PROJECT HATCH – Staying Healthy after Childbirth

DEVELOPING THE EVIDENCE BASE FOR SUPPORTING SMOKING RELAPSE PREVENTION POSTPARTUM ALONGSIDE OTHER CANCER PREVENTATIVE BEHAVIOURS
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45% of women stop smoking while pregnant [Jones et al 2016], but...

Increased risk of postpartum smoking relapse

90% in UK [Jones et al 2016]
80% in US [Mullen et al 1997]

Low rates of breastfeeding

35% in UK at 6 months [Lancet, 2016]
49% in US at 6 months [CDC Breastfeeding Report, 2014]

Low rates of physical activity

65% in US inactive/irregularly active postpartum [Albright et al, 2008]
Background

- Limited evidence for effective interventions to support postpartum relapse prevention (Cochrane, 2013)
- Strong correlation between breastfeeding and continued smoking abstinence (Mumford & Liu, 2016)
- Physical activity may help to reduce cigarette craving and prevent relapse to smoking (Prochaska et al., 2008; Roberts et al., 2012)
- Mothers who relapse to smoking are 50% more likely to stop breastfeeding early (Disantis et al. 2013)
- Perinatal period could be a teachable moment

**Supporting positive behaviour changes across these 3 domains of cancer risk health behaviours could significantly impact long-term cancer rates**
Aims & Objectives

To develop a prototype intervention to target continued abstinence from smoking, combined with increased rates of breastfeeding and physical activity among postpartum women.

Key Objectives:

● Identify current evidence-based resources from existing literature and existing support resources used by postpartum women (e.g. apps and social network sites), to define potential intervention components
● Explore barriers and facilitators for target behaviours and gain ‘real world’ feedback on identified resources, from postpartum women and HCPs
● Explore views on potential objective measures of smoking, breastfeeding, and physical activity outcomes that may be used in a future study
● Make recommendations to initially develop a prototype intervention
Methods

Theory driven, underpinned by **Social ecological model** (Bronfenbrenner, 2005)

1. Scoping search identified relevant reviews on PA and smoking RP

2. Additional systematic review of BF interventions:


3. Scoping review of apps and electronic resources

4. Survey of Health care professionals

5. Qualitative focus group study
Results: Review

A systematic review of breastfeeding interventions among postpartum women using the Behaviour Change Techniques taxonomy

- Inclusion criteria: Population (women postpartum), Interventions (Promoting exclusive or mixed breastfeeding), Comparisons (Any type of control group), Outcomes (exclusive and mixed breastfeeding as defined by WHO), Study design (at least one intervention and one control group)
Results: Review
A systematic review of breastfeeding interventions among postpartum women using the Behaviour Change Techniques taxonomy

<table>
<thead>
<tr>
<th>Study</th>
<th>OECD</th>
<th>Design</th>
<th>Sample</th>
<th>Length</th>
<th>Mode of Delivery</th>
<th>Delivered by</th>
<th>N of BCTs</th>
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Most prevalent BCTs were credible source (n = 17), instruction on how to perform the behaviour (n = 13), social support (n = 11) and problem solving (n = 9).

PA BCT review key findings (Galinsky et al 2015): ‘Interventions increased frequency but not volume of physical activity or walking behaviour. Efficacious interventions always included the BCTs ‘goal setting (behaviour)’ and ‘prompt self-monitoring of behaviour’.

Smoking RP BCT review: identified six BCTs as ‘promising’ i.e. both frequently occurring and present in trials which demonstrated long-term effectiveness. These were: ‘problem solving’, ‘information about health consequences’, ‘information about social and environmental consequences’, ‘social support’, ‘reduce negative emotions’ and ‘instruction on how to perform a behaviour’.

Promising BCTs that occurred in reviews across the three target behaviours suggest that the use of BCTs to support relapse prevention postpartum in conjunction with other cancer preventative behaviours.
Examples of tools/resources: app scoping search
Key Results: Focus groups

- Very low levels of PA following childbirth
- Smoking RP or cessation rarely mentioned in context of BF support
- Need for support across multiple behaviours and desire for support
- Most discussion of BF and preoccupation with lack of support (often due to significant physical challenges)
- No expert support for PA. Significant environmental / cultural / physical challenges with engaging with PA
- High level mobile tech users, interest in GPS
- Positive about objective measures and incentives
- Cultural differences: BF and PA
- Significant environmental / cultural / physical challenges with engaging with PA
Results: Focus groups

Facilitators: policy supportive of smoking relapse prevention – harm reduction approaches:
“since I’ve had him I now vape” (UK, FG01)

Barriers: breastfeeding prevents physical activity
“I worried, because I was breastfeeding, I always used to worry what if I get halfway somewhere and he wants feeding and I’m stuck. So it kind of made me a little bit like nervous to go anywhere” (UK, FG02)

Facilitators: friendship groups supporting physical activity:
“For some of those coffee mornings we go out for a walk and we go to the city and we walk back and things” (UK, II01)

Barriers: lack of organisational support for breastfeeding:
“I’d just started a new job so I didn’t really want to… So that was rotten, so I just quit trying to pump inside and I only pumped in my car” (US FG01)

Facilitators: Policy supportive of smoking relapse prevention – harm reduction approaches:
“since I’ve had him I now vape” (UK, FG01)

Barriers: lack of community provision to support PA: “I’d love to go to a baby and me yoga but there’s only one per month potentially on a Saturday and there’s really… all” (US FG02)

Barriers: Individual motivation:
“unless you make the leap in your head and you’re mentally ready to do it, I don’t think you’ll ever be able to quit” (UK II01)
Conclusions: Synthesis of project phases

- BCT reviews: goal setting, problem solving and instruction on how to perform behaviours important intervention components to support multiple cancer preventative behaviours
- App search: none that address multiple behaviours simultaneously
- Women report willingness and ability to engage in continued smoking abstinence, physical activity and breastfeeding postpartum, but behaviour is affected by physical and sociocultural variables in the larger community environment.
- There is potential to significantly impact both maternal and child long-term health outcomes.
- Next step is to define a logic model to underpin a prototype complex intervention
- Potential to add innovative technological tools to address real-time individualized support needs for cancer-related behaviour change to existing resources

E.g. using GPS to mark breastfeeding cafes, and to promote in-person meetings of mothers to go for a walk
References


Brown, T, Hardeman, W, Bauld, L, Holland R, Maskrey, V, Naughton, F, Orton, S, Ussher, M & Notley, C A systematic review of behaviour change techniques within interventions to prevent return to smoking postpartum (Submitted, Nicotine and Tobacco research, 09-2018)


