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Facilitators and Barriers of Physical Activity in Prevention and Control of NCD – A Qualitative Study in North India

Ankit Chandra, Baridalyne Nongkynrih*

Centre for Community Medicine, All India Institute of Medical Sciences (AIIMS), India

***Corresponding author:** Baridalyne Nongkynrih, Centre for Community Medicine, All India Institute of Medical Sciences (AIIMS), India. Tel: 011-26593789; Email: baridalyne@gmail.com

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Abstract

Background: There is an escalating burden of Non-communicable diseases (NCDs) in India. World Health Organisation (WHO) and the government of India aim to reduce the physical inactivity relatively by 10%, as it is a modifiable risk factor for NCDs. Patients and the general population are generally advised to do the physical activity by doctors and other health personnel through individual counselling and group health talks in the community. But whether they can follow the given advice or the knowledge provided alone was sufficient to translate it into practice was not studied. This study was done to explore the facilitators and barriers to physical activity in an urban resettlement colony in New Delhi (India).

Methods: It was a qualitative study, where participants were interviewed face to face until theory saturation. Some interviews were conducted at the outpatient department and some participants in the community. Then a random visit was made to one of the residential colonies and a park to check the facilities present for physical activity at the community level. Interview contained open-ended questions and followed an interview guide. The audio was transcribed and the text was read multiple times for familiarisation. Quotations depicting facilitators and barriers for physical activity were identified. Following this, coding was done and meaningful themes were identified as thematic analysis.

Results: Knowledge regarding the benefits of physical activity was present in all the participants. Five participants (36%) were regularly doing physical activity in the form of exercise/yoga/gym/brisk walking. The facilitators identified were motivation/will power, time management skills, knowledge and perceived benefits of physical activity, presence of disease and its management, a facility like a park/garden equipped with physical exercise equipment, convenient school timings. The barriers identified were lack of time, lack of indoor and outdoor spaces, lack of maintenance of parks/infrastructure, inadequate equipment for physical activity, unfavourable season/weather, physical restriction, unhealthy lifestyle and laziness.

Conclusions: We conclude that simply having knowledge about the benefits of physical activity is not sufficient to translate it to practice. There should be an enabling environment and well-maintained facilities in the community, schools. Timings of school/work and motivation also play a major role. At a personal level, motivation needs to come from within and needs to be persistent.

Keywords: Barriers; Control; Exercise; Facilitators; India; Non-Communicable Disease; Physical Activity; Prevention

Introduction

A decade earlier onset of Non-Communicable Diseases (NCDs) and the epidemiological transition is an early rising alarm for India [1,2]. Physical inactivity is one of the modifiable behavioural risk factors for the NCD. Therefore, 10% relative reduction in the prevalence of insufficient physical activity by 2025 is one of the key targets of WHO's Global Action Plan 2013-2020 and India's National Action Plan and Monitoring Framework for Prevention and Control of NCDs [3,4]. Prevalence of physical inactivity in India ranges from 18.5% to 88.4% [5]. Various studies in India have explored the facilitators and barriers of physical activity among the adult population but most of them were limited to the south India [6-10]. Studies done in north India were more focussed on adolescents and schools [11,12]. As a part of health promotion activities in the community, health talks regarding the

NCDs and need of physical activity are frequently delivered by undergraduate and postgraduate students throughout the year at our urban field practice area (Dakshinpuri), New Delhi (India). Also, NCD patients attending our Outpatient Department (OPD) of urban health centre for drug refill and follow-up are counselled for lifestyle modification. Is promoting physical activity in the community through health talks and advice through doctors sufficient? Does knowledge automatically translate into action? To explore this, a qualitative study was carried out among patients attending our OPD and the people residing in the urban field practice area. This study was part of post-graduates self-learning task, whereby postgraduate student was given a task of observing and interviewing people in the OPD and from the community to learn through real-life situations to understand the facilitators and barriers of physical activity.

Methodology

The study setting was an urban resettlement colony located in Dakshinpuri extension, New Delhi (India), which is a part of our urban field practice area. The health care services are provided by the Centre for Community Medicine (CCM) through an Outpatient Department (OPD) of the urban health centre in this resettlement colony. Patients attending OPD are the residents of this community. A qualitative approach with face to face interview was chosen for this study. Selection of respondents included patients from OPD, different age groups, gender and occupation to get a wider spectrum of people and situations. Consecutive patients in the OPD were interviewed. Some interviews were conducted at OPD and some in the community (home and a community park). In total 14 adult participants (≥18 years) were interviewed until the theory saturation. The average time for the interview was 23 minutes (ranged from 20 to 36 minutes). Verbal consent was taken from the participants to record the audio. Field notes were made during and just after the interview. Then a random visit was made to one of the residential colonies and a park to check the facilities present for physical activity at the community level. The interview contained open-ended questions and followed an interview guide containing 4 domains: disease history, personal practice and knowledge, information about others and facilities. Indirect probes like humming, paraphrasing was used with accommodating probing tactics. The audio was transcribed and the text was read multiple times for familiarisation. Quotations depicting facilitators and barriers for physical activity were identified. Following this, coding was done and meaningful themes were identified.

Results

A total of 14 participants were interviewed, four of them were females. All the participants were aware of benefits of physical activity. The age range of the participants was from 18 to 72 yrs. Seven (50%) of these participants were having diabetes or hypertension or both (NCDs). Five participants (36%) were regularly doing physical activity in the form of exercise/yoga/gym/brisk walking.

Facilitators

The most common facilitator was self-motivation or will power. One of the participants expressed it as "*dusro ka man nahi hota hai. humara man hota hai*" (I am inclined towards physical exercise, others aren't). One of the participant had undergone two surgeries of same leg due to some neoplasm, he expressed his willpower to walk as "*mai chal phir itna sakta nahi hu… abhi ghar jaunga toh 2-3 dafa raste mai baith jaunga. par chalne phirne ki koshish bahut karta hu..humare paas 3 gaadiya hai, par mai padal hi chalta hu*" (I have difficulty in walking, even while returning home I have to take 2-3 breaks in between but I try my best to continue walking. We have 3 vehicles at home but I still prefer walking).

Time management was also a facilitator, as mentioned "*khudke liye time nikalna padta hai..thakne mai chai pike kaam chala lete hai*" (we have to make time for ourselves…when tired, I drink tea and continue). Motivation of the participants was further enhanced after perceiving the benefit of physical activity. They expressed it as "*exercise karke acha masoos hota hai*" (I feel good after exercising), "*phele kamar or ghutne mai takleef thi..ab kuch nahi hai…tension rehti thi voh bhi nahi hai*" (I used to have back and knee pains, it's been relieved now, I am not tensed anymore). One participant mentioned presence of disease and its management as the reason for physical activity for her neighbour as "*unko diabetes aur BP hai ...toh vo subh jaati hai exercise/walk karne*" (she is diabetic and hypertensive, that's why she goes for a walk every morning). Presence of the facilities like exercise equipment at the community parks/garden was also one of the facilitators. One of the participant mentioned it as "*Park hai.. exercise ki machine bhi lagi hai..government ki taraf se..jitna doctor kehta hai exercise ko..utni machine saari lagi hai*" (we have well equipped park for exercise, provided by the government…whatever exercises the doctor prescribes, it is possible at those parks). Few parents mentioned that children play cricket, badminton, football, volleyball in the park during the late mornings as their school starts at noon (convenient school timings).

Barriers

Most of the participants mentioned the most common constraint as lack of time. One student said "*time hi nahi milta hai..subh ko tution aur sham ko late aata hu school se*"(I don't get enough time, as I have tuitions in the morning and it gets late by the time I return from school in the evening). One young married housewife said "*subh bacho ko ready karo..aur shaam ko khane peene ka time ho jata hai*" (I have to get the children ready for school in the morning and in evening I am busy with dinner preparation). Lack of maintenance of infrastructure and cleanliness at the park (open and free gym) was also one of the main barriers.

One of the participants interviewed was an old man exercising at an open gym located in the park. He mentioned the reason for others for not utilising the service at the park as "*ek toh gandigi itni hai is park mai..ki safai nahi na..dekho*" (The park is unclean, see). He pointed towards the garbage which was strewn around the park. The participant also mentioned about the poor maintenance of the equipment machine as "*bacho ne todh diya..pata nahi kaha rakha hai*"(The children broke a part of the machine and have lost it). One participant mentioned about the non-availability of the machine to the person in need (inadequate equipment) as "*young boy usme phele se baithe rehte hai..usko bol nahi sakte ki utho.. kyuki vo kehta hai ki mai kar raha hu na*" (machine are usually occupied by children, if we request the machine then they reply by saying that they are using it). Another young lady participant said "*park hai..par vo bhi kharab pada hai..matti hai..usme ghas bhi nahi hai*" (we have a park, but the ground is uneven, full of dirt and it doesn't have grass either).

Lack of outdoor and indoor space nearby the house was also mentioned by four participants. One middle aged woman mentioned about the inadequate indoor space as "*andar kiraye ke makaan mai kitni si jagah mile hai*" (There isn't enough space in a rented house). The absence of inadequate outdoor space nearby the house was cited by two participants, as this was also confirmed on the visit made to one of the residential colonies. One of the participant's child never used to play any outdoor games/sports, on asking the reason he said "*Dakshinpuri ki galiya hai, kaha khelenge bache*?" (these are streets of Dakshinpuri, where will the children play?).

Unfavourable season/weather was also mentioned by one of the participants as "*ab na jaati hu thand ki vagah se, garmi mai toh chale jaati thi*" (I am unable to go for exercise these days due to cold weather, in summers I used to go). Three of the participants don't do any form of physical exercise due to physical restriction, as they were suffering from severe arthritis and needed walking aids. Unhealthy lifestyle and laziness was also mentioned by one the participants as "*kyuki unko aalas hota hai, raat ko inta khaa lete hai ki subh uthne ki halat nahi hoti..aur raat ko late sote hai*" (because they are lazy, they are unable to get up in the morning as they overeat at night and they sleep late at night). The summary of the results is given in (Table 1).

Facilitators	**Barriers**
1. Motivation/ willpower at personal level	1. Lack of time
2. Time management skills	2. Lack of maintenance of parks/infrastructure
3. Knowledge and perceived benefits of physical activity	3. Inadequate equipment for physical activity
4. Presence of disease like diabetes, hypertension and its management	4. Lack of indoor and outdoor spaces
5. Facility like park/garden equipped with physical exercise equipment	5. Unfavourable season/ weather
6. Convenient school timings	6. Physical restriction (disability due to other disease)
	7. Unhealthy lifestyle and laziness

Table 1: Summary of main themes.

Discussion

There are global and national commitments to reduce the physical inactivity for prevention and control of NCD but there are limited resources provided at the community level. Providing knowledge about physical activity is not alone sufficient in prevention and control of NCD. There has to be an enabling environment to facilitate physical activity in the community or school settings. The participants reported the poor maintenance of the open gym and inadequate space in the residential colonies as one of the main barriers in physical activity. In this study, we confirmed this finding by visiting the residential colony to look for the space available for physical activity and also visited a park. The park was transformed into an open gym by the local authority to promote physical activity and was free of cost for everyone. Our findings related to use of the park for physical activity align with findings reported by McCormack, et al. [13]. Parents reported lack of proper space as a barrier for physical activity/sports in the community.

The other barriers identified were lack of time, physical restriction, lack of infrastructure which were similar to the findings of Advika, et al, who conducted a similar study among diabetes patients in south India [9]. Physical restriction among the old age due to other health conditions remains a challenge for promoting physical activity. Our finding of unfavourable season/weather as a barrier for physical activity was similar to the findings of Tucker, et al. [14]. Indoor physical activity may be adapted to overcome the challenges of extreme/poor weather. Laziness as a barrier to physical activity was similar to findings of Anjali et al, who conducted a study among young adolescents in New Delhi [12]. Preference for a sedentary lifestyle is a common barrier to physical activity [6]. We found lack of time as a barrier to physical activity similar to the findings of Singhal, et al. who have reported the lack of time and lack of motivation as the strongest barrier for physical activity among Indian men [10]. Lack of time among students can be due to academic pressure and personal tuitions/extra classes [6]. Time and motivation can be inter-related, as we found that motivation at

the personal level can make people spare time for physical activity from their busy schedule. However, keeping oneself motivated for a longer duration might be challenging. Etnier, et al. have reported that with the motivation, the important factor to adhere to physical activity is perceiving benefits of the physical activity [15]. As the knowledge regarding the physical activity was present in all the participants, so it was not a barrier in this study. In our study, we found that self-motivation, knowledge, perceiving the benefits and presence of facility were important facilitators for physical activity which was similar to findings of Advika, et al. Divyasree, et al. and Mathew et al [7-9]. One participant did mention the management of diabetes and hypertension as a reason for physical activity for her neighbour. We also found that convenient school timings can promote physical activity during the pre-school.

In this study, we were able to examine the facilities available for the people at the community level for physical activity and were able to assess the barriers in availing those facilities as reported by the participants. We also included participants with NCD in this study as they were advised for physical activity. However, how frequently they were advised for the physical activity by health care providers couldn't be assessed. The detailed amount of physical activity was not assessed in this study and validation of the probing questions was not done. The findings from this study could be limited to an urban community in India. The identified barriers and facilitators could be used for promoting physical activity through policies and intervention in a similar community. However, further studies may be required to generalise the findings to north India.

Conclusion

We conclude that simply having knowledge about the benefits of physical activity is not sufficient to translate it to practice. An enabling environment could be provided for those who want to follow the advice of physical activity. Promotion of physical activity in the form of sports/exercise at the school level, the community should be supported with adequate infrastructure and its maintenance. Time is an important factor which needs to be addressed. Work and school timings should also be favourable. At a personal level, motivation needs to come from within and needs to be persistent.

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