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Perceptions of barriers and facilitators in physical activity participation among women in Thiruvananthapuram City, India

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Abstract

Background—Despite the known benefits of physical activity, very few people, especially women, are found to engage in regular physical activity. This study explored the perceptions, barriers and facilitators related to physical activity among women in Thiruvananthapuram City, India.

Methods—Four focus group discussions were conducted among individuals between 25 and 60 years of age, in a few areas of Thiruvananthapuram City Corporation limits in Kerala, preparatory to the design of a physical activity intervention trial. An open-ended approach was used and emergent findings were analyzed and interpreted.

Results—Women associated physical activity mostly with household activities. The majority of the women considered their activity level adequate, although they engaged in what the researchers concluded were quite low levels of activity. Commonly reported barriers were lack of time, motivation, and interest; stray dogs; narrow roads; and not being used to the culture of walking. Facilitators of activity were seeing others walking, walking in pairs, and pleasant walking routes. Walking was reported as the most feasible physical activity by women.

Conclusion—Physical activity promotion strategies among women should address the prevailing cultural norms in the community, and involve social norming and overcoming cultural barriers. They should also target the modifiable determinants of physical activity, such as improving self-efficacy, improving knowledge on the adequacy of physical activity and its recommendations, facilitating goal-setting, and enhancing social support through peer support and group-based activities.

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Conflict of interest

None declared.

Keywords

physical activity; India; facilitators; barriers; women

Introduction

Regular physical activity is known to lead to a host of benefits to health, functioning, and well-being (1). A systematic review on the correlates of adult participation in physical activity reported that age, gender, education, lack of time, self-efficacy, barriers to exercise, social support from friends and peers, social support from spouse/family, access to facilities, hilly terrain, enjoyable scenery and neighborhood safety influence physical activity participation in other cultures (2). There is sufficient evidence from developed nations that physical activity promotion is mostly influenced by factors beyond the individual level and there is interplay of individual, social, environmental and policy level factors (3).

Evidence on physical activity practices among Indians, particularly among women, is scarce. A few surveys conducted in different settings in various parts of India point to generally low levels of regular physical activity (4,5). Several barriers, particularly those of time, motivation, and lacunae in the built environment, such as lack of inexpensive facilities for physical activity (parks, walking paths and free recreational facilities) have also been cited by some researchers (6). The study site, the Indian State of Kerala, is known to have a high prevalence of noncommunicable diseases and their risk factors such as physical inactivity (5,7) and overweight (8), particularly among women. Recent studies have shown a declining trend in physical activity at work and transportation as well (5) among women due to increased mechanization and urbanization.

This study was conducted as formative research to inform the development of intervention components of an ongoing study to promote physical activity among adult sedentary women in Thiruvananthapuram City, India. The study was framed under the theoretical guidance of the socio-ecological model to explore the factors influencing physical activity participation at multiple levels: intrapersonal, interpersonal, community and policy level. The objective of the study was to understand the perceptions of barriers and facilitators of physical activity among women, based on the socio-ecological model.

Materials and methods

A qualitative approach was used to achieve the objectives of the study, which was undertaken to provide inputs to an intervention to promote physical activity among women. It was conducted in Thiruvananthapuram City Corporation, which has a population of about 957,730 (women: 489,991), and literacy rate of 84.13%. A ward is the lowest administrative unit of the city corporation and there are 100 wards in the Thiruvananthapuram City Corporation. Fourteen wards that were added to the city corporation limits in the year 2010 formed the sample frame of the intervention study. Residents' associations are formal community organizations of the residents in a locality, convened to discuss and resolve issues of public concern, including health, and they cover more than 95% of the households. Out of 71 residents' associations, 16 were randomly selected for the intervention trial.

Accredited social health activists (ASHAs) from four of the identified residents' associations, selected on the basis of convenience, were asked to invite men and women between the ages of 25 to 60 years for the focus group discussions (FGDs). ASHAs are local community health workers appointed by the Government of India's Ministry of Health and Family Welfare (MoHFW) as part of the National Rural Health Mission (NRHM). FGDs were conducted among individuals between 25 and 60 years of age, from June 2011 to July 2011, in the Thiruvananthapuram City limits in Kerala. Participants were members of residents' associations in the study area. FGDs were conducted separately in locally available facilities at four residents' associations. The locally available facility in each of the residents' associations was the common meeting room of the residents, and it had adequate privacy for the discussions. Altogether 28 adults (FGD 1: six women, two men; FGD 2: eight women; FGD 3: five women; FGD 4: seven women) participated in the FGDs. The profile of the FGD participants is given in Table 1. Only four FGDs were conducted as the discussion that emerged was similar and no new themes emerged. As each of the FGDs was conducted in different settings and organized by multiple personnel, we did not foresee any contamination of ideas. We intended to include men in the discussions to offer inputs as representatives of the social environment of women, rather than as the target audience of the intervention themselves. But men's participation was very low, as the FGDs were conducted in the daytime when men were generally unavailable for participation. The findings of the study reported here are limited to the perceptions of women.

Ethics clearance for the study was obtained from the Institutional Ethics Committee of Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Trivandrum. Informed verbal consent was recorded from the participants before the commencement of the FGD and confidentiality was ensured by masking personal identifiers. The themes for the discussion were identified prior to the FGD by two of the authors (EM, TKS). The FGD guide was developed with potential questions for discussion under each theme. The term 'physical activity' was defined by Casperson *et al.* as 'any bodily movement produced by skeletal muscles that resulted in energy expenditure above the resting level' (9) and it comprised any activity involved in daily life. Discussions were directed by the FGD guide, which facilitated discourse on the following broad themes: participants' perceptions and practices of physical activity; importance of and reasons for engagement in physical activity; perceptions of who are the physically active sections of the community; barriers to and facilitators of physical activity; judgments of the adequacy of physical activity obtained by participants; and value of a physical activity intervention in the community (Box 1).

The FGDs, which lasted 30 to 45 minutes each, were facilitated by the first author (EM), who is a public health researcher trained in qualitative research methodology. No incentives were provided to the participants for participating in the FGD. The FGDs were audiotaped with the participants' permission. In addition to that, a note-taker proficient in qualitative research methodology recorded the interactions, comments to the questions, group dynamics, and feelings expressed. Both the facilitator (EM) and the note-taker were women. The discussions that took place in Malayalam, the local language, were translated and transcribed by research personnel proficient in qualitative research methodology, including one of the authors (EM). The transcripts were read and analyzed independently by two of the authors (EM and TKS, both experienced in qualitative research). Data were manually

coded and organized into themes, and conclusions were drawn based on a consensus among the authors. Insider perspective of the study finding was elicited from KRT (a well-known researcher in noncommunicable diseases in India) and JK (a physical activity researcher and faculty of public health in India) and outsider perspective from MP, who is an internationally renowned researcher in physical activity. The emergent findings and interpretations are presented below, with a few illustrative quotes from the participants' statements.

Results

Conceptualizing and justifying physical activity

Women conceptualized physical activity as a disease-preventive, function-maintaining, well-being-promoting technique. Physical activity was also thought to comprise activities performed after work in order to avoid tiredness. The majority of the participants opined that people who engaged in regular physical activity fall into one of the following categories: overweight or obese, those with chronic diseases, and individuals between the ages of 15 and 25 years. More than half of the participants felt that routine occupational physical activity was largely inadequate, for all but manual laborers.

Physical activity is mostly based on occupation. Coolie workers [manual laborers] have more physical activity [than others do] due to their work, and so they don't need exercise. But all others need it.

Physical activity through daily routine is not sufficient.

Participants felt that those who do not obtain adequate physical activity in the course of their work, as well as those suffering from noncommunicable diseases such as diabetes, need to engage in physical activity in addition to their regular occupations. They reported that overweight or obese people and diabetics were often to be seen walking for physical activity. It was known that doctors prescribed regular physical activity, particularly walking for diabetes and high blood pressure (BP) control.

People who exercise are obese people, those with diseases, and young people.

We are all not active; only individuals between 15 and 25 years are active.

Household activity comprised daily physical activity for most of the women participants. This included carrying water and household chores. A few female participants mentioned walking in the morning and evening for physical activity.

I walk every night at 6 p.m., because I want to reduce weight. Nobody told me to do so.

Physical activity was described by the majority of the participants as an important disease control strategy. Physical activity was believed, by a few participants, to relax the body and to stimulate appetite. One of the participants opined that physical activity is not good for health, as it is tiring and harms the body. This view was opposed by a few other participants, who averred that despite the initial tiredness brought about by engagement in physical activity, it was good for health, as it would make a person more energetic and capable of work.

It helps to protect your body from all contemporary diseases, like if you have BP, walking will reduce it, even diabetes is said to get controlled with walking.

Some participants reported obtaining information about the disease-management aspects of physical activity from doctors. However, a few cited magazines and television, rather than health professionals, as their sources of information.

I read it in the ‘arogyamasika’ (local monthly health magazine) and watched it on television. Doctors never told us anything.

Perceptions of adequacy of own physical activity

In contrast to their beliefs about the inadequacy of most people’s occupational physical activity, many of the participants felt that they were adequately active doing domestic work. Most of them reported that engaging in household work, such as cooking, hand-washing clothes, mopping the floor once a week, and sweeping the floor daily, constitutes sufficient physical activity. In addition, some women reported engaging in one or more of the following activities—child care; vegetable gardening; small-scale crafts and manufacturing; looking after poultry or cattle; tailoring clothes or grocery-shopping several times a week, including walking to and from the market and carrying purchases home—all of which added to the volume of physical activity performed.

Although we use food processor and other things, I think I have adequate activity.

I have cholesterol and doctor told me to walk, but I am not walking, because I have a grandchild at home. I have not taken the advice seriously.

The majority of the participants admitted that their physical activity levels were lower than those of their ancestors, although they were aware of the benefits of physical activity. However, they estimated that their engagement in physical activity, via their performance of domestic activities, was adequate. Women were asked to quote a few examples of activities that they considered ‘light,’ ‘moderate’ and ‘vigorous.’ Most women reported carrying water, washing clothes, shopping and carrying groceries, walking for shopping, and cleaning the home with a mop as ‘vigorous,’ and chopping vegetables, cooking, grating coconut, and child care as ‘moderate’-intensity activity. Women were probed on the duration of the activities as household chores and most of them reported engaging in activities of each bout for less than 10 minutes’ duration. None of the participants was aware of a recommendation of physical activity for health benefits, and the recommended levels. The role of regular physical activity in the prevention and management of chronic disease was not fully understood, and the participants felt that some awareness-raising on this issue would be beneficial and motivating.

Preferred activity for physical activity

Discussing strategies to be active besides engaging in household work, the majority of the participants reported walking as the most feasible activity for physical activity among women. A few mentioned yoga as a good option for physical activity.

Barriers to physical activity participation

Those who were not engaged in any physical activity besides domestic chores reported lack of time, motivation and interest as the most important barriers. There is also some discouragement from the widespread perception among the older women in the community that people who engage in physical activity are able to do so since they do not have to carry out much household work or bear many responsibilities. The lack of a social norm that supports walking for physical activity dissuades many women from taking up walking. Participants reported that their family members do not walk for physical activity, and they do not see many apparently healthy others doing so either.

I do not do any walking because my parents did not do that, and I am not used to that culture.

Inadequate time was cited as a constraint to physical activity, which was seen as something to be engaged in when one was free from household chores and other responsibilities.

We all do not do such things because we are not free of household work, but there are people who are free during day time after sending children to school and husband to work.

We have cooking, cleaning, washing at home, and so there is no time for walking or physical activity. Moreover the household work is sufficient for us. We are not used to that culture of walking.

Besides these social and motivational factors, participants cited the physical discomfort occasioned by walking, particularly in arthritic people, as a deterrent to walking for physical activity.

The doctor in the medical college told my mother to walk for her arthritis, but she cannot walk because of the pain. She has time to walk and all, but cannot walk because of pain.

Despite the many social barriers to adopting walking outdoors as a regular activity, walking was the first choice for physical activity expressed by most participants.

Features of the built environment, such as neighborhood safety, and road safety were not perceived as barriers in this community. Those who walked preferred connecting roads between the residence and the main road. Narrow roads were of concern, and led to a preference for walking in pairs to walking in bigger groups. Stray dogs were cited as a deterrent for women engaging in morning walks.

Safety is not an issue on these roads as there are houses here. We don't go to main roads.

Walking in groups is not possible as roads are narrow, but it is possible to walk in pairs.

Facilitators of physical activity

Infrequent walkers reported that having company to walk greatly promotes the habit of regular walking. Pleasant walking routes and the sight of other walkers were also reported to

be motivating. A corollary to this was a statement from some regular walkers that others had taken up walking after seeing them walk regularly.

Good walking routes are available here, especially around Civil Station and in our lanes. I have seen a few people walking in the Civil Station area in the morning when I go to buy milk. Seeing another person walking is a motivation. I will walk if there is company.

In addition to company and role models, participants expressed an interest in training in physical activity modalities, particularly yoga, and in prompts to action.

Women can do yoga—if somebody can train us.

If somebody prompts, we can walk.

Although public transportation is a facilitator for physical activity, in our context women reported it to be inconvenient and they preferred private motorized vehicles. Bicycle use was not commonly preferred among women because of the inconvenience caused by the local dress (*sari*) in bicycling. The use of public transportation or bicycles for commuting was reported to be associated with low socioeconomic status, distinct from the use of other motorized transport. Women reported preferring to travel by motorized private vehicles, such as scooters, motorcycles, auto rickshaws and cars, even for short distances.

Discussion

This study sheds light on the perceptions of the importance of physical activity, and the barriers and facilitators in engaging in regular physical activity, in a middle-class urban community in Kerala.

The factors influencing participation in physical activity among women in the study site in Thiruvananthapuram, India are depicted in Figure 1. This figure is based on the socio-ecological theory by McLeroy and colleagues (10).

There were misperceptions on the intensity of activities performed, similar to findings reported in another study in India (11). Compared to the intensities of activities reported in the Compendium of Physical Activities (12), women in our study perceived 'low-intensity' activities as 'moderate' and 'moderate-intensity' activities as 'vigorous,' which ultimately contributed to a perception that routine household activities provided sufficient physical activity. Most of the household activities reported were of low and moderate intensities and performed in bouts of less than 10 minutes' duration, a finding reported in other studies among African American and American Indian women (13). Being occupied, particularly in physical tasks, may give the often inaccurate impression of constituting sufficient, or surplus, physical activity. Efforts to promote physical activity should ideally include information to facilitate a realistic assessment of the amount, particularly intensity, of the physical activity that people habitually engage in so that pragmatic planning for a future physical activity regimen may be undertaken.

Women evinced an understanding of the efficacy of physical activity in controlling chronic diseases. Physical activity is increasingly being acknowledged as a strategy for the

management of chronic diseases, particularly diabetes mellitus and cardiovascular diseases. However, awareness of the benefits of physical activity for the prevention of chronic diseases was low. There was a general lack of awareness among women of an existing recommendation on physical activity for health benefits, and the recommended levels. Several studies elsewhere have shown that knowledge of the benefits of physical activity is a positive determinant for being active (14,15). This lacuna points to an opportunity to inform and advocate participation in physical activity. Mass media could be used in a strategy to improve awareness of the importance of physical activity, which in turn would aid people in developing an intention for behavior change. Counseling on the benefits of physical activity, with cues to action, could encourage the adoption of regular physical activity, and the setting of realistic goals to achieve the recommended levels.

A few facilitators of physical activity that emerged from this study were physicians' advice (16,17), and the company of peers; as well as several barriers, principally inadequate time (16,19), low motivation (20), and social norms unfavorable to the adoption of regular physical activity. The social and cultural setting of India is similar to that of other South Asian countries. Studies have shown that women in the social system of the southern part of India (including Kerala) have greater autonomy than women in northern India. However, they are far more limited than women in other parts of Asia such as Malaysia, Philippines and Thailand, and more limited than men in these settings as well as men in India (21). Gender and social norms restrict girls and women from actively participating in outdoor activities. A statewide study among 2.3 million school children aged 10–15 years showed that only 11.5% of girls could finish the recommended health-related physical fitness test compared to 16.6% of boys (22). Inadequate and declining levels of physical activity from daily domestic chores and lack of physical activity among women could have contributed to the high prevalence of overweight and obese women in the reproductive-age group in the Indian State of Kerala (8). The cultural norms in the community have set predefined roles for women, being homemakers confined to the house, and engaging more in activities at the household level, such as carrying out household chores and taking care of children, while men performed roles outside home. This norm could have contributed to women's considering household activities adequate, and to justifying their lack of inclination to walk based on the fact that neither have they seen their parents exercising nor were they used to the culture of walking. However, after a discussion on the nature of the activities undertaken by them, specifically on the intensity and the duration of activities, they realized the declining intensity and exertion in their lives compared to their parents'. These findings bring out the need to sensitize and counsel women on the importance of increasing physical activity in the changing context of lifestyle and increasing chronic diseases. This would assist in the social and cultural norming of the attitudes and behaviors related to physical activity. Social and cultural norming of more positive attitudes and behaviors related to physical activity could be accomplished by sensitizing the public to the changing lifestyles and threats posed by inactivity. The two important sources of health information for this population were local health magazines and doctors' advice. The relative merits of these sources, e.g. the ability of the magazine to be reread as per convenience, discussed with peers, and to act as a prompt, and the individual focus and credibility of a doctor's advice (17), can be harnessed to create and convey effective health messages.

Walking for physical activity emerged as a practice not commonly encountered among women in the study. Participants' views on the social aspects of walking for physical activity was rather complex. Some emphasized that walking for physical activity was not part of their culture. This, in combination with the view that any physical activity beyond household chores was largely unnecessary for those free from chronic diseases, had the effect of providing little or no motivation for most women to perform physical activity. However, observing other people walking was cited as motivation for embarking on a regular program of walking. Participants in this study did not cite many built environment barriers to walking. This is probably related to the fact that the residential community that they live in, although not possessing footpaths, is not subject to high automobile traffic, and has some green cover, both factors contributing to the acceptability of the outdoor environment for walking (16,19). The connecting roads (between the residence and main road) were described as narrow, although not unsafe. Some participants made a mention of stray dogs as a deterrent to walking outdoors. Walking was reported as the most feasible activity for physical activity promotion among women in this community. These conditions, along with the increased enthusiasm that exercising together confers, may have contributed to the participants' articulating a preference for walking in pairs or small groups, rather than alone, or in bigger groups. Encouraging walking individually or in groups, with the engagement of the community, would work toward informing, motivating and empowering women, as well as promoting a prophysical activity social norm, promising to be an effective step in addressing gender and cultural barriers to walking for physical activity, in Thiruvananthapuram, Kerala.

The choice of preferred activity was also found to be associated with the social status of the participants. Use of bicycles and public transportation as modes of transport to work was less favored as it was regarded as inconvenient and considered low status over using motorized vehicles such as scooters, motorcycles and cars. Public transportation was reported to be inconvenient probably because of its irregular schedules and overcrowding.

Although the findings from this study evinced participant characteristics that are very similar to those in most populations (16,20,23), there are some unique cultural twists such as the perception that physical activity is not for them and only for those who are obese or have chronic diseases and the lack of a 'culture of walking.'

One limitation of this study was that it was conducted in four residents' associations selected by convenience sampling, and hence the findings may not be generalizable to the whole state of Kerala. Another limitation is that although we attempted to include more men in the FGDs, only two actually participated, as men were generally unwilling and unavailable for discussions. Hence the study findings are mainly the perceptions of women of physical activity, its facilitators and barriers.

Based on the thematic findings that emerged from the discussion, factors influencing physical activity in this population were explored at multiple levels. The findings from the FGDs suggested that physical activity was influenced by multiple factors at multiple levels. Age, perceptions of physical activity, motivation to engage in physical activity, self-efficacy and health status influenced physical activity participation at the intrapersonal level.

Socioeconomic status, although not explicit, influenced the preference for activity. At the interpersonal level, the factors that exerted an influence were social support, domestic responsibilities, and constraints in time for physical activity. Community-level factors such as socioeconomic characteristics of the community, community norms, local media inputs and built environment were found to play a significant role in influencing the perceptions of physical activity. Policy-level factors such as regulation of vehicle density, regulation of public spaces for recreation and developmental zoning would facilitate physical activity. When developing an intervention to promote physical activity among women, it is important to address factors at multiple levels to assist in behavior change and make it sustainable. Interventions for physical activity promotion in this community would work best by targeting the modifiable determinants of physical activity (e.g. increasing awareness of the need for physical activity and levels of activity required for health benefits through mass media and advocacy through health care providers; facilitating optimal goal-setting; enhancing social support including peer support; changing perceived norms; and increasing opportunities for the enjoyment of health behavior through group-based activities. This approach finds support in the evidence discussed by other researchers (14,15). Interventions should ideally be tailored to individual schedules to maximize convenience for women and the probability of adoption of and adherence to regular physical activity.

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Box 1. Focus group discussion (FGD) guide

- i.** What is physical activity?
- ii.** What are the goals of physical activity, and reasons to be active? Which group of people tends to be physically active?
- iii.** Do you think it is important to be physically active? If so, why?
- iv.** Do you think that you are physically active/do you think that the activity that you engage in currently is adequate? What are the activities that you do currently that you think give you physical activity?
- v.** What are the activities that women can engage in order to increase physical activity or obtain physical activity?
- vi.** What are the different barriers to physical activity?
- vii.** What are the facilitators of physical activity?
- viii.** Do you think an intervention developed will be useful to increase physical activity?

Figure 1.
Factors influencing physical activity among women (adapted from McLeroy *et al.*, 1998)
(10).

Table 1

Profile of the FGD participants, Thiruvananthapuram; 2011.

		Male	Female	Total
Age (years)	25–45	1	10	11
	46–60	1	16	17
Education	No formal schooling	1	3	4
	Up to (but not including) higher secondary	1	3	4
	Higher secondary and above	0	20	20
Occupation	Employed	2	11	13
	Unemployed	0	15	15

FGD: focus group discussions.