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Title

Enabling mothers of young children in a low SES area to codesign the support they are seeking for the adoption of healthy behaviours.

Abstract

Aims

There is a need for interventions that meet the needs of low socioeconomic (SES) groups, to encourage the adoption of healthy diets and physical activity, in line with current public health guidance. This qualitative research used co-production, a method which actively involves the relevant community, to identify and describe public health interventions to support a group of mothers of young children living in a low SES area.

Methods

A group of twenty mothers took part in three in-depth qualitative interviews to discuss in detail the type of support that would be of value to them for the adoption and maintenance of healthy behaviours. The mothers were subsequently invited to take part in a public engagement project, a community-based self-help group.

Results

Four themes explained the principles of interventions that would be of value in supporting the mothers with the adoption of healthy behaviours namely a community-based self-help group, support for the whole family, support in the home and influencing the environment. These were then further developed into two types of intervention i) learning for self-help and family care, which encompassed the first three learning-based themes, and ii) community of support, which covered influencing the environment and the experience of the community-based self-help group.

Conclusion

Co-production enabled a group of mothers of young children, from a low SES area, to describe the type of support that would help them with the establishment and maintenance of health life-style behaviours. A community-based self-help group warrants further research.

Key Words: Behaviour, mothers, co-production, self-help, diet, physical activity

Introduction

The need for public health guidance

Lack of time, poor knowledge, insufficient resources, poor health and finding it difficult to change are all cited as barriers to the adoption of healthy diet and physical activity behaviours by mothers of young children from low SES areas (1-5). To improve knowledge and encourage the adoption of healthy behaviours in the whole population, the UK government has issued guidance for both healthy diet and physical activity (6-7). The dietary advice sets out the requirements for energy, macronutrients, salt and dietary fibre for a healthy diet. The current physical activity guideline specifically references both pregnancy and post-partum, with infographics for both these groups, acknowledging the importance of

establishing healthy behaviours for the mothers themselves, and for the influence they have on their children and other family members. Both sets of guidance are derived from a rigorous assessment of the evidence by expert panels (8), and graphical representations have been designed to be distributed by health professionals and to be easy to follow for the general population.

Bringing about change in lifestyle behaviours

Current guidance has been developed with a view to support individual behaviour change. The provision of text and visual guidance alone however, is unlikely to bring about change. This is particularly the case in disadvantaged groups that experience multiple barriers to effect change (9-10), and for mothers who not only tend to prioritise the needs of other family members above their own, but in some circumstances, question the relevance of the guidance to their lives (11). Many models and theories have been developed to understand and predict behaviour change, the Behaviour Change Wheel (BCW) (12) comprising nine intervention functions and seven policy categories to classify public health interventions, being one commonly used in healthcare research. The BCW has been criticised for inadequately addressing patient variability (13) and interventions based on behaviour change theory have been shown to work best in the achievement of short-term change in affluent groups, but to work less well in low SES groups (14). There is thus a need to consider alternative approaches to reach this specific group.

The use of co-production

A potential solution to ensure that public health interventions meet the needs of the target population is to involve members of the target group in the design, development and implementation of the intervention through a co-production approach. In co-production, typically professionals work with stakeholders from the community with the objective of improving the services available to the

community, but importantly, the services are ones which the communities use (15). Whilst the intention in this kind of formulation of co-production is a two-way reflection on needs followed by the identification of priorities, and planning and delivery of interventions for change (16,17), it remains somewhat limited and framed by hierarchical relationships from those deemed as specialist to those identified as non-specialists. Effective co-production needs to go beyond two-way consultation and employ participatory approaches that recognise complexity and diversity in community intervention work (18).

For a complex intervention to be developed using the principles of co-production, not only do key stakeholders and researchers need to be involved, but the needs of the participants must be fully recognised (19). All aspects of an intervention need to be explored and agreed with participants, with nothing imposed on the participants (20). Co-production needs to ensure that the development of a service or intervention, empowers the people for whom it is intended, strengthens their voice and increases their knowledge and skills (21). The combination of the lived experience and professional knowledge, increases the likelihood that an innovative and effective intervention will be developed (22).

This qualitative study used the principles of co-production, to directly include participants' knowledge and lived experience to identify ideas for interventions to support healthy behaviours in mothers of young children living in a low SES area. Co-production underpinned public engagement work to further understand how one of the ideas from the qualitative study for an intervention could be developed further.

Methods

This study is part of a larger research project to understand, and appropriately support healthy behaviours of a group of mothers with young children living in a low SES area in a London (UK) borough. A group of twenty mothers was recruited from contact between the lead researcher (PW) and organizations active in the research location: Children's Centres, a Sure Start Centre and the local branch of a national charity (HomeStart). The mothers took part in three in-depth face to face, one on one, interviews, with each interview supported by an interview guide (available on request from the lead author). The first interview allowed the mothers to talk about themselves and their families, and their feelings and experience about diet and physical activity. The second interview extended discussions from interview one and explored what would help them develop healthy lives for themselves and their families. The findings from the first two interviews have been reported elsewhere (5,11). The first two interviews generated ideas for public health interventions, from the mothers themselves.

Analysis of the ideas for interventions

Interview data on ideas for interventions was coded and entered into Nvivo v10 (QSR International). . A reflexive thematic analysis was undertaken (23,24) following the steps recommended by Braun and Clarke (23) to "reflect reality" (23 p5) and to identify "patterns of shared meaning underpinned be a central organizing concept" (24 p589). The data driven analysis focused on a sub-set of the data from the larger study and the themes identified relate to the specific question addressed here concerning interventions. The authors reflected carefully on their own position on diet, physical activity and public engagement acknowledging their desire to encourage the adoption of behaviours to improve health. The reflexive approach ensured that the themes directly represented the participants' ideas. Four themes explained the principles of interventions that would be of value in supporting the mothers with

the adoption of healthy behaviours; a community-based self-help group, support for the whole family, support in the home and influencing the environment.

Further exploration of the ideas for interventions

In the third interview the four themes representing ideas for interventions were discussed and the desire to make a practical difference in the lives of the mothers was made explicit. To facilitate the sharing of the ideas and a two-way dialogue, the intervention ideas were each illustrated on a printed-out PowerPoint slide. The researcher (PW) led the discussion, first to ensure that the mothers understood the intervention ideas as proposed, and then to elicit from the mothers, how they saw the ideas working in their lives. Time was spent establishing and maintaining the relationships between the participants and the interviewer making it clear that their experiences and ideas were valid and vital for the research (17). Sharing the ideas for interventions between the participants ensured that the ideas could be discussed, considered in detail and modified. The conversations were recorded on an Olympus DS-50 Digital Recorder and transcribed verbatim by PW. The average duration of the recorded third interview was 53 minutes.

The data from the third interviews were entered into Nvivo, coded and analysed. In this analysis alongside a reflexive approach as already noted, the focus was on identifying patterns in the data (25) and offering a "Thick, rich description" (26, p437) as the basis for reporting. From this more detailed co-production of the intervention ideas the community-based self-help group emerged as the most popular, and the one that the mothers were most interested in implementing. The community self-help group was envisaged as a group of mothers meeting in a community facility, to exchange ideas and experience around healthy behaviours, with some input from university staff and local diet and physical activity experts, to share learning with self-referral rather than medical referral.

Implementation of the community-bases self-help group

After the completion of the interview process and analysis of the findings, the mothers were invited to take part in a community-based self-help group, to support the adoption and maintenance of healthy behaviours. The experience of the self-help group is included in the data analysis presented here. The Covid-19 pandemic and lock down made it impossible to proceed as planned and the self-help group was instead implemented virtually, as a private group on Facebook. The 20 mothers who took part in the first phase of the research were invited to participate, and 12 chose to do so. The group was supported by a local dietician, two physical activity specialists and the first author (PW). Through Facebook, ideas for healthy eating for themselves and their families were discussed, and group members took part in strength and tone exercise sessions and Zumba dance classes, the discussion topics and the type of physical activity being suggested by the mothers. Feedback from the mothers on the community-based self-help group was collected through the group chat, by Facebook messenger and by text message.

Ethical Approval and Funding

The research was approved by the Research Ethics Committee of the Department of Life Sciences at Brunel University (Reference Number RE48-14). The Annette Lawson (AL) Charitable Trust awarded £600 for participants involvement in interviews. Brunel College of Health and Life Sciences awarded £200 for involvement in interview three. A further award of £1,909 was received from the Brunel University Public Engagement Fund.

Results

The mothers that participated in this research were aged between 24 and 43 (average 34.7 years) and had one or more children under the age of five. They came from a wide range of (self-identified) ethnic backgrounds (Filipino, Indian British, North African, Pakistani British, Sri Lankan British, White British, White Eastern European) reflecting the community from which they were recruited. All but one of the mothers lived in a below average SES status neighbourhood as measured by both the Index of Multiple Deprivation and the Income Deprivation Affecting Children Index[1]. Culturally sensitive pseudonyms have been used in the quotes from the third interview/discussion to preserve the anonymity of the mothers. The findings are reported below in two sub-sections; i) learning for self-help and family care covering the community-based self-help group, support for the whole family and support in the home and ii) community of support covering influencing the environment and the practical experience of the self-help group. This refinement of the groupings followed discussion around the themes and the realisation that three of the themes are learning based, whereas influencing the environment requires changes to take place in the lived environment.

i) Learning for self-help and family care

For the learning-based support, the mothers were able to talk about how the principles of the intervention ideas should be implemented for their benefit. The mothers emphasised how they wanted to be involved and part of the intervention, rather than being a recipient of information that is transmitted to them, as in the distribution of educational materials. They were clear about their capacity to learn and benefit in an appropriate environment. This was vocalised most strongly in the development of the idea for the self-help group, where participants talked about the value of sharing

[1] Post code based decile scales from 1-10 where 1 is the lowest SES group and 10 the highest.

experiences with people like themselves, and learning from the practices of others, again like themselves.

"I could learn a lot and people could learn from me as well, definitely, I think that would be a great help …women willing, want to make a change, getting together, helping each other" Kirti, age 37, 3 children.

"That's [self-help group] good, I think to talk with each other, it's fine to change your mood, change your health, change your life …you want something to push you to healthy" Eisha, age 24, 2 children

They saw recruitment to the group being community based rather than through referral by a healthcare professional. A need for some professional input, in the form of dietary advice and physical activity expertise was acknowledged, but this was seen as being at the group's request, rather than something imposed from outside the group.

"a self-help group where it was you know they were supporting each other I think someone who's been there for some time maybe they could coordinate a little bit but yeah, initially it would need someone to yeah, oversee everything" Shabnam, age 44, 2 children

The participants felt that as well as relieving the isolation they experienced, a self-help group would empower them and give them the confidence they needed to introduce changes at home.

"the local self-help group would be a chance for me to get out of the house, meet new people, keep in contact with Facebook, weekly would be better, people always forget" Jade, age 37, 2 children

The intervention idea of support for the whole family, which was an education-based intervention, was also interpreted by the mothers as an opportunity for them to be involved in shaping change. They were clear that this type of intervention could allow them to gain support for healthy changes they would like to make for their families.

“I personally think it’s something the whole family needs to be involved in. Because it takes the pressure off the mum …. I do think it’s important to get the dads on board”. Shabnam

“Dads are not always there, my husband disagrees with the advice …. I know a lot of mothers are saying the husband doesn’t agree or the mother in law is living [with them) doesn’t agree” Meenakshi, 32, 1 child

They acknowledged the practical difficulties in getting other family members to attend this type of session, but had concrete suggestions to increase the likelihood of attendance, particularly making it clear that the sessions were intended for other family members rather than mothers. The mothers saw this type of intervention as complementary to, and supportive of the self-help group, and not sufficient to bring about change on its own.

The participants felt that the third learning-based intervention, support in the home, could be useful if the support was invited in by them, to address individual needs, but not if it was something that was imposed on them from outside agencies. They thought someone who came from outside their family and who took the time to learn about their lives and experiences would be in a position to provide input on, for example, local exercise provision and healthy recipes. In this way, information could be provided to the mothers, but only after an initial information sharing step.

“I would love somebody to say you do this you do that in the comfort of my own home ….you only need a few tips on what to do you don’t need that person every time you’re going to make a meal” Rachel, age 41, one child

“that’s fantastic for people that are interested. If it’s going to have to be forced on somebody I think it’s pointless” Kirti

ii) *Community of support*

The mothers saw the environment where they lived as offering both facilitators and barriers to their adoption of healthy behaviours.

Some of the mothers had strong feelings about the local environment and felt that changes were needed. Some of the mothers were seeking support for healthy choices, for example, in regulating fast food outlets and making healthy food cheaper:

“I think they should control the number of fast food because you can walk down into [local town centre] and every other shop is a fast-food takeaway that don’t offer a healthy alternative …. There’s got to be a lot more control from government” Shabnam

“I think making healthy food cheaper because I know when I do go on a healthy diet I’m spending” Meenakshi

Whereas others thought it was up to the individual to take responsibility for their choices:

“I’ve bought crisps ….I bought a whole load of biscuits ….but then on the other hand I bought lots of fruit and lots of vegetables, you’ve got to find that, strike the right balance” Nori, aged 29, 2 children

The local environment provided good access to supermarkets and healthy food options:

“Vegetables are widely available now, we’ve got such a choice, supermarkets and everything” Sumi age 39, 1 child

In contrast, despite the existence of leisure facilities for physical activity in the local area, the participants saw them as out of reach; too difficult to travel to, too expensive to use and lack of child-

care. Even walking to the local community centre for an evening exercise class was not an option for some of the mothers because of safety concerns:

"We don't live in one of the safest of neighbourhoods ….I don't think my husband would be happy with me walking" Shabnam

They felt that without the support of other mothers through something like the self-help group it would be hard to take advantage of potential changes in the external environment.

The experience with the community-based self-help group showed how difficult it was in practice to make a positive change for the mothers; group members were unable to prioritise group activities making it difficult to find times to meet, with some members unable to join group sessions despite planning to participate. They sent messages expressing enthusiasm about joining the group and participating, but the practicalities of their daily responsibilities made it difficult for them to actually join in, demonstrating that it is not sufficient to establish a group, but that further work is required to enable mothers to participate. The mothers also experienced problems with the technology and poor internet connection, making participation difficult, especially with a commitment to home schooling at the time because of Covid restrictions. For example, Rachel explaining why she could not join a physical activity session:

"Really wanted to do it …. My internet not great atm, especially with my son online learning from 9.00-3.00" and on another occasion "sorry about this morning had to take my boy for a Covid test" Rachel

Nori found it impossible to join in the evening discussion sessions:

"I am done in by 19.00! I literally give the kids dinner and put them to bed at 19.30, I quickly eat – in bed by 20.00. Such a bad routine but I'm so tired". Nori

For Kirti the problem was that she was not feeling well:

"With regards to the exercise classes I really enjoyed them but I've been under the weather recently hence the absence" Kirti

Some mothers expressed apprehension about taking part when talking to (PW) over the telephone and needed to be reassured that they would be welcomed into the group and would be comfortable in the environment. The nature of a virtual group compared to an actual group seemed to increase the anxiety.

Discussion

Our novel use of qualitative interviews and co-production allowed us to work with mothers to codesign an intervention that showed some promise. The mothers were able to describe in detail their busy lives, their own experiences of healthy behaviours, and the type of support that would be of help to them in the adoption of a healthy diet and regular physical activity. The ideas for support were all developed and discussed in the context of the low SES environment in which the mothers lived. The co-production methodology allowed the ideas for interventions that arose from the study to be explored and refined. The rich and detailed discussion of ideas for interventions demonstrated the value of an iterative co-produced approach. The public engagement phase that followed the initial qualitative discussions showed, that further qualitative insight into a fully formed idea is crucial to understand the practicalities of implementation.

The mothers, in suggesting and supporting the community-based self-help group believed that behaviour change would be possible if they had support from their peers. Moreover, they thought they had the ability to support behaviour change in others. The community-based self-help group is a well-

known concept in health and lifestyle where it is typically associated with supporting people suffering from a specific illness (27) or for support with a lifestyle problem e.g., overweight, alcohol dependency. There is less experience with community-based self-help groups designed to prevent disease development and support healthy behaviours, although the examples that exist provide support for the concept. Women participating in the “New Life New You” programme, set up in Middlesborough (UK) as a community-based programme to prevent the development of Type 2 diabetes, with a focus on low SES groups and community, felt empowered to make changes to their health behaviours (28).

The self-help group envisaged by the mothers in this research is different to most community-based groups, which are set up to be coercive, rather than supporting (29). It is however in line with the recommendation by Hawkes et al. (30) that to express healthy options and make changes, individuals from low SES groups benefit from working in groups. It goes some way to meet the argument put forward by Blue et al. (31) that public health interventions should target social practices and not individual behaviour. The community-based self-help group is an example of the development of capacity in a low SES group that combines lay and professional knowledge by building social infrastructure (32). There is also evidence from other behaviour interventions that lay experience is particularly valuable in supporting the adoption of healthy behaviours (33).

The response of the mothers that participated is in line with the literature that reports positive benefits from community engagement including physical health, psychological health and well-being (34). The mothers also experienced some of the difficulties that have been reported for participants in community engagement projects such as insufficient energy to add the new activities to the regular work-load, exhaustion, lack of time and stress (34). The response to the community-support group could also be seen as having insufficient buy-in, limited capacity and waning interest (35). To be effective community-

based programmes need to be socially cohesive, with participant autonomy, and sufficient time in operation to be effective and through bringing benefits encourage further participation (36).

The experience of the FaceBook based self-help group suggests that establishing and maintaining a group will be difficult. The move to an on-line forum was necessary at the time because of government restrictions on meetings outside the home, but it introduced a new set of problems. The IT infrastructure made it difficult for some mothers to participate in group discussions and physical activity sessions, but more difficult to address was the way the mothers found that their day-to-day responsibilities prevented them from attending despite wishing to. Whilst an on-line forum may have worked well for a group that already knew each other, bringing a group of mothers together, from different backgrounds who did not know anyone else in the group proved difficult. We did not observe any discernible pattern in terms of age, ethnicity, number of children in those mothers that chose to participate in the on-line forum. Establishing the group in a venue where the mothers already feel confident such as a children's centre or play group warrants further exploration.

Conclusion

Mothers of young children living in a low SES are able to articulate the type of support that would help them in the establishment and maintenance of healthy behaviours. They are aware of how interventions would need to be formulated to be of practical value to them. Co-production provides those seeking to develop public health interventions with a practical way of developing interventions likely to be of value for specific groups.

Further co-production work is required to develop these ideas and explore the experiences and impact of codesigned interventions with mothers of young children on the establishment and maintenance of healthy behaviours.

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