Non-smoking buddy support within a comprehensive smoking cessation intervention for voung pregnant Australian women

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Title: Exploring young pregnant smokers' experiences with a self-nominated nonsmoking buddy

Abstract

Introduction: Psychosocial interventions can increase the proportion of women who stop smoking in pregnancy. There is limited research exploring self-nominated, non-smoking buddy support, to assist young pregnant smokers to quit.

Methods: This qualitative descriptive study was embedded within a randomised controlled study assisting young (16 to 24 years) pregnant smokers to quit. Women were recruited from two public maternity hospitals in Western Australia. Interviews were performed every two weeks from recruitment to six weeks post birth. The study aim was to explore women's experiences with a self-nominated non-smoking buddy. Thematic analysis was utilised to identify common themes.

Results: A total of 204 interviews were performed with 36 women, who had a mean of six interviews, with four conducted in pregnancy and two post birth. Two themes were revealed. The first 'Challenges of finding the right buddy' reflected the experiences women had in finding a non-smoking buddy to provide support and encompassed three sub themes; 'The only non-smoker I know', 'Reluctance to alter the existing relationship' and 'Limited discussion around expectations of buddy support'. The second theme 'Sustaining the buddy relationship' centred on the continuing relationship the woman had with her buddy and encompassed three sub themes 'Consistent relationship', 'Changeable buddies' and 'Unofficial buddies'.

Conclusion

Our findings reveal the complexity of incorporating non–smoking buddy support into smoking cessation programs for young pregnant smokers. The characteristics and social environment of individual women may have the capacity to influence their ability to engage and sustain a relationship with a non-smoking buddy.

Key words: pregnancy, smoking cessation, young adult, qualitative, buddy support, peer support

Research Highlights

- Women had a limited choice of buddy as they did not know many non-smokers
- Young smokers who had a relationship with one buddy found positive support helpful
- Some women had multiple buddies as friendships were gained and lost
- Buddy support post birth focused more on the new baby and less on smoking

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Exploring young pregnant smokers' experiences with a self-nominated non-smoking buddy

Background

Smoking tobacco during pregnancy is acknowledged globally for its negative outcomes for the pregnant woman and her fetus (Bruin et al., 2010). Placental dysfunction, antepartum haemorrhage, preterm birth and stillbirth have been linked with smoking in pregnancy (Salihu and Wilson, 2007); as have low birth weight; intrauterine growth restriction; and sudden infant death syndrome (Flenady et al., 2008). Women who smoke during pregnancy, typically continue smoking post birth exposing their infant to complications such as middle ear infections and respiratory tract infections (Ladomenou et al., 2009).

In 2013, 12.0% of Australian women smoked at some time during their pregnancy (Australian Institute of Health and Welfare, 2015) which is comparable with 12% in the United Kingdom (UK) (Health and Social Care Information Sector, 2014) and 13% in the United States (Curtin and Mathews, 2016). Australian mothers more likely to smoke in the first 20 weeks of pregnancy were under 20 years of age (34%), living in remote or very remote areas (21% and 37% respectively), living in the lowest socioeconomic status areas (20%) and having an Indigenous background (47%) (Australian Institute of Health and Welfare, 2015). In 2013 in Western Australia (WA) the highest prevalence of maternal smoking occurred in women aged 14 to 19 years (32.8%) with women between 20 and 24 years representing the second highest proportion (20.7%) (Hutchinson and Joyce, 2016). Pregnant women are often aware of the harms of smoking but may lack the confidence and self-efficacy to quit (Ingall and Cropley, 2010). In fact, women are often exposed to social pressure to stop smoking and typically feel guilty when they continue to smoke throughout their pregnancy (Irwin et al., 2005).

Pregnancy is an ideal time to engage in smoking cessation interventions as smokers are more likely to accept help to quit during pregnancy than at any other time in their lives (Hennrikus et al., 2010). However, Perlen and colleagues (2013) found that although the majority of women attending public Australian maternity services were asked about smoking at their first visit, only half received advice on how to stop or cut down or were asked about their smoking at subsequent visits. Interventions to promote smoking cessation have generally been individually focused and included motivational interviewing, incentives, feedback on fetal health status, and nicotine replacement therapy (Lumley et al., 2009). Results from a systematic review confirm that psychosocial interventions can increase the proportion of women who stop smoking in late pregnancy and reduce the occurrence of low birthweight and preterm infants (Chamberlain et al., 2013).

Not within the context of pregnancy, historical research into behavioural support in the form of peer/buddy support in smoking cessation found participants paired with a self-chosen buddy were more likely to adhere to the program and to remain abstinent at 12 months than those who did not have a buddy (Kviz et al., 1994). Contrasting evidence is apparent where British participants paired with another person to provide mutual support or a control group who received no support reported no difference on abstinence rates four weeks post intervention (May et al., 2006).

Limited evidence exists to suggest using a smoking cessation buddy may assist young pregnant women to quit. Only a single American study was identified which utilised a non-smoking buddy program to examine the effectiveness of a smoking cessation intervention for pregnant teenagers (Albrecht et al, 2006). This three armed randomised controlled trial, allocated women to a core smoking cessation program (a behavioural group model designed specifically for adolescents) with or without a non-smoking buddy, or a usual care group.

The intervention achieved greater smoking cessation at eight weeks post birth but changes were not sustained at 12 months.

To address the complex interaction of family life, childhood experiences, peer influence and cultural and community context (Greaves et al., 2011) for young pregnant women who smoke, a multiple component intervention incorporating motivational interviewing, a non-smoking buddy, and carbon monoxide monitoring was developed and evaluated for feasibility (Lewis et al., 2016a, 2016b, 2017). The objective of this paper was to explore the personal experiences of young pregnant smokers with a self-nominated non-smoking buddy.

Methods

This research was based on a preliminary study performed by members of this research team (Hauck et al., 2013). A descriptive qualitative design was selected to explore young pregnant smokers experience with their non-smoking buddy, as this design enabled description of the first-hand knowledge of participant's experiences (Neergaard et al., 2009; Schneider et al., 2014). Grounded in the "principle of naturalistic inquiry", this design also allowed for a descriptive summary "organised in a way that best fits the data" with findings presented using "straightforward language that clearly describes the phenomena of interest" (Colorafi and Evans, 2016, p. 17).

Recruitment and setting

Women, who reported smoking tobacco at their first hospital visit for antenatal care, were invited to participate. Inclusion criteria included: a desire to cease or reduce smoking; being between 16 and 24 years old; able to speak English; pregnancy between 10 and 28 weeks gestation; having access to a mobile phone; and being able to identify a non-smoking buddy (who could be any age, sex or relationship to them) to support with smoking cessation at least twice a week through face to face contact, telephone or text messaging. A research

midwife, not involved in clinical care obtained informed consent. Women in this prospective, randomised controlled pilot study were assigned to a multiple component intervention which involved standard care and carbon monoxide (CO) testing, a non- smoking buddy and motivational interviewing (MI). Women were recruited from two metropolitan public obstetric hospitals in WA. The study was funded through a Healthway Starter Grant. This grant supported the conduct of the study, but was not involved in the design, data collection, analysis, interpretation or publication of research. Ethics approval was granted by the Human Research Ethics committees at the two hospital sites and one university (approval numbers: 2022/EW, W/13/61 and HR98/2012). The study was performed from October 2013 to June 2015.

Data collection

Women were interviewed using a schedule of pre-determined open-ended questions (Table 1) with further probing questions to encourage elaboration of their responses (Jirojwong et al., 2011). On a fortnightly basis, women could choose to have their interview incorporated into their antenatal appointment or at an alternative time over the phone. Face-to-face interviews allowed for greater access to the participant and a more ideal opportunity to build rapport, facilitating more in-depth discussion than those afforded by the telephone interviews. Interview times ranged from five to 20 minutes. Two researchers, who became well known to the women over their pregnancy, conducted the interviews, which also facilitated rapport (Streubert and Carpenter, 2011; Trier-Bieniek, 2012). To maintain rapport and assist the women to feel comfortable, detailed notes were not taken during the interviews but field notes were recorded on paper, during and immediately after to document what had taken place during the interview, the context of the interaction, what was heard and seen along with the personal reactions to the interview (Streubert and Carpenter, 2011).

Analysis

Thematic analysis was used with the field notes of women's responses to the semi-structured interview questions to identify recurrent or common themes (Gale et al., 2013). Three broad premises for identifying a theme include repetition, distinction and researcher interpretation. Data analysis was guided by the six phases outlined by Braun and Clark (2006): becoming familiar with the data; generating initial codes; searching for themes; reviewing themes; defining and naming the themes and producing a report. The coding and analysis was conducted manually and involved de-identifying and transcribing the interview notes into a word document. The first author reviewed all data sources and the second and third authors reviewed half each to ensure that each source was reviewed and analysed by at least two members of the team. Data analysis and interviewing were ongoing as each team member analysed transcripts independently and then participated in meetings to discuss preliminary codes and negotiate final themes once consensus was confirmed.

Findings

Of the 43 women randomised to the intervention seven (16%) did not manage to engage a non-smoking buddy; one woman asked four people, two women asked two people and four could only identify one non-smoking buddy in their social sphere. Nineteen women (53%; 19 of 36) maintained one non-smoking buddy. The seventeen women (47%; 17 of 36) who lost their initial non-smoking buddy were asked to nominate a subsequent non-smoking buddy; 65% (11 of 17) of these women had two non-smoking buddies and 35% (6 of 17) had between three and five non-smoking buddies.

A total of 204 interviews were performed with the 36 women who had a buddy. Each woman had a mean of six interviews, with four conducted in pregnancy and two post birth (all of which were performed over the telephone). In pregnancy, all but 27 interviews were

conducted face to face in the antenatal clinic. Women were an average 20 years old (range 16 to 24 years). Most (61%) women were Caucasian with the remaining 39% being Indigenous Australians. Just under half (42%) lived in low socioeconomic areas, with the majority (81%) being unemployed or not in education. Just under one third (28%) reported using illicit drugs. Involvement with the Department of Child Protection and Family Support was not unusual (28%). Most (58%) women had a partner, with the majority (53%) of partners being smokers and 14% had a history of domestic violence with a partner.

Women's experiences with their buddy

Two themes emerged to capture the young pregnant women's' experiences of having a non-smoking buddy to support them with decreasing or ceasing their cigarette smoking: 'Challenges of finding the right buddy' and 'Sustaining the buddy relationship' (Table 2). Findings will be presented with supportive quotes *in italics* from participants: for confidentiality a unique pseudo-name has been allocated to each woman.

Challenges of finding the right buddy

The theme 'Challenges of finding the right buddy' reflects the experience of finding a non-smoking buddy who could provide the support these young women wanted or needed. Most shared the reality of having limited choice for a buddy, as they did not have many non-smokers in their social network. This theme encompassed three sub themes; 'the only non-smoker I know', 'reluctance to alter the existing relationship' and 'limited discussion around expectations of buddy support'.

The only non-smoker I know

This subtheme reflects the decision making process of whom to engage as their non-smoking buddy. The requirement to select a non-smoking buddy meant some women chose a buddy that was not ideally suited to offer the best support, but their choice was restricted to a social network with limited non-smokers. Several women attempted to utilise family

members. Sue asked her younger brother but found he was "shy and doesn't really like talking to me" additionally she recognised she "doesn't see him much." Leisl also asked her younger brother, as he was the only non-smoker she knew. However, when explaining the study to her brother "he semi-listened" and the extent of his support involved speaking to him "once or twice on the phone." Jenny described engaging her uncle as a buddy who she found was initially supportive. However, his long absences and the large age gap contributed to Jenny deciding: "I would rather do it [quit smoking] on my own". Kaye nominated her non-smoking aunt despite "not really getting on with her" but eventually shared that she didn't get in contact due to their strained relationship. Having limited choice extended beyond family members to include the woman's social network, Bree recounts how after an unsuccessful attempt to recruit her mother-in-law she had endeavoured to use her partner's friend but after going through the buddy information pamphlet with him "he just threw the pamphlet away."

Reluctance to alter the existing relationship

The second subtheme captures the hesitancy women shared in discussing their needs as they did not want to inconvenience their buddies or influence their existing relationship.

Bianca offered this insight: "she [her selected buddy] came round last week and I asked her and she said 'yeah' and we left it at that......I think she's busy and she gets tired at the end of the day....she wasn't really sure what she had to do, but I said not to worry about it." Emma also shared how she experienced a delay in approaching a buddy and explaining the study as she rationalised that her buddy was "busy with work." Olivia nominated her sister-in-law but subsequently changed her mind, as she was pregnant and had other children and did not want to further add to her sister-in-law's responsibilities. After initially nominating a friend as her buddy, Mellissa changed her mind and at her next contact with the research team she shared, that she had asked her brother instead. She went on to explain that she didn't think anybody

would be interested in being her buddy, feeling that "it's not a high priority" and adding that if she was asked to be a buddy she wouldn't really give it high priority.

Limited discussion around expectations of buddy support

This final subtheme highlighted that although some women knew how they wanted to be supported, there was often no or limited conversation with their buddy addressing the subject. Julie recalls how her buddy would support her by saying "you don't need that" [cigarette] but what she wanted was a suggestion of something else to do instead of having the cigarette. Peta used her caseworker as her buddy, however having a discussion about support strategies was "something she wouldn't really do." Stella also used her support worker but felt dissatisfied as "they change all the time and nobody says anything, they just let me do what I want. They don't question me when I go out for a cigarette." Wendy found the support offered from her non-smoking buddy to be ineffective but had not discussed this: "I've been busy and haven't really had a chance to discuss that with her, but I will."

Some women indicated they relied on the buddy to interpret their cues. Emma shared she found her buddy "telling and lecturing" and could not understand why her buddy did not see their relationship was not working. Tessa became aware her craving for a cigarette increased when she talked about smoking, so she asked her buddy not to discuss smoking with her. Some women were happy with the support offered and felt no discourse was required. For example, Heidi expressed her experience as "she [buddy] distracts me, gets me out of the house. She tells me off when I go for a cigarette." Similarly Nancy found positive motivation from her buddy was beneficial and was happy to "let things go the way they are." Heather valued the honesty of her buddy who suggested: "you know the risks; you can make up your own mind."

Sustaining the buddy relationship

The theme 'Sustaining the buddy relationship' reflects the experience women had maintaining the non-smoking buddy relationship. This theme encompassed three subthemes: 'Consistent relationship'; 'Changeable buddies'; and 'Unofficial smoking buddies'.

Consistent relationship

Women who were able to sustain a committed, consistent relationship with one buddy often perceived positive, encouraging support, which was non-judgemental and more helpful than being chastised. Olivia described that she "would rather that she [her buddy] be honest with me and say it like it is instead of saying positive things all the time..." Daniela reflected her buddy "just asks how much I am smoking and if I have cut down...she makes me feel positive." Daniela was also aware that her buddy avoided making her feel guilty about her smoking as she "wouldn't like that at all". Anna shared how her buddy would call her and send her motivational text messages of support and that this was "working" but she also went on to reflect that "some days I get moody with her calling me ..she [buddy] has tried to contact me but I'm not answering my phone."

Despite women being able to sustain a continual relationship during their pregnancy with their buddy, post birth many women described how support changed focus and non-smoking buddy and baby support became blurred. Vivian discussed how her buddy started "helping out a lot with the baby." Similarly the focus of Olivia's buddy (who was her mother) changed. "Mum is a big help.... don't focus on smoking now, I think she is just focused on helping me with baby issues'. Orla shared that she "doesn't have a buddy now. Mum and sister are more interested in helping me to keep on track and get access to the baby, to get baby back" [apprehended by social services]. Yasmin explained how she was using her partner's parents for support and although they offered positive reinforcement they were also "helping with outside things like babysitting and picking kids up from school."

Changeable buddies

'Changeable buddies' addresses on the ongoing relationship the woman had with her buddies. Many shared having a relationship characterised by arguments and disagreements contributing to a loss of contact. The unstable nature of relationships contributed to women using multiple buddies as they gained and lost friendships. It was not uncommon for women to report a strong friendship and later indicate that this relationship had ended, with their focus shifted to the benefits of a new social support or solely relying upon themselves. Emma shared that she was utilising her sister-in-law and best friend as buddies but at a subsequent interview described that they "have had a falling out and haven't spoken to her in a while" explaining that she was now using her mother. Likewise, Tessa was "very close" with her sister in pregnancy but after the birth she had turned to her mother, as she and her sister were "no longer speaking."

Some women were happy with their buddy but still appreciated encouraging support from friends and family members. Isabel recalled that her buddy was "really at me" and although she was pleased with this encouragement found it beneficial that her mother was also offering support: "She gives me a look and makes me feel bad." Likewise Tina was using a sister to provide buddy support however reflected that her "whole family are non-smokers and are supportive of her cessation attempt." Tessa was also using a sister to provide buddy support, however she received support to quit from her smoking father with whom she lived and suggested they "would encourage each other." Use of changeable buddies illustrates that women have unique needs at different times and seek to benefit from their social community by aligning themselves with those who can be of benefit at that instance.

Unofficial smoking buddies

Some women shared how they received more support to decrease or stop smoking cigarettes from their smoking friends, partners or family members than their non-smoking buddy. This prompted some of the young women to gain 'unofficial smoking buddies' or

multiple smoking buddies. Rachel narrated how her smoking friends were more encouraging than her buddy, however at follow up shared that she "no longer saw these friends much anymore." Stella shared that her smoking friends offered support by encouraging her to delay having a cigarette. Similarly, Leisl felt that her smoking partner filled the support void by helping to keep her busy and "if he lights up a smoke I have to ask for one - he won't encourage me by offering me one." Heidi considered her smoking partner as controlling but helpful as he would regulate the amount of cigarettes she was able to smoke by "hiding the smokes so I can't find them" and allowing her to smoke "only what he leaves me, which was two to three drags."

Discussion

Findings from this qualitative study on young Australian women's experiences with a non-smoking buddy highlight their challenges of finding a buddy and sustaining the buddy relationship. To address the psychosocial characteristics of women that make them vulnerable to smoking, use of a holistic approach within behavioural support around smoking cessation interventions has been recommended (Sieminska and Jassem, 2014). However, no significant differences in cessation or smoking reduction were found between groups in our Australian randomised controlled pilot study that included the same young pregnant women in this qualitative study (Lewis et al., 2017). Therefore, the qualitative component embedded within the pilot study provides insight into the bigger picture around complexities of engaging a self-nominated non-smoking buddy. To advocate a sustainable intervention, insight into the challenges faced by these young pregnant women must be acknowledged.

A unique aspect of buddy support in this study was that women self-appointed a non-smoking buddy from their social network which differs from many peer-support programs.

Chamberlain and colleagues (2013) highlight that evidence for social support assisting pregnant women of all ages to quit smoking is mixed with women suggesting that peer and

partner support could be both helpful and unhelpful. The degree of cessation support that a young pregnant woman receives from her social network can impact her smoking behaviour (Greaves et al., 2011). Finding support within a personal sphere with limited access to non-smokers reinforces the challenges faced by these young women when attempting to change behaviour against the norm of a social network dominated by smokers. In fact, Australian women have reported that their confidence to achieve cessation during pregnancy was low with 98% confirming they had a smoker among their friends and 78% had a smoker in their household (Hoekzema et al., 2014).

The process of how to choose or allocate a buddy or support person presents a dilemma. Assigning an unknown person to provide peer support may compromise the effectiveness of the support should an unfavourable relationship develop. British women who did not engage in a breastfeeding peer support program shared that they were wary of asking for help and were distrustful of what a peer support person could offer (Islam, 2016).

Although, a systematic review of peer support for breastfeeding continuation found a positive effect in low to middle income countries this did not apply to high income countries like the UK with authors concluding that low intensity peer support can be ineffective (Jolly et al., 2012). However, women attending 'Baby Café' breastfeeding support groups across the UK did acknowledge the value of social support from other mothers accompanied by access to expert support from midwives or health visitors (Fox et al., 2015).

The importance of the relationship with the buddy is apparent in the theme 'sustaining the buddy relationship'. The buddies selected in this study were chosen by the young pregnant woman and did not volunteer or receive formal support in their role. Exploration of the varied models of volunteer peer support offered to pregnant women in the UK captured the voice of 47 volunteers and 42 mothers (McLeish and Redshaw, 2015). An overarching theme focusing upon the 'peer support relationship' aligns with experiences shared by young

pregnant women in this WA study. Having relationships characterised by argument and friendships gained or lost reinforced the importance of building relationships of trust described within the UK study. The progression of changeable buddies and then selecting unofficial smoking buddies as noted by the WA women reinforces the importance of UK work by McLeish and Redshaw (2015) who explored the perceptions of giving and receiving peer support during pregnancy. Attention to how and when the relationship and related support ends does affect participants and was acknowledged in their theme 'managing endings'.

Our findings address the perceptions of the young women being offered support rather than the experiences of the buddy who has agreed to provide support. Although the use of a buddy has been advocated as an inexpensive and effective component to a smoking cessation intervention (West et al., 1998), more attention to prepare and support the buddy may be warranted. This is particularly relevant given the limited discussion around expectations of buddy support noted by the young pregnant WA women who were reluctant to change the relationship with their nominated buddy or place extra burden on them. Many support programs do offer 'training' for the peers. Ten peer support projects in the UK provided 'organised' support for the emotional wellbeing of vulnerable women during pregnancy and early parenthood with individual or groups of trained volunteers or paid peers trained in counselling (McLeish and Redshaw, 2017a). Qualitative findings from 47 women receiving this support suggested that peer support was promising and highlighted how peer support positively affected the mother through social connection, being heard, building confidence, empowerment, feeling valued, and reducing stress through practical support. Peer support from trained volunteers during pregnancy with HIV positive women in the UK also reported positive impact on the emotional well-being of these vulnerable mothers (McLeish and Redshaw, 2017b).

To achieve effective support from a peer/buddy it is apparent that their preparation and support is also paramount. Within the context of smoking, an American study with pregnant smokers encouraged women to select a support person from her social network who, if in the intervention received a monthly telephone call from a counsellor to discuss effective ways of providing support. Women in this intervention reported receiving more supportive behaviours, felt their support person was committed to helping them and those who chose a friend were more likely to quit than those who chose a relative (Hennrikus et al., 2010).

Qualitative findings from participants in one Australian state must be recognized as a limitation. However, rich description of the context and experience of the young pregnant women has been provided to allow the reader to determine any potential transferability of findings to other contexts (Schneider et al., 2014). Highlighting the complex social circumstances these young vulnerable women face is a strength of the study and facilitates determination of how transferable these findings are to clinicians supporting young pregnant women wanting to change their smoking behaviour.

Conclusion

It is clear the unique characteristics and social environment these vulnerable women may influence their ability to engage and sustain a relationship with a non-smoking buddy. The requirement to select a non-smoking buddy meant some women chose a buddy that was not ideal as their choice was restricted to a social network with limited non-smokers. Indeed, some women acknowledged they received more support to decrease or stop smoking cigarettes from their smoking peers. Although some women knew how they wanted to be supported, there was often limited conversation addressing the topic with their buddy. Additionally, the unstable nature of these women's relationships contributed to women using multiple buddies. Women who were able to sustain a relationship with one buddy often perceived their buddy support was non-judgemental. Exploration of the personal experiences

of these vulnerable women with a self-nominated non-smoking buddy highlights the complexity of incorporating buddy support into smoking cessation programs for young pregnant smokers.

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Table 1. Semi-structured interview guide

How is it going with your buddy?

Do you have the same buddy you've always had?

How often do you speak?

Who gets in touch with whom?

What do they do to support you?

How do you speak to them (i.e. mobile phone, face to face)?

How effective has this been?

What is working and what isn't?

How do you want them to support you?

Have you discussed any support strategies with your buddy?

Table 2. Women's experiences with their non-smoking buddy: themes and subthemes

Theme	Subtheme	Definition
Challenges of finding the right buddy	The only non-smoker I know	Women had a limited choice of buddy as they did not know many non-smokers.
	Reluctance to alter the existing relationship	Some women were reluctant to change the existing relationship with their non-smoking buddy and place an extra burden on them. This made finding the right buddy and asking them to participate in the study challenging for many women.
	Limited discussion around expectations of buddy support	There was limited discussion from the women or the buddies about the types of support that would be beneficial. Some women didn't discuss their expectations and wanted more while others were happy with the way things were.
Sustaining the buddy relationship	Consistent relationship	Those women who were able to sustain a committed, consistent relationship with one buddy often found non-judgemental support was more helpful than being chastised
	Changeable buddies	These buddy relationships were characterized by arguments and 'falling-outs'. Some women had multiple buddies as friendships were gained and lost
	Unofficial smoking buddies	Some women selected unofficial smoking buddies, losing their original non-smoking buddy.