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Responses to Questions from the Amplify Team

Question: Explaining why combining KMC with Embrace is valuable would help people understand the service more clearly. How will this device fill the gaps and challenges identified in relation to the uptake of KMC? How will you design and test the new idea?

Answer: As evident from numerous studies, KMC is one of the best ways to provide warmth to infants. It also offers other benefits such as enhanced breast-feeding and better bonding between the mother and infant. For best results, KMC should be administered for many hours on any given day and up until the infant is 3-6 months old. However, in developing countries such as India, where infant mortality is the biggest contributor to children-under-5 mortality, KMC is administered for only a few hours every day at best, if at all. Reasons include lack of awareness about KMC, lack of privacy (as it is often the case in rural homes), necessity to attend to household and field chores (very common in low-income communities), inconvenience caused due to babies frequently soiling, difficult sitting posture and so on.

Our hypothesis is that the Embrace warmer and its extension(s) can help address some of these reasons, thereby improving the uptake of KMC and enabling extended care for the baby through a combination of KMC and the Embrace warmer. For instance, we are prototyping a sling-like add-on to our baby sleeping bag that would enable mothers to easily and comfortably place babies on their chest. Another idea is to have the Embrace warmer's carton box foldable such that it can be modified into a structure that supports a comfortable posture for mothers to administer KMC. This could be included with a translucent cloth to permit privacy. Another idea could be to have a running animation that explains KMC on a small LCD screen on the heater (a component of the Embrace warmer). This would help improve awareness. Also, the presence of a warmer in the home could serve as a reminder about the importance of warmth and KMC. We could think about other ideas such as mandating KMC before the Embrace warmer can be used again via sensors that would enable activation/de-activation. In the long-term, we envisage healthcare workers being equipped with the Embrace warmer and extensions, which they can deploy in families that need them and take them back after use.

These are just initial ideas and we are working on the prototypes. The key would be to identify 2-3 most important reasons for KMC not being administered through structured research and come up with the best solutions to address those. This is where the OpenIDEO community can really help us.

We could test the effectiveness of solutions in improving uptake of KMC and if the combined approach is indeed helping babies receive extended warmth through field studies. For instance, we could have one status-quo arm in a given community and one

arm with the combined approach (of KMC and Embrace warmer), and compare results. Data points could include average daily duration of KMC, number of hours of warmth provided to babies and so on.

Question: Are you planning to design a physical product for mothers to use? Would it be an extension of the Embrace warmer or potentially an independent product?

Answer: Yes, we intend to design a physical product that could enhance the adoption of Kangaroo Mother Care (KMC) by mothers. While we envisage it to be an extension of the Embrace infant warmer, it could be an independent product by itself. We believe that the baby may be able to receive higher quality care for a longer duration through such a complementary approach, given that it is really not practical to administer KMC for 24 hours a day, particularly when babies may have to be transported from one location to another. We also believe that having such a complementary approach and integrating technology may lead to a more sustainable behavioral change by re-emphasizing the importance of warmth and KMC, eventually increasing adoption rates.

Question: You give a few examples of things you could do to test this idea – have you conducted any of them? What have you learned?

Answer: We are yet to conduct detailed testing. Some of the early prototypes of potential product extensions and training programs that integrate the Embrace warmer and KMC had garnered strong favor among mothers when we gathered user feedback. We haven't yet conducted tests that would get mothers to actually use these over a few days. Doing so would give us really solid data to validate some of our earlier hypotheses and re-iterate.

Question: How can you get a better understanding of the reasons why so many women don't use KMC, despite its proven effectiveness? How would your solution take into account the surrounding system and address some of these underlying reasons?

Answer: Our design team has traveled across more than 18 states in India during the development of the Embrace infant warmer and collected great feedback from mothers, healthcare workers, doctors and nurses. This has given us a lot of information on underlying reasons for low adoption of KMC – eg. babies soiling 8-12 times daily, lack of privacy in smaller rural homes, mothers having to do household chores and field work, lack of awareness about KMC, uncomfortable seating posture to administer KMC ideally etc. We intend to extend our understanding by also interviewing mothers and healthcare workers in other parts of the world such as Africa not only to explore other underlying reasons but also undertake a more rigorous data analysis to narrow down the list to 1-2 most common reasons. As each reason is likely to have different design implications and surrounding contexts, we believe that it is important to focus on 1-2 most important reasons and develop unique solutions to address those.

Question: We notice that Embrace Global also submitted an entry in the Ideas phase. Are there elements of the other idea that you plan to incorporate into this one?

Answer: Embrace Global's 'behavior-change toolkit' is a fantastic concept to address a critical gap in public health – even where there is a strong 'need' for innovative solutions, there is not always a strong 'demand'. We could incorporate a part of this approach - particularly for mapping out barriers to behavior change and measuring success - when rolling out the solutions that would come out of our project.

Responses to Questions from the OpenIDEO community

Question: [From Uve Kindia] I like the concept and idea thinking behind this but wouldn't that process take away that bond with mother and child at early stages. Skin contact is very ideal to feeling worth as a child

Answer: We agree that KMC is the best method to provide warmth to babies! In fact, the design of the Embrace infant warmer was inspired by KMC. Our intent through this project is to increase awareness and adoption of KMC through a complementary technology and provide better care for babies, recognizing that it is difficult to administer KMC for extended periods of time and adoption rates are low for various reasons.

Question: [From Vishagan Baskaramoorthy] What are the reasons for the adoption rate (of Kangaroo Mother Care) being so low? How are the mothers currently caring for their babies in Karnataka? Maybe look into the type of activities/chores the mothers do in Karnataka to come up with a design that can adapt to these when worn. Also perhaps look into how animals care/carry their young for inspiration (as the example Bidur mentioned, the kangaroo pouch).

And

[From Bidur Gurung] What could be the reason, KMC's are not yet practical in some societies? Could there be cultural and religious concerns? Lack of privacy and chores could possibly be an issue in low income communities, perhaps you could design a product that either be wrapped around or put on (using Kangaroo's pouch as an inspiration) which does not interfere in their everyday tasks nor their privacy.

Answer: Great ideas, we will certainly explore these! As indicated in an earlier answer, a few reasons for low adoption of KMC include the inconvenience caused by babies soiling 8-12 times daily, lack of privacy in smaller rural homes, mothers having to do household chores and field work, lack of awareness about KMC and uncomfortable seating posture to administer KMC ideally.