

Improving maternal nutrition in public health facilities by strengthening the dietary component of Janani Shishu Suraksha Karyakram – A government of India programme

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ABSTRACT

Introduction: The Janani Shishu Suraksha Karyakram (JSSK) is a government of India initiative for all pregnant women visiting public health facilities, with many free entitlements – free diet being one. After an in-depth study of existing dietary provisions in all community health centres, an elaborate cyclic-weekly nutritious menu was designed taking into consideration the latest recommendations (2019) by the Ministry of Family and Child Welfare, India to improve maternal health nutrition. **Methods:** The health functionaries from all ten community health centres of rural Vadodara were chosen for an in-depth estimation of the different meals served in the facilities. Standard measuring cups and spoons were used to measure the exact serving sizes for each person. Each meal served was supervised, checked and quantified in triplicate, while macro- and micronutrients were calculated using the Indian Food Composition Tables 2017 (Longvah *et al.* 2017). To bridge the gap in service delivery, two new models of cyclic-weekly menu were developed, keeping in mind the amount per mother per day as one hundred Indian rupees. **Results:** On average the foods served in the community health centres provided 69% of recommended energy intake, while mean recommended dietary allowance met for protein was 51%, calcium 18%, iron 50%, and fat 267%. **Conclusion:** The recommendations specified in this paper would improve the nutritional status of all pregnant and lactating women availing the services in rural health facilities, which would go a long way in ensuring safe and healthy motherhood.

Keywords: institutional delivery, nutrition, pregnant women, lactating women, public health facility, weekly cycle menu

INTRODUCTION

The Janani Shishu Suraksha Karyakram (JSSK) is a government of India programme initiated in 2011 with free entitlements to benefit pregnant

women who access government health facilities for their delivery and also to motivate those who still choose to deliver at their homes to opt for institutional delivery across all states of India. The free

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entitlements include free and cashless delivery, free Caesarean section, free drugs and consumables, free diagnostics, free diet during the stay in the health institutions, free provision of blood in case of blood transfusion, exemption from user charges, free transport from home to health institutions, free transport between facilities in case of a referral, and free drop back from institutions to home after 48 hours stay (National Health Portal, 2015). The Indian Institute of Health Management and Research (IIHMR, 2012) conducted a study in Rajasthan and reported that 60% of mothers received free diet, whereas free diagnostic services were availed by 75% of them. The government of Gujarat extended the benefits of this scheme from neonates up to infants one year of age and up to 42 days post-partum for pregnant women.

Free diet is one of the main entitlements, but one which is not well taken care of with regards to quality and nutrients. Most of the women who register in these centres are from economically distressed background with moderate or severe malnutrition. All these conditions ultimately lead to maternal health problems and health issues in the newborns. If the beneficiaries are given proper nutritious diet during this crucial period, it would lead to safe delivery and good postnatal health. Numerous studies have been conducted on the awareness, utilisation, and out-of-pocket expenditure incurred in this programme, but no data is available on the nutrient content of the diets served, whether the recommended dietary allowances were met or fell short. A sedentary pregnant woman should consume 2500 kilocalories (kcal) per day, with 74 grams (g) protein, 30 g fat, 1200 milligrams (mg) calcium, and 21 mg iron (National Health Mission, 2018). This should be distributed in three main

meals [two-thirds of the Recommended Dietary Allowance (RDA) distributed in three meals] and two snacks [one-third the RDA distributed in snacks]. The present study was aimed at evaluating the free diets served in different public health facilities and recommending two models of cyclic-weekly menu which could bridge the gap between the recommended dietary allowances prescribed by The Indian Council of Medical Research (Gopalan *et al.*, 2011) guidelines for pregnant and lactating women and the actual diets served in the public health facilities.

MATERIALS AND METHODS

The study was a community cum facility based cross-sectional study, conducted in all the Community Health Centres (CHCs) of rural Vadodara district, in the state of Gujarat, India during the years 2019-2020. This study was approved by the Institutional Ethics Committee for human research under approval number: IECHR/2019/10, Department of Foods and Nutrition, The Maharaja Sayajirao University of Baroda, Vadodara, Gujarat, India. Rural Vadodara has eight blocks, in which there are ten CHCs. Written permission was sought from the Regional Deputy Director, Health and Medical services and from the Chief District Health Officer's (CDHO) office, Vadodara for conducting the study. At the beginning of data collection, before interviews were conducted, written consents were taken from all superintendents, head nurses, diet-aides-in-charge of the ten CHCs, and also from mothers who had then delivered and were using the health facilities. Weekly menu of the diet provided by the facilities was obtained using a descriptive, detailed questionnaire, which was made after an in-depth study of the service delivery of

the programme in all health facilities. This tool (questionnaire) was pre-tested and modified several times until full details like the time of admission, time of delivery, date of discharge for normal and caesarean deliveries were incorporated, in order to study the extent of days the mothers were in the institution and availing diet provision.

The Maternal Health Division under the Ministry of Health and Family Welfare had published an operational guideline manual for diet provision under JSSK programme for all public health facilities in India (National Health Mission, 2018). The RDA for pregnant and lactating women (0-6 months) was used as the basis for developing the daily diet plans to provide food for mothers during their stay in the public health facilities, before and after delivery (National Health Mission, 2018). The portion sizes for one individual was weighed for each meal and the ingredients in each item were identified and quantified referring to the Indian Food Composition Tables (Longvah *et al.*, 2017). Energy, protein, calcium, iron, and fat were calculated manually. Ten CHCs were serving two meals a day and since the menu was the same every day, random samples in triplicate were used to calculate the nutrients intake manually. Standard measuring cups and spoons were used to measure the exact serving sizes for each mother.

The collected primary data were analysed with the help of Microsoft Excel by using appropriate statistical tests. Diet consumption (energy and nutrients) per day and the cost of the daily menu were estimated (Tables 2 and 4, respectively). Mean and standard deviation (*SD*) was calculated for all the nutrients in the diet (Table 2) and for the cost estimation for daily diet (Table 4).

RESULTS

For convenience of expression, the result section is divided into two sub-sections:

a) Assessment of diet menu

Out of the ten CHCs, seven had no kitchen facilities either due to lack of staff or infrastructure or less number of deliveries, so the meals were outsourced. Three of them were serving foods from their respective kitchens. Under the JSSK government programme, Indian rupees one hundred per person per day is allotted for the whole day's diet, which should include three main meals and two high energy snacks.

The mothers who availed the facilities in government health institutions were those near or below the poverty line and who were mostly malnourished. Illiteracy also accounted for not consuming nutritious diets and hence the onus lies on these institutions to make available nutritious diets and counsel the mothers to follow the same after discharge. In this study, it was observed that the diets prepared in the CHCs (three centres) using kitchen facilities and the institutions who had outsourced (seven centres) to caterers or restaurant owners, were not meeting the nutritional requirements as per the prescribed RDA. In one of the public health facilities, only one meal (lunch) was served, hence the lower intake of calories by mothers. In four of the health facilities, only two (lunch and dinner) meals were given. Only 50% health facilities were serving three or more than three meals per day. The meals provided were neither balanced nor uniformed. All nutrients, except fat, were much lower than the recommended values. On average, only 53% of RDA for protein, 20% RDA for calcium, and 52% RDA for iron were met. The RDA for a pregnant

Table 1. Recommended dietary allowance (RDA) for a sedentary pregnant mother for the entire day

	<i>Energy (Kcal)</i>	<i>Protein (g)</i>	<i>Fat (g)</i>	<i>Calcium (mg)</i>	<i>Iron (mg)</i>
Recommended dietary allowance (RDA)	2500	74	30	1200	21
Meals – breakfast, lunch, dinner					
3 main meals (2/3 of the RDA)	1667	49	20	800	14
Snacks-mid-morning, evening					
2 times snack (1/3 of the RDA)	833	25	10	400	7
Total	2500	74	30	1200	21

Source: Gopalan, Rama Sastri & Balasubramanian (2011)

and lactating (0-6 month) sedentary mother in terms of energy is 2500 kcal per day and the distribution is shown in Table 1. Ideally, three main meals in totality should give approximately 1667 kcal, with 49 g protein, 20 g fat, 800 mg calcium, and 14 mg iron, while two snacks daily should give approximately 833 kcal with 25 g protein, 10 g fat, 400 mg calcium, and 7 mg iron.

b) Development of the improved weekly cycle menu

Comparing with the recommendation of three main meals (breakfast, lunch, dinner) which satisfies two-third of the RDA and two snacks (mid-morning & evening tea) providing one-third the RDA, descriptive statistics of the existing daily RDA met per person in each public health facility in the rural blocks of Vadodara district were tabulated and presented in Table 2. Only five CHCs which were serving three meals or more a day were nearly meeting the energy requirements. Calcium and iron in the diets were dismal and these are some of the most important minerals needed during pregnancy, delivery and lactation phases, equally important to both mother and child.

Looking into the deficits of the nutrients in the diets, great efforts were made to develop a weekly cycle menu incorporating locally available vegetables and cereals, taking care

of the requirements for macro- and micronutrients, yet keeping the cost at INR 100 per day per woman.

The majority of the people in Gujarat are vegetarians and hence recommendation for a weekly vegetarian menu for vaginal delivery is described in Table 3. Since it was not feasible to serve freshly cooked breakfast in the CHCs as per the existing conditions, hence, a practical weekly menu was also developed substituting freshly cooked breakfast with ready-to-eat high energy snacks that met the daily RDA (Table 4).

DISCUSSION

The JSSK programme has increased institutional deliveries since its launch. But in this study, it was seen that though free diet was given to all beneficiaries, the quality and nutrient content were dismal. The diets served to all mothers in the public health facilities in rural Vadodara was the general diet served to all patients who were admitted in the facility. This diet did not meet the dietary requirements for mothers whose nutritional needs were more. There was a shortage of kitchen facilities, proper infrastructure, diet counsellors and dietitians to prescribe and monitor the menu regularly. The caterers and restaurant owners who were entrusted with food delivery were either ignorant of the RDA or were not instructed

Table 2. Comparative data of nutrients in the foods served in the rural public health facilities with reference to JSSK Government programme

Name of the CHC	Average delivery per months	Number of meals served	Energy (Kcal)	% RDA [†] met	Protein (g)	% RDA [†] met	Calcium (mg)	% RDA [†] met	Iron (mg)	% RDA [†] met	Fat (g)	% RDA [†] met
CHC-1	19	2	1399	56	36.8	50	162	13.5	10.0	48	48.5	162
CHC-2	40	2	1256	50	34.7	47	218	18.1	8.4	40	62.6	209
CHC-3	68	2	1479	59	37.5	51	233	19.0	10.8	51	68.9	230
CHC-4	38	3	2087	83	40.0	54	290	24.0	9.8	47	84.7	282
CHC-5	45	2	1332	53	35.0	47	187	15.5	9.4	45	61.6	202
CHC-6	170	3	1904	76	35.0	47	174	14.5	10.2	49	90.0	300
CHC-7	14	3	2274	91	44.0	59	207	17.0	11.6	55	144.0	480
CHC-8	42	4	2613	104	48.0	65	337	28.0	16.3	78	123.0	410
CHC-9	205	3	2218	89	44.0	59	329	27.0	11.6	55	94.6	315
CHC-10	28	1	737	29	21.0	28	67	5.6	5.7	27	22.5	75
% RDA met (mean±SD)				69±23				18±7		50±13		267±118
Mean±SD			1730±579		38±7		220±82		10±3		80±36	

[†]RDA as per JSSK Diet norms: energy = 2500 kcal, protein = 74 g, calcium = 1200 mg, iron = 21 mg, fat = 30 g

Table 3. Proposed weekly cycle vegetarian menu (continued)

Menu	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Evening snack	1. Milk (200ml) with sugar 2. Vegetable poha (1/4 cup) 3. Boiled kabulichannaachaata (50g)	1. Milk (200ml) with sugar 2. Vegetable cutlet (1) 3. Dhokla (4 pieces) (50g)	1. Milk (200ml) with sugar 2. Ladoo (besan, peanut, rajgira, jaggery, gaund) (2) 3. Boiled kalachannachaata (50g)	1. Milk (200ml) with sugar 2. Ladoo (besan, peanut, rajgira, jaggery, gaund) (2) 3. Khandvi (4 pieces) (40g)	1. Milk (200ml) with sugar 2. Vegetable poha (1/4 cup) 3. Boiled kalachannachaata (50g) -1	1. Milk (200ml) with sugar 2. Vegetable cutlet 3. Dhokla (4 pieces) (50g)	1. Milk (200ml) with sugar 2. Vegetable poha (1/4 cup) 3. Boiled kalachannachaata (50g)
Dinner	1. Roti (3) 2. Dal (1/4 cup) & rice (3/4 cup) 3. Seasonal vegetable with green leafy vegetable (1/4 cup) 4. Banana (1 medium size; 100g) or any seasonal fruit	1. Roti (3) 2. Dal (1/4 cup) & rice (3/4 cup) 3. Seasonal vegetable with green leafy vegetable (1/4 cup) 4. Banana (1 medium size; 100g) or any seasonal fruit	1. Roti (3) 2. Dal (1/4 cup) & rice (3/4 cup) 3. Seasonal vegetable with green leafy vegetable (1/4 cup) 4. Banana (1 medium size; 100g) or any seasonal fruit	1. Roti (3) 2. Dal (1/4 cup) & rice (3/4 cup) 3. Seasonal vegetable with green leafy vegetable (1/4 cup) 4. Banana (1 medium size; 100g) or any seasonal fruit	1. Roti (3) 2. Dal (1/4 cup) & rice (3/4 cup) 3. Seasonal vegetable with green leafy vegetable (1/4 cup) 4. Banana (1 medium size; 100g) or any seasonal fruit	1. Roti (3) 2. Dal (1/4 cup) & rice (3/4 cup) 3. Seasonal vegetable with green leafy vegetable (1/4 cup) 4. Banana (1 medium size; 100g) or any seasonal fruit	1. Roti (3) 2. Dal (1/4 cup) & rice (3/4 cup) 3. Seasonal vegetable with green leafy vegetable (1/4 cup) 4. Banana (1 medium size; 100g) or any seasonal fruit
Total amount of nutrients provided	Energy: 2539 kcal Protein: 64.7 g Calcium: 867 mg Iron: 14.0 mg	Energy: 2699 kcal Protein: 77.0 g Calcium: 766 mg Iron: 15.4 mg	Energy: 2998 kcal Protein: 81.5 g Calcium: 960 mg Iron: 20.5 mg	Energy: 2914 kcal Protein: 72.0 g Calcium: 855 mg Iron: 16.9 mg	Energy: 2624 kcal Protein: 70.1 g Calcium: 864 mg Iron: 13.9 mg	Energy: 2707 kcal Protein: 58.1 g Calcium: 858 mg Iron: 14.8 mg	Energy: 2648 kcal Protein: 67.1 g Calcium: 879 mg Iron: 15.3 mg

Table 4. Practical diets for mothers with vaginal delivery in rural public health facilities of Vadodara District

Menu	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Early morning*	Tea (150ml) & 2 khakhara INR 12	Tea (150ml) & 2 khakhara INR 12	Tea (150ml) & 2 khakhara INR 12	Tea (150ml) & 2 khakhara INR 12	Tea (150ml) & 2 khakhara INR 12	Tea (150ml) & 2 khakhara INR 12	Tea (150ml) & 2 khakhara INR 12
Breakfast	1. Milk (200ml) 2. Namkeendaliya (250g) 3. Any seasonal fruit (1) (100g) INR 25	1. Milk (200ml) 2. Vegetable upma (250g) 3. Any seasonal fruit (1) (100g) INR 24	1. Milk(200ml) 2. Parantha (2) 3. Any seasonal fruit (1) (100g) INR 24	1. Milk (200ml) 2. Masala sewain (250g) 3. Any seasonal Fruit (1)(100g) INR 25	1. Milk (200ml) 2. Idli (4 small) Sambhar (150g) 3. Any seasonal fruit (1) (100g) INR 25	1. Milk(200ml) 2. Thepla (2) 3. Any seasonal fruit (1) (100g) INR 24	1. Milk (200ml) 2. Besancheela (2 medium) 3. Any seasonal fruit (1) (100g) INR 28
Lunch	1. Roti (3) 2. Tuver dal (250g) & rice (150g) 3. Seasonal vegetable (120g) INR 20	1. Roti (3) 2. Mung dal (250g) & rice (150g) 3. Seasonal vegetable (120g) INR 20	1. Roti (3) 2. Mix pulses dal (250g) & rice (150g) 3. Seasonal vegetable (120g) INR 20	1. Roti (3) 2. Channa dal (250g) & rice (150g) 3. Seasonal vegetable (120g) INR 20	1. Roti (3) 2. Channamung dal (250g) & rice (150g) 3. Seasonal vegetable (120g) INR 20	1. Roti (3) 2. Channatuver dal (250g) & rice (150g) 3. Seasonal vegetable (120g) INR 20	1. Roti (3) 2. Tuver mung dal (250g) & rice (150g) 3. Seasonal vegetable (120g) INR 20
Evening snack [†]	Dates & oats bar (2 piece) INR 15	Bajraladoo (4 pieces) INR 13	Peanut dates ladoo (4 pieces) INR 11	Sesame seeds ladoo (4 pieces) INR 10	Ragimodak (4 pieces) INR 18	Peanut oats bar (2 pieces) INR 14	Besanladoo (4 pieces) INR 15
Dinner	1. Roti (2) 2. Kadhi (250g) & Khichadi(150g) 3. Seasonal vegetable (120g) INR 20	1. Roti (2) 2. Kadhi (250g) & Masala khichadi (150g) 3. Seasonal vegetable (120g) INR 20	1. Roti (2) 2. Kadhi (250g) & Kodri(150g) 3. Seasonal vegetable (120g) INR 20	1. Roti (2) 2. Kadhi (250g) & Khichadi (150g) 3. Seasonal vegetable (120g) INR 20	1. Roti (2) 2. Kadhi (250g) & Masala khichadi (150g) 3. Seasonal vegetable (120g) INR 20	1. Roti (2) 2. Kadhi (250g) & Kodari(150g) 3. Seasonal vegetable (120g) INR 20	1. Roti (2) 2. Kadhi (250g) & Khichadi(150g) 3. Seasonal vegetable (120g) INR20
Total amount of nutrients provided	Energy: 2581 kcal Protein: 76.7 g Calcium: 764 mg Iron: 20.3 mg *Fat: 40 g	Energy: 2548 kcal Protein: 80.7 g Calcium: 704 mg Iron: 21.6 mg *Fat: 50 g	Energy: 2416 kcal Protein: 71.0 g Calcium: 987 mg Iron: 24.0 mg *Fat: 50 g	Energy: 2708 kcal Protein: 75.8 g Calcium: 1273 mg Iron: 23.0 mg *Fat: 40g	Energy: 2733 kcal Protein: 85.5 g Calcium: 686 mg Iron: 20.7 mg *Fat: 40 g	Energy: 2731 kcal Protein: 80.7 g Calcium: 809 mg Iron: 18.3 mg *Fat: 40 g	Energy: 2792 kcal Protein: 81.0 g Calcium: 930 mg Iron: 21.0 mg *Fat: 50 g
Estimated Cost, INR (Mean±SD)	92±20	89±20	87±20	87±20	95±20	90±20	95±20

*Have long shelf life & can be stored for more than 15 days

†Visible fat

accordingly. The monetary allowance for a diet comprising of three fresh meals and two high energy snacks for a mother was only one hundred Indian rupees per day, which was insufficient, especially considering the inflation in food prices. The feasibility of serving fresh meals thrice a day was cumbersome and practically near to impossible. In a study by Sharma (2015), it was stated that INR 100 was not enough and he had also recommended to give nutritious freshly cooked meals and soups instead of raw eggs or bread when there is a lack of kitchen facility. Chaudhary *et al.* (2017) had reported that hot cooked meals were provided to all patients in general hospitals and tertiary care centres, but in periphery wards (Primary Health Centre/Community Health Centre) in rural Lakhna Majra, Haryana state, mothers were only given two dry packs of biscuits and a milk packet.

The fat intake exceeded the RDA, whereas calcium, iron, and protein requirements were difficult to meet because all the public health facilities followed a vegetarian diet, which did not have micronutrient-rich recipes, while a non-vegetarian diet was not feasible because the population were mainly vegetarians. Breastfeeding is associated with transfer of approximately 200 mg/day of calcium from mother to infant and studies have demonstrated that the increased calcium demand leads to mobilisation of this important mineral from the mother's skeleton, leading to transient reduction in bone mineral density (BMD) of the lumbar spine and femoral neck regions (4-7 %) during 3-6 months of lactation. The iron requirement during lactation is 25 mg/day. The baby is born with a relatively larger reserve of iron since milk is not a good source of iron. Iron requirement during lactation is the sum of the mother's requirement and the iron required to make up for iron lost in

breast milk. Since there is amenorrhoea during lactation, the basal requirement for women is at 14 microgram/kg (Srilakshmi, 2014). Unfortunately, foods rich in calcium (milk and milk products) and iron (green leafy vegetables) were unaffordable in the meagre amount of one hundred Indian rupees.

Only 51.6% of the women were aware about free diet provisions in JSSK in Marathawada, Maharashtra in a sample of one thousand women studied (Deshpande *et al.*, 2016). A community-based cross-sectional study conducted among 210 mothers in rural Bankura of West Bengal by Mondal *et al.* (2015) stated that the availability of free foods at the government health facilities was 59.5%. Utilisation of services under JSSK for institutional deliveries in seven public sector facilities in Sirmour District, Himachal Pradesh was studied by Tyagi *et al.* (2016) on 156 mothers. The mothers had to pay an extra amount ranging from INR 12 to 700 for their foods. Rupani *et al.* (2019) carried out a cross-sectional descriptive study in Sir Takhtsinhji hospital of Bhavnagar in Gujarat and found that 99.7% of the mothers were aware of the JSSK free diets provided during the stay, out of which 96.0% of mothers reported that they were offered free foods, whereas 16.0% of the mothers opted for home-made foods during their stay. To date, there are no studies reporting on the nutrient content analysis of the foods served through the JSSK programme. Hence, this present study has bridged the gap in explaining in detail the quantification of the nutrients in the diets and recommends modifications required in the dietary intake for mothers who avail these services in the public health facilities.

Proper utilisation of the JSSK grant will be successful if the functionaries are diligently working towards applying, receiving and monitoring the funds,

inviting quotations for the best food delivery agents, well in advance at the beginning of each financial year, with the meticulous planning of diets especially for high risk mothers (diabetic and hypertensive). Diets for caesarean section delivery also calls for slight modifications of a semi-liquid diet for the initial two to three days post-operation. Every CHC should have a counsellor, preferably with a nutrition background, who would do continuous follow-up with mothers and would counsel them on different recipes for the required diet to be followed at home after discharge. More attention to maintaining diet registers and helping to reduce out-of-pocket expenses related to diet is also strongly suggested. The postnatal period is very critical for a mother and her newborn, and hospital stay is advised for three days for a normal vaginal delivery and seven days in case of a caesarean section. A mother who has just delivered her baby has increased nutrition demands and needs to be provided with a healthy balanced diet meeting the requirements to support her recuperation and for better milk production. A caesarean section delivery needs immediate nutritional care and attention. If dietary nutritional norms are clearly defined with operational guidelines, it would ensure quality postnatal care.

CONCLUSION

In this study, it was found that none of the CHCs had specific and separate diet provisions for the mothers. Functional kitchen was prevailing only in a few (three out of ten) public health facilities. Outsourcing of food preparation did not necessarily cater to the recommended daily allowances, unless food suppliers are trained or instructed according to the guidelines. The diets served in all the facilities were inadequate in macro- and micronutrients. There was no special

diet provision for high risk pregnant mothers, such as those who were severely anaemic, hypertensive, or diabetic). It was found that only two fresh meals, namely lunch and dinner, were served in most of the public health facilities, which was the main reason for the deficit in nutrient intakes. Since serving freshly prepared foods more than twice was not feasible, ready-to-eat, calorie-dense snacks meeting the required RDA per serving, with reasonable shelf life and which could be served in the early morning and evening was developed in this study.

Awareness needs to be created among health functionaries for proposing and utilising the diet grant under JSSK. The convergence of health departments and nutrition-related academic institutions is essential to strengthen JSSK implementation in all public health facilities. The recommendations suggested in this study, if accepted and abided, would improve maternal nutritional status before and after delivery; and if properly counselled, could be adopted by mothers during their lactation period too. In the long run, this can reduce maternal and infant mortality which is common in this population due to varied factors of poverty, illiteracy, blind beliefs, superstition etc.

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Authors' contributions

AK, principal investigator, conceptualised and designed the study, conducted final data analysis and interpretation, prepared the manuscript; KP, handled the survey, data collection, compilation and writing of the final manuscript; NP, conducted tool preparation, data coding and compilation, final data analysis and interpretation.

Conflict of interest

The authors declared that there is no conflict of interest.

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