



Summer Meeting, 6–9 July 2015, The future of animal products in the human diet: health and environmental concerns

Does nutritional advice from a Bangladeshi Nutritionist influence risk factors of Coronary Heart Disease in a Bangladeshi community? A Pilot Study

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South Asians (SAs) living in the UK have a higher premature death rate from Coronary Heart Disease (CHD) than the general population; 46 % for men and 51 % for women¹. Certain risk factors including low rates of exercise, and a diet high in fat, salt, sugar and low in fruit and vegetables is prevalent, especially in the Bangladeshi subgroup². However, health promotion interventions tailored to specific ethnic groups in the past have shown to be effective³. The current study aimed to assess whether a nutrition intervention carried out by a Bangladeshi-Muslim nutrition student can influence a Bangladeshi community of Muslim women in Sunderland to reduce the risk of CHD, through a tailored health promotion intervention.

Twelve participants (aged 33 ± 7years) were recruited from Sunderland Bangladeshi International Centre. An educational presentation was delivered using the UK healthy eating guidelines, adapted to the diets of Bangladeshi women. Tailored fact sheets, interactive equipment, and visual aids, as well as references on healthy eating from the Holy Quran were included. A lifestyle questionnaire was completed at the start and evaluation questionnaire at the end of the intervention. Data was gathered on their nutritional knowledge using questionnaires (n = 10); dietary intake using 3-day-diet diaries (n = 7) and anthropometric measurements (n = 10) before the intervention and repeated 8 weeks after the intervention.

Table 1 shows that fat and carbohydrate intake was statistically significantly decreased after the intervention. The arterial stiffness index, waist and hip size were statistically significantly reduced. The nutrition knowledge scores statistically significantly increased. Also, the lifestyle and evaluation questionnaires provided insight into health beliefs and potential barriers. A health promotion intervention tailored to Bangladeshi women by a Bangladeshi nutritionist can be influential in reducing the risks of CHD, although more regular sessions and monitoring are necessary.

Table 1: Comparison of mean results and SD before and after the intervention, showing dietary intakes (n = 7), body measurements (n = 10) and nutrition scores (n = 10). Significance shown as (p < 0.05).

Measure	Mean	SD	Mean	SD	p value
	Pre- intervention	Pre- intervention	Post- intervention	Post- intervention	
Energy (kcal)	2799	802	1399	298	0.057
Fat (g)	80.1	61.1	29.4	8.1	0.018
Carbohydrate (g)	433.7	284.5	234.8	62.6	0.028
Total Saturates (g)	18.1	9.3	7.4	3.5	0.010
Monounsaturated Fat (g)	18.8	12.6	8.3	3.8	0.000
Polyunsaturated Fat (g)	19.3	25.8	5.6	1.8	0.018
Sodium (mg)	3725.0	3822.9	975.4	318.6	0.059
Arterial Stiffness Index (m/s)	7.1	1.06	6.0	0.6	0.013
Body Waist Size (cm)	92.7	7.2	83.4	7.8	0.000
Body Hip Size (cm)	103.6	9.3	97.6	12.0	0.009
Nutrition scores out of 24	14	3	19	3	0.006

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2. NHS & Fox C (2004). *Heart Disease and South Asians*. Department of Health Publications; London.
3. Liu J. J., Davidson E., Bhopal R. S., White M., Johnson M. R. D., Netto G., Deverill M. & Sheikh A. (2012). Adapting Health Promotion Interventions to Meet the Needs of Ethnic Minority Groups: Mixed-Methods Evidence Synthesis. *Health Technology Assessment* 16, 1–490.

