Gendered perceptions of physical activity and diabetes in rural Bangladesh: a qualitative study to inform mHealth and community mobilization interventions

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Abstract

Background Diabetes prevalence is increasing rapidly in Bangladesh, and there is an urgent need to promote preventive behaviours for type

increasing rapidly in Bangladesh, with levels expected to reach 23.6% in men and 33.5% in women by 2030,[5] and there is an urgent need to develop and test population-level interventions. Our research explored the factors affecting physical activity in rural Bangladesh to inform the development of interventions to prevent and control diabetes. We consider how gender interacts with these factors and make recommendations for the development of behaviour-change interventions.

Physical activity in Bangladesh

The gender differential in physical activity in Bangladesh has been well documented. Men are generally more active than women, and urban women are least likely to be sufýciently active.[6–8] Most physical activity occurs during work, or, for men, travelling to work.[9–11] Only a small proportion of men and women are physically active in their leisure time.[9] Gender differences are most evident in young and old people.[10,12] Studies largely concur with our recent epidemiological survey of adults aged 30 years and above in rural Bangladesh,[13] which found that men and women aged 30ï39 years engaged in adequate physical activity but that physical activity decreased sooner and to a greater extent among women as they got older. Less than 30% of women aged 70 years or more maintained adequate levels of physical activity, compared with approximately 60% of men in the same age group. Few studies have explored the reasons for physical inactivity among adult men and women in Bangladesh.[14] A study of seven female and ýve male patients with diabetes attending a hospital in Dhaka found that time and place to exercise were barriers to physical activity.[15]

Gender and behaviour change

Gender is the socially constructed roles, behaviours, activities and attributes that a given society considers appropriate for men and women.

a less intrusive way than asking directly about socioeconomic status.[33] We also purposively sampled ýve health workers from different upazilas who treated diabetes patients. The health workers were male, as there were very few female providers. Three were health workers who had received government-accredited diabetes training and worked in an upazila health complex, a family welfare centre and a local nongovernmental organization clinic. Two were male village doctors, also known as rural medical practitioners, who provided treatment and blood glucose testing through their private medicine shops. In Bangladesh, village doctors are unregistered and unregulated. Although some may have received some training on common illnesses such as diarrhoea, fever, cough and cold,[34] the village doctors in this study had not received any training on diabetes treatment and referral.

Data collection

Participants with and without diabetes were approached in their homes, and health workers in their workplaces, by a trained, experienced Bangladeshi female qualitative researcher (KAk) and invited to participate. KAk conducted all the data collection in Bangla. The research team was not familiar with the villages and therefore KAk used snowball sampling to locate people with diabetes. The data collection is summarized in Table 1. Semi-structured interviews with six people with diabetes (three men and three women), and ýve people without diabetes (three women and two men), were conducted in or around their homes to explore their personal experiences of diabetes and risk factors. Care-seeking for diabetes and risk factors was explored in semi-structured interviews with ýve health workers. These interviews were conducted in their workplaces. Focus group discussions were conducted with ýve groups of people with diabetes (three groups of women and two groups of men) and four groups of people without diabetes (two groups of men and two groups of women) to explore community perceptions of diabetes and risk factors. Focus group discussions were conducted at a place of convenience for participants, in or around a participant's home. No one refused to participate.

Informed written or thumb-print consent was taken from all participants. Thumb-print consent is usual in this context, where there are high levels of illiteracy, and this procedure was approved by both ethics committees. The COM-B theory of behaviour change was used in the development of topic guides, which explored the factors affecting participants' ability to carry out the WHO recommended behaviours to prevent and control diabetes. The topic guides were developed in English in discussion with KAk and the research team (the coauthors of this paper), translated into Bangla, and piloted by KAk in a suburb of Dhaka with two participants without diabetes (one woman and one man) and one health worker, and with one woman with diabetes at the Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders hospital in Dhaka; these participants were not included in the subsequent study.

Ethical approval

All procedures performed in this study were approved by the University College London Research Ethics Committee (4766/002) and the Ethical Review Committee of the Diabetic Association of Bangladesh (BADAS-ERC/EC/t5100246).

Results

We identiýed three main themes in our data relating to gendered deýnitions of physical activity, and to cultural and structural barriers restricting women's movement outside the home and restricting the type of physical activity that men and women felt they could undertake. Following the presentation of these themes, we describe how the interventions were informed by our ýndings.

Gendered definitions of physical activity

More participants with than without diabetes were aware that they should be physically active, to control their diabetes and their weight. Walking and working were the most common forms of physical activity for men with diabetes. Swimming was not considered to be physical activity by men or women and was perceived instead to refresh the body. Women considered praying and walking to be physical activity, and a routine of exercise signiýed discipline, moderation and religious commitment, which resulted in good health.

> People who work diligently keep themselves healthy. If people ignore their work, they will become ill … If someone is ill, then they need to work diligently and do their daily prayers, then they will be ýne. (focus group discussion 021, women with diabetes)

Participants without diabetes felt sufýciently active in their everyday work or daily activities, and believed that only those with diabetes, high blood pressure or overweight needed to exercise. Women worked in their homes but did not necessarily deýne this as physical activity. One woman without diabetes said:

> No, I don't do any kind of physical exercise ... I am usually busy doing housework like sweeping the þoor or washing clothes. These are my activities. (semi-structured interview 027, woman without diabetes)

Men without diabetes described walking or cycling to work, and walking during work, as well as the work itself as physical activity.

> The work we do for our living is enough exercise. I think we do not need to do anything else for the sake of exercise. (focus group discussion 024, men without diabetes)

"Moving carefully"

All respondents discussed the social acceptability of women walking or doing other physical activity outside their homes. Women with diabetes discussed the need to protect their reputation and that of their family when going outside their homes.

> She should move carefully … in a village [a wife's movement] affects family honour and people criticize her and her family … people will ask, "Where are you going so early?" (focus group discussion 029, women with diabetes)

A common perception was that women should not be outside the home unaccompanied and without purpose.

> We don't usually go anywhere for an outing. I only go to places where I need to go. Like I have to take my daughter to the teacher's house for her tuition. (focus group discussion 012, women without diabetes)

Several men (including one male health worker) suggested that the places where men walked were unsuitable for women. Because women's work tended to be at home, it was more difýcult to integrate physical activity into their daily activities, and they felt exposed when they went out walking.

Women with diabetes dealt with this conspicuousness by walking when they would not be seen.

> I usually follow the doctor's suggestions about exercise in the early morning when there is no one in the road. I feel shy to do this in front of other people. (semi-structured interview 025, woman with diabetes)

Women with diabetes revealed that they dealt with the "fear of public disgrace" by not walking in the road. Others preferred to walk when men were not present.

> If there are no men in the road, everyone likes walking, it's good to feel the breeze. (focus group discussion 011, women with diabetes)

Most women with diabetes preferred walking in groups; they felt safer and more motivated, and they enjoyed the exercise.

> Yes, open space is good for us, but only if other people are there too. It does not feel good being there alone. (focus group discussion 021, women with diabetes)

Women reported that it was considered inappropriate for them to walk on muddy roads and that they were afraid of slipping.

Time poverty and gendered responsibilities

Women with diabetes felt "too busy" to exercise, particularly in the morning, when it was more socially acceptable to exercise. A male health worker said:

> It is easier for men because they have less work to do in the morning than women. After the morning prayers men can go for 40–60-minute walk, but women are generally busy doing housework or making breakfast. Because they are busy, they can't walk or do any kind of physical exercise. (semi-structured interview 009, health worker)

When their housework and family responsibilities increased, women with diabetes stopped walking. Men found it easier to

prioritize exercise, whereas women were expected to prioritize their families.

> A man thinks about his body before anything, but women don't have time to do this. (semi-structured interview 010, health worker)

One woman gave an example of how it was difýcult to exercise and look after the family:

> One day I left rice to cook in the rice cooker and then I set out to walk … but the electricity went off just after I left, so the rice wasn't cooked and I was late sending the rice to the ýeld. My husband scolded me, and I haven't walked since then. (semi-structured interview 004, woman with diabetes)

Social acceptability prevented men and women from participating in sports. Many men used to play football, cricket

you know when you have done enough exercise?" and

how they are experienced by different genders. Our research has highlighted key capabilities, opportunities and motivations that could be addressed through interventions. Community-based groups working through PLA cycles and mHealth messaging may improve knowledge and motivation to change behaviour, as well as enabling engagement with community or opportunity barriers to behaviour change. Messaging and groups have been designed to stimulate discussion about locally appropriate action to challenge unhealthy, gendered norms, and to promote contextually relevant physical activity. Interventions seeking to encourage community-wide efforts to increase womenîs safety, work towards gender equality and challenge negative concepts of masculinity will have multiple beneýts, not least in increasing menîs and womenîs ability to be physically active to prevent and control diabetes.

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