

# Smoking cessation interventions involving significant others: the role of social support

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## Executive summary

It is well established that the social environment influences smoking initiation and maintenance, as well as cessation. The effect, particularly on cessation, is likely to be partly mediated by the social support provided to smokers by significant others. Indeed, observational studies investigating the natural progression towards smoking cessation show that social support is clearly associated with abstinence – positive social support generally increasing the likelihood of successfully stopping smoking and negative social support undermining it. Positive social support is thought to motivate those attempting to quit, model desired behaviour and act as a stress buffer thus improving chances of quitting successfully. Whilst intra-treatment social support, the support provided by clinicians and other participants within intensive behavioural treatment, constitutes an essential and effective part of smoking cessation interventions, interventions with extra-treatment social support components aimed at enhancing the social support from significant others have yielded surprisingly equivocal results. This may be due to a number of practical as well as theoretical limitations associated with improving social support provided by others. Given this lack of evidence of effectiveness, current smoking cessation guidelines do not explicitly advocate the use of extra-treatment social support in smoking cessation interventions.

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### Key points

#### 1. The social environment and smoking

##### 1.1 Smoking initiation

- The uptake of smoking is strongly influenced by the smoking behaviour of others. In particular, there is ample evidence to suggest that smoking by parents, siblings, friends, peers or romantic partners greatly increases the risk of smoking initiation.<sup>1,2</sup>
- In addition, smoking in the wider social environment also impacts uptake. Smoking in the work place,<sup>3</sup> a more tolerant attitude towards smoking in schools<sup>4</sup> and public depiction of smoking (e.g. in films<sup>5</sup> or in advertisements<sup>6</sup>) have all been shown to increase the likelihood of starting to smoke.

##### 1.2 Smoking maintenance

- Whilst social factors are clearly important for the uptake of smoking, they also contribute to the continuation of tobacco use.<sup>7</sup> In population samples, those who have a partner who objects to smoking,<sup>8</sup> experience social pressure to stop,<sup>9</sup> or those living in homes with a smoking ban,<sup>10,11</sup> are more likely to attempt to quit.
- By contrast, the presence of other smokers reduces the likelihood of being able to stop smoking and increases the risk of relapse. This is the case if these smokers are friends<sup>12</sup> or romantic partners,<sup>13</sup> though there are differences by gender with women being more likely to be influenced by partner smoking than men,<sup>14</sup> and smoking maintenance is positively correlated with the number of smokers in one's social network.<sup>15</sup> Indeed, studies suggest that the majority of relapses occur in the presence of other smokers<sup>16</sup> and that those who successfully stop tend to have fewer social contacts who are smokers.<sup>16,17</sup>

##### 1.3 Causal role of social environment

- The effect of the environment on smoking initiation and maintenance is most likely due to smoking in the environment effectively normalizing the behaviour and smokers providing modeling cues.<sup>18–20</sup> This creates a more favourable perception of smoking which has been linked to relapse.<sup>21</sup>
- In addition, it has been argued that the social environment exerts influence on smoking and smoking cessation through social support, or the lack thereof, that is provided to smokers.<sup>22</sup>

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### 2. Social support and smoking

#### 2.1 Definitions of social support

- Social support is defined as 'any behavior by others that is presumed by either the giver or receiver to facilitate a positive and desired behaviour change'.<sup>23</sup> It can be conceptualised both in terms of the quantity of social relations, as structural social support, and in terms of the perceived quality of these relations, as functional social support.<sup>24</sup>
- The functions of social support can be described as emotional (e.g. give reassurance), informational (e.g. give advice) and instrumental (e.g. assist with a problem).<sup>25</sup> Social support in the context of smoking can be general or abstinence specific, i.e. directly address the health behaviour in question.<sup>26</sup>

#### 2.2 Impact of naturally occurring social support

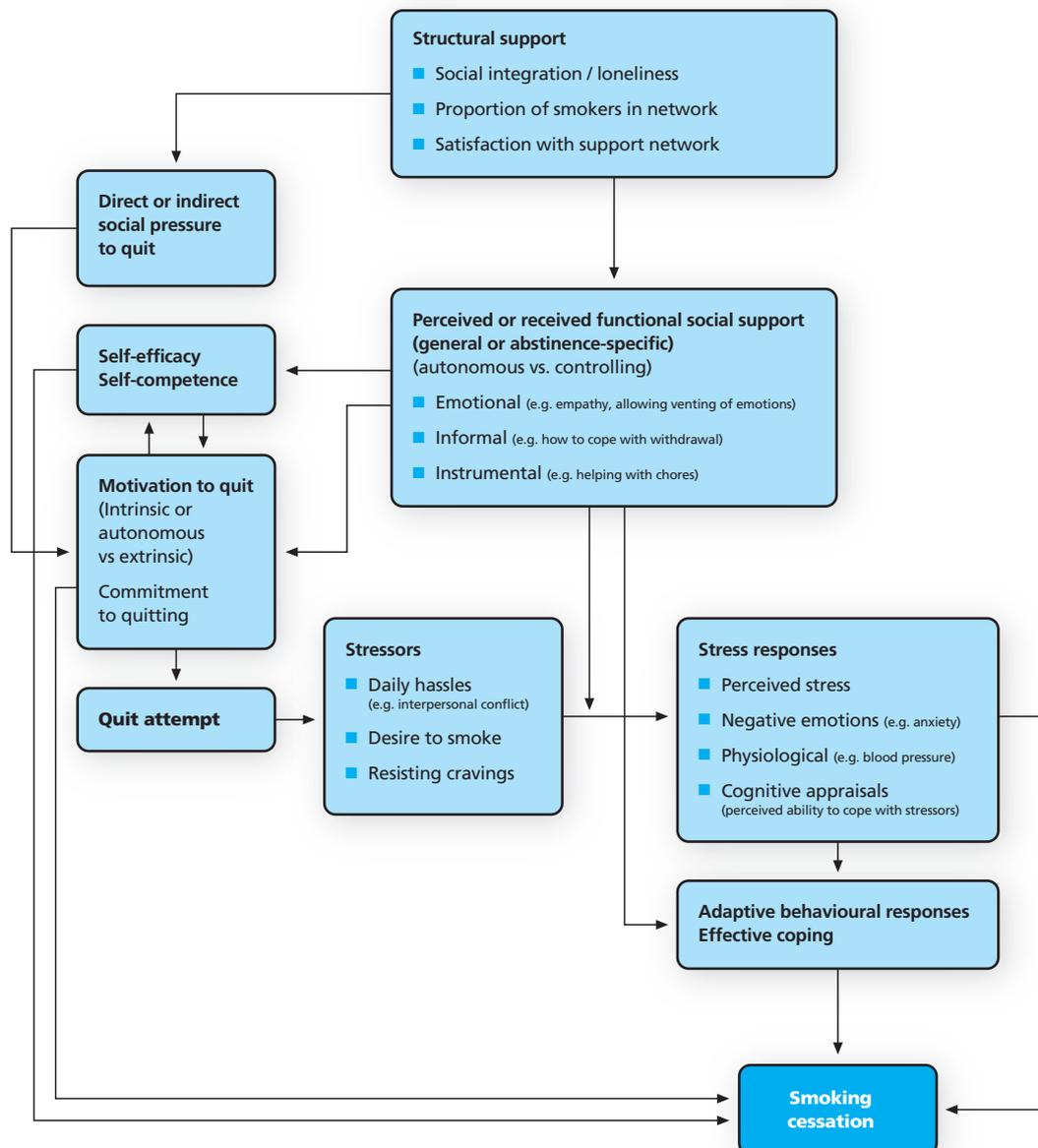
- In observational studies both general support and abstinence-specific support by partners, friends and colleagues have generally been found to predict success in stopping smoking<sup>20,27-33</sup> and in the cessation of other addictive behaviours.<sup>34</sup>
- However, the impact of social support appears to be dependent both on the timing of when it is provided and whether it is perceived as positive or negative. Studies suggest that positive social support and decrease in negative support aid smoking cessation, whilst negative support such as nagging or policing may in fact undermine quit attempts.<sup>29-31,35-37</sup> Indeed, it would seem that significant others who are smokers provide more negative support than never smokers.<sup>38</sup> In addition, positive social support may be particularly important at the initial stages of a quit attempt.<sup>22,28,35,39</sup>

#### 2.3 Mechanism of action of social support

- There are a number of reasons as to why this association of social support with smoking behaviour is observed. First, social support may motivate behaviour change directly; second, it may model desired or undesired behaviours and third, it may indirectly affect smoking cessation through modifying other factors important for behaviour change such as by creating a calm interpersonal environment, alleviating daily hassles, stress or negative emotions and in supporting adaptive coping strategies.<sup>27,40</sup> Figure 1 provides a comprehensive overview of potential pathways through which social support may influence smoking cessation.

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Figure 1. Potential pathways mediating influence of social support on smoking cessation. Adapted from Westmaas et al, 2010.<sup>40</sup>



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- Given the evidence for a strong association of naturally occurring social support with smoking cessation outcomes from observational studies, it has been suggested that smoking cessation interventions should include measures to increase social support.<sup>13,16,22,41</sup> Social support interventions can be conceptualised as being incorporated into treatment (intra-treatment social support) when smokers are provided with encouragement through direct contact with empathetic clinicians.<sup>42</sup> By contrast, social support can also occur outside of the direct treatment setting (extra-treatment social support), when smokers are given tools or assistance to seek support elsewhere or when friends and family are encouraged to aid and support a smoker's quit attempt.

### 3. Smoking cessation interventions to enhance social support

#### 3.1 Extra-treatment social support

- Rather surprisingly, interventions that have attempted to increase social support by targeting significant others have produced mixed results at best. A number of studies have shown superior abstinence rates by encouraging a support person to attend treatment sessions (but this effect was mostly present in men, not women),<sup>13,43,44</sup> by providing support training to significant others<sup>45</sup> or by initiating new contacts and pairing smokers with other smokers, 'buddies', who also attended treatment sessions.<sup>46</sup> However, these effects tend to be relatively short-lived and in observational studies are likely to be due to self-selection.<sup>47</sup>
- Trials that have used stricter study methodology do not tend to find an additional benefit for smoking outcomes by involving buddies<sup>48</sup> or romantic partners who smoke in treatment,<sup>49</sup> or by providing additional material to increase social support from significant others.<sup>50,51</sup> Although the somewhat contradictory findings of effects of extra-treatment social support may in part be due to methodological problems (small sample sizes, diverse approaches), meta-analyses and systematic reviews tend to find no overall evidence that such social support interventions increase abstinence rates (see Figure 2).<sup>47,52,53</sup>

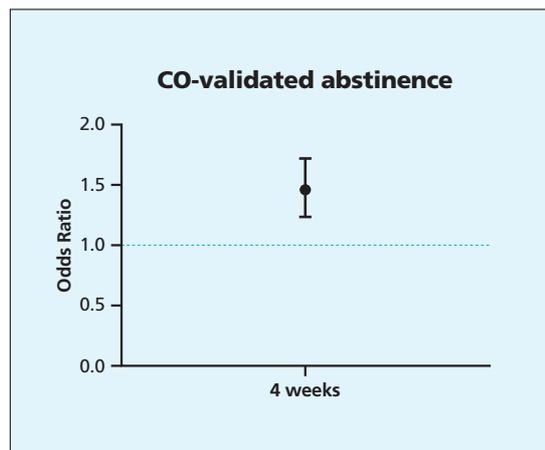
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**Figure 2. Effect of partner support interventions on self-reported abstinence at different time points.**



Pooled odds ratios (95% confidence intervals) for abstinence in randomised controlled trials comparing interventions with and without partner support. Data from Park et al.<sup>52</sup>

**Figure 3. Effect of group compared with one-to-one behavioural counselling on CO-validated abstinence.**



Pooled odds ratios (95% confidence intervals) from observational studies reporting abstinence in group compared with one-to-one behavioural counselling. Raw data from Bauld et al.<sup>54</sup> and McEwen et al.<sup>55</sup>

### 3.2 Intra-treatment social support

- In contrast to extra-treatment social support, consensus panel guidelines consider intra-treatment social support to be an important and effective component of intensive behavioral interventions.<sup>42,56</sup> The best evidence to suggest that such intra-treatment social support has an active effect comes from indirect comparisons of group and individual treatments showing that effect sizes obtained by group treatments are somewhat higher.<sup>57,58</sup> For instance, observational studies that have compared the abstinence rates of smokers who elect to either stop smoking using a group service or one-to-one treatment report that group participants are 1.38<sup>54</sup> to 2.27<sup>55</sup> more likely to be abstinent (see Figure 3).
- However, whilst confounders are controlled for in such observational studies, they cannot control for non-specific or placebo effects. Further evidence for the importance of intra-treatment social support comes from experimental trials which show that increasing social cohesion and increasing social support within groups (e.g. by stressing commitment to the group) improves abstinence rates compared with normal treatment.<sup>59-61</sup>

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### 3.3 Reconciling evidence

- Given the clear association of naturally occurring social support with smoking outcomes and the importance of intra-treatment social support, it is surprising that interventions designed to enhance social support from others are not more effective. An obvious explanation for this finding may be that it is difficult to create social support for someone if it is not naturally available.<sup>13</sup> In fact, most studies that measured the impact of interventions on social support found this had not increased in the treatment condition.<sup>62</sup>
- An additional consideration is the possibility that social support has its effect not due to increasing social integration but due to the absence of the negative effects of isolation.<sup>63</sup> Following from this hypothesis, it may be the case that increases in social support beyond a certain threshold may have a ceiling effect and not improve outcomes.<sup>25</sup> This interpretation is consistent with the finding that buddy interventions are effective when added to one-to-one but not group treatments which already exhibit high levels of social support.<sup>48</sup>
- Lastly, it has been argued that insufficient theoretical rigor and confusion between concepts of social support may contribute to the negative findings and that better theoretical frameworks are needed.<sup>40</sup> One approach which has shown some promise is the family-consultation model.<sup>64</sup> It postulates that social support cannot be simply reduced to learning and implementing various support skills but requires an acknowledgement that smoking is inextricably linked to the social relationships in which it occurs and that significant others need to be involved not just as providers of social support but as participants with a stake in the change process.<sup>65</sup>

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