaus points out that childbirth can trigger previously latent memories of the abuse and that may continue during the post-partum period which could affect breastfeeding. She also mentions that some symptoms which may be present in someone who has been abused are pelvic pain and fear of medical and dental procedures. Women who have many medical complaints with "no organic cause" may have been victims and providers should be aware of this. Some ways to avoid triggers include changing the wording of recommendations, for example, from "feed (baby) on demand to feed often".[53] In addition if nurses and lactation consultants could encourage infant and mother led latch instead of manually attempting that process it might help women who were sexually abused to not put up a block against breastfeeding since women seem to feel strongly about being touched or being touched without permission.[51,53] For women who are uncomfortable with suckling, it should be suggested that they pump their breast milk instead of using formula.

Ways to boost self-efficacy, using the self-efficacy theory, would include supporting, affirming and encouraging the mother when she achieves tasks like getting the baby to latch. Such activities would go a long way in boosting her confidence because it commends her accomplishments.[23] Another way would be to have her hear from professionals that this is the right thing to do, that would work for verbal persuasion. Sharing vicarious experiences, i.e. the

stories of other women who were successful at breastfeeding and having peer role models would also be beneficial to her confidence.[23]

Another way that was cited as helpful to breastfeeding is if the hospital has breastfeeding friendly practices.[16] There has been a baby friendly hospital movement in the U.S based on the UNICEF/WHO baby friendly hospital initiative. "to encourage and recognize hospitals and birthing centers that offer an optimal level of care for infant feeding."[72] UNICEF/WHO has also listed '10 steps to successful breastfeeding' for birthing facilities. Step 1 is to" have a written policy that is routinely communicated to staff".[73] Kendall-Tackett also suggests that abused women have their own written policy about how they want to be treated when in hospital[53] She gives an example of a woman who wrote a policy that she shared with the staff attending to her which included items such as not to touching her without warning unless necessary, including her on all decisions and excluding men from her care team. This seems like a very good idea for other women to adapt to help make the experience of childbirth feel more safe and pleasant for them.

I would also recommend that individuals and organizations take advantage of the current national discussions about breastfeeding and use the action items suggested in the Surgeon General's 2011 Call to action on breastfeeding to generate support and discussion in their communities. Items include working toward establishing paid maternity leave for all employed mothers, ensuring access to international board certified lactation consultants, encouraging mothers to ask for help when they need it and establishing systems to control the distribution of infant formula in hospitals. Many of these are federal or organizational policy recommendations which can be addressed by writing letters to the local senator's office or the CEO of the local hospital. Such actions will be needed if the U.S. is to attain its Healthy People 2020 goal of 81.1% of infants ever breastfeeding and 25.5% of infants still breastfeeding exclusively through 6 months.[13]

While this study did not find an association between abuse and breastfeeding, an association cannot be ruled out and future research is needed on this issue. However, regardless of its role in breastfeeding, child abuse is a substantial health issue with noted long term effects on mental and emotional health. In addition it also makes them have long lasting issues with people touching them without permission, vaginal exams or the use of certain phrases that may trigger their memory of the abuse.[53] Of course not all women may feel this way but data from this study and others suggest that enough women face these effects for it to be a public health concern. Programs should be developed in schools to educate teachers and parents about the ramifications of abuse on children, and how to identify a child that might be potentially victimized. Safe ways and spaces need to be created for a child to tell a teacher if they are being victimized at home. Mental health support groups should also be developed by county or state level health officials or community organizations and advertised for women who have been abused as children to come forward and get help and support from others. Perhaps if women join these groups before they have children, their child birth and breastfeeding experiences may be more pleasant and they would be less likely to inadvertently cause harm to their children via poor parenting habits.

More research certainly needs to be done in the area of the relationship between childhood abuse and breastfeeding in order to make more concrete decisions on what the impact is, and how and if, we can mediate it; especially since the studies currently available vary very much in rigor and method of analysis and study design. Emphasis would also need to be placed on making sure studies include representative proportions of other ethnicities, maternal ages and languages.

A topic that would be interesting to explore is the breastfeeding behavior and choices that the woman makes with her subsequent children. For instance perhaps as she learns more about breastfeeding and abuse or maybe as she overcomes or heals from her childhood abuse she would be more open to sustaining breastfeeding. The participant in Beck's[49] study alluded to this issue.

During the birth of her first child, the memories of her abuse surfaced which caused her to dissociate from those around her. Her milk never came in and she had a hard time breastfeeding Between the birth of her first and second child she sought counseling for her childhood abuse and was able to successfully breastfeed her second child for 3 months. Unfortunately this is something this analysis was not able to explore. However, the Sachs-Ericsson et al[9] study of older adults in Florida showed that the ramifications of childhood abuse follow adults into their late adulthood as well and that women were still dealing with issues of self-efficacy then as well.

In conclusion this study, despite its limitations, offered some insight on an association that has not been explored much in the literature and provided potential pathways to build upon in the future as connections are explored between childhood trauma and breastfeeding.

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