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“Do I need exercise?” A Qualitative Study on Factors Affecting Leisure-Time Physical Activity in India

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Abstract

Physical activity can reduce the risk of premature mortality from various chronic diseases. Previous research in Kerala, India indicates several barriers which can impact physical activity levels. Perceptions about the importance of health-promoting physical activity were examined among adults in Kerala and various facilitators, motivators and barriers to physical activity were identified using focus group discussions and interviews with key informants. At present, the attitude of people and health professionals is that physical activity has to be taken up when diagnosed with a disease (obesity, diabetes) and advised by a health professional. Men were more likely to start exercising after being advised by a health worker compared to women who were restricted by family roles and gender norms. Hence, there is an urgent need to include physical activity in all health communications to increase awareness about the role of physical activity in health promotion and disease prevention.

Keywords

Physical Activity, Inactivity, Qualitative, Low and Middle Income Country, LMIC

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“Do I need exercise?” A Qualitative Study on Factors Affecting Leisure-Time Physical Activity in India

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Physical activity can reduce the risk of premature mortality from various chronic diseases. Previous research in Kerala, India indicates several barriers which can impact physical activity levels. Perceptions about the importance of health-promoting physical activity were examined among adults in Kerala and various facilitators, motivators and barriers to physical activity were identified using focus group discussions and interviews with key informants. At present, the attitude of people and health professionals is that physical activity has to be taken up when diagnosed with a disease (obesity, diabetes) and advised by a health professional. Men were more likely to start exercising after being advised by a health worker compared to women who were restricted by family roles and gender norms. Hence, there is an urgent need to include physical activity in all health communications to increase awareness about the role of physical activity in health promotion and disease prevention. Keywords: Physical Activity, Inactivity, Qualitative, Low and Middle Income Country, LMIC

Physical activity can reduce the risk of premature mortality from various chronic diseases like diabetes and cardiovascular diseases in addition to contributing to a number of other health benefits (Lee et al., 2012; Warburton, Nicol, & Bredin, 2006). Despite the known benefits of physical activity, very few people, especially in low income countries, are found to engage in regular physical activity for health benefits. Evidence on physical activity practices in these countries is scarce.

The state of Kerala is witnessing demographic and epidemiological transition, with the largest proportion of older adults and those suffering from non-communicable diseases (NCDs). It shares almost 75% of total disease burden from NCDs (ICMR, PHFI, & IHME, 2017) of the country burden from NCDs. Kerala also had the highest number (19%) of people living with diabetes in the country in 2016 which is higher than the country average of 12% (AMCHSS Research Team, 2018).

Previous research in Kerala indicates several barriers which can impact physical activity levels. Women associated physical activity mostly with household activities and most of them considered their activity levels adequate. (Mathews, Lakshmi, Sundari Ravindran, Pratt, & Thankappan, 2016) 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 (Daivadanam et al., 2013; Mathews et al., 2016). There is currently little evidence of successful physical activity interventions in low income countries. Given the low levels of exercise and the associated structural and other barriers, promoting physical activity in these populations is likely to be complex. Although these studies have investigated barriers, no studies have explored in-depth what people understand about the importance and role of physical activity, what motivates them and how they overcome these barriers to participate in physical activity, which is important in the development of strategies to promote physical

activity. These studies were limited to women populations and reported fairly well documented barriers and facilitators that have been reported from other parts of the world. A number of interventions developed on stated barriers and facilitators have resulted in modest and short-term effects. The need to understand the complex nature of cultural and local perceptions regarding physical activity and how people understand its role in controlling or preventing chronic diseases could provide more insights into the issue.

Given the rapid demographic transition and urbanisation, Kerala is an ideal setting to study the risk factors of non-communicable diseases (Daivadanam et al., 2013). It makes sense that any strategies evolved for promoting physical activity in this population might have implication for rest of the country

Hence, this study examines the perceptions of adults in Kerala of the importance of health promoting physical activity and identifies various facilitators, motivators and barriers to physical activity. This study is a part of a larger study which looks into the determinants of physical activity in Kottayam district of Kerala.

The authors of this study SG and VKR are public health professionals. SG (a migrant to the state of Kerala for eight years) witnesses a slow decline in the physical activity levels of her family. Looking around, she hardly finds children playing in the neighbourhood, let alone adults doing leisurely physical time; puzzled by the situation, after weighing so many factors like climate and accessibility, the problem is still looking her in the eye. She decided to explore the question in her doctoral studies. VRK is her supervisor. VRK is a well-known epidemiologist; although not a sports enthusiast, he maintains a consistent lifestyle with 45 minutes of vigorous physical activity every day. He has done a lot of research in the area of chronic diseases, but the question still puzzles him: even after having almost 100% literacy and development induced, like developed countries, why are the people of Kerala witnessing a heavy burden of chronic diseases?

Methods

We carried out a qualitative study to gather in-depth comprehend the values associated with physical activity in the daily lives of an average Malayali adult. The aim was to explore the social and cultural norms around the concept of physical activity. The need for exploration of normative behaviour made us use the focused groups for creating a discussion among various viewpoints of the community. Physical activity is a non sensitive subject and could be debated openly so focus group discussions were chosen as the primary source of data collection (Creswell, 2013; Krueger, & Casey, 2009).

We undertook a qualitative study employing insights from various theories of health promotion and socio-ecological theories (Bandura, 1999; Bronfenbrenner, 1993; McLeroy, Bibeau, Steckler, & Glanz, 1988; Stokols, 1992). We used maximum variation sampling to increase the likelihood of different perspectives and views within focus groups. Interviews with key informants like fitness instructors and frontline workers supplemented the information gained from these focus group discussions. A total of 28 adults participated in four focus group discussions in addition to three key informants. These were conducted between April-May 2018 in Kottayam district. The groups were carefully selected to represent views of active as well as inactive people and represented both sexes and all socioeconomic backgrounds (see Table 1 for composition of focus groups and key informants). We asked them about the importance of exercise or physical activity in their lives and various facilitators, motivators, and barriers to physical activity.

Sampling

A total of 28 participants were recruited into the study. The purposeful sample included men and women between 18 and 65 years of age who were healthy enough to perform moderate amount of physical activity, not having any physical, mental, or hearing or speech deficiencies. The relatively broader age band was chosen to match the age distribution in the state of Kerala which has an ageing population. The primary investigator was an outsider to the setting (perceived as a north Indian, not fluent in the local language, slim and coming from a renowned medical institute, compared to the participants who were all native Keralites), and this may have influenced data collection in terms of the information they were comfortable sharing. An understanding developed between participants and the primary investigator. The sample was restricted to men and women between 18-65 years of age, allowing for diversity in experiences. This focus group would allow insight into ways where there may be opportunities for physical activity interventions to address issues of increasing chronic disease burden.

We sampled participants from the urban and rural centres of Kottayam district. Since the objective was to recruit a multifaceted and diverse sample; we recruited pre-existing or natural groups like women and men exercising together, child care groups, and patients of chronic diseases to reflect a range of gender, age, socioeconomic status, and occupational backgrounds. This sampling was also done to ensure a mix of active versus non active participants. We sampled people based on their participation in recreational physical activity programme (e.g., walking groups, aerobic dancing, swimming, gym activities) to find motivators and facilitators. Table 1 presents details of the focus group characteristics. We used a purposive sampling strategy, merged with techniques of theoretical sampling. Our sampling strategy ensured that our sample includes sufficient number of active versus non-active participants. Two groups of men and women actively participating in a gym belonged to middle to higher socioeconomic status. Other two groups were accessed from government run facilities in low socioeconomic areas. Our sample was limited as we failed to recruit uniformly on the basis of socioeconomic status. It was keeping in mind the dynamics that people from different socioeconomic backgrounds in the same group sometimes causes the loss of vital information due to social norms around these complex stratifications.

Membership group	Characteristics	Description of the group
Focus group1-M	Men's group participating in a recreational physical activity programme	Men's group were mostly men in the age group of 30-45 who were suffering from either chronic disease like obesity or diabetes or hypertension. They had joined the programme after being advised by their doctors or family members and gaining knowledge from social media. Most of them had lived in western or gulf countries and had past experience of sport or exercising in gymnasium. Three of them were practising clinicians or surgeons. One was a nurse. Others were employed in various marketing and sales jobs. All the men were married and had children. Only one of them was participating with his kids. All men had participated in sports or body building activities before marriage but after marriage physical activity declined. They chose this facility as it was within a short distance from their houses.
Focus group2-F	Women's group	The women's group mainly consisted of working women

	participating in a recreational physical activity programme	aged 30-45 years but one young girl was also a part of a group. The members preferred a form of exercise which was a heavy intensity dance cum exercise called the zumba; only two women were working out on treadmill and other gym equipment. The group instructor was also leading the discussion where she was emphasising the importance of health promoting exercise
Focus group3-W	Community members from low socioeconomic background.	Members of community mostly included women age30-60 years, all of them had one or more person in their families living or dead of a chronic disease. Cancer was a common cause in almost 80% of the deaths. One person was a patient of breast cancer. All of them were homemakers and educated at least till class 10. None of them were participating in any form of leisure time physical activity. All were married and had children or grandchildren
Focus group4-G	Patients of NCD clinic-	Patients suffering from one or more chronic diseases, mostly diabetes and cardiovascular diseases. Mostly men. All married and above the age of 40. They belonged to different socioeconomic backgrounds.
Key informant1	Instructor	Woman aged 30, working as Zumba instructor for the last 10 years in an outdoor facility
Key informant2	Instructor and owner	Man aged 60, worked as fitness consultant in many countries, currently owns business in this sector for last two years
Key informant3	Health care worker	Woman aged 55, working for last 15 years as community health worker.

Table 1. Details of focus groups

Our sample also included key informants who brought in a variety of perspectives from other stake holders (See Table 1). These people were selected from various sectors like sports, health care, and community leaders. These were generally group leaders or gatekeepers who gave a general overview of the need for such a facility or service. They also gave insights into the barriers and road ahead for physical activity promotion.

Ethics Statement

Institutional Ethics committee of Sree Chitra Tirunal Institute for Medical Science and Technology, Trivandrum, India granted the approval for the study. We provided information sheets in English and Malayalam. At the beginning of the focus group, participants were given opportunity to ask any questions, and it was explained to them that participation was completely voluntary and they could withdraw at any time without giving any reason. We gave written consent forms to all participants and made sure that the participants realize the extent of their involvement in the study and that confidentiality and anonymity with respect to the information shared shall be maintained.

Data Generation

We conducted all focus groups at the time and place of convenience for participants. Usual meeting places like fitness centres, anganwadi (rural mother and childcare centres), and waiting halls of clinics were chosen for group discussions. Some refreshments were given

during the interviews. We gave no financial compensations for participating in the study. All focus groups were conducted in Malayalam. Interviews with key informants were conducted in English and Malayalam. The focus group guides were prepared after reviewing previous research in similar context and were modified to answer the specific research question (Alvarado, Murphy, & Guell, 2015; Daniel & Wilbur, 2011; Mathews et al., 2016). An iterative approach was used for data collection. (Creswell, 2013). We contacted, recruited and visited the participants iteratively. Recruitment finished when the researchers agreed that analytical saturation has been reached. Based on our study design, we intended to recruit up to 25 participants. A small number of participants was chosen as it is easy to visit them repetitively for more in-depth investigation of their experiences.

Data Handling and Analysis

The discussions were digitally recorded, transcribed and translated and analysed using thematic analysis. We used both inductive and deductive coding. We applied “axial coding” process to connect code categories; this helped in identifying common themes. Constant comparing and contrasting method helped in sorting of similarities and differences in the data and allowed interpretation of themes within and across groups (Creswell, 2013). Both researchers in the study belong to public health discipline and their background could have influenced the interpretation of results. Both are physically active and very interested in the promotion of physical activity which could have affected the research process. However, the themes were discussed among the authors and a reflexive stance was taken to minimise bias. For example, on one occasion, inadequate advice by medical professionals (VRK is a medical doctor) was found to be a factor for inadequate physical activity among chronic disease patients, but the authors retained the theme and consequently this emerged as a major finding of the study. The primary investigator completed all the data analysis tasks with regular discussion with the co-researcher.

Results

A selection of quotes is used in the paper to illustrate the themes. Box 1 summarises the main themes emerging from the analysis.

The Most Common Forms of Exercise

Most of the participants talked about walking as a preferred form of exercise as it was acceptable in their society, not expensive, and could be done anywhere; although a companion would be necessary for safety from stray animals during walking. It was also appropriate for older age as compared to swimming or running. Women living in rural areas and belonging to lower socioeconomic background and people of older age were more likely to participate in walking as a health enhancing physical activity.

Women thought that taking care of the household and small children was in itself a full-time activity. *W2: I think this is enough for us, we are old, and these kids make us run all day. Do you think we need more exercise?*

Men talked about sports as their favourite form of physical activity. They liked organised activity like swimming, cycling, badminton, or football. Men seemed to be concerned about time and fear of injuries while doing vigorous forms of activity like hiking and trekking (which they enjoyed in their youth).

M1: What do you think is the best form of exercise, I have seen people abroad, they hike and trek.

M3: I have joint problems, swimming is the best exercise for people like me, and also if we start doing these things now, we might fall or something and then we won't do anything ever.

Women talked about going to the gym and using indoor gym equipment as something prohibited for them. They preferred yoga and 1070 Zumba dance as more subtle and feminine forms of exercise compared to pushing weights. Very few took to treadmill and other gym equipment.

F1: My mother was very shy to take up gym exercises, but I pushed her into it. I know it's much better if you really want to lose weight. I have been living in (mega city) my whole life, so it's okay for me but people here find it hard to see women pushing weights.

Main Motivators

Participants talked about health benefits like mental, physical and, social; however, diagnosis of disease and doctors' advice were main motivators for them to join a physical activity programme. Past experience and passion for sport and upcoming of a new facility which is accessible and affordable were other factors.

M4: It's a good source of social interaction. I love making new friends. I am passionate about swimming since my childhood and so my kids have taken after me.

M6: I have lost 30 kilos of weight in last 3 years, which is an ongoing motivation for me.

M7: I have hypertension for last 3 years and doctors have advised me lifestyle modification. Also these blogs and social media messages motivate me to stay healthy.

Many men appeared to do activities with their children when they came to a supervised facility; however, women were not so keen on coming with their children. They said they joined the group as they returned from work.

Perceived Barriers

Low awareness about health benefits of exercise, people spending too much time on electronic gadgets (screen time), and attitude (laziness, need of exercise meant only for people with obesity) were considered barriers for participating in recreational physical activity. Participants agreed on time, role, and responsibilities as major barriers to exercise. Few participants thought that their work or household activities were enough physical work for them.

W1: We have small children, where is the time to go for other activity? Isn't this enough?

Many members did not know the exact importance of exercising. Some also talked about whether prohibiting walking or playing outside on most days. Safety was another issue for some people. Lack of skills was also a barrier for participants.

W5: Why me? I don't have any diseases or anything; I don't need exercise.

W3: I think we should walk everyday with arms swinging and lightly for ten minutes.

Women talked about their husband's attitude, fear of injuries, and consequent loss of work as barriers to physical activity.

There was also a lack of attitude among members as they said that exercise is only for others not for them. They also talked about having time and energy but still being lazy and forgetful.

W3: We will die anyway, so let's eat and enjoy. What's so much ado about, my husband says—he is a diabetic. We are also lazy and forgetful after getting old.

Affordability of Recreational Physical Activity

Participants consented upon the fact that the middle class population cannot afford the cost of exercise facilities. Participants who had lived in western countries discussed the lack of culture of saving for recreation activities. Most of the women were spending on such activities now as it was really important for them to care for their health now than later. They suggested cost has to come down for most of the middle class to be able to use these facilities. Women suggested that yoga in nearby anganwadi or local clubs could increase participation and awareness.

One key informant who ran outdoor activities also talked about the cost of keeping the business alive while keeping the cost low for increasing membership among middle class women and students. He also spoke about building an indoor sport facility for adolescents only if his present business thrives. He discussed the culture of allocation of resources in household.

M4: In western societies there is a trend for investing and spending on recreational activities just like we save for gold.

K1: I have worked in various places. It's difficult to sustain a business like this. I want to build a franchise of this fitness chain in Kerala. People have start accepting this; fitness culture has been here but very limited to young men and upper class. I want to take it to everybody. There has to be a dramatic shift in thinking culture, it's happening slowly. . . . There is a stark difference in money spending habits of women and men here . . . where people spend so much money each month on recharging mobile and cable connections but are not aware of the benefits to health by investing the same money in physical activity. . . . I use my trainers to run community programmes in low socioeconomic groups. They are the ones who are hit the hardest and thus left with unhealthy lifestyles.

Body Image

A main factor for women to start exercising was dissatisfaction with their body image (Laus, Costa, & Almeida, 2011; Pruis & Janowsky, 2010). Most working women felt that positive body appearance improved their confidence and self-esteem at work place. For younger women, it was important for them to reduce weight to avoid future difficulties in finding a match for marriage and avoid embarrassment at social and family gatherings. Although they understood the importance of health benefits of exercise like improving efficiency of daily activities, body image was a very strong motivation to exercise. One key informant who was an instructor in an outdoor facility kept stressing the importance of lifelong health promoting physical activity. However, the participants were candid about their body image and self-esteem as main motivators for joining the gym.

F1: My wedding is three months away; I want to look good for my marriage. Moreover, those meds for weight loss are not healthy. . . . As the saying goes, “No pain, no gain.”

F6: I want to look younger than my husband; everyone tells me I look older than him.

F7: I have been told to reduce weight as I don’t look good in my dresses, and my family feels ashamed when guests come over. (11 year old girl on her appearance)

Social, Cultural, and Gender Norms

These were important especially for women participants. Although men were not averse to the idea of exercising, they thought exercising is a western concept and habitual physical activity should be enough for body health.

Women talked about the traditional roles of women in labour intensive household work and extensive walking for fodder and collecting water and firewood. Lately, all these activities have become mechanised and lives have grown more sedentary. Women believed that family responsibilities are her primary concern, and she herself considers her health secondary to kids and family. Society does not appreciate women who go out for exercise and waste time and money for such luxury. Walking has become acceptable now, however, they require someone to accompany them for safety purposes. Some women go to exercise without informing their families. There is a lot of social pressure on women on how to live and behave. In order to avoid the humiliation and public shaming, women sit at home and watch television rather than go out with kids and play. Schools train sport teams but there are no concerted efforts to improve the physical fitness of students in schools. Women suggested including lifestyle education in school so that girls are aware of their lifestyle choices right from the beginning—not when it’s very hard for them to change.

Some women believed that such leisure activities are an upper class thing and not for all. Lower social class worked hard as it is a necessity for them; however, middle class neither has money to afford health promoting activities nor is involved in manual labour.

F6: We have to get kids ready for school, pack lunch boxes, get hot water ready for the man to take bath; men are taking their walk at this time.

F5: Society scares us, we want freedom.

F4: We can’t tell people we are going to a gym to exercise; there will be a lot of talk about it.

W4: Our primary duties are home and family. Where is the time and energy after that?

K2: Schools are supposed to inculcate healthy habits right from the beginning; they should teach lifestyle choices just like they teach traffic rules and environment saving. I guess this is a priority now.

Attitude

Some of the comments regarding reasons for not exercising were: laziness, not having time, and no need for exercise.

W7: Exercise is meant for overweight or others; it's not for me.

W3: We'll die eventually—what is the point of exercising?

G4: Medicines will cure us; we don't need exercise.

Awareness about Physical Activity and Chronic Diseases

There seemed to be low awareness about health benefits of physical activity. People were aware about chronic diseases as almost all members were either living with a disease or had a living or dead family member with chronic disease, but physical activity figured rarely in their accounts. The main emphasis was on diet and pollution. People had conflicting ideas about risk factors of disease: heredity, behaviour, psychological, and social. There seemed to be misconceptions regarding causes of disease like migration and drinking sugary juices. Assumptions like need for exercise only after a diagnosis and advice by a health professional were also frequent. Women believed that household activities were enough to take care of their daily physical activity requirements as childcare demands too much energy and also because they don't need to reduce weight. People believed disease makes them tired and exhausted, so they are left with no energy to exercise and they should rest more. Moreover, in old age people are supposed to rest.

G1: I have been an avid sportsman and a body builder my whole life, but now I don't feel the energy after all the diet control.

W9: Physical activity helps in diabetes, but I am not sure about other diseases.

W8: My father has diabetes and blood pressure. I didn't know I have a risk too.

W1: Earlier there was no treatment; people were scared of chronic disease, but now treatment is easily available, so nobody worried.

A participant who is a surgeon by profession lamented upon the fact that even after doctor's advice, few people went out for exercising.

G1: Health professionals advise more medicines. Every time I go, they change medicine; now I am trying (alternative medicine).

There were conflicting ideas about causes of diseases like:

G1: Migration causes change in lifestyle, but when I came back home, there was no work, and so I think I got all these problems.

G6: I drank a lot of sugary juices after my surgery, and so I got this disease.

There was more emphasis on diet restriction like salt and fatty foods.

M6: I have turned to vegetarian diet now. These food habits are the real problems; you should watch the lectures of Prof (a renowned oncologist).

W5: All diseases can be cured by dieting. All this pollution and pesticides are causing the disease. . . . Government should do something about all this plastic and pesticides.

Health Communication: Professional and Mass Media

Most health professionals described medicines as the main pillar of treatment. Doctors themselves perceived various barriers like time and attitude for giving advice on lifestyle modification. There was no awareness about how to prevent diseases in the first place. Doctors' advice about exercise was almost always insufficient with respect to time and intensity. They were also not referring the patient to an expert for consultation.

G3: My doc asked me to walk for 5-10 minutes every day slowly. I am old and also could hurt myself.

G4: My doc asked me to start exercising but nothing else.

M5: I asked my doc whether I could exercise; he said if you can, you should.

K2: There is no physical education in our school; they only ask children who are fat to reduce their weight.

Health communication in schools was limited to reduction of weight. Television programmes dedicated to certain diseases emphasised exercising, but only in few cases, and so people believed exercise is only for people with certain diseases. Health communication mainly emphasised diet control and soil and water pollution as main contributors to disease.

W3: I have never seen any physical activity promotion on TV. I have read sometimes in magazines, but it is only for people with obesity. . . .

People suggested that health communication should be done in a friendlier and acceptable manner, to include role models and communicate in everyday comprehensible ways as in the case of immunisation.

K3: Yes, I think if physical activity is also promoted like immunisation as a preventive measure, roping in celebrities, people will pay attention.

Discussion

Although it has been well over 50 years since the first study by Jeremy Morris examining association of physical activity with cardio vascular diseases (Morris & Crawford, 1958), reasons why most people are still inactive in their daily lives is a mystery (Bauman et al., 2012). Only recently has physical activity research started looking up in low and middle income countries. Very few studies have tried to explore the factors affecting physical activity in these culturally complex societies. This study was undertaken to contextualise the factors which lead to widespread physical inactivity in a small population in India.

Summary of Principal Findings

We found that adults living in Kottayam had low awareness about health benefits of physical activity. Awareness about causes of chronic diseases was low. This may be due to low emphasis given to physical activity during health communication: physicians, health workers, and media. Main motivations to participate in physical activity were perceived health benefits, enjoyment, and positive body image. Body image was the principal motivator for physical activity among women. All participants were married except one young girl, so it's difficult to differentiate between the changes in motivations during the two phases of life. Most of the active men belonged to socioeconomically upper backgrounds and had been diagnosed with a chronic disease. Most men admitted being physically active during their youth and slowly slipping into a sedentary life style after marriage due to change in priorities. In contrast, women had no past experience of recreational physical activity (except classical dance forms) and were taking up physical activity to improve body image and self-esteem. Social restrictions in the form of family and gender norms were a major barrier for women. They asserted that upper class could afford preventive and treatment services, but for middle class it was important to invest in preventive care (i.e., people should make conscious efforts to invest some finances in health promoting measures). Time as a barrier needs to be explored in future studies as people tend to forget the amount of time spent in front of the screen (e.g., watching sports, social media, virtual games, watching other kinds of visual media) which could be effectively used for community sports or family leisure time physical activity. It also needs to be examined whether this time consumption varies by age, sex, and socioeconomic background. Also, time spent in travelling to and from workplaces is a major concern for people citing time as a major barrier. For women, established gender roles as primary care givers (packing lunch for kids and family in the morning and evening, prioritising family's health over their own) deprived them of the opportunity of walking (while men could very well take their health walk or sleep during that time). The only time women could enjoy was summer vacations when children were not leaving for school early morning. Cultural norms associated with disease like taking rest rather than exercising may hinder uptake of physical activity by people living with chronic disease especially older groups. Further, the role of a physician as a prescriber of pills also hinders health workers from encouraging physical activity among patients.

There was an overall underestimation of the importance of recreational physical activity for otherwise healthy individuals among all communities. While some of the motivators like body image and enjoyment were similar to general populations elsewhere in the world, it differed by age and marital status in this study (Alvarado et al., 2015; Caperchione, Chau, Walker, Mummery, & Jennings, 2015). Diagnosis of disease and advice by a physician were major motivators which meant that there is a need for increasing awareness among masses and health professionals about the adequacy of physical activity in primary as well as secondary prevention. This could be a challenge as health professionals are trained and oriented more for treatment rather than preventive care (Banu et al., 2014; Morrato, Hill, Wyatt, Ghushchyan, & Sullivan, 2006; Peek, Tang, Alexander, & Chin, 2008). Some of the barriers identified like roles and responsibilities, attitude, lack of social support, and cost of recreational facilities is also similar to the findings in studies done in other populations (Alvarado et al., 2015; Daniel & Wilbur, 2011; Jepson et al., 2012; Thankappan, Mathews, Pratt, & Jissa, 2015). Time, laziness, and perception of household activities as replacement for health promoting physical activity should be recognized as attitudinal issues. Change in roles and responsibilities also needs to be understood in light of changing priorities with each stage of life (Mathews et al., 2016). The barriers we identified also meant that it was difficult for people to exercise with their families. There was also a finding about the

economies associated with physical inactivity among women where they prioritised their children's participation in a range of physical activities.

Built environment was a major factor as most of the facilities like parks and playgrounds are not accessible or are not well managed. There is hardly any space for footpaths in Kerala, much of which is encroached by vehicle parking. Rain, traffic, and stray dogs are leading people to walk early in the morning and with a companion. This finding echoes with the latest trends in physical activity research. Activity enabling environments are the latest approach to intervene for widespread and long lasting effects (Bosdriesz, Witvliet, Visscher, & Kunst, 2012; Sallis et al., 2016).

Strengths and Limitations of the Study

Groups were selected from a range of backgrounds to bring diversity and maintain variation in the perspectives which brought rich description and detailed views from all sections of society. Although studies have reported facilitators and barriers to physical activity in high income and middle income populations, we tried to provide a balanced and nuanced depiction of the social and cultural complexities that play a major role in making lifestyle choices in countries like India. Where data allowed, we also looked at variations due to age, gender, socioeconomic status, and area of residence. We tried to differentiate factors which were common with other country populations and factors which were specific to study population. Almost all participants were married and middle aged (above 30 years), which could limit the generalisability of findings to other groups. Also, the views about motivations at younger age levels (18-30 years) could not be assessed in depth.

Since gatekeepers were used to recruit, it is not possible to give details of the people who were approached and who declined. Focus groups were undertaken in places and languages that participants were comfortable with. This facilitated open and relaxed discussions. Purposive sampling of participants who were active and inactive proved effective in achieving saturation of key themes. Since the study was limited to only one district and number of focus groups was only four, it is difficult to ascertain the broader generalisability of our findings. However, we believe that the depth of enquiry has generated insights that are expected to be largely transferable to populations living in other parts of Kerala and India.

Implications for Policy Practice and Research

The promotion of a physically active lifestyle as an affordable and effective means to prevent and treat chronic disease and to improve quality of life and well-being should be a priority for government agencies, policy makers, and health professionals—especially in low resourced settings which are hardly in a position to take the burden of chronic diseases.

Strategies for encouraging physical activity among adults in Kerala need to recognise that, at present, the attitude of people and health professionals is that physical activity has to be up taken after a certain stage in their lives such as when diagnosed with a disease and advised by a health professional. So the strategy should emphasise health care professional knowledge and motivate them for opportunistic counselling regarding physical activity to all patients regardless of age and sex (Armit et al., 2009; Kirk, 2003; Morrison, Shubina, & Turchin, 2012; Sallis et al., 2015).

Policy measures should ensure education about physical activity right from the childhood. It would help if settings like school, workplace, and community gatherings are used to create awareness and follow up with various physical activity interventions. Many barriers like weather (it rains six months in a year) and hilly terrain makes outdoor activities

like walking trails and jogging parks impractical. Built environment (i.e., the environment that is created for people to live in: cities, transport, workplaces, schools) is not conducive to an active lifestyle and requires policy measures using intersectoral cooperation. We need more scientific evidence to guide policy and practice if we want to change the economic, physical, and social factors that influence our behaviour (Kohl et al., 2012). The motivations we have identified in this study need to be considered in line with the barriers in order to build up successful interventions. Also the contexts of lives (places and ways in which people spend their leisure time or spend their money) have to be considered to effectively implement such interventions.

Conclusions and Recommendations

Adults in Kerala are substantially less physically active which contributes to high levels of diabetes and other chronic diseases in the state (Thankappan, Mathews, Pratt, & Jissa, 2015). Our study indicates that there is an urgent need to include physical activity in all health communications. Strategies should aim at increasing awareness and health communication for health promoting physical activity in addition to policy measures to improve activity enabling environments.

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Appendix

FOCUS GROUP GUIDE: WOMEN'S GROUP

Participants of a physical activity programme (i.e., gymnasium)

Selection criteria: Female, 18–65 years of age, participating in gym programme for at least a month

Copies of informed consent forms should be provided to each participant and read aloud for the benefit of those who cannot read. Participants should be provided an opportunity to ask any questions. Try to ask all the questions below in the order given, but it is more important to maintain the flow of discussion. Suggested probes have been included. You should try to encourage participation of all group members in the conversation. Start by explaining the ground rules as follows: Before we start, I would like to remind you that there are no right or wrong answers in this discussion. We are interested in knowing what each of you think, so please feel free to be frank and to share your point of view, regardless of whether you agree or disagree with what you hear. It is very important that we hear all your opinions. You

probably prefer that your comments not be repeated to people outside of this group. Let's start by going around the circle and having each person introduce herself. (Members of the research team should also introduce themselves and describe each of their roles.)

1. What do you think about the topic that has brought us here today (physical activity)?
2. According to you what is the most important reason for you to join the gym.
3. According to you what are the reasons for
Doing exercise?
Not doing exercise?
4. According to you what are the needs and services required to make more people exercise as you do? (child support, moral support, social norms, role models)
5. Do you have any past experience of sport or physical activity participation?
6. What is your source of information about physical activity? (health professional, media, children, relatives' other networks)
7. Let's summarize some of the key points from our discussion. Is there anything else?
8. Do you have any questions?

Thank you for taking the time to talk to us!!

FOCUS GROUP GUIDE: MEN'S GROUP

Selection criteria: men, aged 18-65, who participate in gym programme for over a month.

Copies of informed consent forms should be provided to each participant and read aloud for the benefit of those who cannot read. Participants should be provided an opportunity to ask any questions. Try to ask all the questions below in the order given, but it is more important to maintain the flow of discussion. Suggested probes have been included. You should try to encourage participation of all group members in the conversation. Start by explaining the ground rules as follows: Before we start, I would like to remind you that there are no right or wrong answers in this discussion. We are interested in knowing what each of you think, so please feel free to be frank and to share your point of view, regardless of whether you agree or disagree with what you hear. It is very important that we hear all your opinions. You probably prefer that your comments not be repeated to people outside of this group. Let's start by going around the circle and having each person introduce himself. (Members of the research team should also introduce themselves and describe each of their roles.)

1. What do you think about the topic that has brought us here today (physical activity)?
2. According to you what is the most important reason for you to join the gym.
3. According to you what are the reasons for
Doing exercise?
Not doing exercise?
4. According to you what are the needs and services required to make more people exercise as you do? (Child support, moral support, social norms, role models)
5. Do you have any past experience of sport or physical activity participation?
6. What is your source of information about physical activity? (health professional, media, children, relatives other networks)
7. Do you think of continuing this participation for another six months? Why?
8. What do you think about women doing exercise in your community?
9. Let's summarize some of the key points from our discussion. Is there anything else?
10. Do you have any questions?

Thank you for taking the time to talk to us!!

FOCUS GROUP GUIDE: NCD clinic patients

Selection criteria: Patients 18-65 years of age, diagnosed with any of the chronic diseases and attending NCD clinic at least for the second time.

Copies of informed consent forms should be provided to each participant and read aloud for the benefit of those who cannot read. Participants should be provided an opportunity to ask any questions. Try to ask all the questions below in the order given, but it is more important to maintain the flow of discussion. Suggested probes have been included. You should try to encourage participation of all group members in the conversation. Start by explaining the ground rules as follows: Before we start, I would like to remind you that there are no right or wrong answers in this discussion. We are interested in knowing what each of you think, so please feel free to share your point of view, regardless of whether you agree or disagree with what you hear. It is very important that we hear all your opinions. You probably prefer that your comments not be repeated to people outside of this group. today. Let's start by going around the circle and having each person introduce herself. (Members of the research team should also introduce themselves and describe each of their roles.)

1. What do you think about the topic that has brought us here today (physical activity)?
2. According to you what is the most important reason for people doing exercise.
3. Do you exercise?
4. According to you what are the reasons for
Doing exercise?
Not doing exercise?
5. According to you what are the needs and services required to make more people exercise? (child support, moral support, social norms, role models)
6. Do you have any past experience of sport or physical activity participation?
7. Has any health professional advised you to increase your physical activity? If yes, what are the things that were told?
8. How many times were you asked about your physical activity? (number of visits, initial or many).
9. Do you think that advice from a health professional had a role in improving your physical activity?
10. Let's summarize some of the key points from our discussion. Is there anything else?
11. Do you have any questions?

Thank you for taking the time to talk to us!!

FOCUS GROUP GUIDE: MIXED GROUP

Selection criteria: 18-65 years of age, men/women, healthy enough to exercise.

Copies of informed consent forms should be provided to each participant and read aloud for the benefit of those who cannot read. Participants should be provided an opportunity to ask any questions. Try to ask all the questions below in the order given, but it is more important to maintain the flow of discussion. Suggested probes have been included. You should try to encourage participation of all group members in the conversation. Start by explaining the ground rules as follows: Before we start, I would like to remind you that there are no right or

wrong answers in this discussion. We are interested in knowing what each of you think, so please feel free to be frank and to share your point of view, regardless of whether you agree or disagree with what you hear. It is very important that we hear all your opinions. You probably prefer that your comments not be repeated to people outside of this group. Let's start by going around the circle and having each person introduce herself. (Members of the research team should also introduce themselves and describe each of their roles.)

1. What do you think about the topic that has brought us here today (physical activity)?
2. According to you what is the most important reason for people to participate in physical activity?
3. According to you what are the reasons for
 Doing exercise?
 Not doing exercise?
4. According to you what are the needs and services required to make more people exercise as you do? (child support, moral support, social norms, role models)
5. Do you have any past experience of sport or physical activity participation?
6. What is your source of information about physical activity? (health professional, media, children, relatives other networks)
7. What kind of physical activity is most valued in your community?
8. Let's summarize some of the key points from our discussion. Is there anything else?
9. Do you have any questions?

Thank you for taking the time to talk to us!!

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