Author's response to reviews

Title: Incentives as Connectors: Insights into a breastfeeding incentive intervention in a disadvantaged area of North-West England

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Author's response to reviews: see over
Reviewer Comments: We would like to express our thanks to all the reviewers for the very helpful feedback and comments. These issues have been addressed as follows and amended text highlighted in the paper:

**Reviewer Number 1**

1. It would be helpful to give more detail about the existing peer support scheme up front in the abstract. If the reader misses the significance of the information in the 4th line of the abstract then a lot of the information in the abstract is ambiguous.

   **Response:** Thank you – the following text has now been changed within the abstract:

   
   ‘In this paper, we report on insights from a qualitative and descriptive study to investigate the uptake, impact and meanings of a breastfeeding incentive intervention integrated into an existing peer support programme (Star Buddies). The Star Buddies service employs breastfeeding peer supporters to support women across the antenatal, intra-partum and post-partum period’

2. ‘In the UK and internationally there has been growing interest in the use of incentives to change healthy lifestyle behaviours within an educational and public health arena’. A reference would be good here perhaps

   **Response:** References have now been added to the text:

   ‘In the UK and internationally there has been growing interest in the use of incentives to change healthy lifestyle behaviours within an educational and public health arena [1,2]’

3. ‘After the birth of a baby, new mothers can feel overwhelmed and preoccupied in adapting to their new role’ p18. This leaves the reader uncertain whether this is one of the findings or a statement of fact from other research. If it is the former then it needs to be reworded to reflect that it is your finding, and if it is the latter then it should be referenced and should be in the Discussion.

   **Response:** Thank you, this point was repeatedly referred to within the transcripts and the text has been amended accordingly:

   ‘Peer supporters and the mothers frequently cited how the birth of a baby can leave mothers feeling overwhelmed and preoccupied in adapting to their new role.’

4. There are very occasional references to the first person ‘we’. This fits in perfectly with the nature of the work, but is used so infrequently that it jars slightly with the rest of the text, which errs towards the third person. Perhaps you should either choose one or the other approach?

   **Response:** Yes, thank you, amendments have been made to remove ‘we’ due to the mixed method nature of the paper.
5. I realize that there was an intrinsic link between the giving of incentives and the opportunity for peer supporters to have more contact with the women. However, this clearly makes it difficult to differentiate between the benefits of the incentives and the benefits of increased contact. I feel you need to say more about this issue, perhaps in the limitations, but more appropriately perhaps in the main part of the Discussion. Indeed, it suggests an additional area for further research which you could speculate about at greater length.

Response: Thank you – and yes, we agree with this comment with additional text now included within the discussion section (also incorporating comments from reviewer 3):

‘Furthermore, as the study only recruited women who were engaging with the incentive intervention, no conclusions can be drawn about how the gifts may or may not have motivated women to either participate in the peer support programme and/or to breastfeed. Future studies need to differentiate feeding outcomes and participant perspectives for a) incentives alone b) incentives with peer support and c) peer support alone.’

6. ‘Trust’ is mentioned as a key area on p29. I went back to the Findings to identify where this had emerged from the data. It might add weight to the statement on p29 to strengthen the comments made around ‘trust’ in the Findings.

Response: Additional text has now been included:

‘Women and peer supporters referred to how the repeated contacts enabled trust to be forged within their relationships’

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
Ref 14 – capitalization of I in Finch

Response: Thank you – amendments made/full proof check undertaken by all authors

REVIEWER 2:

The article is based on an issue which we very much question the purpose. The practice of giving free gifts to give support to breastfeeding for new mothers is a method that is neither ethically defensible or generalizable. Therefore we advise to publish this article as we have understood that the journal BMC Pregnancy and Childbirths core value is to increase knowledge of child-bearing and strengthening one's power. We consider it as unethical, unworthy and are divided on the basis of science to try to strengthen the vulnerable new mothers in breastfeeding, using a method that involves bribery. The expectant mothers utilized in promotional purposes of their vulnerable situation. What will it mean in the longer perspective of these women's experience of having been courted by bribes rather than human care and professional support.
Response: We do value and appreciate these opinions – however, we would like to emphasise the complex socio-cultural influences that determine women’s choices and experiences. In the UK, and particularly within areas of high socio-economic deprivation there is deeply entrenched bottle-feeding practices that are proving very resistant to change despite varied breastfeeding support options offered. Indeed, until recently and for several decades, disadvantaged women have been provided with free formula milk by the UK government. Using the similar logic to the reviewer’s position, this could be seen as bribing women to choose a milk with health risks to both the mother and the baby. Incentives in the context of this paper are not considered as bribery, rather utilised as an opportunity to make meaningful and important connections between supporters and women, and in turn to help and support women to breastfeed for longer than they perhaps would have (due to lack of beliefs, values and support within their own social and familial networks). Behaviour change theory consistently demonstrates that rewarding the desired behaviour improves outcomes. We believe it is important that this, as well as other systems of care are considered within their specific idiosyncratic context, and have drawn upon the edited work of DeVries et al (2007) to emphasise this point:

‘Furthermore, it is important to recognize that the perceptions, attitudes and utility of incentives will be varied across different socio-cultural groups. Indeed, in Birth by Design (2001), the authors argue how maternity care systems need to be studied within the cultural, historical, and societal settings in which they operate’

REVIEWER NUMBER THREE

1.1. On page 11 - 2 women interviewed were still in receipt of the programme, though on page 10 it says that they had all completed the programme at the time of interview.

Response: Thank you, this has now been amended as follows:

‘Where possible, interviews were organised after women had completed the 8 week peer support programme as they may have felt restricted in raising any negative appraisals whilst still in receipt of support’

1.2. The section on Design on page 7 refers to ‘the incentive intervention’, but the intervention is not described till the next page. Perhaps the order should be reconsidered, or signposts are needed to help the reader.

Response: A sign-post has now been included to help the reader in this section:

‘The PCT and BfN commissioned a prospective qualitative evaluation of the incentive intervention (described in the following section) to investigate the barriers and facilitators to incentive uptake, their impact, and the meanings attributed to them from the perspectives of women recipients and the peer supporters delivering them’

1.3. Given that the primary aim of the study was the qualitative evaluation, what information were the women given about the evaluation/interviews at the point of invitation to the incentive programme? When was the consent form signed?
Response: Women were only notified about the evaluation after they had been recruited, and were participating in the incentive scheme. Additional text has been included to clarify this issue as detailed below:

‘As the purpose of the evaluation was to elicit views of women who had received the incentives, women were only approached to participate after they had received at least 4 weeks of the incentive intervention’

1.4. Did all the peer supporters offer the incentives? Only 4 (of 9 peer supporters in total) took part in the focus group? How were the peer supporters selected to offer the incentives? Might the characteristics of these peer supporters (or the areas they served) have influenced the outcome of the intervention?

Response: Apologies for the confusion in this section – only four were approached and participated in the focus group as these were the only ones involved in delivering the community/incentive intervention. The remaining peer supporters worked in the antenatal/intrapartum period or were the coordinators of the service. Additional text has been included to clarify this point as follows:

Additional detail included within Box 1:

‘Two of the peer supporters coordinate the service, 3 provide breastfeeding peer support during the antenatal/intra-partum period and 4 provide post-natal community based support’

Additional detail within the text:

‘All the 4 post-natal community peer supporters delivering the incentive intervention were approached and consented to participate in a focus group discussion’

1.5. Of women who were recruited to the interviews, some were apparently ‘selected’ – on what basis were they selected?

Response: Selection was random and determined by the women’s availability (e.g. four contact attempts, and then another name randomly selected) and to try and ensure a similar number of women were recruited across each peer supporter (5-7 per women per peer supporter). We have added a flow-chart included as suggested and combined the relevant sections of text to improve clarity:

‘Between January to March, 2011 the community peer supporters delivering the intervention were asked to identify and verbally invite all women receiving incentives to take part in qualitative interviews, to try and minimise response bias. The names and contact details of 35 consenting women were forwarded to GT; with each peer supporter recruiting between 6-11 women. As the aim was to elicit views of women who had received some or all of the incentives, women were only approached to participate after 4 weeks of the incentive intervention. Furthermore, whilst none of the women refused to participate, only 4 attempts were made to contact the women. An overview of the recruitment and selection process is presented in Figure 1: ’
Figure 1: Recruitment strategy for women receiving incentives between January – March, 2011

Four post-natal community Star Buddies approached all women who had been receiving incentives for at least 4 weeks

35 women agreed to participate (6 – 11 names provided by each Star Buddy)

26 participated in an in-depth interview (5-8 from each Star Buddy)

9 were un-contactable after 4 contact attempts

2.1. Given that the issue of deprivation/disadvantage is highlighted in the abstract and the discussion, is any data available about the women who declined to take part in interviews (or who could not be contacted)? Did the women who were included in the interviews differ (in terms of socio-demographics) from those who were interviewed? What about the demographics of the women who did not complete the programme (and discontinued breastfeeding)?

Response: We agree that this is a very important point and we have added this as a study limitation in the discussion.

‘Unfortunately indices of deprivation were not routinely collected for participants in the peer support programme and future research should investigate how the uptake of incentives, attrition rates and outcomes vary across different socio-economic groups.’

2.2. Table 2 – one of the columns is highlighted – the reason for this needs explained.

Response: Additional information has now been included as a footnote below the table as follows:

* The highlighted column in the table reflects the period when the incentive intervention was in operation

2.3. The rates used in the text on page 13 do not correspond to the data in Table 2 because 2 rows have been added together and the total for ‘any breastfeeding’ is given in the text

Response: Thank you: An additional line has been included in the table, so that these now correspond – see table detailed below.
2.4. There is inconsistency in the style of dates in the text and in the tables. Is the use of quarters necessary? This gets very confusing at times. It might be better to call them period 1, 2 etc. Or ‘before’ and ‘after’ intervention?

Response: Quarters are more appropriate as they correspond to how the data is routinely reported here in the UK – we have however changed the formatting so that these now correspond – we hope this is now acceptable.

Table 2: Routinely collected quarterly infant feeding outcomes collected by health visitors at the 6-8 week child development assessment

<table>
<thead>
<tr>
<th>Feeding method at 6-8 weeks</th>
<th>Quarter period and number (%) babies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast milk only (exclusive breastfeeding)</td>
<td>82 (18.3%)</td>
</tr>
<tr>
<td>Mixed breast and formula milk</td>
<td>30 (6.7%)</td>
</tr>
<tr>
<td>Some breast milk (exclusive and mixed)</td>
<td>112 (25%)</td>
</tr>
<tr>
<td>Formula milk only</td>
<td>322 (71.7%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>15 (3.3%)</td>
</tr>
</tbody>
</table>

2.5. Page 14 confusing paragraph – the order of description in the text is sometimes counterintuitive with the ‘after’ occasionally described before the ‘before’

Response: The text has now been altered – we hope this is now clearer:

‘Between July 2010 and March, 2011 a total of 408 women registered with the peer support programme, 272 before and 136 after the incentive intervention started (Table 3). With regard to the women who were registered for the peer support service before the incentive intervention, 172 of 272 (63.2%) women participated either fully or partially; with 108 (39.7%) completing the full 8 week support programme.

From the 136 eligible women who were registered after the incentive intervention started, 94 of 136 (69.1%) participated (fully or partially); with 53 (38.9%) completing the full 8 week programme. Maternal age before and after the incentives intervention was similar for participants. All women completing the full
breastfeeding peer support programme were giving their infant some breast-milk (exclusively or mixed feeding) at 6-8 weeks as this is a requirement for receiving peer support (Box 1).

Before the incentive intervention, 119 of the 172 participants (69.2%) were giving their baby some breast milk at 6-8 weeks compared to 57 of the 94 participants (60.6%) of those who received the incentives. For women who completed the full 8 week peer support programme, 74 women (68.5%) were exclusively breastfeeding before the incentive intervention compared to 40 women (75.5%) who received the incentives. Women participating in the incentive intervention received a mean of 3.3 home visits compared to 0.9 before the incentive intervention. Similarly, the mean total contact time with peer supporters was considerably higher for the incentive intervention (225 minutes) compared to the peer support programme alone (145 minutes).

2.6. In Table 3- what is the difference between ‘Fully or partially participating’ (‘fully’ is not mentioned in the description in the text on page 14) and ‘Completed full programme of support and providing some breast milk at 6-8 weeks’ in Table 3? The description in the paragraph duplicates the information in the Table and is confusing.

Response: We have changed the text (see above), the labels in table 3 and included additional information to differentiate between those who were fully or partially participating:

Table 3: Comparison of participation, breastfeeding outcomes at 6-8 weeks and contacts with peer supporters before and after the incentive intervention

<table>
<thead>
<tr>
<th></th>
<th>Before Intervention: Registration for the peer support programme 1\textsuperscript{st} July – 15\textsuperscript{th} November 2010</th>
<th>After Intervention: Registration for the peer support and incentive intervention 16\textsuperscript{th} November 2010\textsuperscript{a} – 3\textsuperscript{rd} February, 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered as interested in participating</td>
<td>272</td>
<td>136</td>
</tr>
<tr>
<td>Fully(8 weeks) or partially (&lt;8 weeks) participating n (%)</td>
<td>172 (63.2%)</td>
<td>94 (69.1%)</td>
</tr>
<tr>
<td>Age (years) mean (SD)</td>
<td>28.8 (6.0)\textsuperscript{a}</td>
<td>29.4 (5.3)\textsuperscript{b}</td>
</tr>
<tr>
<td>Some breastfeeding (exclusive or mixed) at 6-8 weeks (%)</td>
<td>119 (69.2%)</td>
<td>57 (60.6%)</td>
</tr>
<tr>
<td>Number of home visits mean (SD)</td>
<td>0.9 (1.1)</td>
<td>3.3 (2.8)</td>
</tr>
<tr>
<td>Total contact time (minutes) mean (SD)</td>
<td>145.8 (165.6)</td>
<td>225.3 (161.6)</td>
</tr>
</tbody>
</table>
‘The evaluation team extracted data on all the women who registered with the peer support programme, including those who fully (completed full 8 week programme of support) or partially participated (completed some but not all of the 8 weeks of support) and women who became un-contactable and/or changed their minds about breastfeeding in the early post-natal period’

2.7. Table 3 ‘any BF’ is reported for those ‘fully or partially participating’, while only the rate for ‘exclusive BF’ is reported for those who ‘completed full programme’. Comparisons are therefore hard to make.

Response: We apologise for lack of clarity in Table 3 and we have revised the labels for the table, which we hope makes the reporting of “exclusive breast milk” and “some breast milk” clear. Incentives ceased if a woman stopped breastfeeding before 8 weeks. Unfortunately exclusive breastfeeding rates for women who received less than the full 8 weeks of incentives was not documented in the routinely collected data.

3.1. Page 28 – there is a comment that ‘it was not the gifts per se that motivated women to breastfeed’ – perhaps this should be qualified by ‘in this group of women’ as these women may have been very motivated in the first place. No conclusions can be drawn about how the gifts may have motivated women who did not complete the programme (and were not interviewed)

Response: Thank you, additional comments have been included to reflect these points as follows (also incorporating comments from reviewer 1):

‘Overall, our findings identified that it was not the gifts per se that motivated these women to breastfeed. As these women were/had fully engaged with the intervention, they may well have already been highly motivated to breastfeed’

‘Furthermore, as the study only recruited women who were engaging with the incentive intervention, no conclusions can be drawn about how the gifts may or may not have motivated women to either participate in the peer support programme and/or to breastfeed. Future studies need to differentiate feeding outcomes and participant perspectives for a) incentives alone b) incentives with peer support and c) peer support alone.'
3.2. Page 28 ‘the vital sign’?? - but this statistic is not revisited so the reader is left unclear about which percentage is meant

Response: Apologies, the phrase ‘vital sign’ should have been removed from the test…this section has been revised as follows:

‘Furthermore, the routinely collected 6-8 breastfeeding duration data demonstrates improvement; with the highest breastfeeding duration figures at 6-8 weeks being reported over the incentive intervention period (29.9%)’

3.3. Page 29 – this section of the discussion seems disconnected to the rest of the discussion. Can these conclusions be drawn from the findings? It is not clear that (for example) autonomy was enhanced in the ways suggested.

Response: Thank you – and yes, we agree with this point and we were drawing on wider insights that emerged through the wider evaluation of the service but was not the focus of this study. We have re-written this section to focus on the concept of ‘relatedness’ which we consider to be a key feature of the incentive intervention. We hope this is clearer..

‘Ryan & Deci’s (2000) Self-Determination theory [4] proposes there are three innate needs which influence self-motivation and personality integration, namely ‘competence’ (belief in our capabilities to succeed), ‘autonomy’ (belief that outcomes are dependent on our own capabilities and volition) and ‘relatedness’ (connections/relationships to members of our social network)[4]. Whilst these constructs fuel intrinsic motivation, these authors consider that external influences can equally promote wellbeing and growth [4]. Whilst insights into how the Star Buddy service supported and empowered women, reflective of autonomy and competence have been reported elsewhere [24], the issue of relatedness was a key theme identified within this study. The connected relationships, enabled and enhanced via tangible (gifts) and intangible (breastfeeding support) incentives meant that: a) women were likely to trust the support provided, encouraging on-going access; b) women were likely to disclose wider socio-emotional issues and barriers that may impact upon breastfeeding c) incentives provided opportunities for peer supporters to provide tailored support, d) the reassurance, praise and feeling ‘cared for’ enhanced maternal wellbeing and e) peer supporters developed professional skills and motivation within their role. These findings concur with the Darzi report[31] that incentives can recognise, reward and improve quality of service and with Johnston & Sniehotta[14] in that inexpensive gifts can operate as a social reward, and if incorporating intrinsic motivation, a self-reward’

4.1. More needs to be made of the major limitation of the paper (that the women who discontinued breastfeeding are not represented).

Response: Based on this and previous comment, we have made this more explicit within the paper as follows:

‘Furthermore, as the study only recruited women who were engaging with the incentive intervention, no conclusions can be drawn about how the gifts may or may not have motivated women to either participate in the peer support programme and/or
to breastfeed. Future studies need to differentiate feeding outcomes and participant perspectives for a) incentives alone b) incentives with peer support and c) peer support alone’

4.2. Sources of bias – might GT’s detailed knowledge of the programme have led to bias in the analysis?

Response: This has now been included within the limitations section of the discussion.

‘Furthermore, whilst it is possible that GTs detailed insights of the peer support programme and intervention intervention may have influenced the final interpretations, care was taken to incorporate trustworthiness through discussion with the evaluation team and the programme providers and a summary of the themes shared and validated with the participants’

5. Do the title and abstract accurately convey what has been found?

5.1. The title and abstract both mention the issue of ‘disadvantage’; however the Socio-demographics of participants are not reported.

5.2. The title is slightly misleading, as only the perception of women who ‘successfully’ completed the intervention are represented.

5.3. Similarly the title gives no indication that quantitative findings are also reported.

Response: Thank you – We accept that the disadvantage of the participants is unknown and is a study limitation, however the intervention was deliberately targeted at a disadvantaged area which has low breastfeeding rates. Text is included which highlights the high indices of deprivation in the area. We do not wish to mislead and we agree that the title does not reflect the quantitative component of the study. We have therefore made the following amendment to the title:

‘Title: Incentives as Connectors: Insights into a breastfeeding incentive intervention in a disadvantaged area of North-West England’

‘The peer support programme operates in a Primary Care Trust (PCT) in the North West Strategic Health Authority (NWSHA) in England with a predominantly white ethnic background (98%) population of circa 142,000 and high deprivation indices [21]’.

5.4. Page 27 – refers to ‘the first qualitative study’ – but quantitative findings are also reported.

Response: Changes have been made to the text as follows:

‘As far as the authors are aware, this is the first qualitative data reported that explores how incentives might influence infant feeding decisions’

Discretionary Revisions

• A flowchart to summarise recruitment/drop-outs would be helpful.
Response: A flowchart has now been included – please refer to Figure 1 included above.

- Was there any discussion in the focus group about relationships with women who struggled with breastfeeding and who discontinued? Also regarding the process of stopping visiting/giving the incentives? This aspect would seem to be of great interest (particularly as the voices of these women are absent from the paper)

Response: As the incentive intervention was part of a larger evaluation study, discussions had previously been undertaken with the Star Buddies about women who struggled/discontinued breastfeeding, and these issues fundamentally reflect those already widely reported in the literature, such as pain, didn’t like it, lack of familial support, older children, introduced formula within early post-natal period etc. It was our feelings that these issues are outside of the remit of this paper and rather we wanted to focus on the utility/value of incentives.

- Does the data lend itself more naturally to 2 papers?

Response: Thank you - As indicated a paper is already in press that covers issues about the nature, value and efficacy of peer support. As the aim of the quantitative part of the study was to retrospectively provide context for the qualitative findings and there were limitations to the routinely collected data available, we do not feel that separate qualitative and quantitative papers are justified