



THE UNIVERSITY OF  
**WAIKATO**  
*Te Whare Wānanga o Waikato*

Research Commons

<http://researchcommons.waikato.ac.nz/>

## Research Commons at the University of Waikato

### Copyright Statement:

The digital copy of this thesis is protected by the Copyright Act 1994 (New Zealand).

The thesis may be consulted by you, provided you comply with the provisions of the Act and the following conditions of use:

- Any use you make of these documents or images must be for research or private study purposes only, and you may not make them available to any other person.
- Authors control the copyright of their thesis. You will recognise the author's right to be identified as the author of the thesis, and due acknowledgement will be made to the author where appropriate.
- You will obtain the author's permission before publishing any material from the thesis.

**Where there's smoke there's fire?  
Women's experiences of smoking and  
cessation during pregnancy**

A thesis submitted in fulfilment of the requirements for the degree

of

Master of Social Sciences

at



THE UNIVERSITY OF  
**WAIKATO**  
*Te Whare Wānanga o Waikato*

Amanda Drewer

2014

## **Dedication**

This is for my amazing husband Trevor and my three beautiful sons Joshua, Kalan and Saul. You were my inspiration to do this and the reasons that kept me going.

“There is no greater agony than bearing an untold story inside you.”

Maya Angelou

## Abstract

Women who smoke during pregnancy have been identified by the New Zealand Ministry of Health as a priority group for cessation services. In addition to adverse pregnancy outcomes, the effects of cigarette exposure in utero are believed to have health implications throughout life for the developing foetus. The aim of this study was to investigate the factors that affect smoking and cessation during pregnancy. Fifteen women who had quit, tried to quit, or continued to smoke through a recent pregnancy were interviewed using face-to-face semi-structured interviews. During analysis, several key findings became apparent. Smoking played a central role in the women's lives both in and out of pregnancy. Women were fearful and concerned about the possible effects on their growing babies. Their concerns contributed to their feelings of guilt and other negative emotions, as did frustrations over not being able to quit, adverse pregnancy outcomes and their perceived failure to meet with social expectations. However, they also doubted their concerns as most had seen, or had had their own experiences of healthy babies being born to mothers who smoked. Nonetheless, their worries led to a range of behavioural changes including spontaneously quitting, adjusting their smoking, hiding their pregnancy to continue smoking, or hiding their smoking. Changing their smoking behaviours enabled women to avoid being judged which was raised in most interviews. In addition, the importance of the context in which women lived and socialised was highlighted, as were the women's midwives. Healthcare professionals were often spoken about in relation to the mismatch between what women wanted regarding cessation and what they were supplied. A key finding was the range of smoking statuses women presented with. This contrasts with much of the other literature that usually defines women as smokers or quitters. The use of the label 'smoker' in society is a generalised term that obscures differences that are important for healthcare practitioners to recognise. As a result of this study, a tool that assesses a woman's awareness of the risks from smoking in pregnancy and openness to talking about smoking cessation has been developed. The aim is to give maternity care providers a way to broach this sensitive subject in a way that is appropriate for their client.

## Acknowledgements

Firstly I would like to acknowledge and sincerely thank the 15 women who came forward and participated in this study. Their courage was deeply appreciated, especially given the sensitive nature of the subject and the awareness they had of public perception of pregnant women who smoke. Allowing me into their worlds and to use their words not only gave me insight, but a deep admiration and I hope to have told their stories justly and accurately.

I would also like to thank Dr. Carrie Barber for her continuous and consistent encouragement and calming support that not only guided and supported me, but taught and nurtured me. My gratitude also goes to Dr. Armon Tamatea for providing an incredibly reassuring and ever present open door, guidance and a place to talk. Whilst undertaking this study I was given the space to grow and be self-directed whilst concurrently kept on track. I can't imagine having done this with anyone else.

To my family, all I can say is thank you, yet this seems so inadequate. You have allowed me the time, space and freedom to put my heart, soul and mind in to this project. Your unwavering support and faith is boundless and humbling.

Thank you to my Dad who gave me sound advice and support throughout. In particular his advice in the early days about keeping things simple has served me well and kept me focused.

Also, thank you to the friends who have walked this journey alongside me. Constant encouragement, support, advice and being able to express myself has been fantastic. Being able to draw on others experience has been incredible. I'd especially like to thank Kathrine Roberts for proof reading my chapters for me when I entered those later stages of writing and being a constant source of support.

Lastly, I would like to thank the University of Waikato for the Masters Research Scholarship and the University of Waikato for the opportunity to do this.

## Table of Contents

|   |           |
|---|-----------|
| <b>Chapter 1: Introduction.....</b>               | <b>1</b>  |
| Background for this Research.....                 | 2         |
| Thesis Overview.....                              | 2         |
| <br>  |           |
| <b>Chapter 2: Literature Review.....</b>          | <b>4</b>  |
| A Brief History of Women and Smoking.....         | 4         |
| Prevalence of Smoking in New Zealand.....         | 7         |
| Women who continue to smoke during pregnancy..... | 8         |
| Contributory factors.....                         | 9         |
| Possible Risks to the Foetus.....                 | 10        |
| Women’s awareness of the risks.....               | 11        |
| Denial and Under-reporting.....                   | 13        |
| Social Support.....                               | 15        |
| Psychological Factors.....                        | 20        |
| Perception of the foetus as real.....             | 20        |
| Coping with stress.....                           | 20        |
| Attention to smoking related cues.....            | 21        |
| Mental wellbeing.....                             | 22        |
| Behavioural changes.....                          | 24        |
| Service Provision.....                            | 25        |
| Barriers to implementation.....                   | 25        |
| Smoking cessation services for pregnancy.....     | 30        |
| Nicotine replacement therapy.....                 | 33        |
| Summary.....                                      | 34        |
| Aims of the Study.....                            | 35        |
| <br>  |           |
| <b>Chapter Three: Methods.....</b>                | <b>36</b> |
| Recruitment.....                                  | 36        |
| Participants.....                                 | 37        |
| Procedure.....                                    | 39        |
| Informed consent.....                             | 39        |
| Interviews.....                                   | 40        |

|   |           |
|---|-----------|
| Apparatus.....                                    | 42        |
| Recording the interviews.....                     | 43        |
| Transcription.....                                | 43        |
| Qualitative Analysis.....                         | 43        |
| Ethical Considerations.....                       | 44        |
| Cultural consultation.....                        | 45        |
| Preventing harm.....                              | 45        |
| Incentive.....                                    | 46        |
| <b>Chapter Four: Results.....</b>                 | <b>47</b> |
| A Range of Smoking in Pregnancy.....              | 48        |
| THEME ONE: Making Adjustments to Smoking:         |           |
| Variations of a Theme.....                        | 49        |
| Summary.....                                      | 54        |
| THEME TWO: Negative Emotions: Guilt and           |           |
| Uncertainty.....                                  | 54        |
| Summary.....                                      | 57        |
| THEME THREE: Family and Friends: The Importance   |           |
| of those around them.....                         | 58        |
| Summary.....                                      | 61        |
| THEME FOUR: Mixed Experiences of Antenatal        |           |
| Care.....   | 62        |
| Summary.....                                      | 65        |
| THEME FIVE: Judging and Being Judged.....         | 65        |
| Summary.....                                      | 69        |
| <b>Chapter Five: Discussion.....</b>              | <b>70</b> |
| The Dangers of Dichotomy.....                     | 70        |
| Guilt and other Negative Emotional Responses..... | 75        |
| Smoking and Quitting: Perception and Reality..... | 77        |
| Self Efficacy: The Relationship between Effort to |           |
| Quit and Emotion.....                             | 80        |
| Strengths of the study.....                       | 82        |
| Limitations.....                                  | 84        |

|   |    |
|---|----|
| Implications: Bridging the Gap with a New Tool..... | 86 |
| Conclusion.....                                     | 87 |

**References.....90**

|  |     |
|--|-----|
| Appendix A: Recruitment poster.....                  | 104 |
| Appendix B: Participant information sheet.....       | 105 |
| Appendix C: Informed consent forms.....              | 106 |
| Appendix D: Interview questions (current tense)..... | 107 |
| Appendix E: Interview questions (past tense).....    | 109 |
| Appendix F: Quit smoking information.....            | 111 |
| Appendix G: Follow-up letter for participants.....   | 112 |
| Appendix H: Cessation tool.....                      | 114 |

## List of Figures and Tables

### Figures

|   |    |
|---|----|
| Figure 1: Schematic illustration of the different social influences on pregnant women’s smoking cessation attempts. ....  | 19 |
| Figure 2: Range of smoking statuses depicted by the women’s desire and action taken to quitting, cross referenced to usual categorisation and the stages of change model..... | 48 |

### Tables

|  |    |
|--|----|
| Table 1: Breakdown of participant recruitment.....                               | 36 |
| Table 2: Participants demographic information.....                               | 38 |
| Table 3: Participant’s ethnicity, pregnancy and status of smoking behaviour..... | 38 |

## Chapter One: Introduction

In the 1930s, medical professionals began to notice that an increasing number of patients diagnosed with lung cancer smoked. Since then, researchers have continued to identify a growing range of smoking-related health problems (Thomson & Wilson, 1997). Today, tobacco smoking is acknowledged to be detrimental to a person's health, harming multiple organs and systems within the body (Rogers, 2009). One of the populations at greatest risk of the detrimental effects of smoking are women who smoke during pregnancy. Smoking can affect not only the mother's health but that of her unborn foetus. This can happen indirectly as a consequence of the mother's sub-optimal health and directly due to foetal exposure to toxins (Rogers, 2009).

People who smoke are typically aware of the risks to their health from cigarettes (Arborelius & Nyberg, 1997). Therefore, it might be expected that women would stop smoking once they find out they are pregnant, an expectation reinforced by media and healthcare professionals (Bull, Burke, Walsh, & Whitehead, 2007). However, smoking is habitual, addictive, and difficult to stop, and as a result, not all women do. Instead, women may continue to smoke as they had done previously, or alter their smoking by trying to quit or by cutting down (Ebert & Fahy, 2007). Consequently, the New Zealand Ministry of Health (MOH) has identified pregnant women as one of three groups with priority entry to cessation services (Allen et al., 2012).

Understanding the reasons why some women continue to smoke and others stop, or try to stop, has prompted a new area of research (Schneider, Huy, Schutz, & Diehl, 2010). The importance of understanding why women smoke will enable the development of appropriate interventions and support. If successful, these will ultimately reduce adverse pregnancy outcomes and lifelong health complications (Lumley et al., 2009).

## **Background for this Research**

My interest in this topic began after conversations with two pregnant women who had both stopped drinking alcohol. The women spoke with pride about their abstinence. They were confident that they had protected the health of their babies as they had not risked even a glass of wine during their pregnancies. However, one difference between the two women was that one smoked, and despite stopping alcohol, she had continued to smoke. When talking about smoking, this woman spoke guardedly and hesitantly. I found the contrast of this woman's reactions to the two substances intriguing. These encounters provided me with the foundation to explore smoking during pregnancy further. After reading some literature related to this topic, this developed as a focus in to trying to better understand smoking during pregnancy.

## **Thesis Overview**

In this thesis, the design, recruitment process and results of interviews with 15 women about their experiences of smoking, quitting, or trying to quit smoking in pregnancy are described.

In Chapter Two national and international literature related to smoking and pregnancy is reviewed. Firstly, an historical account of women and smoking is given. Prevalence of smoking in New Zealand generally and during the antenatal period is then discussed. Following is an overview of the risks to the foetus and women's understanding of these. The literature is then used to explore: under-reporting and denial, the importance of social context, psychological factors, and service provision, including barriers to provision.

In Chapter Three the methodology and procedures used in this study are described. Recruitment methods and the demographic details of the participants are presented first. Following is a description of how the interview progressed including details of the apparatus used, informed

consent, recording and transcribing. The reasons for using a qualitative approach are explained. Finally, ethical issues are considered.

Results from the analysis of the interviews are presented in Chapter Four. The first part of this chapter provides a table with the range of smoking statuses that the women reported at the time of their pregnancy. This chapter is then broken down into the five main themes that emerged from the interviews. These are: (1) Making Adjustments to Smoking: Variations of a Theme; (2) Negative Emotions: Guilt and Uncertainty; (3) Family and Friends: The Importance of those around them; (4) Mixed Experiences of Antenatal Care; (5) Judging and Being Judged.

In Chapter Five, the findings of this study are discussed in relation to the literature reviewed in Chapter Two. Similarities and differences between the two are identified and explored. This chapter first presents: *The Dangers of Dichotomy*. This section discusses the use of the terms 'smoker' and 'quitter' and how these relate to women who are pregnant. Next, *Guilt and other Negative Emotional Responses* are considered, in particular their affects on the women and the longevity of these emotions. Following on is *Smoking and Quitting: Perceptions and Reality*. This section explores the real and perceived expectations women, and others, have of them and how these influence smoking and cessation. The fourth part is entitled: *Self-Efficacy: The Relationship between Effort to Quit and Emotion*. This discusses the belief women have in themselves and what factors appear to influence this. In the final section of this chapter, the strengths are considered, limitations of this study are highlighted, implications are discussed and conclusions are reached.

## Chapter Two: Literature Review

Understanding pregnant women's experiences of smoking is essential in order to provide adequate resources, services and support. Until recently, pregnant women who smoke have been treated within the same cessation services as other people, and have been provided with the same literature under a one size fits all approach (Abrahamsson, Springett, Karlsson, & Ottosson, 2005). It is only within the last few years that there has been an increased awareness that pregnant women's cessation needs are different (Allen et al., 2012). This review will cover the following areas:

- A brief history of women and smoking to outline how attitudes have changed towards women who smoke since the 17<sup>th</sup> Century.
- The prevalence of smoking in New Zealand and overseas, and statistics regarding smoking during pregnancy.
- The risks to the foetus from smoke exposure will be detailed along with how women perceive these risks and what they do to manage them.
- Women's comfort and openness of discussing their smoking and why women under-report or deny it.
- The role of social context, in particular, consideration of support from a woman's partner, family and friends and the impact of this.
- Psychological factors such as perception of the foetus as real, coping with stress, attention to smoking related cues, mental wellbeing and behavioural changes.
- Service provision including current services, problems in service provision and what helps women quit.

### A Brief History of Women and Smoking

Smoking tobacco in its various forms has been a socially acceptable pastime for men for hundreds of years. In contrast, in much of that history, women who smoked were viewed as morally loose or fallen. In the 17<sup>th</sup>

century, Dutch artists painted women with cigarettes to represent them as reckless or foolish. In the 19<sup>th</sup> century, smoking denoted prostitution, and in the Victorian period cigarettes became a prop in erotic images. However, at the end of the 19<sup>th</sup> century, along with cigarettes going into mass production, society's attitudes towards women and smoking slowly began to change (Amos & Haglund, 2000). These changes were influenced by dramatic and rapid social adjustments.

During World War I, women in America and Europe were being recruited into traditional male roles. In these roles women were able to adopt more masculine behaviours and past times. For instance, women in the army began to cut their hair, play sports, wear trousers and adopted what were usually considered male behaviours, such as smoking. During World War II, women in New Zealand were responsible for roles men would have previously undertaken. In addition they were responsible for trying to maintain normality and cope with the absence of loved ones. Smoking became viewed as a right and helped to alleviate the burgeoning pressure and stress they were under (Johnston, 2009).

The growing number of working women resulted in positive economic changes internationally, and provided women with disposable income which became a sizeable contribution to the economy. With cigarettes considered a luxury item, women were able to express themselves through their economic autonomy (Johnston, 2009). Internationally, the accepted boundaries of men's and women's roles had shifted, and traditional ideals of what was feminine and appropriate were challenged. Cigarettes became a symbol of freedom and independence and within 50 years of mass production starting, smoking was becoming socially acceptable for women (Amos & Haglund, 2000).

Over this time, the increasing number of female consumers caught the attention of the American Tobacco Company. Spotting a new market, they began targeting women in the mid 1920s. Women were viewed as "a new gold mine right in our front yard" (National Centre on Addiction and Substance Abuse (NCASA), 2006, p. 21). Advertising campaigns focused on cigarettes as a means to lose weight, using slogans such as "You can't

hide fat clumsy ankles. When tempted to over-indulge, reach for a Lucky instead” (NCASA, 2006, p. 21). Targeted marketing campaigns saw a rapid increase in the number of women smoking and simultaneously helped tobacco companies to reduce the stigma attached to women smoking (NCASA, 2006). By reducing the amount of criticism women received, the tobacco industry were able to expand their market and profit (Amos & Haglund, 2000). Marketing campaigns became increasingly sophisticated, responding to shifts in society. During the 1960s, tobacco companies harnessed the power of the feminist movement and enticed potential female consumers by suggesting smoking represented equality and social liberation (NCASA, 2006). By 1962, smoking had permeated the fabric of everyday New Zealand life (Johnston, 2009).

Amos and Haglund (2000) discussed how marketing messages have dictated the cultural meaning of smoking. Messages have reflected women being *bought* by men (prostitute), to being *like* men (lesbian/mannish), to being able to *attract* men (glamorous/heterosexual). As times changed, cigarettes symbolised how women are *equal* to men (feminism) and that smoking enabled females to be their *own woman* (emancipation). In a recent American study, 826 females aged between 18 and 19 years provided feedback on various cigarette packet designs (Hammond, Doxey, Daniel, & Bansal-Travers, 2011). The authors reported that female-branded packets were the most appealing and were seen to represent glamour, slimness, and attractiveness by the participants. The women surveyed also viewed these brands as less harmful. This is an interesting finding and one that highlights how influential advertising and media continue to be despite the commonly acknowledged potential health risks from smoking.

Overall, society’s values have come full circle. Women who smoked were once chastised and ridiculed and this changed as smoking gradually became a socially acceptable pastime. Today, the public increasingly support interventions to help people stop and none more so than for the protection of children (Gendall, Hoek, Maubach, & Edwards, 2013). Gendall and colleagues reported that from an online survey of 414 people

who smoked and 414 who didn't, protecting children was considered to be the area of most importance when considering the effects of smoking by both groups. These views are reflected in society's expectation that pregnant women should spontaneously stop smoking on their own, without advice or intervention, when they find out they are pregnant (Schneider et al., 2010).

To reduce the number of people smoking and the associated health problems, controls on tobacco advertising began to be implemented in the 1940s (Thomson & Wilson, 1997). Recently, other limitations such as restricting store displays and increased taxes have been introduced (Gendall et al., 2013). In addition, New Zealand, like many other countries, is considering introducing plain cigarette packets. On February 11<sup>th</sup> 2014 the Smokefree Environments (Tobacco Plain Packaging) Amendment Bill passed its first reading with 118 votes to one (Plain Packs New Zealand, 2014). Plain packets help to limit the contradictory messages people receive by eliminating one of the only ways tobacco companies are able to promote their products. Surveys of people's responses to plain packaging have shown it to be significantly less desirable, especially for younger people (Hammond et al., 2011; Plain Packs New Zealand, 2014). This is especially relevant when it is understood that young people are most likely to smoke and continue to respond to pack designs (Hammond et al., 2011). In New Zealand, those most likely to smoke are women aged 18 to 24 years, and men aged 25 to 34 years old (MOH, 2012).

### **Prevalence of Smoking in New Zealand**

In 2007, the MOH's report on *The Health of New Zealand Adults* found 20% of adults reported that they smoked. When replicated a few years later, 18% of adults reported smoking, with 17% smoking daily (MOH, 2012). Whilst the overall number of people smoking was declining, the number of people who smoked daily remained the same. The only exceptions were women who were categorised as Asian where there was a slight drop. Of all people in New Zealand, Asian women are the least likely to smoke. The

report acknowledged that rates of smoking between ethnic populations varied considerably. Māori men are twice as likely to smoke as European/other men, and Māori women are nearly three times as likely to smoke. Overall, in 2012, 41% of Māori confirmed that they smoked compared to 26% of Pasifika adults, and 17% of European/others.

Since 1976 questions about smoking have also intermittently been included in the New Zealand census (Statistics New Zealand, 2013). The latest census confirms a continuing downward trend in smoking with 463,000 adults confirming they smoked in 2013, compared to 598,000 in the 2009 census. The figure from 2013 equates to approximately 15% of the adult population and suggests a decrease of 23% in the number of adults who smoked between 2009 to 2013. By 2025, the MOH is aiming to have reduced the number of adults who smoke to 5% or less (Gendall et al., 2013).

### **Women who continue to smoke during pregnancy**

Neither the census, nor the MOH report captured information on smoking prevalence during pregnancy. Studies conducted in New Zealand have provided approximate information regarding these rates. One study of Canterbury women conducted from 1993 to 1994 found that 30% of European/other women who smoked at time of conception continued to smoke during pregnancy, whereas 60% of Māori women continued to do so (Ford, Tappin, Schluter, & Wild, 1997). A national New Zealand review of midwifery records between 2004 and 2007, estimated that 15% of European/other women, 16% of Pasifika and 45% of pregnant Māori women who smoked prior to pregnancy, continued to smoke during pregnancy (Dixon, Aimer, Fletcher, Guilliland, & Hendry, 2009). This appears to follow the downward trend found in the general population.

Although there is uncertainty in confirming prevalence, it does appear that Māori women have higher rates of smoking during pregnancy compared to other ethnic groups (Dixon et al., 2009). This pattern has also been recognized in other indigenous populations around the world (Gilchrist et al., 2007). In Australia, approximately 50-67% of indigenous

women continued to smoke during pregnancy, three times the rate of non-indigenous women (Pasey, D'Este, & Swanson-Fisher, 2012). Research in South Africa found 46% of women of 'mixed ancestral descent' continued smoking during pregnancy, compared to less than 10% of European, Indian or African women (Petersen, Steyn, Everett-Murphy, & Emmelin, 2010). As a result, the MOH have identified Māori, alongside pregnant women, as a group with priority entry to services (Allen et al., 2012).

### **Contributory factors**

When considering prevalence, it is also important to look at socio-economic factors. People who smoke often come from lower income families and live in deprived areas (Petersen et al., 2010; Rogers, 2009). The higher the level of deprivation people experience, the greater the chances are that a person will continue to smoke (Shipton et al., 2009). In 2008 in Scotland, of all pregnant women, it was estimated that 24% smoked. Of these women who smoked, 38% lived in highly deprived areas and 8% in the least deprived areas (Shipton et al., 2009). In New Zealand in 2010, 16% of pregnant women were recorded by midwives as smoking. This information was gathered by self-report at time of registration (no guidelines for what constituted 'a smoker' were detailed in the report). As found in Scotland, the higher the level of deprivation, the more likely women were to smoke. Twenty six percent of pregnant women who smoked lived in the lowest socioeconomic areas and 5% in the least deprived areas (Ministry of Health, 2010). Low levels of education, high unemployment, being young, not being married, living with or associating with people who smoke and alcohol consumption have all been found to be associated with smoking (Martin et al., 2008; Mohsin et al., 2007; Diclemente, Dolan-Mullen, & Windsor, 2000).

Within the New Zealand population, there are large gaps between socio-economic groups. In particular, Māori are over-represented in lower income and poverty brackets, and Māori women are one of the most socially deprived groups nationwide (Glover & Kira, 2011). Government initiatives such as *Closing the Gap* (2008) have been implemented in order to reduce disparity in education, health, income and employment.

Yet Māori continue to have much higher rates of smoking than other ethnic groups. Ebert and Fahy (2007) discuss how important it is to realise and consider these factors when working with women who smoke. Without doing so, the success of any intervention will be impeded, and the overall objective of reducing pregnancy complications will be restricted.

### **Possible Risks to the Foetus**

The risks to the foetus associated with smoking during pregnancy are well documented in the literature and include stillbirth, miscarriage, low birth weight, pregnancy complications, birth defects and premature birth (British Medical Association (BMA), 2004; Dixon et al., 2009; Pollack et al., 2007). An American study of 368,000 births looking at antenatal smoking and the risk of intrapartum death (during labour) found that women who smoked had a 50% increased risk of their baby dying. Women smoking more than 10 cigarettes a day were at the highest risk. The increased risk of antepartum death (before birth) was found to be between 30-40% (Aliyu, Salihu, Wilson & Kirby, 2007).

Pollack (2001) estimates that 24% of cases of sudden infant death syndrome (SIDS), which can occur between one to 12 months postpartum, are caused by smoking during pregnancy. Similarly, the BMA (2004) state that smoking trebles the risk of SIDS in babies, and this risk is correlated with the number of cigarettes smoked whilst pregnant. Other conditions children are at an increased risk of developing are otitis media (glue ear) (Lieu & Feinstein, 2002), respiratory infections and asthma (Jaakkola & Gissler, 2004), obesity (von Kries, Toschke, Koletzko, & Slikker Jr, 2002), childhood cancer (Antonopoulos et al., 2011; Stavrou, Baker, & Bishop, 2009) and behavioural difficulties (West, 2002). In addition, antenatal exposure to smoke and the effects of poor foetal growth can have enduring lifelong impacts. Smoking has been connected to an increased risk of diabetes (Montgomery & Ekblom, 2002), respiratory diseases (Wood, France, Hunt, Eades, & Slack-Smith, 2008), high blood pressure (Dixon et al., 2009), coronary heart disease, obesity, cancer (Lumley et al,

2009), and chronic obstructive pulmonary disease (Narang & Bush, 2012). The range, effect and severity of these potential outcomes are the driving force behind the focus on this topic and the interventions that have been established, or are in development.

### **Women's awareness of the risks**

Studies have shown that although women state that they are aware of the possible harm to their baby, they are unaware of the diverse range of health risks or the severity of those risks during a baby's development (Petersen, Steyn, Lombard, Everett, & Emmelin, 2009; Allen et al., 2012). A study conducted with indigenous Australian women who smoked throughout pregnancy found that their understanding of the health effects was limited. Although some of the effects of smoking while pregnant were regularly spoken about, such as asthma and low birth weight, the long-term implications were not raised (Wood et al., 2008). Women have perceived having a small baby as advantageous as easier to labour (Hotham, Gilbert, & Atkinson, 2005). When discussing health risks, Wood et al. found that women experienced a lack of personal relevance to their own experiences because they had not seen the negative effects. Not having this kind of experience meant the potential effects were intangible, were not considered or were ignored. The authors also discuss 'dissociation', where negative health outcomes were not thought of as connected to smoking, and 'denial', where adverse health outcomes from smoking were denied. Finally, Wood and colleagues found that women were unable to associate an unwell baby with the effects of smoking when the mother had felt healthy throughout the pregnancy. They suggest that this indicated a limited understanding of causality

These examples are reflective of a pattern found in other studies (West, 2002; Mohsin et al., 2007; Bull et al., 2007). Women have reported that risks discussed in anti-smoking literature or by their midwives are exaggerated or unrealistic (Flemming, Graham, Heirs, Fox, & Sowden, 2012). Personal experiences of having a healthy baby or seeing friends have a healthy baby despite smoking are considered evidence of this (Nichter et al., 2007; Abrahamsson et al., 2005). One woman's example is

reflective of many others cited in qualitative studies; that she had no plans to quit because out of her four children, the only one who had asthma was the one pregnancy she managed to stop in (Nichter et al., 2007). In a New Zealand study, one woman stated she “needed to see ill-effects of smoking on babies to believe it” (Glover & Kira, 2012, p. 67).

As discussed by Tversky and Kahneman (1974), biases of judgement are common. The availability heuristic serves to assess the likelihood of an event occurring, such as a health complication. This appeared to be present in reviewed studies when women reported to recall more healthy pregnancy outcomes for mothers who smoke, than unhealthy outcomes (West, 2002; Mohsin et al., 2007; Bull et al., 2007). The subjective probability is also affected by how recent an event was. Recent events will be recalled more easily compared to older events and will also be seen as more numerous. Risk can also be assessed when there is no memory recall to rely on. This is a form of judgement which is used daily to assess situations and information, and to make decisions. This bias is known as imaginability. Estimating risk based on imagination can be flawed because of a lack of knowledge or low awareness of a topic (Tversky & Kahneman, 1974). In addition, the use of imaginability is very much influenced by prior knowledge, experiences, values and personal desires.

Women experience guilt and other negative emotional reactions about concerns for the baby, their own perceived egocentrism and their inability to meet with society’s expectations that they will stop (Abrahamsson et al., 2005). This can limit a woman’s desire and ability to quit and is affected by many extraneous variables such as kind of information used, how it is presented, social support, access to resources and previous experiences (Arborelius & Nyberg, 1997). Paying attention to contradictory ‘evidence’ may serve to protect the woman’s wellbeing by reducing how much guilt is felt (Abrahamsson et al., 2005).

Paradoxically, the focus on children’s health has seen smoking during pregnancy become taboo in many communities (Bull et al., 2007). Women report they are under pressure to refrain from smoking to be socially accepted (Elvey, 2003). Qualitative studies have heard from women who

have been reproached for smoking by strangers and loved ones. Women have reported feeling 'bad' or 'wrong'. Some 'rebel' and continue to smoke. Others increase their intake, some are influenced to stop, but many conceal their smoking behaviour (Flemming et al., 2012).

### **Denial and Under-reporting**

Stigma and guilt have resulted in pregnant women under-reporting or denying their smoking for fear of judgement (Bull et al., 2007). This is concerning as cessation services and advice are offered and provided to women based on their self-report that they smoke. Therefore, reliance on self-report in antenatal settings means many women are likely to go undetected (Shipton et al., 2009). Under-reporting also makes it harder for researchers and statisticians to estimate prevalence and understand the barriers and needs for services (Shipton et al., 2009; Ebert & Fahy, 2007; Ford et al., 1997).

Flemming and colleagues (2012) describe how women experience a tension between two conflicting identities: that of being a smoker and an expectant mother. Pregnancy is a time that many women report feeling as though they are public property and are no longer a person in their own right, a time when it is acceptable for strangers to have an opinion on their actions (Elvey, 2003). For instance, one respondent to a small study expressed the view that: "The word is out on vitamins, smoking and drinking - and if you're not doing what people think you should be doing, well, then you're not being a good mother" (Van Der Meer, 2001, p. 120).

One way of identifying self-report discrepancies is through biochemical testing, and a number of studies have demonstrated the inconsistencies between what has been reported by women and what has been biochemically detected (Panjari et al., 1997; Boyd, Windsor, Perkins, & Lowe, 1998; Owen & McNeill, 2001). From a group of women recruited to look at the validity of self-report, 839 out of 3,475 admitted smoking. However, 1,046 were found to smoke based on blood tests that measured

nicotine's metabolite, cotinine (Shipton et al., 2009). Shipton et al. estimate that based on these kinds of figures, approximately 17% of women in Scotland who smoke in pregnancy go undetected and are not offered cessation services. In this study, the authors also found that women in more affluent areas were more likely to hide their smoking than women in deprived areas. However, given the much higher rate of smoking in deprived areas, there were still three times as many women undetected.

A New Zealand study in 1997 collected participant's blood samples during the first and third trimesters. Of the 4,857 women recruited, 930 women responded on an anonymous questionnaire as smoking in the first trimester. However, after testing for cotinine, 1,570 were actually found to smoke (after a cut-off for passive smoking was included). The questionnaire resulted in 19% and 15% of women confirming they smoked in the first and third trimesters respectively, but blood tests showed rates of 31% and 27% over that time.

In addition, approximately half the mothers who responded to the questionnaire and confirmed they smoked during the first and third trimesters under reported how much they had smoked (Ford et al., 1997). Based on cotinine levels in the blood, women who self-reported smoking 10 to 14 cigarettes a day had the highest levels of under-reporting, and women who reported smoking 15 or more, were more accurate in their reports. Analysis of blood cotinine for women who did not respond to the questionnaire found that 40% appeared to smoke heavily compared to 16% of women who did respond. Furthermore, the numbers of women who self-reported as smoking on the questionnaire (19%) were almost the same as the self-report responses women gave at the time of booking to their obstetric service (18%), which was unrelated to the research but available to the researchers. The authors of this study speculate that the closeness of the results for obstetric booking and questionnaire self-report implies that women are experiencing self-deception rather than deliberately attempting to deceive medical staff (Ford et al., 1997). Women may be so alert to the stigma attached to this subject they were reluctant

to admit their smoking even anonymously. As discussed, denying smoking may reduce a woman's level of guilt and help to promote a sense of wellbeing (Abrahamsson et al., 2005).

An alternative way to try to understand under-reporting from the women's perspective is to read internet chat forums (Sofeminine, 2012; Baby-gaga, 2006; Ehealthforum, 2009). Some forums are open to the public, and provide revealing, emotional and genuine reactions to smoking. The levels of guilt, shame, worry and frustration expressed by expectant mothers were often raw. Women who smoked at times appeared to be confused about the information they had been given, and frustrated at not quitting. Yet replies to their posts were often offensive, rude and cruel. Some less extreme examples include "Anyone who is ignorant enough to smoke during pregnancy SHOULD NOT BE A MOTHER!" "When the baby came out, she needed a new heart. The doctor said it was 100% because she smoked" (Baby-gaga, 2006). These kinds of responses may only serve to reinforce women's perceptions of themselves as doing wrong and being unaccepted by society.

## **Social Support**

Social support is recognised as an important factor in areas of health and wellbeing such as coping with stress, illness development, recovery, and mortality (May & West, 2000; Johnson, Backlund, Sorlie, & Loveless, 2000). According to Cohen and Willis (1985), social support can be divided into structural or functional. Structural social support refers to basic social networks such as marital status and friendships. In contrast, functional support focuses on how well people within those relationships function. Furthermore, the type of support can be positive or negative (Pollack, Baucom, Peterson, Stanton, & McBride, 2006).

Positive support with regards to quitting smoking includes encouragement, cessation facilitation and compliments. It is often viewed as a predictor for continued cessation within general and pregnant

populations (Pollack et al., 2006; May & West, 2000). Women who have low levels of positive support when trying to quit are less compliant with interventions and have lower rates of cessation (Lumley et al., 2009). Conversely, negative support includes nagging about quitting whilst not actively removing temptation, or policing a woman's efforts. This form of 'support' is associated with an increased risk of relapse (Pollack et al., 2006).

Although many women report having support from their family, friends, or partner, they also advise that their support people often smoke themselves (Glover & Kira, 2011; Tong, England, Dietz, & Asare, 2008). Women reported quitting was harder when their support people continued to smoke, but significantly harder when their partner continued and many would prefer their partner would stop with them (Glover & Kira, 2011; Ebert & Fahy, 2007). However, men are not always aware of the impact of their smoking on a woman's attempts to quit (Flemming et al., 2012). For instance, if a woman relapses, men have been shown to view this as permission for them to smoke, which directly undermines the woman's attempts to continue trying to abstain (Pollack et al., 2006). First time fathers have been found to be more receptive to cessation information for their own smoking during the early stages of pregnancy than they are later on (Gage, Everett, & Bullock, 2011). Intention to quit reduces as the pregnancy endures, as well as during subsequent pregnancies. Men's behaviours become focused on reducing the risk of harm to the foetus, rather than cessation and eliminating the risk, for example, by going outside to smoke (Gage et al., 2011).

Having a non-smoking partner or household is contributory to successfully refraining from smoking and maintaining abstinence (Diclemente et al., 2000; May & West, 2000). This influence can be explained using Bandura's social cognitive theory (Pollack et al., 2006). According to this, behaviour is influenced by individual and environmental factors. If a partner's support (environmental) influences a woman's cessation attempts (individual), her cessation attempts in turn affects the partner's level and provision of support. Pollack and colleagues identify

several pathways in which this can manifest, such as increasing a woman's motivation and improving her confidence. If a woman responds positively to her partner's support, he is more likely to maintain or increase his effort. This in turn provides increased support for her abstinence.

Despite the awareness of how important a partner's involvement is, few empirically based interventions are targeted at, or have included, the partners of pregnant women (Hemsing, Greaves, O'Leary, Chan, & Okoli, 2012). Hemsing and colleagues examined nine studies that included partners as a support person or as part of an intervention. Four of these studies investigated whether enhancing a partner's support helped women to quit. Three of the studies found no effect from the intervention on women's quit rates or attempts when comparing treatment and control groups. The fourth study, however, did report significant reductions in women's smoking when compared to a control group. The intervention aimed at both the mother and father included a video, a booklet each and two brief counselling sessions. The control group received 'care as usual'. Quit attempts were reported to be 38% for women in the intervention group and 23% for the control group, though it was reported there was no significant change in the partner's smoking when comparing the groups.

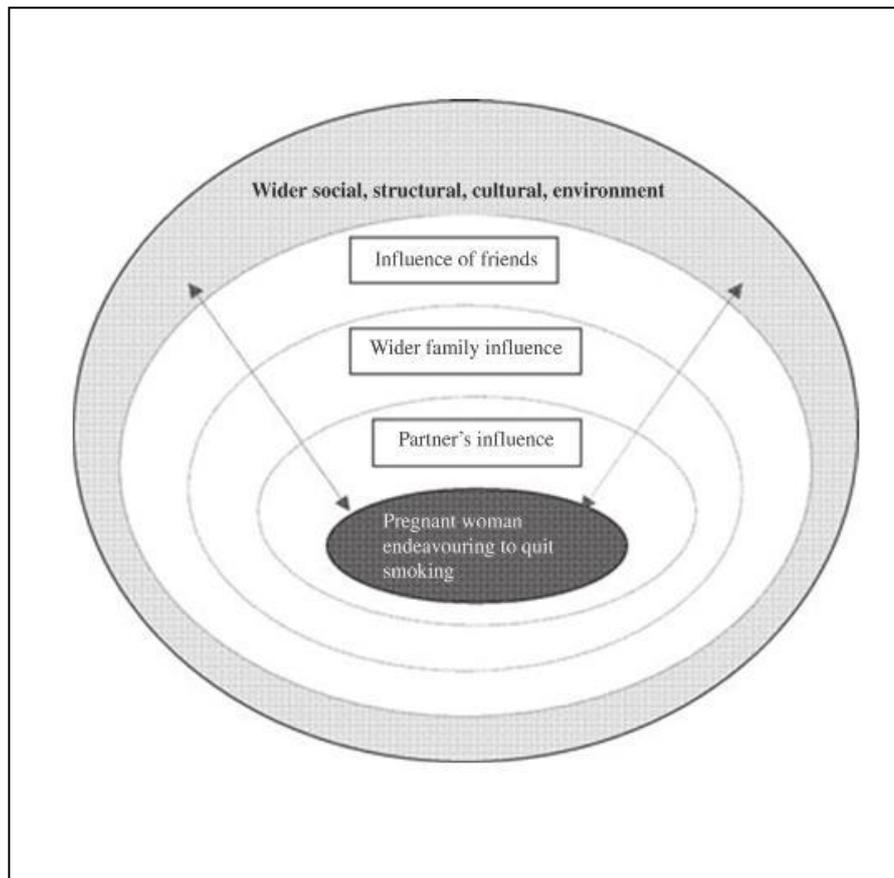
The complexity of social support is illustrated by Hemsing and colleagues (2012) study as 76% of women gave their partner the booklet, but only 48% of partners read it. Hemsing and colleagues also discuss how few interventions are truly effective and how many variables impact on the success rates. Low socioeconomic status, ethnicity and domestic violence, for instance, heavily influence a partner's attempts, support and a woman's cessation success. It is discussed that understanding cessation and smoking from the partner's perspective will improve intervention success (Hemsing et al., 2012).

Other research highlights that it is not just the partner of the pregnant women who should be targeted in interventions (Koshy, Mackenzie, Tappin, & Bauld, 2010). The context in which women live also needs to be taken into account (Flemming et al., 2012). Twelve women out of 60 in Glover and Kira's (2012) study discussed how hard it is to quit when family

continued to smoke. People women turn to for advice or support are often not medical professionals, but family members or friends. It has been found that the kinds of support and advice offered often contradicts or minimises that provided by medical professionals (Dunn, Pirie, & Hellerstedt, 2003). Women in the Dunn and colleagues study who were spoken to about turning to a confidante during pregnancy for advice, reported that the advice was permissive of smoking, unlike that of their doctor. This provided women with contradictory messages and caused confusion. This was also noted in the Koshy and colleagues study (2010). The authors conducted secondary analysis of 12 motivational-interview transcripts of women who quit and compared them to 12 transcripts of women who hadn't quit smoking during pregnancy. Both women who quit and women who didn't reported how important their partners, family and friends were to their quitting attempts.

The importance of focusing on a woman's family and friends is also illustrated in a study by Nichter and colleagues (2007). The authors found that family and friends who provide positive social support in other areas of a woman's life can fail to provide support for quitting. For example, one woman in this study spoke of her family providing childcare and companionship which are considered positive, but the same family members smoked in front of her whilst pregnant or dismissed her concerns about smoking.

Women also highlighted important power differentials within households which influenced behaviours and discussion around smoking. It was reported that some women felt powerless to make decisions about smoking within the home, lived in volatile environments and were constantly exposed to smoking. The less control a woman had in her environment, the harder cessation became (Nichter et al., 2007). Figure 1 provides a schematic representation of a woman's social relationships. Women with few or no people who smoked in their social group were more likely to quit and stay smoke-free (Dunn et al., 2003).



*Figure 1.* Schematic illustration of the different social influences on pregnant women's smoking cessation attempts. Reprinted from Smoking cessation during pregnancy: The influence of partners, family and friends on quitters and non-quitters by P. Koshy, et al., 2010, *Health & Social Care in the Community*, 18(5), p. 504. Republished with permission. Copyright 2010 by Blackwell Publishing.

Lack of social support has been shown to impact on women's overall wellbeing, which can subsequently impact on the health of their baby. A study of 896 women conducted in Germany found that women with low levels of support who continued to smoke during pregnancy reported increased depressive symptoms, lower quality of life and experienced a higher frequency of pregnancy complications when compared to women who smoked and received high levels of support (Elsenbruch et al., 2007). It has been proposed that smoking and other behaviours that put the foetus at risk are less common in pregnant women with higher levels of social support (Feldman, Dunkel-Schetter, Sandman, & Wadhwa, 2000). The importance of asking women about their support networks was highlighted by Glover and Kira (2011). The authors found that eight out of

the 60 pregnant women they interviewed who smoked felt they did not have anyone in their social network that would be able to support them if they wanted to stop. In addition six felt they only had a friend who they could ask. This highlights that whilst most people have a social network, not all women will have someone they can turn to.

## **Psychological factors**

### **Perception of the foetus as real**

Understanding differences in how women perceive the foetus offers insight into how differently women can view pregnancy. For some parents, the baby is not seen as being 'real' until after it is born. Cummins and colleagues (2007) report that some pregnant women using a telephone cessation service (Quitline) struggled to connect the possibility of harm to something that at the time did not seem to be 'real'. Fathers too have been found to have trouble with seeing the baby as real and often are motivated to stop smoking after the pregnancy (Tuhoy, 2008). Cummins and colleagues propose more practical elements of parenting be adopted in antenatal environments in order to stimulate parent's perception of the baby as 'real'. A study looking at reducing pregnant women's levels of stress found singing lullabies to the baby whilst in utero not only reduced anxiety and stress, but it was shown to increase the bond between the mother and unborn child (Carolan, Barry, Gamble, Turner, & Mascareñas, 2012). Lendahls, Öhman, Liljestränd and Håkansson (2002) also support the more practical and 'real' elements of pregnancy and propose that cessation should be raised at times when women can feel the baby move or can hear the heartbeat.

### **Coping with stress**

Smoking is often used as a tool for coping with stress, and stress is a known risk factor for triggering relapse (Varescon, Leignel, Poulain, & Gerard, 2011). In general, people who smoke report having higher stress levels than those who don't, or than those who have given up smoking.

Furthermore, pregnancy is a time of increased stress for many women, especially when faced with additional or exacerbated stressors such as domestic violence and financial hardship (Jasinski, 2004).

Women experience hormonal, emotional and other cognitive changes which can affect their memory, and other cognitive processes (Brett & Baxendale, 2001). The added stress of the pregnancy, the pressures of impending motherhood and feeling frustrated at being unable to quit have all been shown to increase the risk of continued smoking and reduced cessation attempts (Ebert & Fahy, 2007). In addition, pregnancy can trigger unresolved emotional conflicts from childhood (Staneva & Wittkowski, 2013). It is important to note that women are not emotionally unaffected by the literature given to them or the discussions about cessation. Instead, some see it is another stressor to deal with (Ebert & Fahy, 2007; Flemming et al., 2012). In contrast, lower levels of stress have been related to successful quitting during early pregnancy (Ludman et al., 2000).

Varescon and colleagues (2011) assessed coping methods and perceived levels of stress in pregnant women who smoked. They found healthier active methods of coping such as planning, reframing or acceptance were used less by women who smoked compared to women who didn't smoke. Instead, pregnant women who smoked used venting and substance abuse which are less effective in reducing stress. For some women, stress resulted in increased smoking in order to cope. Women who respond to stressors by smoking follow a habitual response and not having an alternative way to cope contributes to continued smoking (Ebert & Fahy, 2007).

### **Attention to smoking related cues**

Another psychological factor is attentional bias. This refers to the attention people pay to cues related to their addiction (Greenaway, Mogg, & Bradley, 2012). This has been identified by Greenaway and colleagues as a potential way to provide a cognitive index of vulnerability for smoking in pregnancy. Attentional bias is used to explain a person's neurological

response to stimuli. A positive reaction, such as increased attention to stimuli cues highlights a likely desired or positive association with stimuli. Alternatively, identifying stimuli as aversive can elicit different responses, such as increased attention due to threat, or reduced attention due to irrelevance (Greenaway et al., 2012).

Greenaway and colleagues (2012) examined levels of attention to smoking related cues in 71 pregnant women with mixed smoking statuses using a modified Stroop task. The task consisted of smoking and non-smoking related words and participants were to name the colours of the words on cards. The researchers found that pregnant women who smoked at the time of the study, or who had quit, were more likely to pick up on cues associated to smoking than women who had never smoked. Although the number of errors made by women who smoked in naming colours was low, their speed was slower compared to pregnant women who had never smoked. The authors also found that women who reported having high levels of concern about the effects of passive smoking on the health of their foetus were highly attentive to cues. This was found to be unrelated to their previous smoking experience. The authors propose that the increased attention to smoking cues was related to perceived risk, perhaps from prior experiences, or their fears of what could happen. Women were alert and attentive to cues in order to avoid smoking.

The Greenaway and colleagues (2012) study also found a correlation between attitudes to smoking and attentional bias. Specifically, it was found that women who smoked had more favourable attitudes towards smoking and were more attentive to smoking cues compared to women who never smoked. Favourable attitudes were associated with greater smoking experience and favourable attitudes were a better predictor of attentional bias than smoking experience (Greenaway et al., 2012).

### **Mental wellbeing**

Mental wellbeing is another factor which has been found to contribute to smoking and the success of cessation. For example, women with depression have been found to be at a greater risk of continuing smoking

than women without depression (Ludman et al., 2000). In contrast, women who quit spontaneously upon discovering they were pregnant were found to have less depressive, anxious or withdrawn symptoms (Linares Scott, Heil, Higgins, Badger, & Bernstein, 2009). The severity of depression also affected smoking and cessation. Cinciripini and colleagues (2010) found that women with high levels of depressive symptoms responded well to cessation interventions that were depression, rather than cessation, focused. Women with more severe levels of depression experienced frequent periods of abstinence and fewer depressive symptoms after depression-focused intervention. In contrast, women who smoked and had base line depression were more responsive to a health and wellness focused intervention. As discussed, the risk of continued smoking is increased by socio-economic status, but this is further compounded by mental illness. Kahn, Certain and Whitaker (2002) found that depression, low socioeconomic status and other risk factors co-occur and predict smoking on a gradient.

Howard et al. (2012) investigated whether pregnant women who smoked and had a mental illness were less likely to accept a referral to cessation services than women who didn't have a mental illness, and to establish what barriers they faced in relation to cessation. After reviewing over 400 pregnant women's medical records, and conducting 27 interviews, the authors found that pregnant women with a mental illness were more likely to accept a referral to a cessation service than those without a mental illness. However, women with mental illness found it harder to stop smoking due to the physical addiction and adverse social and physical environments. Detrimental influences included smoking not being prioritised by healthcare professionals or family, and a reluctance to address smoking in order to minimise the risk of exacerbating their mental illness. This belief is prevalent in the care of pregnant women who smoke (Howard et al., 2012). In addition, pregnant women with mental illness reported having a different type of relationship with smoking, and used cigarettes to help lose weight or to stay well. Consequently, women with a mental illness were more likely to be smoking by delivery (Howard et al., 2012).

## **Behavioural changes**

Nichter and colleagues (2007) focused on what factors affected changes in women's smoking behaviours, in particular what contributed to, or undermined harm reduction and quitting. After analysing the interviews of 53 pregnant women from low income households, they found three patterns of smoking behaviour. The first was *Quitting* and included women who quit completely. The second group were called *Harm Reducers*; these were women who reduced their smoking by 50% and maintained that level. The final group were *Shifters*; these women reduced smoking intermittently but were unable to maintain reductions.

Women who quit were reportedly empowered by identifying as mothers early on in the pregnancy. In addition, they had the most stable home environments of the three groups and acknowledged they had people encouraging them to stop.

Women who reduced harm by cutting down were more likely to report they had failed by 'only reducing' rather than having succeeded at quitting. Whilst the women in this group were motivated to stop, they reported that there was some unseen barrier that restricted their ability to do so. This affected their perceptions of themselves, and they reported that they saw themselves as bad mothers. Women in this group were often supported by other people who smoked, but had more financial and moral support, and more stable environments when compared to the women whose behaviour shifted (Nichter et al., 2007).

Nichter and colleagues (2007) found that women who were classed as shifters only had people who smoked as primary sources of support. The authors also observed that women who shifted their behaviour distanced themselves from the medical complications and were more defensive about their right to smoke. Abrahamsson and colleagues (2005) discuss how women who are defensive are trying to avoid or escape stimuli that triggers negative emotions. Avoidance allows women to live with the guilt they are experiencing from their continued smoking. The households the women in this category lived in often viewed smoking as normal and were

found to have the least supportive social networks. They also had the highest financial constraints, levels of unemployment and depression. One similarity found between the women who reduced harm and those who shifted behaviour was that they also reduced harm in other ways, such as stopping alcohol or antidepressant medication (Nichter et al., 2007).

### **Service Provision**

As part of their role, midwives and maternity healthcare providers in New Zealand are required to speak to women about cessation (Allen et al., 2012). However, this is a delicate subject and women's views on the ideal approach differ (Ebert & Fahy, 2007). Some women would like to be spoken to regularly during their pregnancy about smoking, yet others would consider this to be nagging. A number of women have reported that they would prefer to attend a group for support; others feel doctors would be the best ones with whom to discuss cessation (Ebert & Fahy, 2007).

### **Barriers to implementation**

Improving rates of cessation has become a health focus internationally, including directives from WHO, national governments and regional health boards. The services offered vary not only between countries, but within them with regional differences noted worldwide, including in New Zealand (Allen et al., 2012). The range of services can include education, counselling, nicotine replacement therapy (NRT) and family inclusiveness. Even in areas that are well resourced, there have been problems with reducing rates of cessation.

According to Blumenthal (2007), service providers in Georgia America reported five main barriers to implementing services with pregnant women. These included a lack of time, patient unreadiness to change, inadequate resources for patients and providers, and inadequate clinical skills regarding cessation. Allen and colleagues (2012) reported similar problems in New Zealand, including clinical and administrative challenges, differences in service models, and women not ready, unwilling or reluctant

to stop. It has been proposed that feedback from services and providers about women's readiness or unwillingness may reflect a continued view of cessation through the stages of change model. This model was developed by Prochaska and DiClemente (1982) and shaped New Zealand's addiction programmes for many years (Allen et al., 2012).

The stages of change model was developed within the field of addictions to help better understand the process of change a person goes through when trying to change an addictive or habitual problem. Stages of change is a six stage model that assesses a client's readiness to quit. A woman who is in the *Precontemplation* stage is not thinking about stopping smoking. *Contemplation* describes women who are thinking about discontinuing. *Preparation* is when women prepare themselves to stop smoking. *Action* is the active phase of quitting. The phase known as *Maintenance* is the period six months after cessation. *Relapse* can occur at any time, and people usually cycle through the stages many times (Slade, Laxton-Kane, & Spiby, 2006). By viewing cessation this way, the urgency of pregnant women quitting in order to minimise the potential health risks to her baby is overlooked (Allen et al., 2012).

The current *New Zealand Smoking Cessation Guidelines* require healthcare practitioners use the Ask, Brief advice, Cessation (ABC) framework (McRobbie et al., 2008). The ABC model does not require women to be asked about their readiness to quit (McRobbie et al., 2008). Instead, healthcare providers are expected to *Ask* women about their smoking behaviours. Women are then to be given *Brief* advice to quit smoking, and then offered *Cessation* support via a cessation service, unless explicitly refused (Allen et al., 2012). If a woman refuses the service they are referred to, the service remains open to her as a potential resource in the future. The benefit of referring on is that the women are not receiving cessation intervention from her main healthcare provider, only screening. This reduces the risk of women not receiving all the information, misunderstanding what has been said or damaging the relationship with their primary antenatal carer. It also provides the woman access to people who are specially trained in this field.

However, not all women who tell their midwife they smoke are told of the services or options that are available (Lynagh, Bonevski, Symonds, & Sanson-Fisher, 2011; Tong et al., 2008). In one study of 677 women, 178 (26%) told their midwife they smoked, yet only one quarter of those could remember being given advice on cessation (Mohsin et al., 2007). In another study conducted by Glover and Kira (2011), of 60 women who smoked in pregnancy, 12 could not recall anyone advising them during their pregnancy to stop. Rigotti and colleagues (2006) found that clinicians would give a three to five minute talk to pregnant women about quitting during initial antenatal appointments. Following this it was noted they infrequently gave out cessation literature. In the study by Howard et al. (2012) only 15% of 2393 initial antenatal visits incorporated discussions on smoking. One study found that advice was given depending on many variables including what the midwives perceived the outcome of advice would be, their relationship with their client, personal experiences and attributes, perception of role, lack of time and the impact of external factors (Herberts & Sykes, 2012).

It may also be the case that midwives are not knowledgeable about what services are available (Allen et al., 2012). One survey conducted in New Zealand found that less than 50% of doctors or midwives had received formal training in smoking cessation (McLeod et al., 2004). One review of cessation services identified a significant lack of referral networks from maternity to cessation services, with some services receiving nearly no referrals from maternity care providers (Averill, Dowden, Mitchelmore, & Taylor, 2006). Furthermore, perceived ineffectiveness or uncertainty of services may lead to midwives avoiding the subject rather than offering what they consider to be substandard services (Tong, Dietz, & England, 2012). If midwives' perceptions of interventions are low and advice is hesitant, this may be sensed by the woman who is being spoken to. Consequently, the woman may approach interventions with caution and may even expect to fail. Fear of failure was one of the most cited barriers to cessation in one study (Tong et al. 2012).

How a woman is presented with the information is also important (Glover & Kira, 2012). Women in Glover and Kira's study spoke about their midwives giving them information. They said would have preferred it had their midwives gone through the leaflets with them, providing support, encouragement and follow up. Providing information without support can increase feelings of guilt, anxiety and stress (Dunn et al., 2003). Furthermore, a health practitioner who does not seem to consider a woman's personal circumstances may inadvertently generate feelings of being judged and may lead the woman to deny their smoking (Ebert & Fahy, 2007). If the effects of smoking aren't explained in the context of a woman's life, the conversation may be dismissed as too impersonal. This was found to be a common reaction by women in lower income households (Maclaine & Macleod Clark, 1991; Nichter et al., 2007). Women want a proactive, empathic approach that provides them with details of the health risks to the foetus, about how to stop, and what changes they should expect in their own body when stopping. Some women felt that real life, shocking examples of the risks of smoking would be motivational (Glover & Kira, 2012).

Levy (1999) spoke with 12 women about health decisions made during pregnancy. The main finding was that women tried to maintain an emotionally balanced family environment. This study discussed these findings in relation to midwifery practice and reported that women assess the trustworthiness of the information and the source to help them reach a decision about their health care. This is relevant to those who smoke, or who are trying to stop as illustrated previously: women do not always believe the information they are given and instead have more faith in other experiences.

In addition, if women are presented with information that is perceived as inadequate or irrelevant it can be dismissed (Glover & Kira, 2012). Forty nine of 60 pregnant Māori women in one study had been spoken to about cessation, but only 12 reported they were influenced by what was said. In addition, 46 had been provided with pamphlets on smoking cessation, yet only eight women had read the information. Women perceived that the

information was inadequate with minimal details on the effects of smoking (Glover & Kira, 2012). Furthermore, the women felt the resources were not always culturally appropriate. Glover and Kira reported that only four women were given *He Hapuunga Auahi Kore: A smokefree pregnancy leaflet* which has been especially produced for pregnant Māori women in New Zealand.

Changes within New Zealand in the last few years have included the MOH requiring cessation services to be “responsive to the specific needs of pregnant women who smoke” (p.4), and best practice frameworks are being developed (Allen et al., 2012). Specially tailored services for pregnant women who smoke have also been established through the MOH. Three services are based around Auckland, one in Hawkes Bay, one in Christchurch, and a mobile service covering Southland and Wakatipu based out of Invercargill (Allen et al., 2012). In addition, some District Health Boards, regional cessation services and other health organisations such as the National Heart Foundation have programmes for pregnant women as part of their services provided through their community workers (Averill et al., 2006).

Unfortunately, accessing these services may be difficult for many women due to their physical location. In addition, women are not always aware of their existence (Allen et al., 2012). Furthermore, services may not have enough staff to meet the needs of their local clients, and it is estimated that a ‘significant number’ of pregnant women are unable to access specific services (Averill et al., 2006). For clients outside of these districts, Quitline has been their primary support. However, the effectiveness of the general Quitline service has reported to be limited with pregnant women (Tuhoy, 2008; Glover & Kira, 2012). Between 2001 and 2005 there was an annual average of 30,000 first time callers to Quitline; of these, 921 were pregnant, which equates to approximately 2.5% of all callers. To highlight the low number of pregnant callers, it was estimated that annually in that period around 12,700 pregnant women smoked (Averill et al., 2006). Research identified that part of the problem was that

advertising was not appealing to pregnant women (Tuhoy, 2008; Averil et al., 2006).

### **Smoking cessation services for pregnancy**

The importance of providing an appropriate and considered service has been illustrated. Internationally psychosocial interventions are the preferred method of addressing smoking, with pharmacological interventions an alternative option if required (World Health Organisation, 2013). CBT is a psychological approach to behavioural and cognitive change that consists of skills training, lifestyle changes, and cognitive reframing (Albrecht et al., 2011). It is structured, personalised, short-term and adaptable to many disorders and problems, including addiction (Beck, 2011). In relation to cessation, CBT involves teaching cognitive and behavioural coping techniques and skills to better deal with high risk or stressful situations. Being better able to deal with situations that could trigger an urge to smoke increases a woman's confidence and self-efficacy in her ability to quit. In addition, CBT provided skills that the woman can continue to use postpartum, in other pregnancies and everyday life helping her maintain her abstinence and minimise the risk of relapse (Albrecht et al., 2011).

One notable exception to the lack of services in New Zealand has been SmokeChange. This is a Canterbury based initiative providing a holistic, supportive, and family inclusive interventions and was established in 1992 (SmokeChange, n.d.). The personalised intervention is matched to how ready a woman is to change her smoking (Ford, Cowan, Schluter, Richardson, & Wells, 2001). Ford and colleagues cite that for an intervention to be effective, several components need to be included, these are: "the same message delivered by a multiple of professional groups; the programme duration being more than eight weeks; the programme encompassing four to seven sessions; and the counselling sessions lasting more than ten minutes. Programmes specific to pregnancy are also important and there is a dose effect of increased

effectiveness with increased programme intensity” (p. 108). SmokeChange incorporates all of these and aids cessation by encouraging change, building confidence, and using a step-by-step process. SmokeChange also provides education for healthcare providers and is currently funded by the MOH (SmokeChange, n.d.).

Internationally, other programs have been developed. Petersen et al. (2010) found that offering pregnant women peer counsellors as social support had a positive impact on cutting down and quitting. Their study, *Turning Hopelessness into Feeling Competent*, enrolled 13 women into an intervention programme given by their midwives and a counsellor. Three women were unavailable for follow up, but of the ten women re-interviewed, five had stopped smoking and five had cut down. The ten women at follow up were asked for their opinions about the self-help material and brief counselling they had used and four main themes were identified. The women felt that the intervention began with ‘understanding their reality,’ which led to ‘embracing change’. Following from this the women decided ‘to hold nothing back,’ which allowed them to turn ‘hopelessness into a feeling of competence.’ (Petersen et al., 2010). An underlying theme of this research was that women moved from feeling pessimistic to feeling hopeful and felt encouraged to try and quit. Part of the success of this transition was being able to open up to their midwives or counsellor.

Some methods of facilitating cessation have received controversial feedback from members of the public, for example, the use of financial incentives. Societal norms influence what behaviours are considered to be acceptable and given the negative feedback pregnant women receive about smoking, it is important to have the public support. Interventions that are not supported publicly will be less likely to succeed (Lynagh et al., 2011).

An Australian survey of 213 pregnant women was conducted to assess what the response would be to a financial incentive to help expectant mothers quit. Sixty two percent of those surveyed reported that financial rewards were inappropriate, even though 30% agreed that it would likely

be effective, and 37% agreed that it would help reduce low birth weight and premature birth (Lynagh et al., 2011). Women who didn't smoke felt that it was unfair that they were unable to access funding because they were already doing the right thing by not smoking. They also stated that the health of the baby should be reason enough to quit smoking spontaneously (Lynagh et al., 2011). Financial incentives have been shown to be successful, and for some women may be particularly effective, especially given the higher rates of smoking in lower socio-economic households. A review of six controlled trials found that women who were economically disadvantaged and smoked were more likely to benefit from, and respond to, financial incentives to stop smoking compared to non-disadvantaged women. Abstinence from smoking in pregnancy has been improved from less than 10% in control groups to 35% to 40% in financial incentive groups (Higgins et al., 2011).

One of the most successful methods in helping women quit have been face-to-face services (Averill et al., 2006). Other components that have been identified as effective from a review of studies on cessation interventions in pregnancy included: quit guides, counselling, peer support, information, personal follow up, incentives, biofeedback, and support groups (Greaves et al., 2011). Structured behavioural support and NRT have been shown to help, as have smoke free households and when a partner stops (Lumley et al., 2009). Receiving regular encouragement and validation has a positive effect (Koshy et al., 2010).

As women's needs are better understood, services have begun to combine approaches in order to meet international and national best practice guidelines and increase rates of cessation (Allen et al., 2012; WHO, 2013). In late 2013, New Zealand's Quitline announced a dedicated pregnancy service. The service works with women until at least six weeks postpartum. Women are encouraged to find a support person, and the household is encouraged to be smoke free. Women are provided behavioural support and NRT, and are referred to a local face to face service with intensive follow up (Woods, 2013). The variation in successful approaches illustrates the numerous risk factors and predictors that

contribute to smoking. Women's needs differ from each other; considering their way of thinking, preferences, and personal and social circumstances when providing and designing cessation have shown to improve cessation rates (Abrahamsson et al., 2005).

### **Nicotine replacement therapy**

One factor that healthcare providers need to consider is the addictive nature of smoking. Cravings are a major barrier to cessation (Tong et al., 2008) and one common method of staving these in the general smoking population is by using nicotine replacement therapy (NRT) (Coleman et al., 2012). Replacing the many chemicals in cigarettes with NRT has been proposed to be safer than smoking as NRT is not accompanied by the additional toxins (Coleman, Chamberlain, Cooper, & Leonardi-Bee, 2010). Yet there is concern that of all the chemicals in cigarettes, nicotine is one of the chemicals that poses most threat to a foetus (Slotkin, 1998). Slotkin described it as "likely to be the single most widespread prenatal chemical insult in the world" (p. 942) as nicotine has been shown to have ongoing and delayed adverse impacts on a developing brain. At present though, NRT is an option which is offered to some women who meet certain criteria. However, not all women are aware of NRT, and others haven't realised they can access it for free (Glover & Kira, 2012).

The effectiveness of NRT has also been tested alongside other therapies such as CBT during pregnancy. Pollack and colleagues (2007) looked at combining NRT with CBT to help smoking cessation in expectant mothers and compared the results to women who underwent CBT only. The authors found that the NRT+CBT group were three times more likely to quit smoking compared to CBT only, but the CBT only group were more likely to be quit three months postpartum. However, recruitment was halted early after an interim analysis by an Independent Data and Safety Monitoring Board found an increased rate of negative birth outcomes for the babies in the NRT+CBT group. These included preterm birth, low birth weight, placental abruption and foetal demise.

The women in Pollack and colleagues (2007) study were found to have used NRT at a much higher rate than directed and it is understood that nicotine is metabolised faster during pregnancy (Albrecht et al., 2011; World Health Organisation, 2013). Prescriptions meant to last for weeks were used in a much shorter period of time, for example 19 days worth of NRT lozenges lasted on average only 4 days (Pollack et al., 2007). It has been hypothesised that the dramatic increase in NRT use adds to the increased risk of adverse pregnancy outcomes (Slotkin, 1998). Yet in a literature review of health consequences of NRT in pregnancy, West (2002) cites some studies that have found no adverse effects, no difference between patches and placebo, and one study found that women using patches had heavier babies than those in a placebo group. This finding contradicts much of the information available. Hence, NRT remains an area of controversy and one that healthcare providers and expectant mothers are cautious of (Coleman et al., 2012; West, 2002).

## **Summary**

It is undisputed by health professionals and the public that smoking in pregnancy carries significant risks to the infant that can have health implications throughout life. Most women are at least partially aware of this, yet still struggle to associate the risks to their own pregnancy, or to quit smoking. Research and interventions over recent years have focused on moving away from a generic cessation approach to considering factors that individually affect women during pregnancy. This is still a developing area and qualitative studies such as this are contributing to the understanding of women's experiences, identifying what barriers prevent them from quitting, and what helps them to be successful in their cessation.

## **Aims of the Study**

The overall goal of this research was to explore factors that influenced why women continued to smoke, tried to quit or stopped smoking during the antenatal period. Specific topics to explore included:

1. How women felt about their smoking during pregnancy and what worries or concerns they had for their baby;
2. Whether women felt that they needed to hide their smoking and why;
3. What support and advice women wanted in the decisions they made around smoking and who could they turn to for this;
4. What helped women to quit; and
5. What were women's perceptions and responses to the information and resources available to them

## Chapter Three: Methods

This chapter is made up of four sections. The first describes the recruitment process and provides details of the women who participated in this study. The second provides information on the process of informed consent, the interview process, apparatus, recording and transcription. The reasons for choosing qualitative analysis are then discussed. In the final section, the following ethical issues are addressed: cultural consideration, preventing harm and gesture of gratitude.

### Recruitment

Purposive sampling was used for this research. To be included, women were required to meet three criteria. The first was that they were either currently pregnant or had given birth within the last 24 months. The second was that they had stopped smoking tobacco cigarettes, tried to stop, or continued to smoke during their pregnancy. The third was that they were 18 years old or over.

Women were recruited through posters (Appendix A) which were displayed in ten midwifery offices, two birthing centres, on Facebook and at a doctor's surgery. In addition, the local newspaper ran two press releases; the same press release was also published in primary school newsletters. In total, 15 women responded by phone, email or text through the various media (see Table 1).

Table 1

*Number of participants by recruitment strategy*

| Media                        | Number of participants |
|------------------------------|------------------------|
| Local newspaper              | 8                      |
| Facebook                     | 4                      |
| Primary school newsletter    | 2                      |
| Midwifery offices            | 1                      |
| Birthing centres and doctors | 0                      |

If women made contact by email or text, a telephone number and a convenient time to ring them was requested. Speaking to each participant on the telephone provided them the opportunity to assess me as a potential interviewer and allowed them to ask questions about the research without the risk of miscommunication. Fourteen of the women who responded were eligible according to the predetermined criteria. The fifteenth woman did not completely meet criteria as the pregnancy she wanted to talk about had occurred three years before rather than within the two year parameter. The two year period was put in place to reduce the impact of memory loss for the pregnancy over time. However, JC (pseudonym, see below) reported that the memory of her experiences had not faded in any way. Upon speaking to JC it was clear that she wanted to share her story and that participating was important to her. After consultation with supervision, it was decided to let JC be part of the study as she met all the other criteria.

### **Participants**

The women were aged between 22 and 41 years old with a mean age of 30.9 years ( $SD=5.8$ ). At the time of the research, nine of the women were postpartum and six were at different stages of pregnancy. Six women had stopped smoking, and nine had continued to smoke; three of these nine women had tried to quit. For six of the women this was their first pregnancy. At the time of their pregnancy, twelve women lived with someone who smoked; ten with their partners, two with flatmates.

Women were also asked for their ethnicity. Eight women stated they were New Zealand/European, two claimed to have Māori and European heritage, three identified as Māori, one described herself as descending from Samoan and European backgrounds, and one identified as German/European. Details regarding the different smoking statuses of the women are provided in Table 2 along with a cross reference to their ethnicities, how many lived with someone who smoked and their pregnancy status. For the purposes of providing a more personal account of their stories, detailed information has been provided in Table 3 along with pseudonyms.

Table 2

*Participants' demographic information*

|                     | Smoked   | Tried to quit | Quit     |
|---------------------|----------|---------------|----------|
| Postpartum          | 4        | 2             | 3        |
| Currently pregnant  | 2        | 1             | 3        |
| <b>Total</b>        | <b>6</b> | <b>3</b>      | <b>6</b> |
| Lived with a smoker | 5        | 2             | 5        |
| Māori               | 2        | -             | 1        |
| Māori /European     | 2        | -             | -        |
| European            | 2        | 1             | 5        |
| German/European     | -        | 1             | -        |
| Samoan/European     | -        | 1             | -        |

Table 3

*Participant's ethnicity, pregnancy and status of smoking behaviour*

| Name    | Ethnicity      | Pregnancy  | Quit? | Try to quit? | Live with smoker |
|---------|----------------|------------|-------|--------------|------------------|
| Tara    | NZ/European    | Postpartum | Y*    | n/a***       | Y                |
| Kay     | NZ/European    | Postpartum | Y     | n/a          | Y                |
| Jen     | NZ/Samoan      | Postpartum | N**   | Y            | N                |
| Alison  | Māori          | Pregnant   | N     | N            | Y                |
| Brianna | NZ/German      | Pregnant   | N     | Y            | Y                |
| Sasha   | NZ/European    | Postpartum | N     | N            | Y                |
| Leanne  | Māori          | Pregnant   | Y     | n/a          | Y                |
| Stacey  | Māori          | Pregnant   | N     | N            | Y                |
| Daisy   | Māori/European | Postpartum | N     | N            | Y                |
| Karolyn | NZ/European    | Postpartum | N     | N            | N                |
| Rachael | NZ/European    | Postpartum | N     | Y            | Y                |
| Natasha | NZ/European    | Pregnant   | Y     | Y            | N                |
| JC      | Māori/European | Postpartum | N     | N            | Y                |
| Melanie | NZ/European    | Postpartum | Y     | Y            | Y                |
| Yvonne  | NZ/European    | Pregnant   | Y     | Y            | Y                |

\* Yes    \*\*No    \*\*\* Not applicable

In this study, the women who participated were not referred to as 'smokers', a term that pathologises and categorises them according to their habit. Instead, they are referred to as 'women who smoke/d' or simply

'women' or 'participants'. Also, the words 'information' or 'stories' are used instead of 'data' as it was their stories and experiences they were sharing, not their data. When discussing their experiences in the following sections, the women's pseudonyms individualise their experiences within the common themes. At times, individual experiences outside identified themes are discussed as these are important to their narrative and therefore the study as a whole. The term 'healthcare professional' has been used to refer to any antenatal care provider; this includes lead maternity carers, midwives, doctors and other such professionals. Finally, potentially colloquial terms such as 'quit' and 'stop' used in this study are reflective of those used in the research and literature.

## **Procedure**

### **Informed consent**

At initial contact, prior to booking an interview time, the purpose of the study was explained to each participant. The research goals were identified and they were advised of their rights as well as what would happen to the information they provided. The women were informed that the interviews would be recorded in case this made any of them uncomfortable. Participants were also invited and encouraged to ask questions. After booking an interview time, the women were assured they could make contact any time to ask additional questions or to withdraw.

Written informed consent was completed before the interviews started and the women were also provided with a project description information sheet (Appendix B). Participants were again advised about the purpose of the study, what participation would entail, how to withdraw, about anonymity, and what the information would be used for. The opportunity for questions was once again provided. The women then completed their informed consent sheets (Appendix C), and both parties retained a copy.

## Interviews

Each woman was interviewed individually at a location and time of their choice to ensure privacy and comfort. Fourteen of the fifteen women chose to meet at their homes, and one chose to be interviewed at a cafe. Four women chose to have a support person present, and children were present for seven of the interviews. The duration of the interviews were dictated by the discussion and ranged from 20 to 105 minutes.

The decision to use interviews over another method such as surveys was influenced by the desire to engage women in an in-depth conversation about this topic in a setting where they could be comfortable, open and reflective. This has been reported to be an effective means of exploring sensitive or invisible subjects such as this (Rubin & Rubin, 2012). The interviews were semi-structured, which allowed for a more relaxed and natural approach, and the ability to easily discuss other topics that were raised by the participants.

Before the interviews started, it was important to try to establish some rapport. If the participants felt comfortable, it would hopefully enable them to more easily share their experiences about a topic that previously they might have denied or avoided. For participants, rapport is established over a number of phases, namely: apprehension, exploration, co-operation and participation (DiCicco-Bloom & Crabtree, 2006). During apprehension, the interviewee feels uncertain and cautious of the new environment and an awareness that they are going to discuss something personal. There were a number of women who expressed these responses prior to or during the interviews. One woman was especially nervous on the phone before a time had even been booked. She acknowledged that her apprehension was due to the stigma attached to smoking during pregnancy and she was nervous about talking about it openly. This was something she, and several other women, had never done before. This led to a lot of reassurance, or time to think, and reminding women that withdrawal was always an option. The second phase, exploration, is when the participant engages in some aspect of the discussion and begins to connect with the process. Phase three, co-operation, is noted when the participant reaches

a level of comfort and becomes an active participant (participation). During the last two phases, there is the opportunity to ask more sensitive questions (DiCicco-Bloom & Crabtree, 2006). When planning the order of the interview questions, it was decided to leave the most sensitive questioning until later on and to start with more general questions so women could feel comfortable.

During the process of rapport building and interviewing, it was important to be aware of potential bias. Every person has their own values, beliefs and expectations, and with interviewing, interaction is part of the method of obtaining information. Furthermore, information that is produced is a product of the interaction which is therefore affected by the parties involved (Qu & Dumay, 2011). Bias can come from the researcher or the interviewee. Social desirability bias from the participants was a possibility in this study as women are known to reduce or deny their smoking to limit or stop judgement, and women in this study did report doing this. The urge to express socially desirable views would be understandable given that I was a stranger and a mother (I told them this during our first conversations). In addition, some knew I had not smoked during pregnancy because they had asked me. In order to reduce potential bias around my own smoking, I did share that my partner had smoked during two of my pregnancies.

From the researcher, there is the risk that they will be overly focused on their agenda or goals. The concern of this is that they have a biased view of the participants' experiences. This would reduce the opportunity for exploring the problems or associated pathways in the interview (Paludi, 1992). For this reason, and the knowledge that women are typically guarded about this topic, I attempted to keep the questions as neutral as possible and ask questions in a neutral manner that in no way inferred any kind of judgement or assumption of the women.

In addition, my role as an interviewer also needs to be acknowledged as my actions and personality can likewise impact on the process and outcome (Ezzy, 2011). During the interviews I was empathetic, encouraging, sympathetic and understanding. I endeavoured to be friendly

and open whilst carefully directing the conversation when required. At times I shared my own experiences and opinions. It felt appropriate and important to display these traits given the short amount of time I had with these women and that the interviews were our first and only meeting.

### **Apparatus**

A set of questions was devised to try to explore what contributes to smoking or cessation in pregnancy. Participants were asked a series of questions depending on whether they answered 'yes' or 'no' to the following: "Are you currently smoking during this pregnancy?", "Have you tried to stop?" and "Have you thought about stopping?". The phrasing of the questions also differed depending on whether the woman was currently pregnant or talking about a recent pregnancy. Flow charts of the primary and prompt questions highlight the pathways that each interview could have taken, both in present and past tense (Appendixes D and E). Main questions are in bold and questions not in bold indicate possible prompts. Some of the questions were asked at an appropriate time rather than following in the order, and some questions were not asked. At other times, other related questions were put to the women depending on the situation and what was being discussed. The women were advised that they could decline to answer any question they were not comfortable with.

After the first two interviews were conducted, a meeting was held with my primary supervisor to discuss the information in regard to the research questions and whether the goals of the research were being met. At this time no changes were made to the questions as they did appear to be meeting these requirements.

Fourteen of the 15 interviews followed a typical interview structure and the women responded to questions. However, for JC, it was more natural for her to tell her story in her own way. For this interview, questions were subtly reviewed near the end to see if any key areas had been missed, but the majority of the time was spent listening to JC's experiences of losing her baby.

## **Recording the interviews**

All interviews were recorded on an MP3 player for accuracy and efficiency. Recording provided the ability to return to the original recordings if necessary, or should there be a problem later on (Seidman, 2012). By not taking notes, participants were given complete attention allowing for eye contact and the use of hand gestures and other expressions more naturally. Note taking might have impacted on the rapport and relationship and might have resulted in a less openness.

## **Transcription**

Full verbatim transcriptions were completed for each interview within five days and sent to the participant to read over along with a thank you letter. The only information excluded or changed was anything identifiable, for example, names, home towns and work places. Women were advised this would happen. Before sending the transcripts out, each one was proof read to ensure there were no obvious errors. During this process, notes were taken on a spreadsheet that identified possible emerging themes, or points of interest.

Participants were given two weeks to review these and were advised that they could alter or delete any information they were not happy to include. Envelopes were included for this purpose, though no participants returned their transcripts. Participants were also made aware that one week after they had received the transcript, they were no longer able to withdraw from the study. All participants were also told that once the research had been completed, a summary of the findings would be sent to them so they are able to see the final outcomes of the study as a whole (Appendix G).

## **Qualitative analysis**

Semantic thematic analysis was chosen for this research to identify, analyse and report patterns in the interviews. The process of analysing began during the transcribing process as some areas of interest were

noticeable early on. Notes were taken and added to a spreadsheet. However, it was important to not let these ‘themes’ or observations influence subsequent interviews. Full analysis started once the transcriptions were all complete. The first step in the process was to become familiar with the interviews. To start, transcripts were all read through once and brief notes were made. On subsequent readings, items of interest were manually colour coded on the left side of the transcript and added to the previously mentioned spreadsheet. Particular language the participants used, repetitions, contradictions, interesting points, associations, similarities and differences were all highlighted. On the right hand side of the transcripts identified themes that started to appear were marked (Smith & Osborn, 2007).

Due to the amount of information that began to accumulate, a more efficient way of organising the information was required and I used NVivo.10 (NVivo) for this purpose. Each transcribed interview was opened up in NVivo and a ‘drag and drop’ function allowed selected text to be sorted into appropriate categories. In NVivo, the interviews were re-read, and as new themes emerged, previously read interviews were reviewed for similarities. During this process new themes were identified and a new ‘node’ (group) was created. Redundant themes were deleted, some themes were renamed or re-categorised, and others amalgamated in order to make sense of what was developing. Part of the continual review process included focusing on the main themes and the associated sub-themes in order to fully understand the patterns and relationships (Ezzy, 2011).

### **Ethical Considerations**

As part of the University of Waikato’s School of Psychology’s requirements, ethics approval from the Psychology Research and Ethics Committee was sought and granted prior to any research activities being undertaken. This research also conforms to the requirements laid out in the 2002 New Zealand Psychological Society’s *Code of Ethics*.

### **Cultural consultation**

Māori consultation was sought during the process of developing the study to ensure that the questions and process were appropriate for Māori participants. Due to the higher rates of Māori women who continue to smoke during pregnancy, it was hoped that Māori women would respond to advertising. However, research in New Zealand has been shaped by western frameworks which are not often appropriate when applied to Māori (Bishop, 1999). It was therefore important to try to ensure Māori participants' experiences were accessed without causing offence or harm. Supervision and guidance was sought from two supervising clinical psychologists, one of whom was Māori. Based on our discussion, the questions were deemed acceptable to be asked of Māori participants. In addition, the option of having a support person and choice of venue was felt to be acceptable practice.

### **Preventing harm**

Due to the sensitive and private nature of the subject it was important that each participant was comfortable and felt they were able to talk openly. No information was hidden from them and any questions they asked were answered honestly, including personal ones. The women were also reassured that no one other than myself would listen to the recordings. For transparency, the women were advised that my supervisor might see transcripts, but these would be anonymised. Women were told that no one else would have access to their personal details and that their names would be changed to pseudonyms in any documentation. All information was stored on a password protected computer and once the thesis was complete, transcripts and all other documentation would be secured within the university.

Because of the subject matter, participants were asked to select the location for the interview. Elwood and Martin (2000) discuss this as an ethical consideration due to the potential power differential between the researcher and participant. It is suggested that participants who select the location of an interview may feel more empowered when interacting with the researcher. Once they are aware of the content of the interview, they

are able to make an informed and appropriate selection of venue that will ideally allow them to feel comfortable to talk openly. Although I felt that my role as an interviewer interested in their lives meant a minimal power difference, I am aware that that is my perception of the situation and that the experience of some of the women could be very different (Qu & Dumay, 2011). Another means of reducing any perceived or real power difference was for participants to have a support person present, and each woman was advised beforehand that this is something they might want to consider.

An information sheet was also produced that provided details of local and national cessation services in case women were interested in quitting smoking. Whilst promoting cessation was not an objective of the study, it was important to ensure that should women ask for details, a resource was available (Appendix F).

### **Incentive**

Participants were given a \$10 petrol voucher as a thank you for their participation and time. Monetary incentives are more effective at aiding recruitment of participants than non-monetary incentives, and immediate payment is noted to be more effective than delayed recompense (Singer & Couper, 2008). One concern that has been raised about incentives is that they are potentially coercive and motivate a participant to expose themselves to a risk or situation that they otherwise would not chose to participate in (Singer & Couper, 2008). Given the potentially sensitive nature of this research, this needed to be considered. However, whilst larger incentives may increase participation, they do not statistically correlate to increased levels of risk exposure. Hence, whether a participant perceives \$10 to be a large or small incentive, it would not increase their likelihood of exposing themselves to a situation they would otherwise not consider.

In addition, the type of voucher was also considered to try to ensure that participants would be able to use it. Providing an incentive that was tangible and accessible was important given the unknown characteristics of potential respondents.

## Chapter Four: Results

In this chapter the results of interviews with 15 women who smoked, tried to quit, or quit smoking during a current or recent pregnancy are provided. The first part of the chapter presents the women's range of smoking statuses based on reported desire and effort to quit. For comparison this range is presented with the stages of change model and the typical terms used to categorise women: 'smokers' and 'quitters'. Following from this are the five themes that emerged from the interviews with examples from the transcriptions. The first theme, *Making Adjustments to Smoking: Variations on a Theme*, describes the women's varied experiences of smoking, the changes women made, the reasons for making changes, smoking compared to other substances and strategies women used to maintain their abstinence. Next, *Negative Emotions: Guilt and Uncertainty* details how the women felt about themselves, smoking and their babies. It also provides examples of the women's uncertainty about the risks of smoking for the foetus. *Family and Friends: The Importance of those around them* highlights how critical key support people are regarding a woman's attempts to stop and maintain cessation. When positive support is not provided, cessation is viewed as hard, but when present, women valued it. The women also reported *Mixed Experiences in Antenatal Care*. This theme highlights the variation between what women wanted and what they received, both from their healthcare provider and the literature and advice. The final theme is *Judging and being Judged*, and provides not only the women's responses to being judged by others, but what they thought of other women who smoked. This theme also reports the women's responses and reflections on speaking about this topic and why they were hesitant. Until their interview, some women had never spoken about it or had spoken guardedly and with restraint for fear of judgement or negative evaluation.

## A Range of Smoking in Pregnancy

At the time of the study, the women who participated were at many different stages of smoking and quitting in terms of their desire and effort. Based on their responses, these have been displayed in Figure 2. The table depicts how women are usually categorised by the literature, as a 'smoker' or 'quitter', the range of statuses found in this study, and the corresponding stages from the stages of change model.

| Typical categorisation          | 'Quitters' <i>n</i> =6               |                          |                         |                               | 'Smokers' <i>n</i> =9                 |   |                                    |                                      |
|---------------------------------|--------------------------------------|--------------------------|-------------------------|-------------------------------|---------------------------------------|---|------------------------------------|--------------------------------------|
| Range of statuses in this study | Spontaneous quitter (SQ) <i>n</i> =2 | Motivated SQ <i>n</i> =1 | Quit easily <i>n</i> =2 | Struggled to quit <i>n</i> =1 | Struggled (couldn't quit) <i>n</i> =3 | Wanted to quit (didn't try) <i>n</i> =1 | Thought about stopping <i>n</i> =2 | Didn't consider stopping <i>n</i> =3 |
| 'Stages of change' model        | Action                               |                          |                         | Preparation                   |                                       | Contemplative                           |                                    | Pre-contemplative                    |

*Figure 2:* Range of smoking statuses depicted by the women's desire and action taken to quitting, cross referenced to usual categorisation and the stages of change model (*n*= number of women from this study at each level).

Tara and Kay reported being 'spontaneous quitters' and quitting the moment they found out they were pregnant, something they had both planned to do.

Leanne was discussing two pregnancies that fell within the two year cut off. In her first pregnancy, she continued to smoke as she had done prior to pregnancy. Sadly, her baby died before being born and Leanne blames her smoking for the death, despite being told by doctors it was not the cause. Leanne's experience in her first pregnancy led to her spontaneously quitting in her second. Consequently, she was described as a 'motivated spontaneous quitter' in this study because her previous experience was the only reason she stopped smoking.

Natasha and Yvonne both decided they would stop smoking upon finding out they were pregnant, but neither stopped immediately. Yvonne decided she would smoke as normal the following day to help her come to terms with being pregnant and then she would stop, but it actually took her

a few days to stop completely. Natasha phoned Quitline after becoming pregnant and used patches for a few days before stopping completely. Both were grouped as women who 'quit easily'.

Melanie reported that she really 'struggled to quit', and spent months trying before she eventually succeeded.

Jen, Brianna and Rachael all spoke of how hard they tried to quit but reported that they were not successful and were classed as women who 'struggled (couldn't quit)'.

Stacey stated that although she always wanted to quit she hadn't thought about it or tried.

In contrast JC and Alison had thought about quitting, but both had made decisions to continue.

The last three women Karolyn, Daisy and Sasha all reported that they hadn't considered quitting or wanted to.

### **THEME ONE: Making Adjustments to Smoking: Variations on a Theme**

When responding to questions about smoking and the benefits of smoking for them, women described using smoking as a release, as time out, as a coping strategy, and seven women spoke of the addictive qualities of smoking. Jen and Stacey said it calmed them, and several spoke of it as a habit or part of their daily routine; JC, Sasha, Leanne and Stacey talked about having their morning coffee and a cigarette.

Five of the women who quit spoke of how much they enjoyed or missed smoking. In contrast, JC, Leanne, Yvonne and Rachael described how much they hated or disliked smoking; in particular they mentioned the smell, and that it was a disgusting habit. Stacey, who hadn't thought about stopping, admitted that "*a smoke doesn't even taste that great, it's just the feeling I get when, when I actually inhale a smoke*". It was also Stacey

who described the only way she would be able to quit: *“I really, really want to get sick to the point I can’t handle a smoke just like my mum did. Like I reckon if I was to get really really crook and I couldn’t handle the smoke, I reckon that’d make me quit”*.

Six women mentioned that alcohol and other drugs are more damaging than smoking. Four talked about being heavy drinkers prior to pregnancy and being unable to drink because of their fears for the baby. Smoking was described as *“my one thing that I, I had left, because everything else had to be stopped”* (Sasha). JC described how her biological mum had drunk when pregnant with her and that she had foetal alcohol syndrome. She talked about how drinking whilst pregnant was something she couldn’t do to her own children. Daisy drank heavily before her pregnancy and said *“I was a real heavy, heavy, heavy drinker, like I could, no shit, I could drink maybe 3 or 4 times a week, but yeah, nah, I’ve cut back so much”*. Having cut back on drinking alcohol, smoking was the one thing she felt she was allowed.

Sasha and Melanie spoke about how they stopped using illegal drugs as well as alcohol because of the risks. The use of illicit drugs was a particular concern for Sasha who didn’t find out she was pregnant until the middle of the second trimester. Until then she had been using ‘hard’ drugs: *“oh I didn’t believe it [that the baby would be well] till he came out that there was nothing wrong with him”*. Continuing to use these substances was not something either woman had considered due to the possible risks of harm.

Jen’s experience was somewhat different to the other women as she had to cut down rapidly on antidepressants and the Ritalin she was taking for her attention deficit/hyperactivity disorder. For her this meant: *“not having my medication, like I’d be walking round in circles and psyching myself up, so having that odd cigarette would actually settle me down”*.

When asked initially about changes in smoking or behaviour, the six women who did not try to stop reported no changes and made comments to explain and support this. It was even mentioned by Alison, Jen, Rachel,

Stacey and Daisy that they wouldn't think about stopping until after pregnancy. The reasons for this were all focused on them being less emotional and better able to cope with cessation. Stacey said "*it's my body, you know, I'll do whatever I want to it*". Karolyn said "*it didn't really bother me, I was still gonna smoke, I think it's your choice*". JC recalled one time her mother had been having 'digs' at her about smoking "*it got me angry. I was like, it's my body, I should be able to*".

It was only after being asked additional questions that adjustments four of the women had made became apparent. Karolyn and Alison reduced the amount they were smoking at different times during their pregnancy, but continued to smoke in the same places and around the same people. JC and Sasha both cut down during their pregnancies and adjusted their behaviour by hiding or denying their smoking in the public or if asked by people they thought would judge them.

Women who tried to stop smoking, or who tried to reduce their intake, recalled the amounts they had smoked previously, "*from up to 25 a day, down to 5 cigarettes a day*" (Jen)", "*I would say 20 plus, straight down to three*" (Melanie). Women also spoke about cutting down cigarettes in the morning or trying to delay their first cigarette so the baby had longer without smoke exposure. Alison reported trying to avoid smoking by leaving cigarettes at home when she went out, and Rachael made her husband take all the cigarettes to work with him during the day.

For some, just thinking about their baby was the only reason they abstained from smoking. In addition, other methods to abstain were used. Rachael talked about getting massages and treating herself to special foods to distract herself. She also spoke about disciplining herself through self-criticism. Brianna spoke of meditation, yoga and deep breathing exercises as a way of staving off cravings, and Melanie reported:

*Went for long walks, uh, really long walks, a couple of hours a day, as much as I could, it was summer so it was nice weather, um and I avoided my usual hangouts quite a bit, and I stayed at home, and I went to the library a lot;*

*lots of reading, lying in bed reading, staying away from all my smoking friends.*

Jen spoke about advice that she was given by her doctor who had quit smoking years before. She was told about how systematically cutting back had worked for her doctor. This approach made sense to her and she was able to use it to help her reduce her intake.

Reducing the amount that was smoked was triggered by two main factors. Morning sickness was mentioned by five women *“I think it [morning sickness] had a lot to do with that, every time I went to have a smoke, it was like err, gross”* (JC). Concerns for the baby’s health were a worry. Natasha described: *“well I thought to myself well I want to give up this time cos I smoked with the other 3 and wanted a better life for the, this one, so, and a better start”*.

Four women who were admitted to hospital for pregnancy complications or to be induced remembered how they had been unable to smoke at all, or had smoked less. Reasons included being physically unable to get to the smoking area, not wanting to smoke in such a public place and feeling too ill. JC described several of these in her account:

*I cut down a lot when I was in hospital, and I was in hospital for 6 weeks, plus you'd need to go downstairs and outside, out on the road to smoke there anyhow, so can you really be bothered. And then I think cos of all the health officials, you know, and again, that, the whole smoking thing, that was me being self-conscious I guess and I don't know, I just didn't want to be looked down on you know, quietly I just wanted to be my own private person and not really let on you know. So it was easier for me to go hours without a cigarette in hospital, and I think too that bleeding, I started feeling really guilty, but obviously not guilty enough to make me stop.*

For some women, finding out they were pregnant was enough to enable them to stop smoking. For Tara, Yvonne, Kay and Melanie, the ability to

do this was heavily influenced by a decision made earlier in life “*I just knew that once I was pregnant everything would change, I was prepared for that*” (Melanie), “*already had a mindset that I’d give up smoking when I was pregnant*” (Tara). Quitting was driven by the fact that they were pregnant and their fears for their child’s health. “*The idea of being pregnant overtakes the need to smoke*” (Kay), “*I can poison my own body, but there’s an innocent little life, so it’s wasn’t about my health at all, it was about his health*” (Melanie).

Strategies used to keep from smoking included paying attention to friends and family who had experienced negative outcomes: “*my stepdaughter has chronic asthma because her mother smoked the whole way through her pregnancy*” (Kay). Women focused on information that reinforced their decision. For example, losing her first baby was a constant reminder for Leanne of what can happen and that was her one reason to not restart: “*I do want a healthy baby this time, not a dead baby*”. When talking about one of the three times she had lit up a cigarette during the pregnancy she said “*I’ll be half way through the smoke and I’ll just think about it [her baby who was stillborn] and put it out*”. Melanie recognised that that after quitting, she began to feel “*quite proud*” of herself. Tara experienced the death of a close family member during her pregnancy, and although being tempted to smoke, thought about her loved one and realised they wouldn’t want her to.

Of the six women who quit, Tara and Kay both said they would likely restart smoking “*once I finish breastfeeding, I generally go socialise and then I start accidentally start smoking again*” (Kay). Leanne and Natasha were sure they wouldn’t restart, and Melanie and Yvonne both expressed their desires to remain abstinent but also discussed how much they enjoyed smoking and that not smoking would be a struggle. Melanie described the down sides of quitting, that she had “*chubbed up, I hate it , um, yeah, just, I don’t know, I don’t know, there’s nothing in it for me, I still miss it and I still want it*”. For these women, the sole motivation enabling them to stop was the health of their baby.

## Summary

As illustrated with the range of statuses, the women were all at different stages of smoking and quitting. The changes some women made were significant or considered, and others were more subtle. Some changes were intuitive; others were through trial and error to find out what worked. Reasons to stop were either the health of the baby or their own morning sickness. Some women did not realise they had made changes until being questioned. Changes included: reducing smoking, changing where they smoked, delaying their morning cigarette, socialising with different people and changing their thoughts about smoking. Smoking was also considered alongside alcohol, illicit drugs and medications. For some women, smoking was seen as less damaging, and therefore changes they made in these other substances were prioritised.

### **THEME TWO: Negative Emotions: Guilt and Uncertainty**

When asked about their feelings towards smoking, generally women expressed a range of responses from *“we find ourselves disgusted with it now”* (Natasha) to *“I really enjoyed smoking”* (Yvonne). However, when talking about smoking during pregnancy, 14 of the 15 women reported guilt or other negative emotional responses. This was particularly evident if the baby had experienced a health complication such as hospitalisation, breathing troubles or stillbirth. Some descriptions of how participants felt include: *“so guilty”* (Tara), *“ashamed”* (Rachael), *“heavy conscience”* (Rachael), *“stupid”* (Melanie), *“Worried, it still bothers me”* (Jen), *“sad”* (Brianna), *“selfish”* (JC), *“frightened”* (Sasha), *“doing wrong”* (Rachael), *“it’s in the back of my mind, worry is still there”* (Stacey), *“I did feel bad”* (Daisy), *“It worried me the whole way through that I was still smoking”* (Jen), *“I always have concerns about when I’m pregnant, I always have concerns”* (Alison).

Women also spoke of past pregnancies and their older children who had experienced health complications that the women had connected to

smoking. Leanne and JC had both lost babies prior to birth and had to give birth naturally to them. Neither had been given a medical reason for their baby's death, but both attributed smoking as a causal factor. *"Has to be something to do with smoking, I mean, your blood just doesn't thin out for no reason, you know, it normally takes something like smoking for something like that to happen"* (JC), *"cos they couldn't find a reason why the baby died. Smoking is the only thing that happened during the pregnancy"* (Leanne).

*I know that I can have low birth weight children, children with asthma which I, actually my oldest daughter's got asthma and I have. My youngest daughter, she's been you know, she was quite small um, I wouldn't say she was premature, but she was quite small.* (Alison)

Five of the women who continued to smoke spoke of being frustrated and confused, questioning why pregnancy wasn't enough of a reason to make them stop smoking. Four of the five women commented that they had never told anyone of their frustration before.

*I've never been someone who can go (snaps fingers) like that, unless it's something I want to do and then. I don't know what stopped me giving up completely. I knew I should, I wanted to but obviously I didn't want to enough, deep down, if that makes any sense.* (Jen)

The women in this study were asked what their concerns for the baby were from the effects of smoking. Two women stated they had no concerns; the remaining 13 women all spoke about specific or general health complications. Seven women were concerned about their baby's breathing, lungs or oxygen, with several talking about asthma. Four women spoke about low birth weight and two mentioned sudden infant death syndrome (SIDS). Women also spoke about risk in general. For example: *"I just knew that it was not good for me it can't be good for an unborn child when they're sucking everything up from me"* (Tara). Jen replied: *"The health! The health of my son. Yeah, what I was doing to him"*

*in there*". Of all the women interviewed, those who were unable to quit were the most worried of the potential consequences, and were more focused on their failures than any of the other women. When the women who took time to stop spoke of the period where they were trying, they were also focused on their frustrations, guilt and inability.

Despite women talking about negative impacts on health, they were uncertain of the specific risks. *"I don't think smoking has any defects on their learning or on their brain or anything like that, what damage we don't know, I mean, what can it do to a baby really?"* (JC), *"They're gonna be sick regardless of whether you're a smoker or not"* (Karolyn). *"I'm more concerned about the more severe things like, before giving birth and after giving birth, um you know something could happen to your baby, so it, it's always on the back of my mind"* (Alison).

Previous experiences of their own or another's pregnancy were used to illustrate that smoking perhaps wasn't as concerning as it is purported to be: *"She kept saying to me all this low birth weight and stuff. My last pregnancy was 9lb, you know, and I smoked all the way through, thank God I did"* (Sasha). Stacey talked about how she was not too concerned about her baby being born with breathing difficulties, and explained: *"Well my other babies haven't got it [breathing problems] you know, this baby'll be fine"*. Alison discussed her friend's experiences *"I've had friends who have completely stopped smoking and they've had a stillbirth"*. In addition, four used the example that their mothers had smoked with them and they had turned out fine.

Two women felt the placenta and shallow inhaling would protect the baby, and adjusted their smoking behaviour according to these beliefs:

*I don't take a deep breath, I just take a real short quick, and back out, um, so that way I don't feel like it's going all the way down to my baby, so I'm hoping that my placenta and my own lungs can pick up the damage and deal with it.* (Brianna)

*I'd have a puff, just enough to in my mind, not break the placenta, the blood in the placenta or something you know, oh that won't hit her, just that puff won't hit her.*

(Rachael)

Alison felt that stopping completely during pregnancy and withdrawing the nicotine which the baby was already used to was more harmful than continuing to smoke. In addition, two women suggested that quitting would cause the baby more stress. Jen reported that she was told this by medical professionals looking after her:

*I kinda clung on to the fact that the midwife, and other people as well, and my doctor has said you know that sometimes, giving up comparing the stress of that is just as bad for the baby. So, I kinda had that as a way of making myself feel a little better.*

As illustrated by the examples from the women's interviews, guilt, shame, uncertainty and many other emotions were prevalent not only during pregnancy but after. The emotions women experienced were all focused on themselves, on their responsibility and on what they had failed to do. Women who did quit experienced guilt for their smoking before managing to quit, and the women who tried but did not succeed in quitting reported the highest levels of guilt and sensitivity to stimuli that triggered their guilt.

### **Summary**

Most of the women interviewed spoke about how they felt about smoking, as well as the negative emotional responses they had experienced as a result of smoking during pregnancy. They also spoke about their worries about what could happen to the foetus and several health complications were repeated across the interviews. This theme was noted throughout interviews, sometimes subtly. The women were acutely aware of the expectations of them from society, healthcare professionals, partners, family and friends. The pressure they felt from these people

contributed considerably to the guilt and shame they felt about smoking. However, guilt and similar emotions were not isolated to pregnancy, but were reported afterwards, sometimes years later. For women who had experienced unfortunate pregnancy outcomes, guilt was something they lived with every day. Several women queried why pregnancy wasn't enough of a reason to stop. Other women felt confused about the risks of smoking to the foetus, how to reduce risk, and reported that the information they had been given by their healthcare professional contrasted with either their own or other peoples experiences.

### **THEME THREE: Family and Friends: The Importance of those around them**

Twelve women had lived with someone who smoked; ten of these were living with their partner, the other two with flatmates. Most of the women had family or friends who smoked. All six women who quit lived with someone who had smoked. Kay and Natasha's partners quit smoking when they did and both felt that having their partner stop with them made quitting much easier *"it would be very hard if my husband didn't stop smoking"* (Kay). Leanne's partner smoked socially and only when he had been drinking, which was rare, and she reported he felt *"real proud of me not smoking, yeah he told me that a couple of months ago"*. Melanie's partner smoked cigars, which she felt were different to cigarettes and didn't affect her quitting. Yvonne's partner made attempts to quit with her and although he did relapse, the effort to support her was appreciated: *"it was good, it was really good, but he went through, the withdrawals things like that, and he went cold turkey as well. The stress got to him, he felt like he need to start again, and he just loves smoking"*. Tara asked her partner if he wanted to stop with her but he didn't and continued to smoke, although he did try to hide his smoking:

*He got concerned about how many cigarettes he had in front of me, so he would sneak outside saying he had to do other things like water the garden or go to the car. He could have just gone outside I'd not really have noticed. I*

*think he felt like didn't want to rub it in how many cigarettes he was having, so he would, um, make excuses to go outside. He couldn't smoke at work so this is his smoking place.*

Rachael and Melanie, who tried quitting but were not successful, lived with someone who smoked who didn't make any adjustments to their behaviour. These women and their partners used smoking as quality time together and both talked about sitting outside and chatting.

*I haven't worked out yet what else to do with that 5 minutes away from the kids because no matter where we are the kids follow and even the children may realise too you know, once we're out there, once we're outside, they don't come out. (Rachael)*

Jen, who also tried to quit, lived with her partner who used to smoke. Of all the participants, Jen spoke of the unconditional and non judgemental support she received from him. Despite preferring that she stopped, he understood why she continued and respected the attempts and changes she had made. *"I'm just lucky that he's awesome, he was really supportive, came to every midwives appointment, he was right in there and he was the only person there was no judgement from [about smoking], and it wasn't all negative".*

Five of the six women who didn't try to quit also lived with other people who smoked. Daisy and JC lived with flatmates and the rest with partners. None of these women's partners or flatmates made attempts to quit and only some made small alterations to their smoking such as smoking away from them. Three women spoke about how their partners would tell them they should stop smoking for the health of the baby: *"he'd [her baby's dad] be like stop smoking man, how many smokes have you had today? blah blah blah" (Daisy), "like even my partner, he's like, we should quit babe, it's not good for our babies and rahdy rah, and it's still not enough to make me quit" (Stacey).* Alison discussed how:

*He's actually a big part of why I still smoke and I'm not going to blame him, but he does, he thinks he smokes less than me, but he actually smokes a lot more than me. And when we have, or when I've tried to cut down it's been really hard because you see him go out for a cigarette. I would try to do it together and um he thinks it's a game who's going to crack first. So it usually doesn't last very long, and I find that even when we trying to give up um, he will um like he'll cut down but he'll go behind my back and have a sneaky cigarette.*

Of the nine women who continued to smoke or tried to quit, Brianna and Rachael were the only ones who felt that if their partner gave up during the pregnancy, it would help them stop. The remaining seven women reported their partner's smoking status was irrelevant to theirs and they would have continued smoking.

Leanne and Natasha reported that having friends who did not smoke made quitting easier, and Tara, Yvonne and Kay reported having supportive friends who tried to alter their smoking behaviours in a way that did not alienate them had a positive impact on their quitting.

All women except Natasha talked about how various members of their social group or family smoked, and therefore they could not always avoid being around temptation. Brianna spoke about how friends and her partner felt it was polite to offer a cigarette if they were smoking, and if not offered, she would feel neglected.

Five women felt there was a sense of understanding from being with other people who smoked: *"it was usually other smokers who would understand the whole issue of smoking that I would smoke in front of"* (Jen). *"We put ourselves in the naughty corner"* (Rachael), *"my friends knew no one judged me, they were fine, if you smoke you smoke, if you don't you don't"* (Sasha).

*Between friends funny enough, like um, I think most of them because they know people who have smoked and*

*didn't have a problem at all and have healthy healthy healthy babies, even though they smoked throughout their whole pregnancy, not even caring about it, supposedly. Um, they all have their stories, like, hey you know it's alright, they don't judge me"* (Brianna).

Women also met with situations that frustrated them. Yvonne discussed how her partner's family would pressure her: *"they're smokers; they say to me, all the time, oh you can still smoke, you know, people have been doing it for years"*. These family members, despite being asked by her partner to stop, would not change their smoking behaviours or discourse around her. Alison experienced similar behaviours with her partner's family smoking next to her in a car or in the same room; she didn't ask them not to as she knew it wouldn't change anything. Conversely, Melanie found it hard to be with friends socially who smoked as they were aware of her being pregnant and she would find the group physically kept moving away from her, making her feel left out.

Parents were identified as a source of stress for five women. Some women were not comfortable telling their parents they were smoking during pregnancy, and if asked, they denied smoking: *"God I'd break my father's heart if he knew I was still smoking"* (Jen). Brianna struggled with her mother, and after one phone call, decided to tell her she had quit smoking:

*She [mother] freaked out like like crazy when she found out I was pregnant, because of the smoking, like you're pregnant, stop smoking, and I thought, well I know, but it didn't make it, it seemed to make it worse. Like after that phone call, all I wanted was a cigarette, like, um, cos she was really stressing me out.*

## **Summary**

Most of the women lived with someone who smoked during their pregnancy. Some of whom made alterations to their smoking, most of who

did not. Whether they made changes or not, partners did speak to the women about stopping for the health of the baby. This was often frustrating for the women. Most of the women also socialised with and were related to people who smoked. Several women reported that these people did contribute to their continued smoking or cessation, but it was apparent that not all women were aware of how influential these people were. With some people, the women did adjust or deny their smoking in order to protect themselves from feedback that they did not want to deal with. In particular, parents were often a source of stress and the women did not want them to find out about their smoking.

#### **THEME FOUR: Mixed Experiences in Antenatal Care**

Women were asked about what their midwife had said to them about smoking, what advice had been of particular help or if any had been unhelpful. Eight women talked about how the advice, support or information had not matched their needs. Five women wanting advice were offered very little or nothing at all, *“that’s the bizarre thing, she didn’t ask me if I was still smoking”* (Jen), *“she didn’t give me any literature about anything, she was useless”* (Melanie), *“she smoked throughout her pregnancies, and I knew that. She felt like she couldn’t be a hypocrite and say: don’t smoke during your pregnancy”* (Yvonne). Jen spoke of *“a lack of active encouragement”* and said:

*She’d have little things that she’d obviously were her favourite areas of looking after and then other stuff kinda went out the window. But it was almost like, ok I have to go through this, you know they have a checklist, and that’s why, smoking was on the checklist of information that you needed to have and then it was never addressed again.*

Leanne, who described herself as not having any knowledge around the risks to the baby in her first pregnancy, reported that she was simply told *“it’s not good for the baby”* once or twice and was not offered any

cessation advice or support. She went on to say *“every midwife should encourage women who are pregnant that the effects of what, what it might do to the baby, and every time they see them they should perhaps encourage them a bit”*. Five women from this study recalled smoking being raised at an initial appointment and not spoken about again.

On the other hand, three women who didn't want to be spoken to about cessation or smoking felt *“nagged”* (Brianna). Stacey reported having a *“primo”* relationship with her midwife, yet the topic of smoking was one that was never received well *“it's like oh God shut up, we were just talking about this last week”*. To try to avoid this topic during appointments, Sasha halved the amount she told her midwife she was smoking.

In contrast, five women felt the information or support they received suited them. Natasha and Kay both quit smoking, and Natasha was told *“if you need it [cessation support or assistance] then just let me know and I'll sort it out”*. Leanne recalled an appointment in her second pregnancy: *“my doctor told me if you feel like smoking again come and see me and I'll give you some lozenges and patches but I didn't know that they did that kind of stuff before”*. Kay remembered how her midwife *“just asked me and checked in to see if I was still not smoking probably for the first maybe three or four visits but those three or four visits are monthly”*. Some women who continued to smoke also had positive experiences: *“I was doing my best and she knew that”* (Rachael), *“we did talk about it, she did give me a pamphlet but she just sort of took it on that you know what to do, you know what it does to you, it's up to you”* (JC).

When asked about the cessation information they had been given, some women talked about how education, posters and advice at times caused frustration: *“annoy me more-so, because they are over exaggerating the harm”* (Brianna), *“I was just hearing blah blah blah, I've heard it all before. Reduced oxygen supplies and all this kind of stuff, I know that, I'm not stupid”* (Sasha). Cessation literature was also overlooked by some women: *“when they first come out I didn't like them, especially the baby one, but now I don't really, I just don't notice the*

*pictures any more*" (Stacey). Melanie reported that for her the warnings aren't strong enough:

*You shouldn't smoke, you shouldn't drink, this may happen to your baby, but you see all of these babies out there and there's nothing wrong with them and you think to yourself, oh yeah really? So it's almost like it's not strong enough, the warnings.*

For Jen, who struggled to quit, advertising made her feel bad "*There's a sign in the toilet at the midwives that reminded you every time you walked out the door, yeah ok, the first room of my baby's life isn't smoke free*".

Leanne spoke of her different awareness of anti-smoking literature comparing her experiences in her two pregnancies: "*I'm aware now, [of anti-smoking in pregnancy literature] there's even ones [posters] that say that it can cause stillbirths. But I never took that in, I used to think that wouldn't ever happen to me*". Women who had experienced or witnessed the adverse effects of smoking during pregnancy were more attuned to anti-smoking literature. Kay remembered a phrase that she tells herself "*Every time you smoke, your baby holds its breath*", and having seen the problems she considers to be the result of antenatal smoking with her stepdaughter, uses the two combined as powerful reinforcement for her continued cessation.

Several women discussed Quitline, with four being offered the Quitline number or literature by their midwife. However, most women had tried the service at some point prior to pregnancy and because it had not helped them to quit in the past, women did not consider Quitline to be a service they would use during pregnancy.

The most frequently mentioned cessation option offered to women was NRT, and all women commented on it at some point during the interview. Out of this group, only Natasha used NRT for a short time to help her quit. Due to other health reasons, Rachael was unable to, two women reported trying it but not liking it, three didn't want to use NRT whilst pregnant,

Leanne, Tara and Kay needed no assistance in quitting and the remaining five hadn't tried NRT or were not interested. *"I didn't use that because it was the same thing, it's nicotine going into my system, isn't that what I'm trying to stop, what's the point, I might as well have a cigarette to have a puff on a cigarette"* (Melanie). NRT patches were mainly talked about, but some women spoke of being offered lozenges or gum by their midwife.

### **Summary**

Women in this study reported very different experiences with their healthcare professionals. Some reported good experiences that met their needs and resulted in them feeling supported and listened to. Other women felt their needs were overlooked. The desire for this aspect of healthcare to be relevant to them and their situation, was evident, and their frustration at not being heard was expressed clearly. Likewise, antenatal literature received differing responses. Some women were encouraged by it and even used it to help maintain their cessation, others felt frustrated by it, ignored it or didn't see them. NRT received only brief mention and Quitline was dismissed as being ineffective previously.

### **THEME FIVE: Judging and being Judged**

Six women who smoked at some point in their pregnancy could remember when they had felt judged or negatively assessed by people in public, friends or family.

*People don't say anything, but you can see. You can see them looking at you. It doesn't make you feel very good. Which is ironic cos you know you need to give up, you have this ongoing dialogue, but then, the negative feelings that get directed at you doesn't help you with the quitting. You soon figured who you wanted to tell what.*  
(Jen)

*This woman looked over and there I was with this glass of champagne in front of me and I'd just had a puff on a cigarette and I could just see this woman and her eyes and thinking, yup, you're judging me, fuck off. She has no idea what I used to do, she has no idea how good I'm being. (Melanie)*

Jen described feeling like she had become public property and spoke of how her friends reacted when they found out about her smoking. For Sasha, knowing that her partner would nag her for smoking, she told him she had cut down to one or two cigarettes a day. She reported that she wouldn't smoke if he was at home as she didn't want to deal with how he would react if he knew she was smoking about ten. When Leanne was asked about other people's reactions, she spoke about her first pregnancy when she was smoking. Her initial response was that she had never received any negative reactions. However, after another question had been asked, Leanne remembered the following incident:

*I do remember actually when I went up and they were going to induce me before I took that induce pill at the hospital, I was just in a nightie and you know, my stomach just sort of showed out a little bit, a bump. And I remember I was just outside the hospital, you weren't really allowed to smoke out there where the delivery suite is, but a little bit over, there's some stairs as soon as you come out the main door there's some stairs right across. Um I was just in there having a cigarette and I remember a nurse walking in and she saw me and I saw her look down at my stomach, and she gave me a dirty as look like um, but it didn't really do anything to me, I just thought in my head "bitch", like you know, that's what I thought. But that actually really got to me after, afterwards, like after the still birth was all over and that, that look of that nurse, um, it didn't get to me till later on, that why she looked at me like that. And I think now, now I understand*

*why she looked at me like that now. And she wasn't a bitch really, she wasn't.* (Leanne)

To avoid being judged or responded to critically, women hid their smoking or carefully chose who they would talk to about it: *"a lot of people would look down on mums smoking. So I think for me, I think it was more, a self-image, a self-image or something. I didn't want to be that pregnant woman, in public, smoking where people can clearly see I'm hapu [pregnant]"* (JC). *"I wouldn't smoke in public, I was a closet smoker"* (Sasha). *"Actually being out in public is probably a really good way of not smoking. Being out in public, now that it's obvious that I'm pregnant like you can see it, I can't hide it, I would feel very embarrassed"* (Brianna).

In contrast, Stacey, Daisy and Karolyn reported not being affected by other people's reactions or even noticing they may have been judged. Despite this, Karolyn spoke of a nurse who gave her a 'lecture' about smoking in the hospital. The nurse spoke to her about her own husband who had died of lung cancer and Karolyn viewed this nurse as *"having a go"* and *"being rude"*. Even though Karolyn's mother (who was present at times during the interview) assured her that is was because the nurse was passionate and it was clearly a personal matter, Karolyn replied *"it was her being nasty"*.

Women's thoughts and reactions towards other women who smoked during pregnancy varied *"that's gonna harm the baby and you don't care, that's another breed of person to me"* (Rachael), *"some just don't care"* (Tara), *"I'd hope that they'd have tried to quit for their baby, but you know, some people just don't and that's fine. I don't want to judge people, I've been there and stuff"* (Yvonne). Natasha, who had recently quit, spoke with frustration about a woman she knew who was smoking, even though she had smoked through three previous pregnancies: *"there's one pregnant woman that goes to kindy, but she smokes and she's due around the same time as me and it's like, she sits there and she's a chain smoker and I'm like I can't, why don't you think of your baby"*.

Women who continued to smoke were generally reluctant to pass any kind of judgement on another woman's behaviour whilst pregnant "*who am I to judge?*" (Sasha),

*If that's what she wants to do, then that's up to her, I know how hard it is to give up smoking, I wouldn't judge her or anything like that. The hardest thing I think for myself is getting people, when you're pregnant and you smoke, is to getting people to understand what you are going through and it's not always simple cos everyone is different and everyone has a different opinion on smoking when pregnant, and um, people are exposed to different situations that can stress them out, and so everybody's different.* (Alison)

Women were asked about why they made contact about the research and chose to take part. Reasons for five women were the hesitancy of people to talk about the smoking and pregnancy and the opportunity to talk openly about an invisible topic without judgment. Two women thought there was the possibility of some kind of benefit for themselves and four wanted to be able to share their experiences and stories to possibly help others.

*I might actually get something beneficial out of it for myself. So just to be able to talk about it, it's a bit more than just talking with a friend. Talking with a friend is one thing and I think lots of people are quite. It doesn't matter if they're mums, not mums, smokers or not smokers, they're quite uncomfortable talking about it in general.* (Brianna)

*I saw it in the paper, and I thought oh that's cool, cos no one talks about smoking when you're, you know. They do surveys and stuff on drinking and everything else, but not smoking for some reason. Maybe society thinks that we*

*all give up or something, but we don't, there's lots of us.*  
(Sasha)

*Because of the invisibility, there's not really anything. It's a taboo topic, it's so taboo and it's almost like, well if we address how we work with pregnant women who smoke then it will almost look like we condone it, but then um, it doesn't help those women.* (Jen)

## **Summary**

Smoking during pregnancy is a sensitive subject. Members of society, family and friends have varied and often strong views about this topic that can elicit powerful emotions in the women who do smoke. For many of the women who continued to smoke this focus increased the pressure they already felt and resulted in them being alert to perceived or real negative feedback or comments. Most women were able to recall an incident that had left them feeling as though they had been judged. As a result, women chose not to talk about the topic, and when they did, they were careful who they spoke to and what they said. Furthermore, to avoid having to talk to people about smoking, they hid their smoking and changed their behaviours. Being aware of perceptions of themselves, women were careful about what they said about other women who smoked. The responses to why the women chose to take part in this study illustrate how women wanted to have their voices heard. Several spoke about helping others or learning something for themselves. Women placed themselves in other women's roles and hoped that somehow their experiences would be understood and reflected. The lack of understanding women felt, and their sense of isolation is clearly evident from the responses provided, as is their relief about talking about it. This section also highlights how aware women are of the stigma and the expectations of them to quit.

## **Chapter Five: Discussion**

The purpose of this research was to investigate what factors affect smoking and cessation during pregnancy. Several main themes emerged from the interviews and in this chapter, aspects of these are further explored and practical implications are considered. This chapter discusses the following:

The implications of the terms typically used to categorise pregnant women: smokers and quitters. Instead, this small study has highlighted a potential range of experiences. The use of labels is discussed and compared with the stages of change model and use of the ABC framework, along with a tool that may help healthcare practitioners individualise their approach with clients. The importance of understanding women's responses to smoking is discussed, in particular for their own well-being and for their relationship with their unborn baby. The longevity of guilt is explored as well as how guilt significantly influenced women's smoking behaviours. Most women changed their behaviours to avoid being judged or being made to feel guilty. Finally, this chapter discusses self-efficacy and the relationship between effort to quit and emotion. The chapter finishes with a discussion of strengths, limitations, practical implications and a conclusion.

### **The Dangers of Dichotomy**

The first finding from this study is that the women presented with a range of smoking/cessation ('quitting') behaviours. This contrasted with most of the literature reviewed, which typically categorised women as 'smokers' or 'quitters'. The simplicity of the two terms assumes women will fall into one of these distinct groups. The results from this study revealed that women's experiences were more complex and not so easily defined. These oversimplified labels ignore the differences between women such as their desire, behavioural changes, and the individual factors each woman faces. In addition, categorising women into one of these groups

ignores women's experiences of trying or struggling to quit. Not recognising individual factors has been acknowledged to contribute to the limited success of interventions for pregnant women who smoke (Allen et al., 2012).

Of the 'quitters' in this study, there were two women who stopped without any assistance, and did so immediately because they found out they were pregnant. Another woman also spontaneously quit, but as a result of her previous experiences of smoking during pregnancy. Among the women who took time to quit, there were also variations in their experiences. Some women did so within a short time frame, and others struggled and took longer. Although they all quit, their experiences in reaching their desired goal were different. In addition, their ability to refrain from smoking was affected by numerous variables such as positive self-reinforcement, social support, prior experiences and adaptation of coping mechanisms. It is perhaps the use of the term 'quitter' that contributes to the perception that all women should be able to spontaneously quit when they find out they are pregnant, an expectation the women in this study were acutely aware of. 'Quitter' does not offer any insight as to what women go through to achieve or maintain this state; it is simply implied that they should stop.

The second group of women usually referred to in the literature are those who continue to smoke, some of whom will try to desist. Of those in this study who did not try to stop, one woman wanted to, two thought about stopping, and three did not consider stopping. Whilst it may seem logical to call them smokers, the use of this term places smoking within the woman; she is defined by this. Such language makes assumptions about women and they are treated according to those assumptions (Bull et al., 2007). The term 'smoker' has negative connotations for people generally, but this is especially relevant to pregnant women where there are different social expectations of them. Members of the public, partners, family and friends were noted in this study, and others (Bull et al., 2007), to openly disapprove and chastise pregnant women for smoking. These reactions have resulted in several outcomes. Women were defensive of their right to

smoke, they hid their smoking, or they were reluctant to identify as a person who smoked to their support people or healthcare professional for fear of a negative reaction. Women perceiving healthcare professionals to be making judgements may be influenced by their awareness of the stigma of smoking. However it has been found that midwives do make assumption, about her client, and these can influence what information she provides them (Herberts & Sykes, 2012).

Thyrian et al. (2006) found that midwives reported several barriers in providing cessation advice to expectant mothers. These included their level of comfort with the client, judgements about whether the advice would result in cessation, and that smoking cessation is less concerning than other life stressors or health problems for some women. By identifying a woman as a 'smoker', it is possible that assumptions were made by healthcare professionals caring for the women in this study that discouraged attempts to help women change their smoking behaviours. The opportunity to provide cessation advice or support was potentially over-shadowed, leaving women uninformed, unsupported, and contributing to feelings of isolation, frustration and poor self-efficacy. This was reflected in the women's recollections about their interactions with their healthcare providers in this study.

It is also possible that women missed opportunities for support and advice because they were fearful of being perceived negatively. Women reported wanting to be heard without feeling they were being judged, but being too fearful of negative evaluation to express themselves. Women in this study described how feeling judged led them to deny and under-report their smoking. Women were sensitive to how their midwife might perceive them. Both healthcare professionals and women make evaluations and judgements of the other person. If either person misjudges, or wrongly evaluates the other, a space is created between them for miscommunication and avoidance of the topic. As found in this study, what was said to women and how it was said was important and did affect a woman's responsiveness to speaking about smoking, and acting upon cessation advice (Arborelius et al., 1997; Ebert & Fahy, 2007).

The remaining women who don't easily fit into these two categories of 'quitter' and 'smoker' are those who tried to stop smoking. Generally, they would continue to be referred to as 'smokers' in public or in research. This is despite having made dramatic and varied changes in their smoking behaviours. The women in this study reported their efforts were generally unrecognised by themselves or others. Of all the participants in this study, these women were the ones most emotionally affected by smoking. This was noted in how they spoke about themselves. If a woman makes significant adjustments in her smoking levels in response to pregnancy, continuing to call her a 'smoker' does not differentiate her from women who make no effort to stop or who do not consider stopping. Women who tried to quit distanced themselves from those who smoked heavily and were clear in the distinction between their efforts and other women's lack of attempts. Labels and a person's level of identification can affect a person's confidence in their own abilities or their intent to make changes (Falomir & Invernizzi, 1999). Confidence in one's self, is defined as personal and global feelings of self-worth, regard and acceptance (Crocker, 1999), the reduction of which can affect a person's experiences both in the eyes of others and personally. This is especially true if a person is feeling stigmatised (Crocker, 1999). The importance of recognising the influence of a label is that if women identify as being a 'smoker', this can have a detrimental effect on their confidence or self-efficacy in their ability to quit (Tod, 2003; Elvey, 2003).

Furthermore, if their efforts to reduce the frequency of their smoking are not acknowledged, this may affect current or future cessation efforts (Pollack et al., 2006). Positive reinforcement encourages women to continue their cessation attempts, or increase and maintain their reduction (Pollack et al., 2006). In this study, women valued recognition by their partners and other people of their efforts, and they were encouraged by praise and support. They particularly felt supported when their healthcare practitioner acknowledged their efforts.

Although research has proposed that pregnancy is a time when women are more likely to give up smoking (Pollack et al., 2006), some women in

this study felt that quitting was not an option for them until after pregnancy, when they would be less stressed or emotional, and when they feel they would be better able to deal with cessation. When considering the stages of change model, the model that illustrates the processes people with addictive or habitual behaviours go through when quitting, it would imply that these women are in the preparation stage. However, this model is no longer deemed appropriate to use with women who are pregnant. The reasons for this are that the potential health outcomes that may affect a foetus are prioritised over the women's desire or readiness. Yet, as an explanatory model of where a woman is in her desire or readiness to quit, the stages of change model is informative. Understanding a woman's readiness may actually help healthcare providers to negotiate conversations with women about this delicate subject. All women who smoke need to be given information about the risks of smoking to enable them to make an informed and supported choice, how this information is given to them is important.

If a healthcare provider has an understanding of a woman and her smoking, the ABC model will be better utilised. As illustrated in this study, women who were not ready to stop and who were told to quit were annoyed by this. They did not like being spoken to so directly. They were frustrated by their healthcare provider and several stopped hearing what was said to them. Ignoring a woman's readiness or intent to stop may further serve to alienate them if not approached carefully.

There are similarities between the stages of change model and the range developed from this study. Unlike the model which views a person as part of a dynamic, cyclical process of change, the range categorises a person depending on their current state (specifically related to pregnancy). As with stages of change, it was also clear that women may or may not move between categories as their circumstances changed. Whilst informative, the model does not provide information specific to pregnancy. The implications and use of this model will be discussed in the *Implications* section towards the end of this chapter.

## **Guilt and Other Negative Emotional Responses**

Even though some women did not consider quitting, being pregnant did change how most smoked, and how they felt about it. Most reported some level of concern about the health of their baby, prompting them to cut down the amount they smoked. The concerns women expressed in this study are reflective of those found in others. The most common concerns mentioned were asthma, breathing, lung development, and low birth weight. As in other studies, the implications of these conditions later in life were not raised (Petersen et al., 2009; Wood et al., 2008).

Fourteen of the women in this study responded with negative emotions such as guilt when talking about smoking in pregnancy. These emotions resulted from a range of situations. The women expressed concern that their smoking behaviour could exert a negative impact on their baby, and most who did not stop felt they were failing to meet broader societal expectations. Those who reported being vigilant to the impact of perceived negative social judgement avoided situations where they felt they could be exposed. Women who tried to quit spoke of guilt because they continued to smoke, not just because of the cigarettes they smoked. Other women talked about the cigarettes they had smoked whilst trying to quit and how this made them feel. Even women who quit spontaneously expressed guilt about the cigarettes they had smoked before finding out they were pregnant. Tara reported that she felt guilty about the one she was smoking when she found out she was pregnant; this was despite handing the cigarette to her husband and not smoking again. Women also spoke about guilt when they talked about the future and what could happen to their baby as a consequence of smoking. One woman reported anticipating guilt because she would re-start smoking after she had finished breastfeeding.

These kinds of responses were talked about when women recalled pregnancy complications, or remembered a time when their child had become ill with something they considered to be caused by smoking. Two women who smoked during their pregnancy spoke about taking their babies to hospital with asthma attacks and chest infections and thinking

back to their pregnancy when they had smoked. The two women who had lost their babies felt immeasurable guilt, as they believed that their smoking contributed to the deaths. This was despite receiving assurances from medical staff that smoking was not a causal factor. Other women spoke of how they had held onto feelings of guilt for years and had not spoken to anyone about these.

Guilt impacted on what women heard, saw and noticed around them. This can be understood as attentional bias; increased or decreased attention to stimuli that supports a person's particular beliefs in order to enhance their wellbeing (Greenaway et al., 2012). Two kinds of attentional bias were noted in this study. The first was most evident in women who had not considered stopping. Several women spoke of avoiding anti-smoking literature if offered it and not wanting to hear about cessation if the discussion was proposed. Women also reported not noticing anti-smoking posters or leaflets if unprompted. These women were overly sensitive to anti-smoking cues and actively tried to distance themselves from them. Some of these actions appear to have occurred through conscious decisions and others through unconscious cognitive processes. Perhaps being confronted with emotionally provocative stimuli triggered feelings of guilt that they did not want to address, or did not know how to manage. In order to reduce, or cope with these, it was easier to block out the stimuli than to acknowledge it.

The second kind of attentional bias was noted when women paid increased attention to anti-smoking stimuli or experiences. These women had tried to quit, or had quit. They used their attention to reinforce their cessation. This was seen when they focused on negative outcomes of theirs or another woman's pregnancy. The more personal or worrying the experience, the more influential it was on their cessation. Some women were able to recite slogans from anti-smoking literature and used them as reinforcement of their cessation.

Guilt and concern for their baby's health were driving forces behind many of the behavioural changes women made, including hiding or denying their smoking. Women hid or denied smoking from healthcare

professionals, friends, family, and even their partners. Hiding allowed them to avoid feeling judged or assessed, experiences that made most feel guilty or ashamed. Understanding women's experiences of being judged is important in order to gain insight into why women deny or hide their smoking. Furthermore, it may appear from the efforts women make to hide their smoking that they do not want to talk about it. Yet the answers to the question about why women took part in this study contradict this. Women said they wanted to speak about this topic openly and without judgement. In addition, they said that they wanted to help other women who might be in the same situation or to benefit themselves by either getting ideas for quitting or by being able to talk to someone. These answers came from all women, including those who continued to smoke and who had denied smoking to their midwives. According to these women, they no longer wanted to be isolated or invisible. The contrast in their behaviours and what they said in response to this question highlights the importance of healthcare providers carefully spending time discussing this topic. Women avoid this topic if they feel they will be judged, but many expressed desire to talk about it in a safe environment where they would be heard.

### **Smoking and Quitting: Perception and Reality**

The women's stories revealed that smoking was integral to women's lives before, during and after pregnancy. This was reported by women who continued to smoke, and also those who had quit. The ongoing cravings and increased awareness to smoking and smoking related cues meant that women still thought about it, desired it and were tempted by it long after stopping.

Smoking served many functions. The women reported smoking as a means to cope with stress, to relax, as brief respite (time out) from their children, and to enhance time with their partners. Smoking was also part of the participants' daily routines. None of the women spoke of being provided alternative ways to manage cravings or their reliance on smoking, other than NRT. The women who did try to think of strategies

themselves reported some success. Some approaches were intuitive and others were through trial and error. Women had awareness of what smoking meant to them, but did not always know how to address it. For example, Rachael spoke of needing time away from her children, and time with her partner, however she couldn't work out what else they could do instead.

Women who struggled with quitting spoke about how they obviously did not want to quit enough, or questioned why pregnancy was not enough of a reason for them to quit. They reported feeling angry, frustrated and guilty that they saw themselves as prioritising their needs over those of their child. Discourse around 'not wanting to quit enough' focused the responsibility on them and implied that cessation was only dependent on their motivation. Motivation is an attribute that enables a person to identify with their behaviour, commit to change, and make changes (Miller & Rollnick, 2002). The consequences of women feeling solely responsible for quitting or feeling as though they had failed if they did not quit were clear in the negative emotional reactions they experienced and their focus on their own perceived failures rather than the changes they had made.

Believing that quitting is only their responsibility meant women overlooked the context within which they lived, their social support, the function of smoking and their own previous experiences. The pressure women placed upon themselves for quitting and making changes did not enable them to consider these factors. Their focus on what they lacked or on how they had failed reinforced their inability, or low self-efficacy. One study tried to use Motivation Interviewing to increase rates of cessation in pregnant women. Motivational Interviewing is a therapy designed to help people change a wide range of addictive behaviours (Miller & Rollnick, 2002). When comparing pregnant women who received motivational interviewing, and women who did not, it was found there was no increase in rates of cessation during pregnancy (Hayes et al., 2012). Hence, focusing on a woman's level of motivation for quitting ignores other factors and barriers that are contributory and that have been shown to be important in desisting, such as smoke-free homes. In addition, if women

see themselves as not having the motivation to quit, this becomes a self-fulfilling prophecy more likely to result in failure (Tod, 2003). This view was reflected in the discourse with the women who spoke about their repeated attempts at quitting in the past, their likely inability to quit and their questioning of why pregnancy was not enough of a reason.

As was found in other research (Abrahamsson et al., 2005; Ebert & Fahy, 2007), women see cessation as their responsibility and if they are not successful, the inability to quit is their fault. Women reported that being made to feel guilty, or perceiving that they would be made to feel guilty by people around them, led them to withdraw, in some instances completely cutting ties. Women felt they had to censor their behaviours and what they said so they did not reveal their smoking. Examples from the interviews highlighted how women felt they were given nasty looks, were told off, spoken to rudely, or felt people had made assumptions about them. Feeling judged in these ways may only reinforce the perception they have of society not understanding, not tolerating their situation, or as being outsiders. Thus, women reported only smoking at home, or when their partner was at work. Some hid their pregnancy so they could smoke publicly, and most were selective in whom they told they smoked. Cutting themselves off from people might provide some temporary relief from negative experiences, but it might also lead to a sense of isolation and women referred to feeling this way.

Isolation can occur when people either have, or perceive themselves as having an attribute that differentiates them from the rest of the population. This can result in a person reporting they are lonely or isolated. According to Cacioppo and Hawkley (2009), this can also be referred to as perceived social isolation (PSI). PSI is influenced by the quality of social interactions, not the quantity, which more typically defines isolation (Cacioppo & Hawkley, 2009). The effects of PSI have been associated to an increased risk for negative and depressive cognitions, heightened sensitivity to social threats, and biases in attention and memory. Alterations to these cognitive systems affect emotions, decision making and interpersonal interactions. Changes in these systems have been shown to affect a woman's social

experiences and many of which were found in this study. People who are lonely view their social world as threatening, hold more negative expectations of social situations and can recall negative experiences easier. PSI develops into a vicious circle; the negative experiences women have related to smoking are likely to compound their isolation and contribute to limiting their social interactions. Several women described themselves as isolated and this was an additional stressor for them. The implications of isolation are that women are unable to access and use their support networks. Several women spoke about how they were restricted to a small number of people who they could talk to; nearly all of these people smoked.

Cognitive changes and isolation can affect not only the woman's wellbeing but may potentially affect her relationship with her baby. The women in this study who did not stop smoking spoke about being "*bad*" or "*doing wrong*". Poor self-concept or self-esteem as a mother is known to impact on the development of affection for the baby and can affect a woman's level of self-efficacy for being a good mother (Drake, Humenick, Amankwaa, Younger, & Roux, 2007; Matthey, Kavanagh, Howie, Barnett, & Charles, 2004).

### **Self-efficacy: The Relationship between Effort to Quit and Emotion**

Women in this study who struggled with quitting and did not manage to stop displayed more concern for their baby's health than any other group. By not stopping, they felt they had let their baby and themselves down. These women described how the dramatic changes that they had made in their smoking were overlooked by others and themselves, because quitting was viewed as all or nothing. They did not always seem to recognise the complex set of factors that supported their smoking and made it hard to quit. These include physiological addiction to nicotine, how their social context reinforced smoking, and the need for new coping techniques to replace smoking. Nichter and colleagues (2007) also found that women who were unable to quit perceived themselves to be 'bad'

mothers who were doing wrong. Their lack of self-efficacy impacted negatively on their identity as an expectant mother. Total cessation is the message that is being given by cessation services, as it is believed that even low levels of smoking can still cause damage to a foetus (Allen et al., 2012). Whilst this is understandable in terms of risk, for women who are unable to stop, this message may reinforce their perceived failure and actually restrict their efforts at quitting (Ebert & Fahy, 2007). For women who see quitting as an insurmountable task, total cessation may simply be too much of a demand, and those who tried but could not quit in this study reflected this. How messages about cessation are delivered to women is important to ensure they do not feel more alienated or ostracised, and that they are empowered in their ability to stop.

Although most of the women who were interviewed were concerned about the risks to the baby, some women did highlight that they were unsure as to whether the risks were real or whether they were relevant to them. This has also been found in other research (Nichter et al., 2007; Abrahamsson et al., 2005). Personal experiences of their own or another person's pregnancy were used as examples to contradict the advice they were given and to explain their smoking. Several women interpreted this contradiction as meaning that smoking might not be so bad for their baby or that the risks were not as high. These discussions were especially prominent with women who had not tried to stop.

Increased awareness of the risks of maternal smoking on the health and wellbeing of the foetus have seen women's partners, families and even households included in cessation services (Woods, 2013; Allen et al., 2012; WHO, 2013). Twelve of the women in the current study lived with people who smoked, most of them partners. The importance of the partner's role and how much women may underestimate their influence was illustrated by Karolyn and JC. Both continued to smoke during their pregnancy, and both stated in their interviews that their partner's smoking status was irrelevant to their own. However, it was interesting to note that later in Karolyn's interview, she spoke about having stopped smoking since her pregnancy because her new partner did not like it. Even though

she had not thought about her previous partner's smoking status as contributing to her own, she had quit to please her new partner. Similarly, JC said that if she got pregnant with her new partner, she would probably stop because he and his family were all "*health freaks*" and did not like smoking. The responses of Brianna, Stacey and Rachael showed that they were aware that their smoking was influenced by their partners' smoking but were unsure how to express this to them. The importance of helping women and their partners to understand how important a partner's role is may help improve cessation rates. This can be achieved through both partners being more aware of the other, education on triggers and relapse and the importance of support. This also removes the concentrated focus on the expectant mother.

### **Strengths of the Study**

One of the strengths of this study is the number of women who participated. It was unknown at the outset how difficult recruitment might be as this is a sensitive subject, and one that women typically avoid talking about. However, there was very good response to the newspaper articles and social media, and a diverse group of women were recruited in a short time. The interviews gave the women a chance to be heard without judgment or any expectations and several women expressed their relief at being able to talk about smoking openly. This study provided a space for women to tell their stories instead of focusing on a particular aspect of smoking or pregnancy. The semi-structured approach worked well and whilst commonalities between their stories emerged, there were many individual moments that came through.

It is interesting to note that the midwifery offices were not a major source of recruitment in this study, and there are numerous potential reasons for this. One possible factor is that if women who smoke are alert to smoking cues, they may have subconsciously blocked out the recruitment poster, or chosen to ignore it. This would be especially relevant in a midwifery office. These are dedicated centres of antenatal

care, and a place where several under-reported or denied smoking as so concerned of how they would be responded to. Instead, women primarily responded to the newspaper article or Facebook. Both of these provided anonymity and allowed the women to read and make decisions about participation privately and in their own home. The efficacy of anti-smoking posters in a midwifery office could be interesting research project in the future.

In addition, the 15 women provided a diverse range of experiences. Not only were they at different stages antenatally and postnatally, but they displayed a variety of smoking statuses that allowed for a range to be described. This research recognised the different smoking statuses that women presented with rather than categorizing women as smokers or quitters. This is a unique aspect of this research and one that provides the opportunity for further exploration. This finding contributed to the development of a tool to help healthcare practitioners to identify where a woman is in regards to her readiness, interest and knowledge around stopping smoking

The women who were trying to quit or who struggled with quitting used the widest variety of strategies to reduce smoking than any other group. These included social changes, increased attention to personal needs such as long baths and time out, and treating themselves with special food or a relaxing book. Women who quit spoke of their own emotional recognition and feeling proud, or having others express their approval. This is important as it highlights how idiosyncratic cessation is and how important it is for healthcare practitioners to help their clients find what works for them. It also highlights that acknowledging a woman's efforts is another way to open up the topic, build some trust and work towards the goal of reducing or stopping if desired by the client.

This study also acknowledged guilt. Research often reports guilt as a part of smoking during pregnancy. However, this study found that women experienced guilt from a range of sources and carried guilt with them long after pregnancy. This is an important point and not one that has been noted in the literature on smoking and pregnancy thus far. Guilt it was a

strong and consistent theme, throughout the interviews. Little research has reported this sustained experience of guilt and this could be an interesting focus of future research into women's self-perception after pregnancy. The fact that women hold onto negative feelings long after their pregnancies highlights that guilt and associated negative feelings are something that may need to be addressed during pregnancy in order to strengthen women's wellbeing after.

## **Limitations**

There are several limitations of this study. As a qualitative study it is not designed to make generalisations to the wider population. The circumstances of these women may not apply to others in the community. The women who replied to the advertisements may have very different characteristics to those who chose not to reply. Hence, the clinical implications are a way of extending these observations beyond the group of women studied, and so must be taken as tentative and used with the individual circumstances of the women always in mind.

The limited range of health concerns described by the women may be a reflection of the questions asked. There was deliberate effort made not to enhance or generate feelings of guilt as there was no follow-up support or intervention. When they answered the question about concerns, they were not asked for additional information or for other concerns. There is the possibility that when responding they only spoke of those at the forefront of their mind rather than the sum of their concerns. It is also possible that the women's answers were reflective of their concerns. This uncertainty is a limitation of this study.

It is worth considering that for some women this study was retrospective. The delay in time or the emotional content may adversely affect women's memories for specific details. For example, women's midwives may have provided information about cessation, but in order to reduce possible feelings of guilt women may have forgotten this. It may also be that women were simply not attuned to cessation literature at the

time and do not recall being offered it or spoken to. This might have been different if all women had been currently pregnant when interviewed, as the discussions with midwives would have been recent. The retrospective consideration is also applicable to several other aspects of the study including support received and life events at the time. These may all affect what women can or cannot recall. Continuing to experience guilt in the post-natal period may have led to some women to be guarded with some of their responses. Level of openness or honesty was not measured, as their responses to the advertisement and consent implied that they wanted to talk. However, any number of factors could have been influential in them responding cautiously.

One such factor is my role as the researcher. As the person interviewing them I need to be aware of my role in the relationship. I am an English white woman in my 30s who attends university and has three children. This information was provided to all the women. This could have altered their perception of me and how willing they were to talk. I come from a different ethnic background from all the women. I was older than some and younger than others. As an English person working with Māori women I was aware of the history in New Zealand and was conscious that this could impact on our interactions. Had I smoked during my pregnancies or at the time of the interviews, it is possible the conversations could have been different and some women did ask this information of me. Furthermore, there is also the risk of a perceived power difference. I was coming to them as a researcher to talk about a topic they were likely to be sensitive about and although not monitored, potential differences in our socio-economic statuses could also have had an effect. I was careful to remind myself that I was approaching these women, and they were sharing their time and stories with me. I made every effort to reduce any power differences, the success of this effort will remain unknown.

## **Implications: Bridging the Gap with a New Tool**

As illustrated by this study, most women felt there was a gap in the services provided to them regarding cessation, and the services they wanted. As a result, a tool was developed (see Appendix H). The tool is a brief self-report form on which the woman is provided with a range of smoking statuses and asked to select the most applicable. The statuses have been based on the range from this study. The tool asks women if they would like information about the possible health risks to the foetus and whether they want to talk about smoking and cessation. This can easily be used as part of routine antenatal care with all clients. For women who are reluctant to admit they smoke, they are given the opportunity to answer these sensitive questions on paper. This does not single them out as a person who smokes, and it does not mean they have to admit their status out loud to someone they don't know.

The importance of this kind of tool is reflected in how some of the women were given little or no information about quitting and felt uncomfortable asking about cessation. Other women were given advice from the midwives that they did not want. For some, even though information was not provided, they reported not wanting it, or knowing it already. When women's needs for advice are not met, the mismatch created a rift in the relationship and also increased the risk that the women would be uninformed about the risks of smoking. Utilising the tool developed in this study would help rectify this. Firstly, healthcare providers would be aware of the woman's smoking status, for example trying to quit but struggling, or considering quitting. Where a woman is in the range of statuses can inform a practitioner of what is needed for that woman. Using the above example, for the woman who is struggling, finding out what she needs help with, or why is she struggling. For the woman considering quitting, it would be important to identify what is stopping her.

The provision of information about how much a woman knows and whether she wants to talk about smoking also gives insight into how these topics are covered, whether they are discussed in depth or whether they are talked about briefly as a part of routine care before onward referral if

accepted. For other women, the midwife's advice and support met their needs. This included women who did not want to hear advice, and were not given any. These women considered this to be a good outcome and felt their midwife was respecting their wishes. This is problematic for two reasons. Not only are women likely to remain uninformed and unsupported, but the midwives were not fulfilling all their obligations for the care of their client. Even though best practice promotes the use of specific cessation services for pregnant women and for healthcare providers to *ask*, provide *brief* advice and refer to a *cessation* service, midwives remain at the forefront of women's care and are likely to be the first to broach this subject. It is essential that they are able to approach clients with sensitivity and consideration in order to support, inform and help them progress to the specified referral service. Furthermore, healthcare providers need to be able to discuss the topic. If a client wants advice about quitting, or support, they may want this from the midwife. Onward referral needs to be done carefully and with the client's best interests in mind.

This tool fits with the ABC model promoted as best practice. It does not require midwives to give complete cessation advice, but opens the door to discussion and gives healthcare providers an understanding of what a woman wants, how she feels about smoking and how open she is to discussion. It also allows for midwives to show women that it is acceptable to talk about smoking, to seek advice and ask questions. This could reduce some risk for miscommunication and perhaps lessen the influence of personal judgement.

## **Conclusion**

The results from this study demonstrate that there are a variety of factors affecting smoking or cessation during pregnancy. These can be personal, environmental, social and psychological. In order to help women quit it is important to consider each woman's experiences to understand their unique needs. Without considering these factors, the chances of successful cessation for many women will be limited.

It was found in this study that women made a wide range of behavioural changes, including cutting down, stopping and delaying. In addition, they used different strategies and techniques to obtain and maintain their changes. The most successful women were those who focused on their own preferences and reward systems. It was also noted that family, friends and partners were shown to be important to cessation. However, these people often do not realise their influence, and similarly women tended to focus their attention on their own responsibility. As a result of smoking and their sense of accountability, most women experienced guilt, or some other negative emotion. These were often felt years later, especially if their baby had experienced a health complication they attributed to smoking.

The role of the midwife, or healthcare professional was also influential. It is important that women are given cessation advice in order to allow them to make a supported and informed decision about smoking or quitting. However, the way in which this advice is given needs to be gentle, sensitive and considerate of individual factors. This study highlighted that despite the anti-smoking drive by the MOH not all women were informed or understood the range of consequences. Furthermore, most women's cessation needs were not met by their healthcare provider. This affects their feelings of guilt, self-perception as a mother and openness to talking about smoking. Women who felt they would be judged, further isolated themselves from those who could help and support them. This became a vicious circle and smoking continued to be used as a coping mechanism for stress, one stressor was itself the smoking.

Changing social discourse and the use of labels may help people better understand what contributes to continued smoking. As illustrated, women were not easily categorised as a 'smoker' or 'quitter'. Instead there appeared to be a range of experiences, each requiring consideration of the woman and her context. Social expectations have always been influential in the role that smoking has in women's lives. Today, it is expected that women stop spontaneously as soon as they find out they are pregnant. The women in this study spoke of feeling this expectation strongly from others. If pregnant women continue to be labelled with terms

such as 'smoker' that have negative connotations, it is to be expected that they will continue to hide their smoking reinforcing the associated stigma. For the women in this study, admitting they smoked during pregnancy was done with caution as even family and friends' reactions could be upsetting and distressing. Given that women were not always fully informed of the risks of smoking, or the cessation options available, this leaves women without support and appropriate pathways to follow. Consequently, the potential negative outcomes associated with smoking during pregnancy will continue to be prevalent.

A tool designed to help healthcare professionals address this topic has been designed. It is hoped that it would help providers alter their approach depending on the women's individual requirements. Consequently, it would help women to talk about the topic and receive advice and support. This tool fits with the ABC best practice framework currently used in New Zealand, and also incorporates aspects similar to the individually focused stages of change model. The acceptance of a range of experiences and tailoring services to meet these needs may have a positive effect on rates of cessation.

## References

- Abrahamsson, A., Springett, J., Karlsson, L., & Ottosson, T. (2005). Making sense of the challenge of smoking cessation during pregnancy: A phenomenographic approach. *Health Education Research, 20*, 367-378.
- Albrecht, S., Kelly-Thomas, K., Osborne, J. W., & Ogbagaber, S. (2011). The SUCCESS program for smoking cessation for pregnant women. *Journal of Obstetric, Gynecologic, & Neonatal Nursing, 40*, 520-531.
- Aliyu, M. H., Salihu, H. M., Wilson, R. E., & Kirby, R. S. (2007). Prenatal smoking and risk of intrapartum stillbirth. *Archives of Environmental & Occupational Health, 62*, 87-92.
- Allen, M., Barnes, C., Dalley, A., Hardie-Boys, N., Marwick, J., & Glover, M. (2012). *Best practice framework for dedicated pregnancy smoking cessation services: Report for the Ministry of Health*. Allen & Clarke: Wellington.
- Amos, A., & Haglund, M. (2000). From social taboo to "torch of freedom": The marketing of cigarettes to women. *Tobacco Control, 9*, 3-8.
- Antonopoulos, C. N., Sergentanis, T. N., Papadopoulou, C., Andrie, E., Dessypris, N., Panagopoulou, P., ... Petridou, E. T. (2011). Maternal smoking during pregnancy and childhood lymphoma: A meta-analysis. *International Journal of Cancer, 129*, 2694-2703.
- Arborelius, E., & Nyberg, K. (1997). How should midwives discuss smoking behaviour in pregnancy with women of low educational attainment? *Midwifery, 13*, 210–215.
- Averill, K., Dowden, A., Mitchelmore, K., & Taylor, S. (2006). *Final overview smokefree pregnancy services*. Wellington: Research New Zealand.

- Baby-gaga. (2006). Anyone smoking during pregnancy. Retrieved May 7, 2013 from <http://forum.baby-gaga.com/about5076.html>
- Beck, J. (2011). *Cognitive behaviour therapy: Basics and beyond* (2<sup>nd</sup> ed.). London: The Guildford Press.
- Bishop, R. (1999). Kaupapa Māori research: An indigenous approach to creating knowledge. In Māori and Psychology Research Unit (Ed.), *Māori and psychology: Research and practice* (pp. 1-6). Hamilton, New Zealand: University of Waikato.
- Blumenthal, D. S. (2007). Barriers to the provision of smoking cessation services reported by clinicians in underserved communities. *Journal of the American Board of Family Medicine*, 20, 272-279.
- Boyd, N. R., Windsor, R. A., Perkins, L.L., & Lowe, J. B. (1998). Quality of measurement of smoking status by self-report and saliva cotinine among pregnant women. *Maternal and Child Health Journal*, 2, 77-83.
- Brett, M., & Baxendale, S. (2001). Motherhood and memory: A review. *Psychoneuroendocrinology*, 26, 339-362.
- British Medical Association, (2004). *Smoking and reproductive life. The impact of smoking on sexual, reproductive and child health*. London: Author.
- Bull, L., Burke, R., Walsh, S., & Whitehead, E. (2007). Social attitudes towards smoking in pregnancy in East Surrey: A qualitative study of smokers, former smokers and non-smokers. *Journal of Neonatal Nursing*, 13, 100-106.
- Cacioppo, J. T., & Hawkley, L. C. (2009). Perceived social isolation and cognition. *Trends in Cognitive Sciences*, 13, 447-454.
- Carolan, M., Barry, M., Gamble, M., Turner, K., & Mascareñas, O. (2012). The limerick lullaby project: An intervention to relieve prenatal stress. *Midwifery*, 28, 173-180.

- Cinciripini, P. M., Blalock, J. A., Minnix, J. A., Robinson, J. D., Brown, V. L., Lam, C., & Karam-Hage, M. (2010). Effects of an intensive depression-focused intervention for smoking cessation in pregnancy. *Journal of Consulting and Clinical Psychology, 78*, 44-54.
- Code of Ethics. (2002). Code of ethics for psychologists working in Aotearoa/New Zealand, Retrieved April 19 2013 from: [http://www.psychologistsboard.org.nz/cms\\_show\\_download.php?id=44](http://www.psychologistsboard.org.nz/cms_show_download.php?id=44)
- Cohen, S., & Willis, T. A. (1985). Stress, social support and the buffering process. *Psychological Bulletin, 98*, 310-357.
- Coleman, T., Chamberlain, C., Cooper, S., & Leonardi-Bee, J. (2010). Efficacy and safety of nicotine replacement therapy for smoking cessation in pregnancy: Systematic review and meta-analysis. *Addiction, 106*, 52-61.
- Coleman, T., Cooper, S., Thornton, J. G., Grainge, M. J., Watts, K., Britton, J., & Lewis, S. (2012). A randomized trial of nicotine-replacement therapy patches in pregnancy. *The New England Journal of Medicine, 366*, 808-818.
- Crocker, J. (1999). Social stigma and self-esteem: Situational construction of self-worth. *Journal of Experimental Social Psychology, 35*, 89-107.
- Cummins, S., Tedeschi, G., Anderson, C., Quinlan-Downs, R., Harris, P., & Zhu, S. H. (2007). Telephone counselling for pregnant smokers: Essential elements. *The Journal of Smoking Cessation, 2*, 36-46.
- DiCicco-Bloom, B., & Crabtree, B. F. (2006). The qualitative research interview. *Medical Education, 40*, 314-321.
- DiClemente, C., Dolan-Mullen, P., & Windsor, R. (2000). The process of pregnancy smoking cessation: Implications for interventions. *Tobacco Control, 9*, 16-21.

- Dixon, L., Almer, P., Fletcher, L., Guilliand, K., & Hendry, C. (2009). Smoke free outcomes with midwife lead maternity carers: An analysis of smoking during pregnancy from the New Zealand College of Midwives midwifery database 2004-2007. *New Zealand College of Midwives, 40*, 13-19.
- Drake, E. E., Humenick, S.S., Amankwaa, L., Younger, J., & Roux, G. (2007). Predictors of maternal responsiveness. *Journal of Nursing Scholarship, 39*, 119-25.
- Dunn, C. L., Pirie, P. L., & Hellerstedt, W. L. (2003). The advice-giving role of female friends and relatives during pregnancy. *Health Education and Research, 18*, 352-62.
- Ebert, L. M., & Fahy, K. (2007). Why do women continue to smoke in pregnancy? *School of Nursing & Midwifery, 20*, 161-168.
- Ehealthforum. (2009). *Smoker and pregnant*. Retrieved May 5, 2013 from <http://ehealthforum.com/health/smoker-and-pregnant-t177674.html>
- Elsenbruch, S., Benson, S., Rücke, M., Rose, M., Dudenhausen, J., Pincus-Knackstedt, M. K., ... Arck, P. C. (2007). Social support during pregnancy: Effects on maternal depressive symptoms, smoking and pregnancy outcome. *Human Reproduction, 22*, 869-877.
- Elvey, A. (2003). The material given: Bodies, pregnant bodies and earth. *Australian Feminist Studies, 18*, 199-209.
- Elwood, S. A., & Martin, D. G. (2000). Placing interviews: Location and scales of power in qualitative research. *Professional Geographer, 52*, 649-657.
- Ezzy, D. (2011). *Qualitative analysis: Practice and innovation*. Australia: Routledge.

- Falomir, J. M., & Invernizzi, F. (1999). The role of social influence and smoker identity in resistance to smoking cessation. *Swiss Journal of Psychology, 58*, 73-84.
- Feldman, P. J., Dunkel-Schetter, C., Sandman, C., & Wadhwa, P. D. (2000). Maternal social support predicts birth weight and foetal growth in human pregnancy. *Psychosomatic Medicine, 62*, 715-725.
- Flemming, K., Graham, H., Heirs, M., Fox, D., & Sowden, A. (2012). Smoking in pregnancy: A systematic review of qualitative research of women who commence pregnancy as smokers. *Journal of Advanced Nursing, 69*, 1023-1036.
- Ford, R. P. K., Tappin, D. M., Schluter, P. J., & Wild, C. J. (1997). Smoking during pregnancy: How reliable are maternal self reports in New Zealand? *Journal of Epidemiology and Community Health, 51*, 246-251.
- Ford, R. P. K., Cowan, S. F., Schluter, P. J., Richardson, A. K., & Wells, J. E. (2001). SmokeChange for changing smoking in pregnancy. *New Zealand Medical Journal, 114*, 107-110.
- Gage, J. D., Everett, K. D., & Bullock, L. (2011). A theoretical explanation of male partner participation in smoking cessation during the transition to fatherhood. *Journal of Smoking Cessation, 6*, 89-96.
- Gendall, P., Hoek, J., Maubach, N., & Edwards, R. (2013). Public support for more action on smoking. *Journal of the New Zealand Medical Association, 126*, 85-94.
- Gilchrist, D., Woods, B., Binns, C. W., Scott, J. A., Gracey, M., & Smith, H. (2007). Aboriginal mothers, breastfeeding and smoking. *Indigenous Health, 28*, 225-228.
- Glover, M., & Kira, A. (2011). Why Māori women continue to smoke while pregnant. *The New Zealand Medical Journal, 124*, 22-31.

- Glover, M., & Kira, A. (2012). Pregnant Māori smokers' perception of cessation support and how it can be more helpful. *Journal of Smoking Cessation, 7*, 65-71.
- Greaves, L., Poole, N., Okoli, C. T. C., Hemsing, N., Qu, A., Bialystok, L., & O'Leary, R. (2011). *Expecting to quit: A best practices review of smoking cessation interventions for pregnant and postpartum girls and women* (2nd ed.). Canada: British Columbia Centre of Excellence for Women's Health.
- Greenaway, R., Mogg, K., & Bradley, B. P. (2012). Attentional bias for smoking-related information in pregnant women: Relationships with smoking experience, smoking attitudes and perceived harm to foetus. *Addictive Behaviours, 37*, 1025-1028.
- Hayes, C. B., Collins, C., O'Carroll, H., Wyse, E., Gunning, M., Geary, M., ... Cecily, C. (2013). Effectiveness of motivational interviewing in influencing smoking cessation in pregnant and postpartum disadvantaged women. *Nicotine & Tobacco Research, 15*, 969-977.
- Hammond, D., Doxey, J., Daniel, S., & Bansal-Travers, M. (2011). Impact of female-orientated cigarette packaging in the United States. *Nicotine & Tobacco Research, 13*, 579-588.
- Hemsing, N., Greaves, L., O'Leary, R., Chan, K., & Okoli, C. (2012). Partner support for smoking cessation during pregnancy: A systematic review. *Nicotine & Tobacco Research, 14*, 767-776.
- Herberts, C., & Sykes, C. (2012). Midwives' perceptions of providing stop-smoking advice and pregnant smokers' perceptions of stop-smoking services within the same deprived area of London. *Journal of Midwifery & Women's Health, 57*(1), 67-73.
- Higgins, S. T., Washio, Y., Heil, S. H., Soloman, L. J., Gaalema, D. E., Higgins, T. M., & Bernstein, I. M. (2011). Financial incentives for smoking cessation among pregnant and newly postpartum women. *Preventative Medicine, 55*, s33-s40.

- Hotham, E. D., Gilbert, A. L., & Atkinson, E. R. (2005). Case studies of three pregnant smokers and their use of nicotine replacement therapy. *Midwifery, 21*, 224-232.
- Howard, L. M., Bekele, D., Rowe, M., Demilew, J., Bewley, S., & Marteau, T. M. (2012). Smoking cessation in pregnant women with mental disorders: A cohort and nested qualitative study. *International Journal of Obstetrics and Gynaecology, 120*, 362-370.
- Jaakkola, J. J., & Gissler, M. (2004). Maternal smoking in pregnancy, fetal development, and childhood asthma. *American Journal of Public Health, 94*(1), 136-140.
- Jasinski, J. L. (2004). Pregnancy and domestic violence: A review of the literature. *Trauma, Violence and Abuse, 5*(1), 47-64.
- Johnson, N. J., Backlund, E., Sorlie, P. D., & Loveless, C. A. (2000). Marital status and mortality: The national longitudinal mortality study. *Annals of Epidemiology, 10*, 224-238.
- Johnston, S. (2009). Lighting up: The social history of smoking in New Zealand c. 1920–1962, MA dissertation, Victoria University of Wellington.
- Kahn, R. S., Certain, L., & Whitaker, R. C. (2002). A re-examination of smoking before, during, and after pregnancy. *American Journal of Public Health, 92*, 1801–1808.
- Koshy, P., Mackenzie, M., Tappin, D., & Bauld, L. (2010). Smoking cessation during pregnancy: The influence of partners, family and friends on quitters and non-quitters. *Health and Social Care in the Community, 18*, 500–510.
- Lendahls, L., Öhman, L., Liljestrand, J., & Håkansson, A. (2002). Women's experiences of smoking during and after pregnancy as ascertained two to three years after birth. *Midwifery, 18*, 214-22.

- Lieu, J. E., & Feinstein, A. R. (2002). Effect of gestational and passive smoke exposure on ear infections in children. *Archives of Pediatrics and Adolescent Medicine*, *156*, 147-154.
- Linares Scott, T. J., Heil, S. H., Higgins, S. T., Badger, G. J., & Bernstein, I. M. (2009). Depressive symptoms predict smoking status among pregnant women. *Addictive Behaviours*, *34*, 705-708.
- Ludman, E., McBride, C., Nelson, J., Curry, S., Grothaus, L., Lando, H., & Pirie, P. (2000). Stress, depressive symptoms and smoking cessation among pregnant women. *Health Psychology*, *19*(1), 21–27.
- Lumley J, Chamberlain C, Dowswell T, Oliver S, Oakley L, Watson L. (2009). *Interventions for promoting smoking cessation during pregnancy (Review)*. New Jersey: John Wiley and Sons.
- Lynagh, M., Bonevski, B., Symonds, I., & Sanson-Fisher, R. W. (2011). Paying women to quit smoking during pregnancy? Acceptability among pregnant women. *Nicotine & Tobacco Research*, *13*, 1029-1036.
- Maclaine, K., & Macleod Clark, J. (1991). Women's reasons for smoking in pregnancy. *Nursing Times*, *87*, 39-42.
- Martin, L. T., McNamara, M., Milot, A., Bloch, M., Hair, E., & Halle, T. (2008). Correlates of smoking before, during and after pregnancy. *American Journal of Health Behaviour*, *32*, 272-282.
- Matthey, S., Kavanagh, D. J., Howie, P., Barnett, B., & Charles, M. (2004). Prevention of postnatal distress or depression: An evaluation of an intervention at preparation for parenthood class. *Journal of Affective Disorders*, *79*, 113-26.
- May, S., & West, R. (2000). Do social support interventions (“buddy systems”) aid smoking cessation? A review. *Tobacco Control*, *9*, 415-422.

- McLeod, D., Pullon, S., Benn, C., Cookson, T., Dowell, A., Viccars, A., ... Crooke, M. (2004). Can support and education for smoking cessation and reduction be provided effectively by midwives within primary maternity care? *Midwifery*, 20, 37-50.
- McRobbie, H., Bullen, C., Glover, M., Whittaker, R., Wallace-Bell, M., & Fraser, T. (2008). New Zealand smoking cessation guidelines. *The New Zealand Medical Journal*, 121, 57-70.
- Miller, W. R., & Rollnick, S. (2002). *Motivational interviewing: Preparing people for change* (2<sup>nd</sup> ed). London: Guildford Press.
- Ministry of Health. (2007). *The health of New Zealand adults 2006/07*. Wellington: Author.
- Ministry of Health. (2008). *Closing the gap*. Wellington: Author.
- Ministry of Health. (2010). *Report on maternity*. Wellington: Author.
- Ministry of Health. (2012). *The health of New Zealand adults 2011/12*. Wellington: Author.
- Mohsin, M., Forero, R., Berthelsen, A., Bauman, A., Jalaludin, B., & Gyaneshwar, R. (2007). Social influences for smoking in pregnancy in south western Sydney antenatal clinic attendees. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 47, 207–212.
- Montgomery, S. M., & Ekblom, A. (2002). Smoking during pregnancy and diabetes mellitus in a British longitudinal birth cohort. *British Medical Journal*, 324, 26-27.
- Narang, I., & Bush, A. (2012). Early origins of chronic obstructive pulmonary disease. *Seminars in Fetal and Neonatal Medicine*, 17, 112-118.
- National Centre on Addiction and Substance Abuse at Columbia University. (2006). *Women under the influence*. Baltimore: John Hopkins University Press.

- Nichter, M., Nichter, M., Muramoto, M., Adrian, S., Goldade, K., Tesler, L., Thompson, J. (2007). Smoking among low-income pregnant women: An ethnographic analysis. *Health Education & Behaviour*, 34, 748-764.
- Owen, L., & McNeill, A. (2001). Saliva cotinine as indicator of cigarette smoking in pregnant women. *Addiction*, 96, 1001-1006.
- Paludi, M. (1992). *Psychology of women: Perspectives on research methods*. USA: Brown & Benchmark.
- Panjari, M., Bell, R. J., Astbury, J., Bishop, S. M., Dalais, F., & Rice, G. E. (1997). Women who spontaneously quit smoking in early pregnancy. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 37, 271-278.
- Pasey, M. E., D'Este, C. A., & Swanson-Fisher, R. W. (2012). Knowledge, attitudes and other factors associated with assessment of tobacco smoking among pregnant Aboriginal women by health care providers: a cross-sectional survey. *Bio Medical Central Public Health*, 12, 165-175.
- Petersen, Z., Steyn, K., Lombard, C., Everett, K., & Emmelin, M. (2009). Smoking cessation intervention among pregnant women in South Africa. *African Journal of Midwifery and Women's Health*, 3, 181-186.
- Petersen, Z., Steyn, K., Everett-Murphy, K., & Emmelin, M. (2010). Pregnant women's responses to a tailored smoking cessation intervention: Turning hopelessness into competence. *Global Health Action*, 3, 1-9.
- Plain Packs New Zealand. (2014). *Out of the mouths of babes: Kiwi kids talk about tobacco packaging*. Retrieved from <http://www.plainpacks.org.nz/>

- Pollack, H. A. (2001). Sudden infant death syndrome, maternal smoking during pregnancy, and the cost effectiveness of smoking cessation intervention. *American Journal of Public Health, 91*, 432-436.
- Pollack, K. I., Oncken, C. A., Lipkus, I. M., Lyna, P., Swamy, G. K., Pletsch, P.K., ... Myers, E. R. (2007). Nicotine replacement and behavioral therapy for smoking cessation in pregnancy. *American Journal of Preventive Medicine, 33*, 297-305.
- Pollack, K. I., Baucom, D. H., Peterson, B. L., Stanton, S., & McBride, C. M. (2006). Rated helpfulness and partner-reported smoking cessation support across the pregnancy–postpartum continuum. *Health Psychology, 25*, 762-770.
- Prochaska, J. O., & DiClemente, C. C. (1982). Transtheoretical therapy: Toward a more integrative model of change. *Psychotherapy: Theory, Research, and Practice, 19*, 276-288.
- Qu, S. Q., & Dumay, J. (2011). The qualitative research interview. *Qualitative Research in Accounting & Management, 8*, 238-264.
- Rigotti, N. A., Park, E. R., Regan, S., Chang, Y., Perry, K., Loudin, B., & Quinn V. (2006). Efficacy of telephone counselling for pregnant smokers: A randomized controlled trial. *Obstetrics & Gynecology, 108*(1), 83–92.
- Rogers, J. M. (2009). Tobacco and pregnancy. *Reproductive Toxicology, 28*, 152-160.
- Rubin, H. J., & Rubin, I. (2012). *Qualitative interviewing: The art of hearing data*. California: Sage Publications.
- Seidman, I. (2012). *Interviewing as qualitative research: A guide for researchers in education and the social sciences* (4<sup>th</sup> ed.). New York: Columbia University.
- Shipton, D., Tappin, D. M., Vadiveloo, T., Crossley, J. A., Aitken, D. A., & Chalmers, J. (2009). Reliability of self reported smoking status by

pregnant women for estimating smoking prevalence: a retrospective, cross sectional study. *British Medical Journal*, 339. Retrieved from <http://dx.doi.org/10.1136/bmj.b4347>

Schneider, S., Huy, C., Schutz, J., & Diehl, K. (2010). Smoking cessation during pregnancy: A systematic literature review. *Drug and Alcohol Review*, 29, 81–90.

Singer, E., & Couper, M. P. (2008). Do incentives exert undue influence on survey participation? Experimental evidence. *Journal of Empirical Research on Human Research Ethics*, 3, 49-56.

Slade, P., Laxton-Kane, M., & Spiby, H. (2006). Smoking in pregnancy: The role of the transtheoretical model and the mother's attachment to the fetus. *Addictive Behaviors*, 31, 743-757.

Slotkin, T. A. (1998). Foetal nicotine or cocaine exposure: Which one is worse? *The Journal of Pharmacology and Experimental Therapeutics*, 285, 931–945.

Smith, J. A., & Osborn, M. (2007). Interpretative phenomenological Analysis. In J. A. Smith (Ed.), *Qualitative psychology: A practical guide to research methods* (2<sup>nd</sup> Ed.) (pp. 53-80). America: Sage Publications.

SmokeChange. (n.d.). SmokeChange: Change for our children. Retrieved from:  
[http://www.changeforourchildren.co.nz/our\\_kites/smokechange](http://www.changeforourchildren.co.nz/our_kites/smokechange)

Sofeminine. (February 23, 2010). Still smoking? Retrieved from:  
[http://forum.sofeminine.co.uk/forum/maternite1/\\_f806\\_maternite1-Still-smoking.html](http://forum.sofeminine.co.uk/forum/maternite1/_f806_maternite1-Still-smoking.html)

Staneva, A., & Wittkowski, A. (2013). Exploring beliefs and expectations about motherhood in Bulgarian mothers: A qualitative study. *Midwifery*, 29, 260-267.

- Statistics New Zealand. (2013). Quitting and not starting - Smoking in New Zealand decreases. Retrieved on December 17, 2013 from <http://www.stats.govt.nz/Census/2013-census/data-tables/totals-by-topic-mr2.aspx>
- Stavrou, Baker & Bishop. (2009). Maternal smoking during pregnancy and childhood cancer in New South Wales: A record linkage investigation. *Cancer, Causes and Control*, 20, 1551-1558.
- Thomson, G., & Wilson, N. (1997). *Resource document: A brief history of tobacco control in New Zealand*. Wellington: Australasian Faculty of Public Health Medicine.
- Thyrian, J. R., Hannöver, W., Röske, K., Scherbarth, S., Hapke, U., & John, U. (2006). Midwives' attitudes to counselling women about their smoking behaviour during pregnancy and postpartum. *Midwifery*, 22, 32-39.
- Tod, A. M. (2003). Barriers to smoking cessation in pregnancy: A qualitative study. *British Journal of Community Nursing*, 8, 56–64.
- Tong, V. T., England, L. J., Dietz, P. M., & Asare, L. A. (2008). Smoking patterns and use of cessation interventions during pregnancy. *American Journal of Preventive Medicine*, 35, 327–333.
- Tong, V. T., Dietz, P. M., & England, L. J. (2012). “Smoking cessation for pregnancy and beyond: A virtual clinic,” an innovative web-based training for healthcare professionals. *Journal of Women's Health*, 21, 1014-1017.
- Tuhoy, R. (2008). *A literature review of effective approaches that support smoking cessation for pregnant women who call a Quitline service*. Wellington: The Quit Group.
- Tversky, A., & Kahneman, D. (1974). Judgement under uncertainty: Heuristics and biases. *Science*, 185, 1124-1131.

- Van Der Meer, C. (2001). Who asked you? Pregnant women are not public property, so cool it with the unwanted advice. *Today's Parent* 18, 120-124.
- Varescon, I., Leignel, S., Poulain, X., & Gerard, C. (2011). Coping strategies and perceived stress in pregnant smokers seeking help for cessation. *Journal of Smoking Cessation*, 6, 126-132.
- von Kries, R., Toschke, A. M., Koletzko, B., & Slikker Jr, W. (2002). Maternal smoking during pregnancy and childhood obesity. *American Journal of Epidemiology*, 156, 954-961.
- West, R. (2002). Smoking cessation and pregnancy. *Foetal and Maternal Medicine Review*, 13, 181-194.
- Wood, L., France, K., Hunt, K., Eades, S., Slack-Smith, L. (2008). Indigenous women and smoking during pregnancy: Knowledge, cultural contexts and barriers to cessation. *Social Science & Medicine*, 66, 2378-2389.
- Woods, S. (2013). 18,000 unborn NZ babies exposed to tobacco: Quitline launches new specialist service for pregnant women: Media release. Wellington: Quitline.
- World Health Organisation. (2013). *WHO recommendations for the prevention and management of tobacco use and second-hand smoke exposure in pregnancy*. Geneva: Author.

# Smoking During Pregnancy



THE UNIVERSITY OF  
WAIKATO  
*Te Whare Wānanga o Waikato*

Participants  
will receive a  
\$10 petrol  
voucher in  
recognition of  
their valued  
contributions



I'd love to hear from  
you if you are pregnant  
now or have had a baby  
within the last two years  
and either quit  
smoking, tried to quit or  
didn't consider it.

I am a psychology student at the  
University of Waikato with an  
interest in maternal care. I would  
like to interview women about their  
experiences, thoughts and feelings  
of smoking while pregnant. I can  
travel to you for the interviews  
which will take around an hour and  
are completely anonymous. This will  
be written up to complete my  
Masters Research.

**Contact: Amanda Drewer on 0273211764**

**Supervised by Carrie Barber 8384466**

**This study has been reviewed and approved by the  
University of Waikato's School of Psychology Ethics  
Committee, any questions about rights as a participant,  
contact Nicola Starkey on 07 838 4466 ext 6472 .**

Contact: Amanda Drewer  
027 321 1764  
alw6@waikato.ac.nz

## Appendix B - Participant information sheet

### Better Understanding Factors that Contribute to Smoking Cessation during Pregnancy

#### *Project Description*

##### Aim

The aim of this research is to find out the reasons why women continue to smoke during pregnancy. I am hoping to talk to women who have tried to quit, who have quit, or who have not thought about quitting. I would like to find out what helps them to stop, what restrictions there are, and any thoughts and feelings about smoking during pregnancy. This is a personal and potentially sensitive topic. Because of this I would like to talk to women in a safe and non-judgemental environment where they feel comfortable talking to me along with any support person they would like to bring.

I am being supervised by Dr. Carrie Barber from the University of Waikato's School of Psychology.

##### Participation

I will ask you to complete an informed consent form. This means that I have explained the research to you, that you understand what the research is, and that you are aware you are free to withdraw any time up until one week after you have been given the transcript of your interview.

Participation means taking part in an interview that asks you questions about your thoughts on smoking and anything you might have tried to help you quit smoking during pregnancy. Interviews will hopefully take about an hour.

##### Contact

If you have any questions about the study, please feel free to contact me on 027 321 1764 or [alv6@waikato.ac.nz](mailto:alv6@waikato.ac.nz), or my supervisor, Carrie Barber, at 838 4466 ext 6685.

Your participation in this research is hugely appreciated and in recognition of this I am pleased to give you a \$10 petrol voucher; this will be given at the end of the interview.

I would like to take this opportunity to thank you for your time and for sharing your experiences with me.

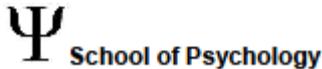
Kind regards

Amanda Drewer

This study has been reviewed and approved by the University of Waikato's School of Psychology Ethics Committee. If you have any questions or concerns about your rights as a participant in this research study, you can contact the chair of that committee, Nicola Starkey, on [nstarkey@waikato.ac.nz](mailto:nstarkey@waikato.ac.nz) or 07 838 4466 ext 6472.

## Appendix C - Informed consent forms

### Consent Form



#### PARTICIPANT'S COPY

Research Project: Better Understanding Factors that Contribute to Smoking Cessation during Pregnancy

Name of Researcher: Amanda Drewer

Name of Supervisor (if applicable): Dr. Carrie Barber

I have received an information sheet about this research project or the researcher has explained the study to me. I have had the chance to ask any questions and discuss my participation with other people. Any questions have been answered to my satisfaction.

I agree to participate in this research project and I understand that I may withdraw at any time. If I have any concerns about this project, I may contact the convenor of the Research and Ethics Committee (Dr Nicola Starkey, phone: 838 4466 ext.6472, e-mail [nstarkey@waikato.ac.nz](mailto:nstarkey@waikato.ac.nz))

Participant's Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

### Consent Form



#### RESEARCHER'S COPY

Research Project: Better Understanding Factors that Contribute to Smoking Cessation during Pregnancy

Name of Researcher: Amanda Drewer

Name of Supervisor (if applicable): Dr. Carrie Barber

I have received an information sheet about this research project or the researcher has explained the study to me. I have had the chance to ask any questions and discuss my participation with other people. Any questions have been answered to my satisfaction.

I agree to participate in this research project and I understand that I may withdraw at any time. If I have any concerns about this project, I may contact the convenor of the Research and Ethics Committee.

Participant's Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Admin\_com/psychology forms/consent form

## Appendix D: For Pregnant Participants

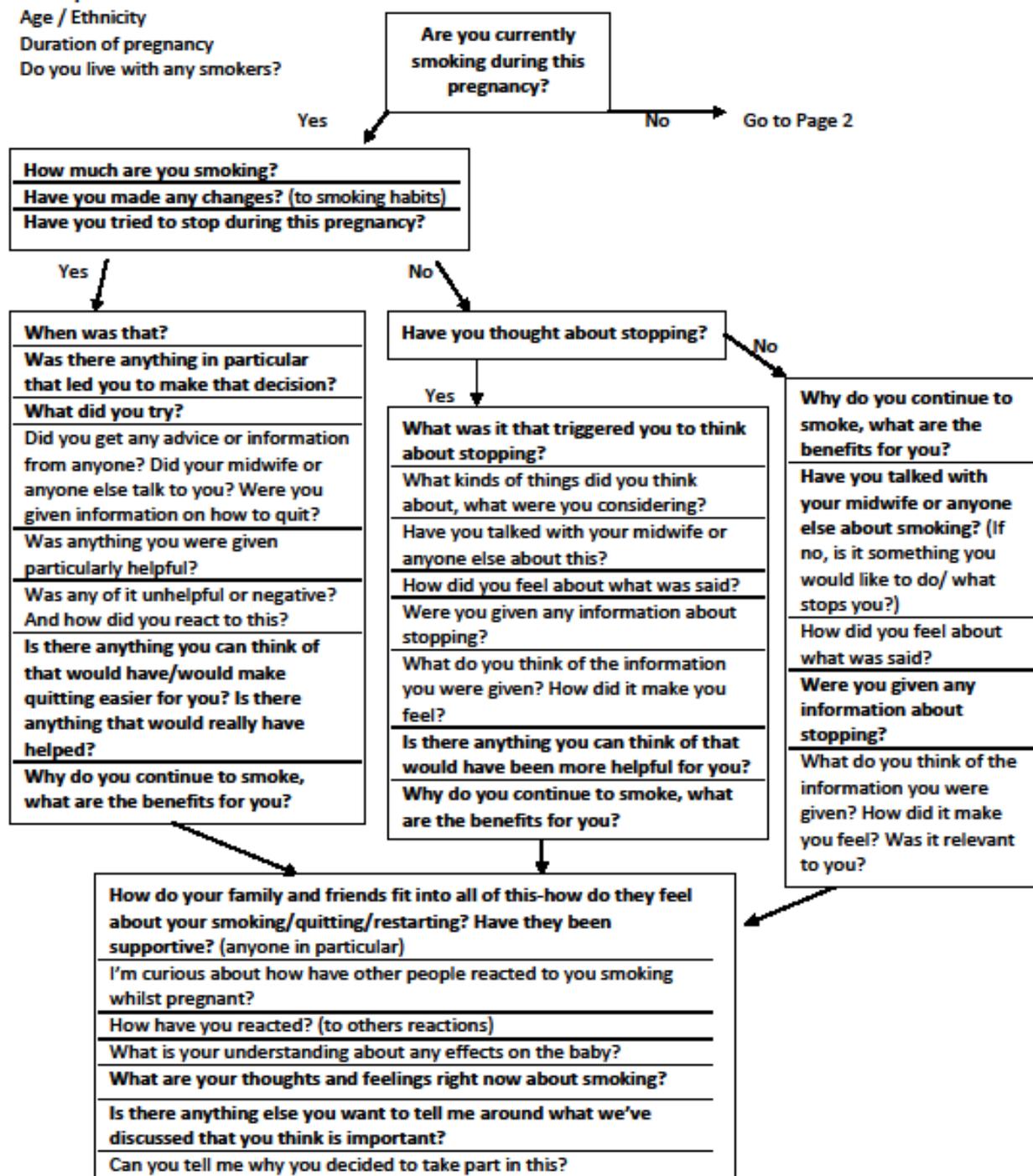
Before the interview starts, I will introduce myself, for example that I am a fifth year psychology student, that I came from England in 2005 and I have three sons. The purpose of the research will be explained, the information sheet reviewed and the format of the interview outlined. Informed consent will then be obtained. I will be asking rapport building questions such as how many children the participant has, how far along they are in the pregnancy and how the pregnancy is going. I will let the women know that they don't have to answer all the questions. I will also acknowledge that this is a personal matter and that I'm thankful for the opportunity to speak with them.

Participant number

Age / Ethnicity

Duration of pregnancy

Do you live with any smokers?



(Continued from page 1...)

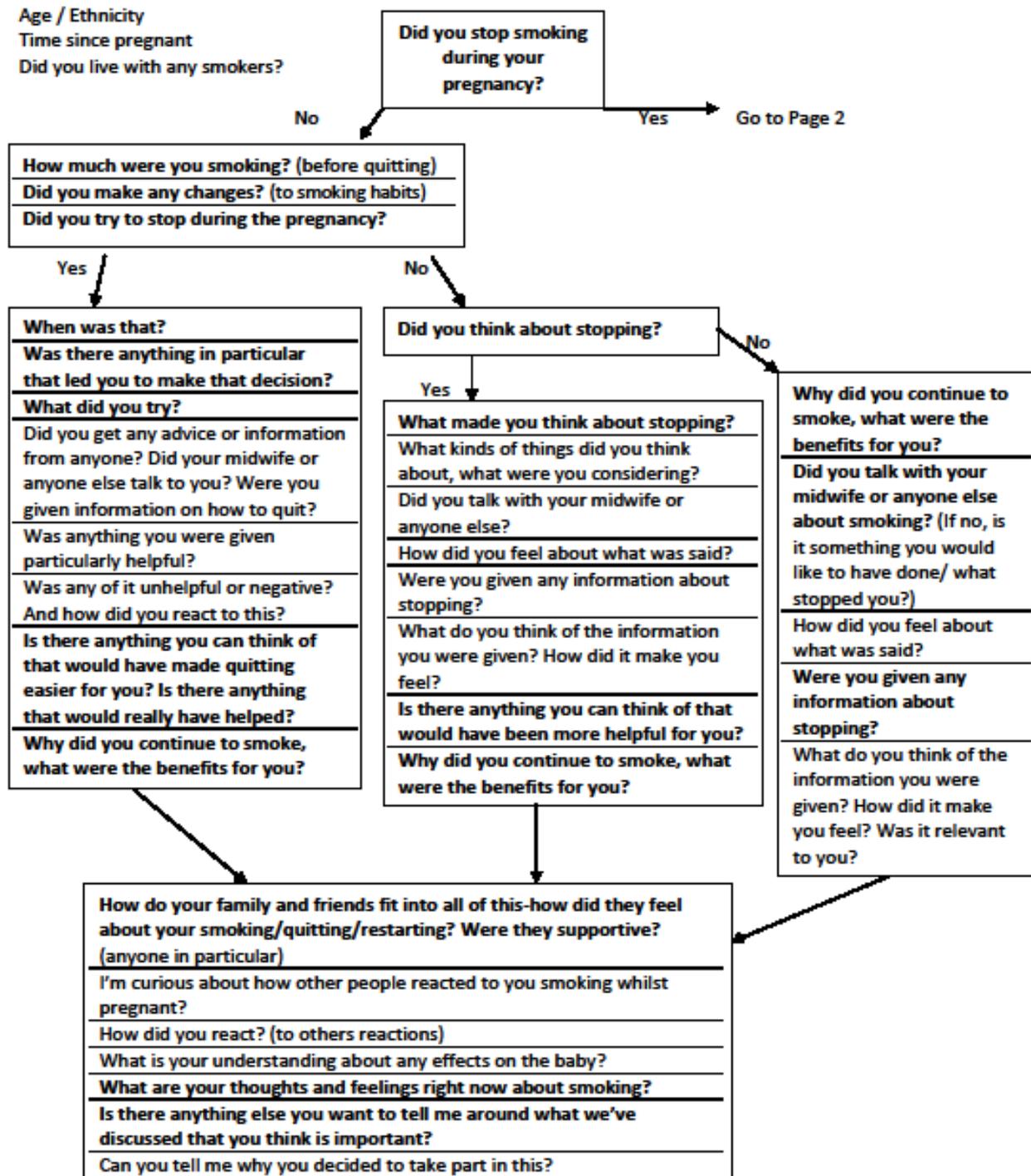
|   |  |
|---|--|
| <b>Are you currently smoking during this pregnancy?</b> | No →   |
|   | <b>When did you quit?</b> (ie: weeks or trimester)   |
|   | <b>What made you decide to stop?</b>   |
|   | Was it hard? What was it like to stop?   |
|   | <b>Did you get any advice or help from anyone?</b>   |
|   | <b>What options for help were made available to you?</b>   |
|   | Was anything you were given particularly helpful?  |
|   | Was any of it unhelpful or negative? And how did you react to this?  |
|   | <b>Looking back, is there anything else you can think of that would have been influential or beneficial to helping you stop?</b> |
|   | <b>How do your family fit into all of this? How do they feel about you quitting?</b>   |
|   | <b>What are your thoughts and feelings right now about smoking and pregnancy?</b>  |
|   | <b>Is there anything else you want to tell me around what we've discussed that you think is important?</b>                       |
| Can you tell me why you decided to take part in this?   |  |

*"I would just like to thank you again for your time and sharing this with me. I will get a copy of the transcript to you in the next two weeks and leave it with you for a week to check it over"*

**Appendix E: Questions for participants not currently pregnant**

Before the interview starts, I will introduce myself, for example that I am a fifth year psychology student, that I came from England in 2005 and I have three sons. The purpose of the research will be explained, the information sheet reviewed, and the format of the interview outlined. Informed consent will then be obtained. I will be asking rapport building questions such as how many children the participant has and how easy or hard they found their last pregnancy. I will let the women know that they don't have to answer all the questions. I will also acknowledge that this is a personal matter and that I'm thankful for the opportunity to speak with them.

Participant number  
Age / Ethnicity  
Time since pregnant  
Did you live with any smokers?



(Continued from page 1...)

|  |       |
|--|-------|
| <b>Did you stop smoking during your pregnancy?</b>   | Yes → |
| <b>When did you quit? (ie: weeks or trimester)</b>   |       |
| <b>What made you decide to stop?</b>   |       |
| Was it hard? What was it like to stop?   |       |
| <b>Did you get any advice or help from anyone?</b>   |       |
| <b>What options for help were made available to you?</b>   |       |
| Was anything you were given particularly helpful?  |       |
| Was any of it unhelpful or negative? And how did you react to this?  |       |
| <b>Looking back, is there anything else you can think of that would have been influential or beneficial to helping you stop?</b> |       |
| <b>How do your family fit into all of this? How do they feel about you quitting?</b>   |       |
| <b>What are your thoughts and feelings right now about smoking and pregnancy?</b>  |       |
| <b>Is there anything else you want to tell me around what we've discussed that you think is important?</b>                       |       |
| Can you tell me why you decided to take part in this?  |       |

*“I would just like to thank you again for your time and sharing this with me. I will get a copy of the transcript to you in the next two weeks and leave it with you for a week to check it over? “*

## Appendix F: Quit Smoking Information

If you are considering quitting, there are some resources available to choose from. You can contact any of the following for advice and support:

### Resources

- Your midwife if you are currently pregnant.
- Your GP.
- Quitline                      0800 778 778 or [www.quit.org.nz](http://www.quit.org.nz)
- Te Kohao Health            0800 8356426

<http://www.tekohaohealth.co.nz/64801/65053.html>

FREE quit smoking services.

8 week subsidised nicotine replacement therapy (NRT) patches and/or gum.

One on one consultations (special conditions apply)

Experienced quit coach/practitioner.

- Plunket                      Plunket website provides some helpful hints:  
<http://www.plunket.org.nz/your-child/welcome-to-parenting/family-and-whanau/be-smokefree/>
- Babycenter            This website has some really useful advice  
<http://www.babycenter.com/pregnancy-quitting-smoking>

## Appendix G – Follow-up letter for participants

### Summary of the results of the study “Smoking during Pregnancy”

(Name)

(Address)

(Date)

Dear.....

In ..... 2013 you kindly participated in research that looked at smoking during pregnancy. At the time I said I would write to you to let you know the outcomes of the research. I am now able to do this as I have completed the analysis of the interviews and am in the final stages of writing the formal thesis. Firstly though, I would like to take this opportunity to once again thank you for sharing your time and experiences with me. Without the contributions from the 15 women who took part, this study would not have been possible.

The results showed several important themes and these are summarised below.

#### **Results**

Smoking played a central role in the women’s lives both in and out of pregnancy. Women were fearful and concerned about the possible effects on their growing babies. Concerns contributed to feelings of guilt and other negative emotions, as did frustrations over not being able to quit, adverse pregnancy outcomes and their perceived failure to meet with social expectations. The women in this study spoke about guilt affecting them after their pregnancies, sometimes years later, and discussed a wide range of situations that triggered this kind of emotion. However, many also doubted their concerns as most had seen, or had had their own experiences of healthy babies being born to mothers who smoked. Nonetheless, their worries led to a range of behavioural changes including spontaneously quitting, adjusting their smoking, hiding their pregnancy to continue smoking, or hiding their smoking.

Feeling lonely or isolated was also spoken about. It meant women did not always have someone with whom they could talk openly about their smoking. The general exception was if the family member or friend smoked themselves and most women’s support came from other people who smoked. In particular, the influence of a woman’s partner who smoked was often underestimated. Most women were fearful of telling their doctor or midwife that they smoked in case they would feel judged. All women in the study were aware of the stigma attached to smoking in pregnancy, and many changed their behaviours to avoid this occurring. This led to some women not being given enough (or any) information about smoking or quitting, which ultimately led them to feel worse.

Women who participated in the study displayed a range of smoking statuses as shown in Figure 1 below. This is quite different to how society speaks about smoking. Usually

people are categorised only as smokers or quitters. The use of these terms ignores the many differences between women and their experiences which were clearly illustrated by the discussions in this study. For those women who did quit, they were 'smokers' until that point. Even if women made significant changes to their smoking, they are still viewed as a 'smoker'. The terms 'smoker' and 'quitter' mean different things to different people; this can lead to judgements and assumptions being made by the woman herself, or others around her.

| 'Quitters' n*=6                 |                     |                    |                          | 'Smokers' n=9                    |                                    |                               |                                 |
|---------------------------------|---------------------|--------------------|--------------------------|----------------------------------|------------------------------------|-------------------------------|---------------------------------|
| Spontaneous quitter (SQ)<br>n=2 | Motivated SQ<br>n=1 | Quit easily<br>n=2 | Struggled to quit<br>n=1 | Struggled (couldn't quit)<br>n=3 | Wanted to quit (didn't try)<br>n=1 | Thought about stopping<br>n=2 | Didn't consider stopping<br>n=3 |

\*n = number of women from this study

From this range I have been able to generate a short questionnaire for midwives to use with their clients. The tool asks women about their smoking status, if they would like information about the possible health risks to the foetus and whether they want to talk about smoking cessation. In this study, several women reported that their particular needs for information or support regarding smoking cessation were not always met by their midwives'. If implemented, this tool would help healthcare professionals appropriately provide information to women at a level that meets their needs, ensuring all women are informed. This is yet to be trialled, but feedback from professionals who have seen it has been positive.

#### **Future uses**

I spoke with several of the women who took part about my hope to use the results to inform healthcare practitioners to help them to better support women who smoke during pregnancy. I am therefore pleased to let you know that the results have been presented at two conferences, one at the University of Waikato to a diverse audience, and also in Auckland at the Perinatal Mental Health Conference. The audience at this conference comprised of midwives, psychologists, specialists and community workers, and it was exciting to be able to show the results from this study to health professionals who work with pregnant women. I was also invited to speak to midwifery students at Wintec. In August 2014 the results will once again be presented, this time at the Annual New Zealand College of Midwives conference here in Hamilton. Hopefully reaching out to those who work with pregnant women will increase the level of sensitivity and information about this subject.

Once again thank you for sharing your time with me, it was a pleasure meeting you and I wish you all the best.

Kind regards

Amanda Drewer

## Appendix H - Cessation tool

### Brief Questionnaire on Pregnant Women's Smoking Status

Name..... Date.....

Which description best applies to you?

- I stopped smoking as soon as I found out I was pregnant
- I tried to quit and succeeded without too much trouble
- I struggled to quit and have stayed quit
- I have been struggling to quit and haven't quit yet
- I want to quit but haven't tried
- I'm not sure about stopping, but might be interested
- I've not considered stopping
- Other.....

Would you like advice as well as information about what the possible health risks of smoke exposure during pregnancy are to your baby? (*Some of these differ to those of a smoker*)

- Yes       No       Not sure

As well as being provided with information, would you like to talk about options and support for quitting smoking during pregnancy?

- Yes       No       Not sure

Do you have any other questions or concerns about smoking during pregnancy?

---

---