

Knowledge, Attitude and Practice towards Mother and Child Health Care during Pregnancy: A study among the Pregnant Mothers of Asian Indian Origin in Kolkata, West Bengal, India

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ABSTRACT

The present study aimed to find out maternal knowledge and attitude towards the mother and child health care practices during pregnancy among 218 Asian-Indian pregnant women and whether they are practising the same? Suboptimal KAP and notable disparity among KAP in the population was found. Despite having knowledge and a positive attitude towards a balanced diet, regular breakfast, more nutrient-rich foods, adequate water consumption, avoiding raw salt and fast and junk foods, none consulted a nutritionist and a notably lesser proportion of women consumed more carbohydrates, proteins, fresh fruits and vegetables regularly. Knowledge and attitude towards physical activity were worse than of nutritional. A few women meditated and practised exercise during pregnancy. Regardless of knowledge of the occurrence and adverse effects of psychological stress no women consulted a psychiatrist even though they suffered from it.

Keywords: Attitude, India, Knowledge, Mother and child health, Practice, Pregnancy.

Introduction

The catastrophes of pregnancy prevailing in India despite the rapid growth of modern medical facilities with building of hospitals and implicating numerous health policies, may be due to misconceptions about the health practice or the difference among the knowledge, attitude and practices (KAP) of those behaviours.

Imbalanced and unhealthy food consumption, tobacco smoking and alcoholism during pregnancy increases the risk of several adverse pregnancy outcomes including intra-uterine growth retardation, low birth weight, preterm birth, etc.^[1-3] Similar outcomes were reported along with excessive gestational weight gain

(GWG), gestational hypertension, gestational diabetes due to avoidance of physical activity.^[4] Women who exercise regularly tend to have an appropriate GWG as well as to deliver an infant with normal birth weight.^[5] A study from North Carolina reported ~doubled risk of preterm birth among women with higher anxiety level due to pregnancy and external stressors.^[6] The extent to which patients benefit from improved mental health services is influenced not only by the quality of available of services but also by their knowledge and belief systems.

Considering the above fact, the present study seeks to find out maternal knowledge and attitude towards the mother and child health care practices among the pregnant mothers from Asian-Indian origin during pregnancy and whether they are practising the same.

Methods

The present study is a part of a longitudinal study which included 218 Asian-Indian singleton pregnant women (28.97±4.71 years age) during their antenatal medical consultation at two multi-speciality nursing homes in Kolkata, India after getting a written consent. The representative sample size was estimated using a standard formula. No community biasness was considered in inclusion. Mothers who conceived with the help of assisted reproductive technology and with chronic or positive history of cardio metabolic diseases were purposively excluded. 50 questions were selected from published literatures. An interview with each participant was scheduled at the 3rd trimester during 2019-2021. The study was approved by the Institutional Ethics Committee, Visva-Bharati, West Bengal, India.

Results

The KAP of the pregnant mothers towards health care practices during pregnancy were represented in Tables 1 and 2, respectively. The majority of the study population knew following a balanced diet during pregnancy and showed a positive attitude (PA) towards consulting a nutritionist for a planned diet chart. However, none of them practiced same during pregnancy. >80% of women knew not to skip breakfast during pregnancy and a PA towards regular breakfast and 86.23% of women consumed breakfast regularly. Majority of women knew consuming more carbohydrates, proteins, fresh vegetables and fruits, vitamin and mineral-rich foods and had a PA towards it but only 66.97% of women reported having more food during pregnancy. 72.93% of women knew not consuming fast and junk foods during pregnancy and 94.49% of women had a negative attitude towards it. But 57.79% of women reported consuming fast and junk foods during pregnancy. 70.18% of women knew of and 80.27% showed a PA towards avoiding adding raw salt consumption but 50.45% of women reported adding raw salts to their meals during pregnancy. 71.10% of women knew how much water they should drink regularly and 83.94% of women showed a PA towards drinking 4-5litres of water every day. However, only 20.18% of women reported drinking 4-5litres of water daily during pregnancy.

Around 77.06% of women knew that smoking during pregnancy is harmful to both mother and child and none of the study participants showed a PA towards it. Although, 1.83% of women reported smoking during pregnancy. 87.15% of women knew that alcohol consumption during pregnancy is harmful to both mother and child and none of the study participants showed a PA towards it. Only one woman reported alcohol consumption during pregnancy. 56.42% of the women did not know that antenatal exercises (AE) prevent excessive GWG and 26.60% of women knew the necessity of AE during pregnancy. 29.35% and 84.86% of women showed a negative attitude towards meditating themselves and AE, respectively during pregnancy. 68.60% of women knew that low-intensity household activities (LHA) were equivalently beneficial to AE during early pregnancy and 90.82% of women had a PA towards doing LHA during pregnancy. 78.44% of women knew the benefits of seeking treatment if psychological stress (PS) occurs during pregnancy and 57.33% of women knew the adverse effects of PS during pregnancy. 55.04% of women had a negative attitude towards untreated PS during pregnancy. 97.70% of women suffered from PS during pregnancy but none of them initiated treatment.

Discussion

Our present study was an attempt to find out whether the pregnant women under study had sufficient knowledge and PA towards health care during pregnancy. Besides, to what extent they are practising the same? Firstly, there was a major gap in following a planned diet chart. Despite having knowledge of and a PA towards the importance of a balanced diet, none of the pregnant women consulted a nutritionist for it. The probable reason might be their socio-economic condition or intention to curtailing medical expenses for antenatal care. A major proportion of women had good knowledge and attitude towards having regular breakfast during pregnancy however 13.76% of women did not practice it. Being a woman, most of them might have to prepare their breakfast on their own. Besides, the preparation of spouses and children for their office and school in the morning time might seem harder to do during pregnancy. Morning sickness as well as other associated physical discomforts with progressive pregnancy might be a reason for it.

Consumption of a balanced proportion of cereal grains is essential during pregnancy to get carbohydrates, antioxidants, and dietary fibres. The glucose produced by the digestion of carbohydrates in the maternal body also supplies energy to the foetus for optimal growth and development. An extra amount of protein (15% during 2nd and 25% extra during 3rd trimester) supplies essential amino acids to the placenta for optimal foetal growth and muscle development.^[7] Fruits and vegetables are an essential source of several micronutrients and dietary fibres which are essential for better metabolism and reducing the risk of excess GWG.^[8] Despite a substantial proportion of women having knowledge and a PA towards the consumption of these foods, notable gap was found in practicing the same. These major disparities in nutritional practice are often led by socio-economic condition, lack of biological knowledge and fear of getting obese.

The majority of the women under study had the knowledge and PA towards avoiding fast and junk foods during pregnancy however ~58% of women consumed it. Such disparity might be due to satiating flavour, easy availability and ready-to-eat nature of these foods which seemed more convenient than cooking by own.

Hydration during pregnancy is essential and it helps to meet adequate physiological changes in the maternal body, nutrient absorption and its supply to the foetus, a production of amniotic fluid. In the present study, only 20.18% of women consumed 4-5 litres of water during pregnancy. The probable cause of this gap might be the lack of scientific knowledge regarding the importance of water in the metabolic process in the human body.

Nicotine, Cotinine and Carbon Monoxide are the most active elements of tobacco smoke responsible for the pregnancy complications and alcohol consumed during pregnancy passes through the mother's blood to the foetus causing Fetal Alcohol Syndrome.^[9] Nevertheless, a few women in the present study reported smoking and alcohol consumption. This might be the impact of social media promoting the casualty of smoking and alcoholism.

In the present study, KAP towards physical activity was poor. The women lacked knowledge of the necessity of AE during pregnancy and expressed a negative attitude towards meditation and exercise. Moreover, they performed LHA with the conception that LHA might be an alternative of AE. Besides, fear of pregnancy loss or the effect of not attending any training program might be the reason for it.

PS is a commonly observed phenomenon during pregnancy. The disrupted activity of the HPA axis and resultant cortisol over-secretion by PA greatly affects the optimal growth and development of the foetus.^[10] Altered maternal hormonal profiles also alter foetal hormonal profiles leading to adverse birth outcomes. Although a majority of the study population was aware of the occurrence of PS and its effects and showed a PA towards treatment, none of them consulted a psychiatrist even though they suffered from it. The probable cause might be a lack of knowledge regarding the physiological mechanism of PS or curtailing medical expenses.

CONCLUSION

It may be concluded from the present study that KAP towards maternal and child care practice in the study population were suboptimal and notable disparity was observed among KAP. Thus, important measures should be taken by the government and the health professionals to improve the condition.

Conflict of interest

No conflict of interest.

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Table 1: Knowledge and attitude towards maternal and child health care during pregnancy

| Sl. | Questions | Knowledge | | Attitude | | |
|-----|--|----------------|----------------|-----------------|----------------|---------------|
| | | Yes | No | Yes | No | I don't know |
| | | n (%) | n (%) | n (%) | n (%) | n (%) |
| 1. | Is it necessary to follow a balanced diet during pregnancy? | 141 (64.67) | 77 (35.32) | 173 (79.35) | 0 (0.00) | 45 (20.64) |
| 2. | Is it good to skip breakfast often during pregnancy? | 42 (19.26) | 176 (80.73) | 35 (16.05) | 182 (83.48) | 01 (0.45) |
| 3. | Do you know whether you need to eat more carbohydrates like rice, roti, pulses, etc. during pregnancy? | 136 (62.38) | 82 (37.61) | 133 (61.00) | 72 (33.02) | 13 (5.96) |
| 4. | Do you know whether you need to eat more proteins like fish, meat, egg, milk etc. during pregnancy? | 159 (72.93) | 59 (27.06) | 169 (77.52) | 39 (17.88) | 10 (4.58) |
| 5. | Do you know whether you need to eat more vegetables and fruits during pregnancy? | 210 (96.33) | 08 (3.66) | 154 (70.64) | 58 (2.66) | 06 (2.75) |
| 6. | Do you know whether you should eat more vitamin and mineral rich foods during pregnancy? | 144 (66.05) | 74 (33.94) | 218 (100.00) | 0 (0.00) | 0 (0.00) |
| 7. | Do you know whether you should eat fast and junk foods during pregnancy? | 159 (72.93) | 59 (27.06) | 175 (80.27) | 0 (0.00) | 43 (19.72) |
| 8. | Do you know whether you should avoid adding raw salt in meals during pregnancy? | 153 (70.18) | 65 (29.81) | 12 (5.50) | 206 (94.49) | 0 (0.00) |
| 9. | Do you know how much water you should drink every day during pregnancy? | 155 (71.10) | 63 (28.89) | 13 (5.96) | 140 (64.22) | 65 (29.81) |

Table 1: Contd...

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|-----|---|----------------|----------------|-----------------|----------------|---------------|
| 10. | Do you know smoking during pregnancy is harmful for both mother and child? | 168 (77.06) | 50 (22.93) | 175 (80.27) | 16 (7.33) | 27 (12.38) |
| 11. | Do you know alcohol consumption during pregnancy is harmful for both mother and child? | 190 (87.15) | 28 (12.84) | 218 (100.00) | 0 (0.00) | 0 (0.00) |
| 12. | Do you know antenatal exercises prevent excessive gestational weight gain? | 95 (43.57) | 123 (56.42) | 218 (100.00) | 0 (0.00) | 0 (0.00) |
| 13. | Is exercise necessary during pregnancy? | 58 (26.60) | 160 (73.39) | 64 (29.35) | 96 (44.03) | 58 (26.60) |
| 14. | Are the low intensity household activities equivalently beneficial to antenatal exercises during early pregnancy? | 150 (68.80) | 68 (31.19) | 36 (16.51) | 185 (84.86) | 0 (0.00) |
| 15. | If any psychological stress occurs during pregnancy, do you think seeking treatment is beneficial? | 171 (78.44) | 47 (21.55) | 198 (90.82) | 20 (9.17) | 0 (0.00) |
| 16. | Can psychological stress lead to several adverse pregnancy outcomes? | 125 (57.33) | 93 (42.66) | 04 (1.83) | 120 (55.04) | 94 (43.11) |

Table 2: Practices regarding maternal and child health care during pregnancy

| Sl. | Questions | Yes n (%) | No n (%) |
|-----|--|-----------------|-----------------|
| 1. | Had you consulted any nutritionist for a planned diet chart during pregnancy? | 0 (0.00) | 218 (100.00) |
| 2. | Had you taken more food during pregnancy? | 146 (66.97) | 72 (33.02) |
| 3. | Had you taken breakfast regularly during pregnancy? | 188 (86.23) | 30 (13.76) |
| 4. | Had you taken carbohydrates in form of rice and roti and, pulses daily during pregnancy? | 188 (86.23) | 30 (13.76%) |
| 5. | Had you taken proteins in form of fish, meat, and egg daily during pregnancy? | 48 (22.01) | 170 (77.98) |
| 6. | Had you taken milk and/or milk products daily during pregnancy? | 42 (19.26) | 175 (80.27) |
| 7. | Had you taken fresh fruits daily during pregnancy? | 92 (42.20) | 126 (57.79) |
| 8. | Had you taken fresh vegetables daily during pregnancy? | 128 (58.71) | 90 (41.28) |
| 9. | Had you taken fast and junk foods during pregnancy? | 126 (57.79) | 92 (42.20) |
| 10. | Had you added raw salt to your meals during pregnancy? | 110 (50.45) | 108 (49.54) |
| 11. | Had you consumed 4-5 litre water regularly during pregnancy? | 44 (20.18) | 174 (79.81) |
| 12. | Had you smoked during pregnancy? | 04 (1.83) | 214 (98.16) |
| 13. | Had you consumed alcohol during pregnancy? | 01 (0.45) | 217 (99.54) |
| 14. | Had you meditated yourself regularly during pregnancy? | 13 (5.96) | 205 (94.03) |
| 15. | Had you practiced antenatal exercises regularly during early pregnancy? | 32 (14.67) | 186 (85.32) |
| 16. | Had you done low intensity household work regularly during pregnancy? | 210 (96.33) | 08 (3.66) |
| 17. | Had you suffered from any psychological stress during pregnancy? | 213 (97.70) | 05 (2.29) |
| 18. | Had you consulted any psychiatrist for mental stress during pregnancy? | 0 (0.00) | 218 (100.00) |