

JourneyMaa 2019 Report

AUTHORS

Sabeera Dar, Tasnim Alam, Nazifa Ullah,
Hana Mahmood, Tasneem Ahmed, Fahima
Amin, Tafsir Ahmed

ACKNOWLEDGEMENTS

JourneyMaa 2019 Ambassadors

Fahima Amin, Tamanna Islam, Tasnim Islam,
Sundas Khalid, Tasneem Ahmed, Abul
Hasnat, Tasnim Chowdhury, Rabia Bukhari,
Mohammad Farwana.

JourneyMaa 2019 Manager

Yasmin Abedin

Board of Directors

Dr Aqil Jaigirdar, Dr Usman Haroon, Faizah
Zahin

WITH A SPECIAL THANKS TO

Bangladesh Maa Team

With particular thanks to Dr Md. Waqar
Islam, Dr Redwan Mubin, Dr Muntaha Asma
Mouri.

UK Maa Team for their endless efforts to
make this trip a success.

Maa Academics & Innovation Team for their
work creating the evaluation questionnaires,
analysing the data and interpreting the
findings to collate this report.

A special thanks to the students of MAG
Osmani Medical College, Sylhet Women's
Medical College, Jalalabad Ragib-Rabeya
Medical College, Park View Medical College
Hospital and North East Medical College for
making this a wonderful trip.

A particular thanks to the students of the
following universities for fundraising and
supporting MAA especially through their
work in MaaMonth:

Kings College London, University College
London, St George's University London,
University of Leeds, University of East
Anglia, Imperial College London, Queen
Mary University of London, London School
of Economics, School of South African and
Oriental Studies, University of Keele,
University of Cambridge.

With a heartfelt thanks to King's College
London for their abundant support and
encouragement throughout the formation of
Maternal Aid Association.

Most importantly, a special thanks to the
professors and teachers for guiding us on
our Journey:

Dr Edward Fottrell (UCL), Professor
Kishwar Azad (BIRDEM and Ibrahim
Medical College)

INTRODUCTION

The Maternal Aid Association (MAA) is committed to improving the state of maternal healthcare in Bangladesh, and one way of achieving this has been through the development of education seminars for rural populations. These have been developed following research that suggests maternal education improves the maternal mortality ratio (MMR), child health outcomes, and health-seeking behaviour of women (Cleland, 1988; Bicego, 1993; Guldan, 1993). To find out more about the current state of maternal healthcare in Bangladesh, please refer to the *JourneyMaa 2017 Report*.

This report explores the baseline knowledge, attitudes and behaviours towards maternal health within rural populations of pregnant women, and it assesses the impact of MAA's maternal health education (MHE) seminar in influencing this baseline.

METHODOLOGY

This study was carried out in August 2019, during MAA's flagship summer project, JourneyMaa (JM). The project involves setting up mobile maternal health screening camps in rural Bangladesh in order to provide free basic health checks, medication and educational seminars for pregnant women. The health camps were organised by members from the MAA Bangladesh team and UK JM volunteers. The MAA Bangladesh team included final year medical students and qualified doctors. The UK volunteers consisted of medical students, a qualified pharmacist, midwife and junior doctor.

This year, the JM team re-established two-day health camps in the rural villages of Balagonj and Ramsiri, where they had been held for the previous three years. In addition, they set up a two-day health camp in the village of Moulvibazar for the first time.

Over the six days, a total of 390 pregnant women attended the health camps and received free antenatal checks such as blood pressure, urinalysis and blood glucose testing. The women then had a one-to-one consultation with a Bangladeshi doctor and received appropriate medications and supplements free of charge. Following the health checks, participants attended a maternal health education (MHE) seminar. This addressed a variety of topics

around pregnancy and delivery, tackling key misconceptions and highlighting red flag symptoms for women to be aware of during their pregnancy.

To assess the effectiveness of the MHE seminars, the JM volunteers conducted questionnaires to compare the maternal health knowledge of the participants pre- and post-seminar. The questions targeted different topics that would be addressed during the seminar. Prior to the seminar, participants were randomly selected to complete the questionnaire (Appendix 1), which assessed their existing knowledge on the behavioural and lifestyle recommendations for pregnancy, labour and the postpartum period, as well as red-flag signs and symptoms women may experience. Post-seminar, participants were again randomly selected to complete the same questionnaire to see if there were changes to their knowledge. They were also asked to provide feedback on the MHE seminar. In total, 133 participants completed these questionnaires pre-seminar, and 147 participants completed the same questionnaire post-seminar.

The questions were asked by the volunteers in Bangla either in a one-to-one or group setting, and participant's responses were recorded in English on individual forms. A majority of UK JM volunteers were able to speak and understand the Bangla spoken by participants. For the volunteers who could not speak Bangla, they were paired with a Bangla speaking team member from either the UK or Bangladesh team. In addition, transliteration of the questions from Bangla to English was available to aid their questioning. The volunteers learnt how to conduct the questionnaires during a training session by members of the UK JM team before health camps began, with the expectation the way in which the questionnaires were conducted would need to be adaptable depending on factors such as reduced volunteer to participant ratios during busier times of the health camps.

Verbal consent to take part in the questionnaire was obtained from participants. Ethical approval was obtained from Sylhet Women's Medical College. Data from the maternal health education seminar questionnaire was analysed and interpreted by MAA UK's Academics Team for this report.

RESULTS AND DISCUSSION

PREGNANCY

i. Nutrition during pregnancy

Currently, two of the most common misconceptions around pregnancy are that extreme food restriction allows easy delivery and prevents fetal abnormalities, and that exercise during pregnancy is detrimental to the baby (Choudhury & Ahmed, 2011; Mukona et al., 2016). For this reason, dietary needs and exercise during pregnancy were topics covered in the MHE seminar.

Participants were asked whether you should increase or restrict food and drink during pregnancy. The correct answer we were looking for was that food intake during pregnancy should be increased. In terms of food intake during pregnancy, the seminar data yielded positive results (figure 1). Pre-seminar 54% of women said it is better to increase food intake in pregnancy and this rose to 62% of women post-seminar. There was also a 22% decrease post-seminar, in women looking to restrict food during pregnancy.

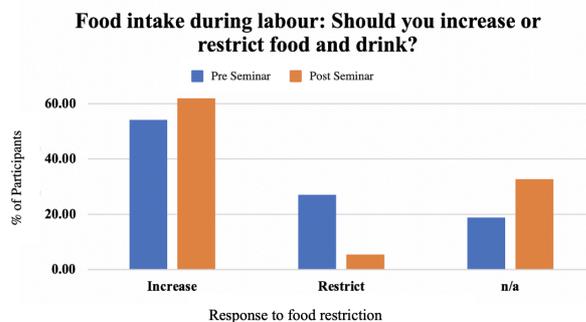


Figure 1. Percentage of participants pre-seminar (n=133) to respond with: 'Increase' = 54%, 'Restrict' = 27%, N/A = 19%. Percentage of participants post-seminar (n=147) to respond with 'Increase' = 62%, 'Restrict' = 5%, N/A = 33%.

When looking back at the *JourneyMaa Report 2017*, there was a 31% rise in the number of women stating they would increase food intake “a little” and in the *JourneyMaa 2018 report* there was a 34% increase in women stating they would eat “a lot more food” during pregnancy. Therefore, it can be said that this year’s cohort was not as positively impacted by the seminar.

Notably there was a significant proportion of women, 33%, who did not respond to this question post-seminar which may suggest they did not know which behaviour was recommended during pregnancy.

During the seminar, women were taught which foods were recommended during pregnancy. The questionnaire also assessed whether women could correctly identify these recommended foods pre and post-seminar using open ended questions. As the women answered with multiple responses for this question, the percentages across pre- and post-seminar values represent the proportion of women who answered with each category (figure 2). Therefore, the overall percentage across the categories of food is not indicated at this point.

Correct Foods Identified to Consume During Pregnancy

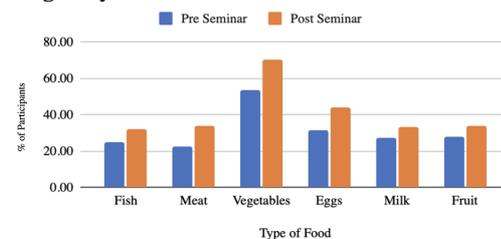


Figure 2. Percentage of participants pre-seminar (n=133) to respond with: 'Fish' = 25%, 'Meat' = 23%, 'Vegetables' = 53%, 'Eggs' = 32%, 'Milk' = 27%, 'Fruit' = 28%. Percentage of participants post-seminar (n=147) to respond with 'Fish' = 34%, 'Meat' = 33%, 'Vegetables' = 70%, 'Eggs' = 44%, 'Milk' = 33%, 'Fruit' = 34%.

In total, 75% of participants provided a response to this question pre-seminar and 77% post-seminar; the remaining women did not respond. Positively, the majority of women were able to correctly identify foods to eat during pregnancy, before the seminar, as seen in figure 2. The graph demonstrates a shift to the right post-seminar, indicating that more women identified correct foods. Both pre- and post- seminar, vegetables were the most common answer relayed by participants, with a 17% increase in this answer post-seminar. Overall, there was a 10% increase in the identification of correct foods post-seminar, illustrating a positive impact for the women who participated.

The number of correct foods participants identified were also analysed (figure 3), again showing a shift to the right as mothers were able

to provide more correct answers post- seminar. The most common number of correct foods identified was three, both pre- and post- seminar. Reassuringly, there was a 15% increase in mothers who were able to correctly identify three, four and five types of food to eat during pregnancy post-seminar, respectively.

Number of Correct Foods Identified

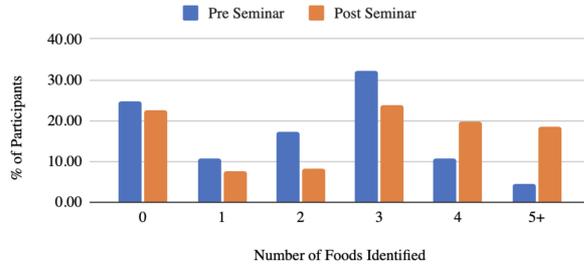


Figure 3. Percentage of participants pre-seminar (n=133) to respond with: '0' = 25%, '1' = 11%, '2' = 17%, '3' = 32%, '4' = 10%, '5+' = 5%. Percentage of participants post-seminar (n=147) to respond with '0' = 22%, '1' = 7%, '2' = 8%, '3' = 24%, '4' = 20%, '5+' = 18%.

Together, figures 2 and 3 suggest that the seminar was considerably effective in communicating this information as many women were able to report a greater number and variety of correct foods.

A further question in this category explored the types of food to avoid during pregnancy. Of the women who answered this question pre-seminar (29%), 26% of mothers reported all three of caffeine, betel leaf and oily foods, making this the most common combination (figure 4). Post-seminar, there was a 34% increase in mothers who actively recalled foods to avoid during pregnancy, adequately (figure 5). On average a 6% increase was seen in more than one identified food including sugary food and smoking.

Foods Identified to Avoid During Pregnancy

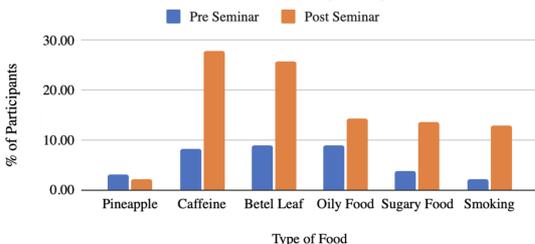


Figure 4. Percentage of participants pre-seminar (n=133) to respond with: 'Pineapple' = 3%, 'Caffeine' = 8%, 'Betel Leaf' = 9%, 'Oily Food' = 9%, 'Sugary Food' = 4%, 'Smoking' = 2%. Percentage of participants post-seminar (n=147) to respond with 'Pineapple' = 2%, 'Caffeine' = 28%, 'Betel Leaf' = 26%, 'Oily Food' = 14%, 'Sugary Food' = 14%, 'Smoking' = 13%.

Number of Foods Identified to Avoid During Pregnancy

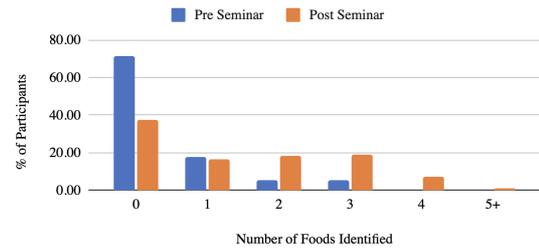


Figure 5. Percentage of participants pre-seminar (n=133) to respond with: '0' = 71%, '1' = 18%, '2' = 5%, '3' = 5%, '4' = 0%, '5+' = 0%. Percentage of participants post-seminar (n=147) to respond with '0' = 37%, '1' = 16%, '2' = 18%, '3' = 19%, '4' = 8%, '5+' = 1%.

Overall, this highlights the Maa seminar was somewhat effective in supporting the mothers with the importance of dietary needs during pregnancy.

ii. Exercise during pregnancy

The majority of women (63%) claimed they would exercise during pregnancy prior to the seminar (figure 6). Such findings are encouraging as previous studies have suggested cultural barriers in limiting the amount and type of exercise a woman can engage in (Choudhury & Ahmed, 2011). The reasons for most of the women being willing to exercise during pregnancy may be varied. An increase in awareness of the benefits of exercise may be one reason or there may have potentially been more safe spaces available for these women to partake in outdoor activities.

Percentage of participants who would exercise during pregnancy

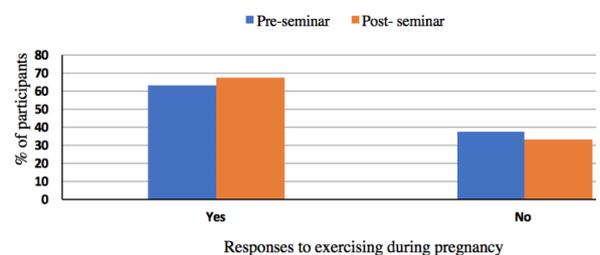


Figure 6. Percentage of participants pre-seminar (n=133) to respond with: 'Yes' = 63%, 'No' = 37%. Percentage of participants post-seminar (n=147) to respond with: 'Yes' = 67%, 'No' = 33%.

Moreover, the number of women who would exercise post-seminar was increased further by 4%, suggesting the positive impact that the MHE

seminars had on improving attitudes regarding exercise during pregnancy.

iii. Recognising common pregnancy symptoms

Common pregnancy symptoms noted by women included back pain, headache, nausea, dizziness, leg pain, swollen legs and abdominal pain. There was little change in the type of symptoms noted pre- and post-seminar.

iv. Recognising red flag symptoms during pregnancy

Prior to the seminar, very few women were able to elicit three red flag symptoms during pregnancy. Of the few women who could identify key symptoms, vaginal bleeding and absent fetal movements were the most common answers. However, post-seminar there were significantly more correct responses. There was a 21% decrease in the number of women who could not identify any correct red flag symptoms. Meanwhile, there was an encouraging 20% increase (pre- to post-seminar) in the number of women correctly identifying two or three red flag symptoms (figure 7). The responses also became more varied, with more females noting symptoms such as convulsions and severe abdominal pain.

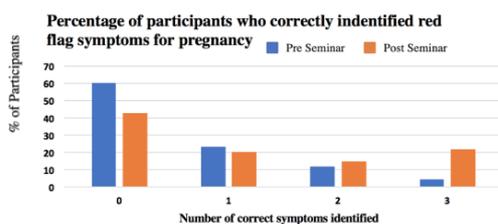


Figure 7. Percentage of participants pre-seminar (n=133) who correctly identified: 0 symptoms = 60.2%, 1 symptom = 23.3%, 2 symptoms = 12.0%, 3 symptoms = 4.5%. Percentage of participants post-seminar (n=147) who correctly identified: 0 symptoms = 42.9%, 1 symptom = 20.4%, 2 symptoms = 15.0%, 3 symptoms = 21.8%.

Such findings are welcoming. Having a reasonable understanding of the red flag symptoms of pregnancy and labour is an important aspect of preventative medicine (Leach, 2017; Saxena, 2018). The lack of knowledge of these symptoms often contributes

to a delay in the decision to seek care, leading to poorer maternal and neonatal health outcomes as outlined in the maternal health three-delay model (Calvello et al., 2015). Therefore, through these educational health seminars, the aim is that women will be able to overcome at least one barrier preventing accessing to adequate maternal healthcare.

LABOUR AND POSTPARTUM

i. Investigating understandings of labour

Data gathered from the questionnaires show that very few women were able to correctly identify signs indicating the onset of labour (figure 8). In fact, the results for women identifying 0, 1, 2 or 3 signs correctly remained similar pre and post-seminar, suggesting the seminar was ineffective in educating women on these signs. It is worth noting that this question did not explicitly ask women to identify three signs, rather it asked, 'What signs indicate the beginning of labour?'. This ambiguity raises the question of whether the women who provided only one or two responses actually knew more correct signs but were simply not asked to list them. It is also possible that the seminar may have been confusing in this particular aspect and the information regarding signs such as contractions, waters breaking or mucus discharge indicating the onset of labour was not sufficiently clear.

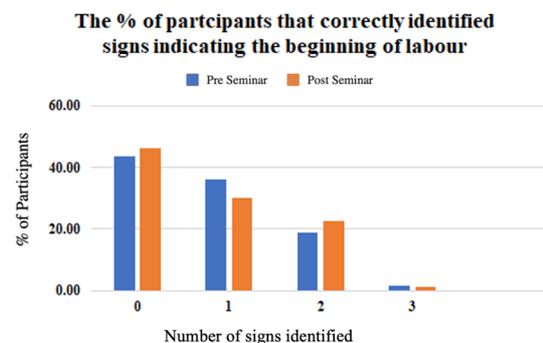


Figure 8. Percentage of participants pre-seminar (n=133) to respond with: '0' = 58%, '1' = 48%, '2' = 25%, '3' = 2%. Percentage of participants post-seminar (n=147) to respond with '0' = 68%, '1' = 44%, '2' = 33%, '3' = 2%.

ii. Pain relief during labour

When asked about pain relief during labour, the most common responses were to visit a doctor, attend a hospital and take medication such as saline (figure 9). Some women also expressed fluid intake would be important to reduce the pain of childbirth. However, a minority of women, 5% pre-seminar and 2% post- seminar, suggested "pain is good for delivery" and would not take action as they considered it a natural phenomenon.

Methods Used for Pain Relief During Labour

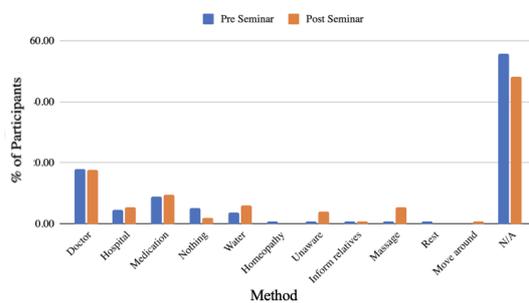


Figure 9. Percentage of participants pre-seminar (n=133) to respond with: 'Doctor' = 24%, 'Hospital' = 6%, 'Medication' = 12%, 'Nursing' = 7%, 'Water' = 5%, 'Unaware' = 1%, 'Inform relatives' = 1%, 'Massage' = 1%, 'Rest' = 1%, 'Move around' = 0%, 'N/A' = 74%. Percentage of participants post-seminar (n=147) to respond with 'Doctor' = 26%, 'Hospital' = 8%, 'Medication' = 14%, 'Nursing' = 3%, 'Water' = 9%, 'Unaware' = 6%, 'Inform relatives' = 1%, 'Massage' = 8%, 'Rest' = 0%, 'Move around' = 1%, 'N/A' = 71%.

Overall, the responses of the women in this study are promising as the need for medical attention for pain was a prevalent response both pre- and post-seminar with 34% of women suggesting a doctor, hospital or medication. However, a notable number of women did not respond to this question. More than half of the mothers who participated (55%) did not to answer pre-seminar, followed by 48% post-seminar. There are various factors which could precipitate this lack of response, such as the challenges of reaching a healthcare facility or being able to afford pain relief medications. This therefore suggests a need to explore the accessibility of pain relief during labour in rural parts of Bangladesh.

iii. Newborn Care

Knowing and recognising symptoms that indicate a newborn needs urgent care is undeniably valuable and lifesaving, as it allows women to seek help in a critical time window. Before and after the seminar, participants were asked to identify signs in a newborn that demand urgent care.

The % of participants that correctly identified signs indicating a newborn needs urgent care

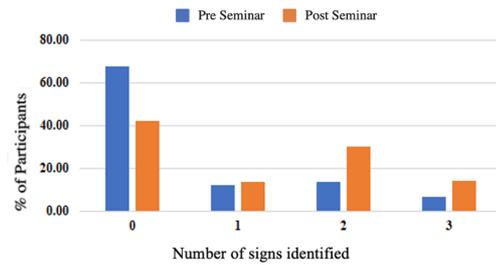


Figure 10. Percentage of participants pre-seminar (n=133) to respond with: '0' = 62%, '1' = 16%, '2' = 18%, '3' = 9%. Percentage of participants post-seminar (n=147) to respond with '0' = 42%, '1' = 20%, '2' = 44%, '3' = 21%.

Figure 10 shows there was a 16% increase in the number of women correctly identifying 2 signs post-seminar and a 7% increase in the number of women correctly identifying 3 signs. The most common responses were breathing difficulties and fever in the newborn. There was some confusion amongst women regarding symptoms of common cold and pneumonia due to overlap in signs like respiratory distress and fever. Over 60% of women pre-seminar were unable to list any signs indicating a newborn needs urgent care but it is encouraging to see that this dropped by 20% post seminar.

Again, it is important to note that this question may have not been asked uniformly due to the wording of the question not explicitly ask women to name up to 3 signs. Therefore, it is possible that the women who only provided 1 or 2 responses may have identified more signs.

iv. Postpartum Contraception

Assisting women in achieving recommended interpregnancy intervals is a prominent concern when determining maternal-child health outcomes (Sridhar & Salcedo, 2017). Improving accessibility to contraceptive options and education surrounding them are necessary for this. The question assessing why postpartum contraception is routinely recommended received mixed responses. Some women responded with a suggested duration to wait between children (this ranged from 2-5 years) whilst others simply wrote "good for the health of mother". This was the answer most tenuously in line with recommendations from medical professionals (Conde-Agudelo et al., 2007). Some women wrote it would be beneficial for the health of the newborn to use postpartum contraception.

This corroborates intriguing studies showing that for infants and children under five years of age, births spaced at least 36 months apart are associated with the lowest mortality risk (Norton, 2005). Greater time between pregnancies also avoids stretching resources across children. Importantly, it is evident from the variety of answers and the fact that 54% did not respond to this question that this area needs more attention. In addition, it may be easier to gauge understanding of this section if a multiple-choice format is used instead of an open-ended written response.

v. The importance of breastfeeding

The majority of women in the study believed in the benefits of early breastfeeding. The most commonly cited reasons for this included the nutritional benefits of breastmilk for the child's health and development. This justification remained the same both pre and post-seminar.

Such results are unsurprising. Breastfeeding is virtually universal and prolonged in Bangladesh (Akter & Rahman, 2010). There is overwhelming evidence that portrays the positive impacts breastfeeding can have on protecting the health of the child. For example, breastfeeding can limit the occurrence of both diarrhoea and

pneumonia, the two leading causes of death in children under 5 years, as well as the reduction in the likelihood of being overweight and/or obese in the future (Victora et al., 2016). Breastfeeding also has benefits for the mother, such as reducing the risk of both breast and ovarian cancer (Victora et al., 2016). It is not only promising to see that most women not only agreed with breastfeeding but also understood the benefits of it, even prior to the seminar. However, what would have provided a greater insight into the pattern of breastfeeding, would have been asking the women how long they breastfeed their child for and if they exclusively breastfeed.

The WHO recommends that a woman should practise and maintain exclusive breastfeeding for the first six months of an infant's life (WHO, 2016). Although breastfeeding habits in Bangladesh are ubiquitous (WHO, 2015), there is a growing trend in developing countries of a reduction in the length of breastfeeding overall (WHO, 2016). The data on this in Bangladesh is scarce. For this reason, in the future, it would be beneficial to ask the mothers for greater detail on their pattern breastfeeding habits (e.g. duration and exclusivity of breastfeeding).

vi. Awareness of common negative experience following pregnancy

Responses to this question were mixed. The majority of women did not respond and of those that did, their answers were not clear. For example, common negative experiences women noted were "weakness", and feeling "breathless". Such vague responses suggest a lack of knowledge of postpartum symptoms that may arise from labour complications. There were more responses post-seminar that reflected the seminars teachings on what negative experiences females may have after childbirth. Women noted "excessive bleeding", "convulsions", as well as "low mood" to be symptoms to be aware of postpartum.

The vagueness in responses and lack of responses in general may be attributed to the lack of knowledge regarding negative

postpartum experiences. It may also be as a result of the poorly worded question. Firstly, what defines a 'negative experience,' was not clear. It is subjective in nature and thus what is seen as 'negative' may vary between women. Moreover, it is not clear whether 'experiences' alludes to the physical complications that require urgent medical attention, the mental health experiences women may face postpartum, or simply the difficulties of raising a child and the strains it may have on a woman and her family. Thus, the phrase 'negative experiences' has varied connotations- from physical, mental, financial and social impacts. In the future, the question should use explicit terminology in order to receive more specific responses. Additionally, sensitivity to the cross-cultural attitudes towards to mental health issues such as post-partum depression must also be taken into consideration (Williams et al., 2018).

FEEDBACK

The MHE seminar received positive feedback from the majority of the women (60%) who participated in the survey, indicating a useful experience for those who attended the talk (figure 11). In future, we would like to encourage a higher response rate to assess the effectiveness of the seminars and identify areas for improvement, so that we can deliver information to women in rural areas in a way that is most appropriate for them, allowing them to then have a more safe, supportive and enjoyable pregnancy

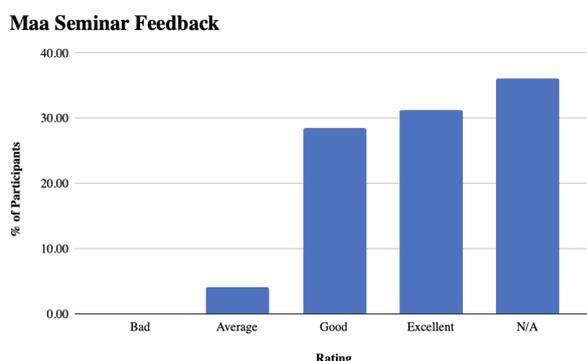


Figure 11. Percentage of participants pre-seminar (n=133) to respond with: 'Bad' = 0%, 'Average' = 6%, 'Good' = 42%, 'Excellent' = 46%, 'N/A' = 53%. Percentage of participants post-seminar (n=147) to respond with 'Bad' = 0%, 'Average' = 4%, 'Good' = 29%, 'Excellent' = 31%, 'N/A' = 36%.

20 women suggested areas for improvements and topics for future seminars upon request. This may have been due the feedback being the final section of the questionnaire and therefore may have been rushed due time constraints during the busy health camp.

The main comments from the feedback included participants requesting more frequent seminars with two participants mentioning they would like more information regarding contraceptive methods to be included in the maternal health education seminar. Four additional mothers requested that seminars cover "how to care for child". In context, this response can be seen to highlight the young age bracket of mothers who do not receive sufficient support regarding childcare from either healthcare providers or family members.

LIMITATIONS

Whilst analysing the data from the questionnaires, certain limitations were encountered. Firstly, the study population pre-seminar was not identical to the population post-seminar. In addition, language barriers are important to acknowledge for having to translate the questionnaire to mothers inevitably leads to slight variation in understanding of the question. Some mothers did not answer parts of the questionnaire. This could be due to a lack of knowledge, accidentally missing the question or an unforced error by the interviewer.

Furthermore, some questionnaire responses were very similar in responses; this may be due to some questionnaires being conducted in groups, led by one interviewer. Nonetheless, this could dilute the true responses and create generic responses coming from the more vocal members of the group. In the future, it may be helpful to consider a tick box style layout to aid understanding and also simplify data collection.

Overall, our findings are complicated by the groups of women who did not answer several questions; this lacuna brings into focus the need for more specific questions that are simultaneously easier to understand and record during data collection. It is paramount to tackle the limitations encountered in this study to ensure a more accurate evaluation of maternal health education levels in future studies.

CONCLUSION

Reflecting upon these results, it is clear that the maternal health educational seminar had an overall positive effect on the pregnant women. The extent of this was greatest in the categories regarding the recognition of red flag symptoms and nutritional intake during pregnancy - both being very important topics. The most encouraging findings pre-seminar were those pertaining to exercise and early breastfeeding.

Areas for improvement include enhancing information around postpartum contraception, the understanding of labour and potential options for pain relief. By strengthening these aspects of the seminar, and continually reassessing effect, Maa will edge closer to bettering practices and health-seeking behaviours in the realm of maternal health.

REFERENCES

1. Akter, S. and Rahman, M. M. (2010) 'Duration of breastfeeding and its correlates in Bangladesh', *Journal of Health, Population and Nutrition*, 28(6), pp. 595–601.
2. Bicego, G. T. and Boerma, J. T. (1993) 'Maternal education and child survival: a comparative study of survey data from 17 countries', *Child survival in developing countries*, 36(9), pp. 1207–1227.
3. Calvillo, E. J. *et al.* (2015) 'Applying the lessons of maternal mortality reduction to global emergency health', *Bulletin of the World Health Organization*, 93(6), pp. 417–423.
4. Choudhury, N. and Ahmed, S. M. (2011) 'Maternal care practices among the ultra poor households in rural Bangladesh: A qualitative exploratory study', *BMC Pregnancy and Childbirth*, 11, pp. 1–8.
5. Cleland, J. C., Ginneken, K. V. A. N. and Jo, S. I. (1988) 'Maternal education and child survival in developing countries: The search for pathways of influence', *Social Science and Medicine*, 27(12), pp. 1357–1368.
6. Conde-Agudelo, A., Rosas-Bermúdez, A. and Kafury-Goeta, A. C. (2007) 'Effects of birth spacing on maternal health: a systematic review', *American Journal of Obstetrics and Gynecology*, 196(4), pp. 297–308.
7. Guldan, G. S. *et al.* (1993) 'Maternal education and child feeding practices in rural Bangladesh.', *Social science & medicine*, 36(7), pp. 925–935.
8. Leach, J. *et al.* (2017) 'Perceived Benefits of Childbirth Education on Future Health-Care Decision Making', *The Journal of Perinatal Education*, 26(1), pp. 49–56.
9. Mukona, D. *et al.* (2016) 'Physical activity in pregnant women in Africa: A systematic review', *International Journal of Nursing and Midwifery*, 8(4), pp. 28–34.
10. Norton, M. (2005) 'New evidence on birth spacing: Promising findings for improving newborn, infant, child, and maternal health', *International Journal of Gynecology and Obstetrics*, 89(S1).
11. Victora, C. G. *et al.* (2016) 'Breastfeeding in the 21st century: Epidemiology, mechanisms, and lifelong effect', *The Lancet*. Elsevier Ltd, 387(10017), pp. 475–490.
12. Williams, A., Sarker, M. and Ferdous, S. T. (2018) 'Cultural Attitudes toward Postpartum Depression in Dhaka, Bangladesh', *Medical Anthropology: Cross Cultural Studies in Health and Illness*. Routledge, 37(3), pp. 194–205.
13. Saxena, R. (2018). *An Evidence-Based Clinical Textbook in Obstetrics & Gynaecology for MRCOG-2*. Jaypee Brothers Medical Publisher (P) Ltd.
14. World Health Organisation (2016). Breastfeeding in the 21st century. [online]. Available at: https://www.who.int/pmnch/media/news/2016/breastfeeding_brief.pdf.
15. World Health Organisation. (2015). Success Factors for Women's and Children's Health: Bangladesh. [online]. Available at: <https://apps.who.int/iris/handle/10665/178623>

Appendix 1 – Maternal Health Education Questionnaire

Maternal Health Seminar Education Quiz



Name: _____
 Age: _____
 Maa ID Number: _____
 Date: ___/___/___
 [Please tick one] Pre-Seminar Post Seminar

1. What foods should you avoid and include during pregnancy?

Foods to Include	Foods to avoid
→	→
→	→

2. Should you consume Betel leaf during pregnancy? And why?
 Yes No

3. Should you keep active during pregnancy? And why?
 Yes No

4. What are some common symptoms that you may experience in pregnancy?

5. Can you list 3 signs to look out for during pregnancy that would require you to seek the attention of a healthcare professional?

6. What is more important for you to do before and during labour?
 Increase oral fluids/ light snacks Restrict food intake

7. What signs indicate the beginning of labour?

8. What methods can you use to alleviate pain during labour?

9. What are signs to look out for in your new-born baby that would require you to seek urgent medical attention?

10. Is early initiation of breast feeding beneficial for mother and child? And why?

Yes No

11. Are you aware of any common negative experiences' women have after giving birth? How can they be tackled?

12. Why is postpartum contraception (space between pregnancies) recommended?

POST SEMINAR ONLY

A. How would you rate the education seminar you received today? [*as ker class ki rokom oiseh*]

Bad Average Good Excellent

B. What would you like to learn about in future seminars? [*bobishoter kita subject hiktai*]
