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Incentives for breastfeeding and for smoking cessation in pregnancy: An exploration of types and meanings

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ABSTRACT

Financial or tangible incentives are a strategy for improving health behaviours. The mechanisms of action of incentives are complex and debated. Using a multidisciplinary integrated mixed methods study, with service-user collaboration throughout, we developed a typology of incentives and their meanings for initiating and sustaining smoking cessation in pregnancy and breastfeeding. The ultimate aim was to inform incentive intervention design by providing insights into incentive acceptability and mechanisms of action.

Systematic evidence syntheses of incentive intervention studies for smoking cessation in pregnancy or breastfeeding identified incentive characteristics, which were developed into initial categories. Little published qualitative data on user perspectives and acceptability was available. Qualitative interviews and focus groups conducted in three UK regions with a diverse socio-demographic sample of 88 women and significant others from the target population, 53 service providers, 24 experts/decision makers, and conference attendees identified new potential incentives and providers, with and without experience of incentives.

Identified incentives (published and emergent) were classified into eight categories: cash and shopping vouchers, maternal wellbeing, baby and pregnancy-related, behaviour-related, health-related, general utility, awards and certificates, and experiences. A typology was refined iteratively through concurrent data collection and thematic analysis to explore participants' understandings of 'incentives' and to compare and contrast meanings across types. Our typology can be understood in three dimensions: the degree of restriction, the extent to which each is hedonic and/or utilitarian, and whether each has solely monetary value versus monetary with added social value.

The layers of autonomy, meanings and the social value of incentive types influence their acceptability and interact with structural, social, and personal factors. Dimensions of incentive meaning that go beyond the simple incentive description should inform incentive programme design and are likely to influence outcomes.

1. Introduction

Evidence is accumulating for the effectiveness of incentives given to individuals to change health behaviours particularly for smoking cessation and uptake of vaccinations (Giles et al., 2014; Marteau et al., 2009; Jochelson, 2007). Research has mainly focused on motivation as a mechanism, suggesting that performance of a behaviour is the result of a desire to obtain an advocated incentive. Informed by Self-Determination Theory (Deci and Ryan, 1985) there has been debate about the potential of incentives to shift the reason for behavioural performance from internal to external motivation and thereby undermine autonomy (Ryan et al., 1983). This corresponds with evidence suggesting that behaviour ceases to be performed when incentives are removed (Jochelson, 2007). Others suggest that the presentation and interpretation of the incentive, rather than the incentive itself, determines motivational quality (Hagger et al., 2014),

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underlining the importance of the overall intervention context and the meanings people apply in their everyday lives.

Using incentives within health behaviour change interventions is complex, as demonstrated in a framework by Adams et al. (2013). Incentives are often delivered alongside other intervention components rather than in isolation (Johnston and Sniehotta, 2010), so interactions are likely. Most incentive-based interventions only display short-term effects, indicating a need to better understand their mechanisms of action and the social contexts in which they occur to improve design (Stephens, 2014). Thus, having a clear understanding of the social meanings of incentive interventions, as well as other behaviour change techniques, is paramount. The impact of incentives within the environmental and social contexts of an individual has received little research attention. Incentive-based interventions which negotiate and incorporate an individual's personal motives and values may be more likely to lead to maintenance of behaviour change (Johnston and Sniehotta, 2010). Just as incentives may be expected to interact with structural, social, and personal factors, so different types of incentives may be expected to interact differently with these factors – and to differ in their reach and effectiveness.

We conducted the multidisciplinary mixed methods BIBS (Benefits of Incentives for Breastfeeding and Smoking cessation in pregnancy) study to inform the design of acceptable and feasible incentive interventions for improving smoking cessation in pregnancy or breastfeeding outcomes (Morgan et al., in press). Smoking in pregnancy and not breastfeeding have significant health, social and economic consequences (Dietz et al., 2010; Eidelman and Schanler, 2012), cluster together in families and social networks, and are typically associated with socioeconomic deprivation (Buck and Frosini, 2012; McAndrew et al., 2012). The BIBS study included systematic reviews of incentive interventions for both behaviours. A meta-analysis of four studies (332 women) found that shopping vouchers for biochemically validated smoking cessation in pregnancy were effective (compared to non-contingent incentives for trial participation); the relative risk of cessation was 2.77 (95% CI 1.69–4.24). Variation in design and quality of the 17 identified studies using other types of incentives precluded inclusion in the meta-analysis (Morgan et al., in press). For the breastfeeding review, 18 patient level reports found insufficient evidence to conclude on the effectiveness of any incentive type (Morgan et al., in press). There is currently no evidence on incentives for either behaviour comparing engagement, attrition or outcomes of different types of incentives with each other (Morgan et al., in press). The aim of this paper was to explore the meaning, values and types of incentives for health behaviours to inform understanding about how they might work.

2. Methods

2.1. Study design

The BIBS study aimed to understand the mechanisms of action of incentives for smoking cessation in pregnancy and breastfeeding, develop a typology, and identify promising, acceptable and feasible interventions to inform trial design. It included systematic reviews, qualitative research, surveys and a discrete choice experiment (Morgan et al., in press). This paper reports data from two systematic reviews of incentives for breastfeeding and smoking cessation in pregnancy and overlapping primary qualitative research to investigate the meanings attached to different types of incentives. Collaboration with two mother-and-baby service user groups located in areas with high smoking rates and low breastfeeding rates ensured ongoing representation of the target populations.

2.2. Evidence syntheses

Detailed searches were carried out in Medline, Medline-in-Process, Embase, CINAHL, PsycINFO, Web of Science, CENTRAL, Cochrane Database of Systematic Reviews, DARE, HTA, MIDIRS, Applied Social Sciences Index and Abstracts, and the Trials Register of Promoting Health Interventions and are described elsewhere (Morgan et al., in press). Studies were included if they described an incentive intervention. An 'incentive' was defined as a financial (positive or negative) or non-financial tangible incentive or reward, where tangible means free or reduced cost items that have a monetary or exchange value. This definition excludes intangible incentives such as supportive or motivational relationships with professionals or peers. The populations of interest were women who were pregnant or had given birth within six months at the time of the intervention, and/or those who were family members/partners of these women. The outcomes of interest were smoking cessation, prolonged abstinence; exclusive or any breastfeeding. Data describing the characteristics of the incentive were extracted independently by two reviewers. The detailed methods and analysis for the evidence syntheses are described elsewhere (Morgan et al., in press). The protocol for these systematic reviews was registered on PROSPERO 2012:CRD42012001980.

2.3. Qualitative interviews: recruitment and data collection

Qualitative research was carried out in three UK regions, in healthcare, community and third sector settings chosen to ensure a socio-demographically diverse sample and the inclusion of harder-

Table 1
Study participants.

Participants	Number interviewed	Totals and format
Co-applicant mother-and-baby groups	$n = 6$	**Participants N = 12**
Aberdeenshire	$n = 6$	Focus groups[a] $n = 3$
Blackpool		Face-to-face interviews $n = 2$
Pregnant women and recent parents[a]	$n = 38$[b]	**Participants N = 88**
Pregnant women	$n = 45$	Focus groups[a] $n = 8$
Postnatal women	$n = 5$	Face-to-face interviews $n = 39$
Partners		Telephone interviews $n = 6$
Providers	$n = 11$	**Participants N = 53**
Midwifery	$n = 1$	Focus groups[a] $n = 10$
Nursing	$n = 12$	Face-to-face interviews $n = 13$
Health visiting	$n = 5$	Telephone interviews $n = 6$
Doctors: paediatricians, obstetricians, GPs	$n = 3$	
Public health	$n = 11$	
Smoking cessation specialists/staff	$n = 2$	
Voluntary sector/children's centre staff	$n = 7$	
Pharmacists	$n = 1$	
Incentive scheme administrator		
Experts and decision makers	$n = 24$	**Participants N = 24**
		Focus groups[a] $n = 4$
		Face-to-face interviews $n = 3$
		Telephone interviews $n = 7$
Public Health, Maternal and Infant Health Conferences	$n = 3$	**Participants N = ~63**
Participants included policy, decision-makers, experts and some practitioners		Recorded group discussions at conferences

[a] A total of 16 focus groups were conducted. At three focus groups with women/recent parents a provider was present and three focus groups were a mixture of providers and experts. Two women attended two different focus groups; as did two experts (they are counted once only).

[b] Two pregnant women were involved in a follow-up postnatal interview (one of whom had an older child at the time of the first interview).