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Master's thesis in Master of Science in Physical Activity and Health,
Occupational Science

Supervisor: Associate Professor Ragna Stalsberg

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Department of Neuromedicine and Movement Science



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PHYSICAL ACTIVITY BEHAVIORS AMONG LESS-ADVANTAGED BANGLADESHI PEOPLE-A QUALITATIVE STUDY

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AIM

The aim of the study was to explore the level and criteria of physical activity practices among less advantaged middle-aged Bangladeshi people.



METHOD

Study type: Qualitative research study
Sample size: 12 informants (6 male and 6 female)
Location: Dhaka, Bangladesh
Analysis : Thematic analysis



RESULT

Less advantaged middle-aged Bangladeshi people are mostly busy with their occupational, household and transportation physical activity and lack of leisure time to perform leisure time physical activity.



CONCLUSION

Importance should be given to acknowledge their lack of leisure time and explore opportunities for their leisure time physical activity.



Physical Activity Behaviors Among Less-advantaged Bangladeshi People – A Qualitative Study

Summary

Background: Physical activity (PA) has been promoted as a means to address global obesity and severe diseases. Previous research on PA has primarily focused on developed countries and leisure-time PA (LTPA), demonstrating a positive association between LTPA and socioeconomic status (SES). The traditional focus on LTPA may be the reason why studies in developing and underdeveloped countries, where socioeconomic conditions differ significantly from developed countries, have reported lower levels of PA in low-SES groups. Therefore, the present study aims to explore PA practices among middle-aged, less-advantaged Bangladeshi people, examine how and when PA is performed, and whether it is relevant to speak of LTPA as part of total PA in this population.

Methods: Semi-structured interviews were conducted with twelve randomly selected men and women (mean age = 29.3 years) with low-SES occupations in Dhaka, Bangladesh, in January 2023. An interview guide was centered on the everyday routines, working hours and activities and leisure activities. The inductive data analysis followed a thematic analysis approach.

Findings: PA among the less-advantaged population in Bangladesh predominantly involves occupational-, household-, and transport PA. The informants' PA practices centered on seven themes that shed light on the health effects and limited access to leisure time: “Exhaustive Work around the clock”, “Active commuting, and physically demanding occupation”, “Shift to Dhaka and work hard for money and supporting their family”, “The machinery is an illusion - all tasks are performed manually”, “The limited leisure time is not filled with LTPA”, “Additional domestic duties for women”, and “Bodily pain, and discomfort”.

Interpretation: The primary concern of Bangladeshi people with low SES lies not in their leisure-time inactivity but rather in their constrained leisure time resulting from an imbalanced work-life situation. It is vital to acknowledge their limited leisure time and further explore opportunities to facilitate LTPA engagement.

Key words: Physical activity; Socioeconomic status; Bangladeshi people; Physical exertion; LTPA; less-advantaged

Introduction

The global obesity pandemic, which has intensified over the past 50 years (Blüher, 2019), has raised alarm due to its association with insufficient physical activity (IPA), resulting in an increased focus on promoting regular physical activity (PA) to combat obesity and chronic illnesses (Cleven et al., 2020; Warburton et al., 2006). Obesity is a crucial factor contributing to the development of cardiovascular disease (CVD), and it is concerning that CVD remains the leading cause of death worldwide (Ormazabal et al., 2018). Because lack of PA has been seen as one of the causes of the obesity pandemic, increasing the amount of PA has been considered a part of the solution. The World Health Assembly (WHA) has approved the Global Action Plan on Physical Activity (GAPPA), including a global target to reduce physical inactivity in adults and adolescents with 15% by 2030 (Bull et al., 2020). In addition, the World Health Organization (WHO) advises all countries to establish their own PA guidelines and targets, as IPA is a notable health concern on a global scale (Bull et al., 2020; Fermino, 2023). There are, however, reasons to reflect upon some of the perspectives from which the well-intended effort to motivate individuals to be more physically active is taken.

Action plans on PA, such as the GAPPA (Bull et al., 2020), are based on scientific evidence, which consistently underscores the importance of regular PA for physical and mental health and overall well-being ("Why physical activity?," 2023). However, most previous studies about PA have been conducted in developed countries where the problem of overweight and obesity is partly due to the automatization of many previously labor-intensive jobs, by increasing household devices and daily-life PA at work has been replaced by leisure-time physical activity (LTPA) (Lear et al., 2014; McMichael & Butler, 2006). According to the WHO, over 1.9 billion adults aged 18 years and above were overweight in 2016, with more than 650 million of them being obese ("Obesity and overweight," 2021). However, some regions of Sub-Saharan Africa and Asia are not experiencing these problems, and the approach to potential PA guidelines must therefore adapt accordingly.

Cavill et al., (2006) underscore that the probability of an individual, group, or community engaging in PA is impacted by a diverse set of factors present in the individual, micro, and macro environments. A multi-country study of PA has demonstrated that there are significant variations in PA levels between different countries (Cameron et al., 2013). In developing nations, it is for

example, likely common for children and teenagers to work, carry out demanding household tasks, and attend school far away from their homes without motor transportation (Palma & Assis, 2011). Partly based on the above-mentioned misinterpretation of previous papers Palma & Assis (2011) and Stalsberg & Pedersen (2018) have argued that traditional research on PA may have presented an inaccurate portrayal of developing countries, leading to a misconception that these populations have lower levels of PA than they actually have.

Another point which may have strengthened the misconception of PA levels in developing countries may be rooted in previous assumptions that there is a correlation between socioeconomic status (SES) and PA levels. Seemingly, many studies have shown that high SES groups are more likely to meet recommended levels of PA (Craike et al., 2018; Grzywacz & Marks, 2001). Currently, the evaluation of SES heavily depends on information pertaining to occupation of individuals, level of education, and/or earnings (Oakes & Rossi, 2003). The suggested connection between PA and SES, however, is mainly focused on the association between high SES and participation in LTPA (Stalsberg & Pedersen, 2018). For example, some previous studies have measured PA-levels based on sports club membership and found positive relation between high SES and sports club membership (Eime et al., 2013; Zimmermann-Sloutskis et al., 2010). However, an essential distinction exists between LTPA and total PA, as LTPA represents just one aspect or domain of PA (Caspersen et al., 1985). Hence, although high SES-groups are more physically active during leisure time, SES-differences in total PA are not clear. PA, as defined by the WHO as any movement that involves the use of skeletal muscles and requires energy expenditure, can be pursued in different areas of life, such as leisure, work, education, transportation, and/or at home (Bull et al., 2020). According to Cameron et al. (2013), and supported by the reviews of Beenackers et al. (2012) and Stalsberg & Pedersen (2018), each specific domain of PA has a distinct connection with the SES of a person. It is possible that people from lower SES may have limited access to sports facilities, clubs, and information, but they may also be more likely to engage in physical activities as part of their daily routines, such as walking or cycling to school or work (Palma & Assis, 2011). Particularly in developing countries where occupational PA (OPA) is far more prevalent than in developed countries, assessing LTPA as a measure of PA may be less relevant.

Besides SES, PA level differs according to the economy of a country, geography and culture and several other factors. However, studies of PA in developing countries have been hampered by using the same methods to assess PA as in developed countries, and often studying the same groups of individuals (high-SES), and from a developed countries perspective, thus reporting rather similar results, and with similar interpretations (cf. Stalsberg & Pedersen, 2010; 2018). So, while there is consistent evidence in developed countries that LTPA levels differ based on SES, it is possible that similar associations may not be present in developing countries (Bauman et al., 2011). Thus, the overall picture of how these factors in fact relate, is still not clear.

In order to develop effective public health interventions, it is important to gain a comprehensive understanding of how SES affects PA in developing countries as well (Bauman et al., 2011). Compared to globally, South Asians are reported being less physically active (Chapman et al., 2013). Uddin et al. (2017) found that people in Dhaka City, capital of Bangladesh, did not meet WHO recommendations for at least 150 minutes of moderate-to-vigorous physical activity (MVPA) per week, though the study's sample of young adults (18-24 years) from six universities may not be representative of the broader Bangladeshi population. According to Fischbacher et al. (2004), South Asian (SA) individuals, especially women and older adults, exhibit significantly lower levels of PA in the UK compared to British people and among SA groups, Bangladeshi individuals tend to be the least active. The methodology employed in these studies is, however, somewhat akin to prior studies, which could potentially lead to incorrect assumptions being made due to the lack of contextual understanding.

Faruk et al. (2022) stated that eighty-seven percent of the labor force in Bangladesh works in the informal sector. Moreover, according to Moniruzzaman et al. (2017), most of the PA among Bangladeshi people comes from their work and transportation. In the streets of Dhaka are constantly filled with the lively activity of rickshaw drivers, head-loaders, cart drivers, construction laborers, barbers, cobblers, garbage collectors, waste recyclers, and vendors offering vegetables, fruits, meats, and fish (Faruk et al., 2022). Thus, these individuals, who significantly contribute to the economy of Bangladesh through substantial OPA, have not been specifically examined in previous research.

Importantly therefore, and relevant for the discussion about PA in developing countries, is the paradox regarding OPA and health that engaging in OPA can increase heart rate, blood pressure, and inflammation levels and when participating in OPA with limited work control, and without sufficient recovery time it may result in excessive exhaustion (Holtermann et al., 2017). According to Fimland et al. (2018), high physical work demands require high levels of OPA, which have shown both positive and negative associations with various health outcomes, but it contrasts with the extensive evidence that LTPA has positive health effects. Interestingly, Luo et al. (2022) found that increased OPA correlated with a decreased risk of death from all causes in the group with the least education, particularly for manual labor whereas increased OPA was detrimental in the group with the highest level of education and among those who reported regular LTPA.

Previous research has relied on quantitative methods, utilizing questionnaires to gather information about participation in various physical activities or exercises, frequency, and length of aerobic activity during leisure time, and muscle strengthening activity frequency (Bennie et al., 2019; Zhao et al., 2020). However, these methods fell short in capturing the total PA, and other essential aspects of PA. Stalsberg et al. (2019) demonstrated that various types of data on PA yield results that are entirely distinct from one another, and that interviews revealed more information about PA that was important for understanding PA in low-SES individuals. It is necessary to delve into the total PA by investigating the experiences of individuals in developing or underdeveloped countries. As such, qualitative studies offer a more effective approach to understanding PA in these countries.

So, the aim of the present study was to shed light on PA behaviors of the people with low SES from countries which are not developed by exploring the level and criteria of PA practices among less-advantaged middle-aged Bangladeshi people. Through in-depth information about how they experience their daily life, the study aimed to answer how and when PA is performed, and whether it is relevant to speak of LTPA as part of total PA in this population.

Method

Setting and Design

This study employed a qualitative research method where data was collected using semi-structured interviews of 12 middle-aged less-advantaged Bangladeshi adults in January 2023. The aim of the study necessitated the selection of a qualitative research methodology, as the primary goal of the study is to reflect the world from the perspective of the informants, making it a suitable method for exploring the level and criteria of PA practices among less-advantaged middle-aged Bangladeshi people; this methodology enables researchers to view issues through the lens of study informants, comprehending the significance and explanations they assign to actions, occurrences, or entities (Hennink et al., 2020).

Recruitment of informants

The informants were selected randomly from various locations in Dhaka, which is the capital of Bangladesh, including the streets, garment manufacturing factories, small shops, and residential areas. Informants were selected randomly because there were no other viable options to reach out to them, such as through media advertisements or leaflets, as they generally do not pay attention to such methods. Several days were used from morning until evening during working hours, searching for potential interviewees by walking on the streets, visiting garment manufacturing factories, small shops, and residential areas.

Permission was asked to talk to people respectfully and briefly the project was explained. If anyone was interested, some questions were asked to secure eligibility. Once all the inclusion criteria were matched, the project was explained in detail, and permission was sought from the informants to conduct the interviews. Most people declined to participate due to busy work schedules. However, some individuals were interested in giving interviews. One of the informants initially selected for an interview withdrew halfway through, indicating a change of heart and unwillingness to continue sharing his experiences.

The study included informants who were being middle-aged Bangladeshi adults (between 20-44 years old) who worked as day laborers for at least eight hours per day, both indoors and outdoors, without physical disabilities, and willing to take part in the study. In addition, they needed to have at least a primary education level to read, understand, and sign the consent form. The sample consisted of men and women who worked in various occupations including three garments manufacturing company workers, three house helpers, one rickshaw puller, one carpenter, and four street vendors. People with these occupations belong to low SES.

Data collection

To accommodate their busy schedules, interviews were conducted at the convenience and location of choice of the informants. Street vendors were interviewed while they worked, while others gave their interviews at their home after work. Although the informants were willing to participate, they often had to reschedule due to overtime work, and interviews were mostly conducted at night, except for street vendors who were interviewed during their work hours. During the interviews, the informants were closely monitored and tried to create a comfortable environment for them where they felt at ease sharing their opinions and views freely. Most of the informants did share their experiences and thoughts.

The interviews were conducted in a conversational manner, with the aim of knowing their personal experiences and thoughts. To align with the study objective, an interview guide was created, which was intentionally designed to be broad and open-ended, thereby encouraging the informants to freely express and share their experiences. The interview guide primarily emphasized the everyday routine, working hours and activities and leisure activities of the informants.

The interviews were conducted until there was no new information to gain from the responses. Thus, once twelve informants had been interviewed, it was determined that the data saturation point had been reached. The interviews were electronically recorded to capture the conversation in full and were then transcribed exactly as spoken (verbatim) with all personal identifying information removed. The interviews lasted between 25 and 40 minutes each.

Researcher reflexivity

The researcher, being a native of the same country as the study informants, had a unique advantage. This familiarity with the culture and language of the informants greatly aided in identifying and recruiting suitable informants, and facilitated in-depth, open conversations. This understanding of the sociocultural backdrop not only helped collect rich, detailed data, but also allowed for the interpretation of findings in the right cultural context, boosting the validity and relevance of the study. Although the researcher come from a higher socioeconomic background and faced some challenges in fully grasping the perspectives of the informants due to the socioeconomic difference but made every effort to understand their situation to the greatest extent possible. Post-interview documentation of observations and reflections revealed that the informants were generally dissatisfied and unhappy with their situations, displaying a sense of urgency which could be attributed to their busy schedules.

Data Analysis

The data analysis followed a thematic analysis (TA) strategy including six phases, as described by Braun & Clarke (2006). TA is one of the most common forms of analysis in qualitative research and a flexible research method that can be customized to suit various studies and can produce a comprehensive and intricate analysis of data (Nowell et al., 2017).

First, the transcriptions were translated from regional Bengali (the informants gave interviews in regional Bengali) to formal Bengali and finally to English. Regional Bengali was translated to formal Bengali because it is standard form of writing and regional Bengali is only spoken form with dialect of specific region ("Bengali – One language, multiple variations," n.d.). To gain familiarity with the data and understand it more thoroughly, the transcriptions were read and re-read multiple times. During these readings, an active approach was taken to identify patterns and meanings in the data, and notes were taken, and points were marked for potential coding ideas.

Afterwards, the data was systematically organized using initial coding, which was focused on addressing the research objective. Each segment of data was reviewed that was pertinent to or revealed something intriguing about the objective and assigned it a code. Initially, this was done manually, by reviewing hard copies of the transcripts with pens and highlighters. As the coding

process did not follow any preexisting coding frame, it involved using inductive thematic analysis to identify patterns and meanings within the semantic content of the data. Braun & Clarke (2006) suggested that a semantic approach to analysis involves identifying themes based on the explicit or surface meanings of the data. The analyst focuses solely on what the informants has said or what has been written, without seeking any underlying or implicit meanings. The study aimed to portray the PA practices among middle aged less-advantaged Bangladeshi people, without searching for meanings beyond their stories, thus a semantic, or explicit, approach was selected instead of making interpretations of a latent content.

Once the data had been initially coded and compiled, there was a comprehensive list of different codes that had been identified throughout the dataset. These initial codes were subsequently reviewed, and some of them were found to be related and coherent enough to form a theme. To sort different codes into themes tables has been used in the Microsoft word file. In the context of research, a theme refers to a significant aspect of the data that relates to the research question and reveals a pattern or meaning within the dataset (Braun & Clarke, 2006). During the process of organizing the codes into themes, some initial codes were grouped together to form main themes, while others became sub-themes, and some were deemed irrelevant and discarded. A short example is given below in Table 1.

Table 1: Example of Thematic Analysis

| Initial coding | Sub-theme | Main theme |
|---------------------------------|------------------------|--|
| No proper break | Less leisure time | The limited leisure time is not filled with LTPA |
| No regular weekly off | | |
| Sedentarism during off days | Sedentary leisure time | |
| No energy for physical exercise | | |

Additionally, a temporary theme called 'miscellaneous' was created and assigned to a set of codes that did not seem to fit into any other themes. By the end of this stage, the codes had been categorized into overarching themes that conveyed specific information related to the research objective. The themes were primarily descriptive in nature, meaning that they described patterns in the data that were relevant to the research aim.

The preliminary themes that were identified during the initial coding stage were subsequently reviewed and refined. This involved revisiting the data associated with each theme to assess whether it truly supported the theme or not. Some themes were merged because there was insufficient relevant data to support them independently, while others were separated into two distinct themes because of overlapping areas. Some codes were reorganized and placed between themes accordingly (see table 1). To facilitate this process, a thematic map was created on paper to ensure that the themes were clear, organized, and not repetitive. This process continued until the overall data was presented under different themes that were aligned with the research aim and did not contain any unnecessary repetition.

After the themes that were identified during the previous step were further refined and defined according to Braun & Clarke (2006). This involved identifying the core essence of each theme and determining what aspect of the data it captured. Detailed analysis was conducted for each individual theme, considering how it fit into the overall story of the data in relation to the research aim. Working titles were already given to the themes, and final names were also considered. Some titles were changed regarding to be concise, attention-grabbing, and clearly communicate the theme's essence to the reader.

Ethical considerations

Permission for ethical considerations was obtained from the Norwegian Centre for Research Data (NSD) and ethical approval was obtained from Dhaka city corporation. Prior to conducting interviews, informants provided both written and verbal consent and were guaranteed confidentiality and anonymity. The confidentiality of the informants was given utmost priority (In order to protect the raw data (interviews) until their publication, they were stored in NTNU NICE-1, which is a file storage area used by NTNU where data security is required. NICE-1 has been authorized to handle highly sensitive data, and permission to use the data storage area was obtained beforehand). To show respect for the informants' time and effort in participating in the interview process, a modest incentive was provided, especially for those who were interviewed during their work hours or ended their shifts early for the interview.

Results

A total of six women and six men were interviewed. The group included three house helpers, three workers of a garments manufacturing company, four street vendors, one rickshaw puller, and one carpenter who works in a small furniture shop. They were between 20 and 43 years (mean age = 29.3 years) at the time of the interviews (Table 2).

From a TA of the interview transcripts, seven main themes that appeared to be essential for the daily PA level and criteria among the group of less-advantaged Bangladeshi people, emerged. These themes are, “Exhaustive Work around the clock”, “Active commuting, and physical demanding occupation”, “Shift to Dhaka and work hard for money and supporting their family”, “The machinery is an illusion - all tasks are performed manually”, “The limited leisure time is not filled with LTPA”, “Additional domestic duties for women”, and “Bodily pain, and discomfort”. The themes are presented with illustrative quotes identified by the gender and occupation of each informant.

Table 2: Informant demographic information

| Informant | Gender | Age | Profession | Point to reference |
|-----------|--------|----------|--|-----------------------|
| 1 | Male | 35 years | Rickshaw puller | Male Rickshaw Puller |
| 2 | Male | 43 years | Carpenter | Male Carpenter |
| 3 | Male | 20 years | Street vendor | Male Street Vendor 1 |
| 4 | Male | 28 years | Street vendor | Male Street Vendor 2 |
| 5 | Male | 28 years | Street vendor | Male Street Vendor 3 |
| 6 | Male | 23 years | Street vendor | Male Street Vendor 4 |
| 7 | Female | 27 years | Garments manufacturing company worker (GMCW) | Female GMCW 1 |
| 8 | Female | 27 years | Garments manufacturing company worker | Female GMCW 2 |
| 9 | Female | 20 years | Garments manufacturing company worker | Female GMCW 3 |
| 10 | Female | 31 years | House helper | Female House Helper 1 |
| 11 | Female | 30 years | House helper | Female House Helper 2 |
| 12 | Female | 40 years | House helper | Female House Helper 3 |

Exhaustive Work around the clock

The informants typically work for a duration of 12—17 hours daily. They usually start their workday at 7:00 AM and finish at 7:00 PM but some, for example the street vendors, do not finish until 12:30 AM, resulting in a lengthy and exhausting workday for all of them.

“I start my work at 10 AM and finish at night at 12 AM then I return to home.”

(Male Street Vendor 1)

Some informants described how they experience mental fatigue along with physical exhaustion from contemplating long work hours. They work these longer shifts to earn money a bit more to make their life a little bit easier.

“Sometimes I feel tired both physically and mentally because of my longer shift, I feel irritated with everything when I go home.”

(Male Street Vendor 3)

Even though the working day starts early, most of the informants tend to rise much earlier to do their morning duties. Female informants who live in a slum where they share kitchen talked about how they rise early to prepare meals for themselves and their families. To cook, they must adhere to a schedule for using the stove in the shared kitchen. Some informants made it a point to drop their children off at school and the house of their neighbor before starting their workday.

“I wake up in the morning at 5 AM, I have to wake up earlier, I have to be on queue to cook in the stove, the stove is less but we are many tenants, I have to put queue for the stove, I have to cook according to the queue for the stove.”

(Female GMCW 1)

Some male informants also described an early start, however, to perform their morning prayer:

“I wake up early in the morning every day and go to mosque to pray my morning prayer, if I can wake up early on time, I go to the mosque far from my house and if I wake up a bit late, I go to the nearest mosque. But I wake up early every morning.”

(Male Carpenter)

Informants without responsibilities for tending to their children or cooking in the morning said that they wake up early and carry out their morning duties, including freshening up, completing some household chores, having breakfast, and then proceeding to work.

“My kids are living in the village with my husband, and I have my own kitchen space at my house, so I cook every evening for next day so that I can sleep a little bit more in the morning.”

(Female House Helper 1)

The usual sleep time for our informants is from 10 PM to 2 AM, although they try to sleep earlier because they wake up early in the morning. However, they often find themselves going to bed late. Upon returning home from work, all informants freshen up, rest for a bit, have dinner, and then go to sleep.

“I feel so tired and exhausted after coming home, I just want to sleep then, nothing else.”

(Male rickshaw puller)

Active commuting, and physical demanding occupation

Beside exhausting work around the clock, less advantages Bangladeshi informants commute to work by walking, which can take anywhere from five to sixty minutes. For the sake of their financial savings, they choose to walk despite the physical exertion that it requires.

“If I go by rickshaw to work every day it costs a lot, it is better to walk and save some money.”

(Male Carpenter)

As a consequence of relying solely on walking as their means of transportation, the informants experience significant fatigue and exhaustion when they begin their work. As one of the street vendors expressed:

“It takes 1 hour to go to work by walking, first I go to the big market to buy chicken and then I go the local areas to sell them. So, I feel exhausted and tired when I start the work!”

(Male Street Vendor 2)

All informants said that, after walking to work they began their physical hard work. For example, the house helpers revealed a lot about how they performed household chores such as cleaning, washing, and cooking, which require a lot of physical exertion. On a daily basis, they typically clean around six entire houses, as well as do a significant amount of laundry and dishwashing, in addition to cooking and meal preparation.

“My works mostly are cleaning, cooking, washing dishes and clothes; sometimes I do multitask and sometimes I complete one work then start another but every day same work in every houses.”

(Female House Helper 1)

Moreover, garment manufacturing workers talked about how they spend most of their time sitting, but in an uncomfortable position, performing tasks such as cutting fabric, sewing garments, and attaching tags and accessories to clothing.

“It is based on the machine, if it is high, I must push myself and if it is low, I must bend over. And I never get the machine as my height, but I must accept myself according to the machine's height.”

(Female GMCW 3)

Street vendors, on their hand, sell their goods while stationed in one location or while walking around various areas, preparing their products for sale, and carrying them by hand. They purchase their goods from a large marketplace, and subsequently sell them. Additionally, they make all of their own products, including items such as tea, coffee, and dumplings. They do not have a formal shop to sell their wares, but they put in significant physical effort into their work.

“In the beginning, I open the shop and sweep the front space, fill the stove with kerosene, heat the water in the kettle, steam machine and wash the plates and then heat the water, give the dumplings to be prepared, when the customers come and ask for dumplings, I serve them on the plate.”

(Male Street Vendor 4)

Carpenters typically work in a workshop but explained that they may visit the houses of the clients to repair furniture. At their workplace, they make furniture entirely from raw materials, which demands a great deal of physical exertion. They work tirelessly the whole day to make furniture, with larger pieces demanding even more PA.

“When I come to work in the morning and know that I have to make a showcase, then first I have to calculate, what would do I need, how many pieces of wood do I need, I have to cut wood, I have to do fittings, I have to do joints, then I work all day long.”

(Male Carpenter)

The rickshaw puller described how he searched for passengers on the streets, often transporting up to three passengers at a time using their physical strength to maneuver the heavily loaded rickshaw through long distances, even in challenging weather conditions.

“It varies from time to time, sometimes 2 people and sometimes 3 people and sometimes 1 person gets into the rickshaw, workload depends on the passenger! In fact, during hot days I sweat but now it's winter so don't sweat much but rainy days are very hard to drive rickshaw in the rain!”

(Male Rickshaw puller)

At the end of the day after a long physically demanding shift, everyone walks back home, feeling exhausted from their physical labor.

Shift to Dhaka and work hard for money and supporting their family

A common trait for all informants was that they had shifted from their native villages to Dhaka with the intention of improving their financial situation and quality of life. In their native villages, most of them worked in agriculture and earned comparatively lower wages despite their efforts. Moreover, there are limited job opportunities available, and even if there are, the wages are typically quite low. Job opportunities for women, in particular, are practically non-existent.

“I have shifted to Dhaka to earn more money so that I can have a better life; in our village, job opportunities are very less specially for women.”

(Female House Helper 1)

Their primary motivation for performing physically demanding tasks for longer hours was financial compensation, as they shifted to Dhaka for a better income and standard of living. Despite feeling bad and exhausted from such demanding work, they continue to work more than eight hours a day to make ends meet, as the minimum wage is insufficient for them.

“If I do not work, I cannot earn money, I work hard to earn money; no one is forcing me to work more, I do by my wish because I need money to live.”

(Female House Helper 3)

Moreover, the male informants are solely responsible for supporting their families, while the females also work hard and are sometimes the sole breadwinners. All informants expressed that they work hard to provide the basic needs of their families and ensure their children receive education to avoid such physically demanding jobs in the future.

“It is very hard to work like walk on the road the whole day, it is a lot of trouble to walk on the road, I suffer but there is nothing to do, it has to be done for the sake of my family.”

(Male Street Vendor 2)

Furthermore, they said that they work hard to save for their future as they will not get any pension, to have a comfortable and stress-free life in their old age, given the potential health risks associated with physical labor.

“I am a poor person, I work for money, now I will save the money I earn, when I will become older and I will not be able to work anymore, then I will spend my days with the money I am saving now.”

(Female House Helper 2)

The machinery is an illusion- all tasks are performed manually

Most informants perform their tasks manually in the workplace, apart from those working in the garment manufacturing company. Doing work with help from a machine seems unattainable. The house helpers described that they are required to perform all their duties manually, including washing clothes in buckets, cleaning dishes with soap and a scrubber, sweeping and mopping floors with a broom and cloth, and cleaning building stairs by hand. Additionally, they use a cutting tool to chop vegetables and must do so in uncomfortable positions. As the following two house helpers said, they do not have access to any modern cleaning tools to aid them in their work:

“I clean the house by brooming it and by scrubbing it, they do not provide any mop or any machine, everything I do, do it by hand.”

(Female House Helper 2)

“From where I get the washing machine! If I get a washing machine to wash the clothes, why they would pay me money to wash their clothes! Everything I do by my hand.”

(Female House Helper 3)

Manual labor is not only limited to house helpers, but also to other professions such as carpenters, rickshaw pullers, and street vendors. These workers perform their tasks using their physical abilities without relying on any machinery. They use their hands to construct furniture from raw

materials, manually clean and operate rickshaws using pedals, wash dishes and utensils by hand, carry goods on their hands to sell, and prepare their products entirely by hand. The following is how two of the men describe how all their work is accomplished through manual labor:

“When we cut whole raw wood and prepare it to make furniture, it is a lot of work, two of us do the work by hand, there is no machine. Machines are available in the market, but they require a lot of money, so the machine cannot be installed where I work, so this work must be done manually.”

(Male Carpenter)

“I clean, wash, serve everything by hand, where should I keep the machine! I work on the street and how can I manage the money for it!”

(Male Street Vendor 1)

In addition to their manual work outside the home, they also perform household tasks manually. They lack access to machinery to assist them with their household chores, which means they must put in extra effort to get their chores done. They are unable to purchase any appliances due to financial constraints.

“From where we can find machine, we barely live in that house and survive our lives, how could we think about machine to do the work!”

(Male Street Vendor 3)

The limited leisure time is not filled with LTPA

The majority of informants said that they have no weekly day of rest, while only a few have a single day off on Fridays. However, even this day off is not guaranteed every week. These informants talked about how they work tirelessly all day throughout the entire week, without regular breaks.

“No one gives a day off in a week, I work every day.”

(Female House Helper 1)

“There is no holiday in garments if the work target is not completed, so sometimes we do not get off days in some weeks”.

(Female GMCW 3)

Typically, the informants receive two days off each year for their religious holidays, and aside from that, they do not have any designated holidays throughout the year. This implies that they do not have a consistent weekly, monthly, or annual break from work. A few of the informants said that they receive two days off each month, during which they use the time to visit their families. However, their holiday time is mostly spent traveling between their village and Dhaka.

“The time cannot be used properly, I leave for village in the morning and reach there in the afternoon come back the next day evening because of work, so I do not even get 2 days off properly.”

(Male Street Vendor 4)

Occasionally, the workers are granted time off due to urgent matters or illness, but unfortunately, sick leave is not always given appropriately. Some of the informants explained how employers refuse to grant sick leave for even a day, and some threaten to terminate the jobs of the informant

“Most of the time the employer refuses my sick leave, they call me and say that they have a lot of work left, I should go and finish that first then I can take rest.”

(Female House Helper 3)

Moreover, in some cases, informants are not allowed to leave work and go home when feeling ill. Instead, they are only allowed to take a short break at their workplace until they recover.

House helpers are not even given any breaks during their work hours. They said that they usually work in six different houses, with each house requiring them to work for two hours. If they take a break, they will fall behind schedule for their other houses, which their employers do not appreciate. Hence, as this house helper described, they work continuously without any breaks:

“I can take break if I want to, but I have to finish every housework on time and start another one, if I take rest then I cannot complete all work on time and the employers will not be satisfied with me.”

(Female House Helper 2)

During their short holidays, the informants generally spend their time resting by sitting or lying down. They occasionally visit their family and friends to engage in conversations. Some of them may do light exercise or play outdoor games, but most prefer to spend their leisure time in a sedentary position.

“I prioritize my work, work is most important for me than leisure time activities, if I have energy after work, I go to play otherwise I work and then have rest by sitting or, lying down.”

(Male Street Vendor 4)

This is mainly because they do not get adequate rest due to their long work hours and lack of proper off days. Additionally, they lack the energy to do anything else besides resting.

“After the long week I prefer to give proper rest myself so that I can work again, I recharge myself by sleeping more on the off days.”

(Male Carpenter)

Furthermore, they are not very interested in outdoor activities during their free time as there are no suitable places for them to engage in LTPA. As he said about lack of space for LTPA or, any other outdoor activities:

“Where is the place for outdoor activities or for walking in leisure time! In Dhaka everywhere is congested by buildings and people, we cannot normally walk most of the time!”

(Male Street Vendor 3)

Moreover, they cannot even afford to go to the gym. Sometimes, they get mocked by some people from high SES groups not directly verbally but with their attitude, as she said: -

“Once I went for walk at the park near my house, some people who were doing exercises there gave me some kind of weird look as I should not go there for walk, maybe because of my clothes!”

(Female House Helper 1)

Some informants hold the belief that engaging in LTPA is only necessary for individuals who require medical treatment for a particular disease.

“I do not need any physical exercise; I see many people walking in the park and doing some physical exercises because they have diabetes and hypertension. I do not have any disease and I am fine. I work and walk too much during my work, I need rest, not physical exercise!”

(Female House Helper 2)

Additional domestic duties for women

Female informants not only work as house helper or garments manufacturing company worker, but they also fulfill their responsibilities as mothers and homemakers at their own houses. They put in long hours at their jobs, working about 12 hours a day, and manage to complete all their household duties. From dawn to dusk, they put in a great deal of effort to support their families financially and physically. For example, since most of their houses lack adequate water supply, they are forced to manually pump water and use it for cleaning and washing. These tasks necessitate a significant amount of physical exertion, and since they do not have access to any machinery that could simplify their household tasks or anyone else to help them, they become exhausted at the start of their day.

“I do not have my mother or sister here to help me, I have to do everything by myself, otherwise who else is going to help me with my household chores!”

(Female House Helper 3)

Upon returning home following a lengthy shift, they once again perform all their remaining household duties such as cleaning, washing, cooking, and attending to their children before going to bed. They feel extremely tired and drained after a long day of work, and would appreciate some care upon arriving home, like this woman expresses:

“After going home, I feel like I take rest, someone give me some food in front of me, I want to sleep for a while, someone give me some food in front of me, I take a little rest and relax but there is no one to do that! I have to do that by my own.”

(Female House Helper 1)

These women do not have much time to rest and get a good sleep even on their off days. When they have time off from their job, they usually spend it doing household chores such as deep cleaning their home and washing heavy items like curtains and bedding.

“In free time, I have to do household chores when I go to village during holidays, I have to clean the house, I stay at Dhaka and my husband lives in the village with the kids, he does not do any household chores, he cooks and eats a little, the house become messy and dirty, they need to be cleaned, I do that.. There are other things to do outside, school, kids, take care of them, get them done and then leave on time for Dhaka to join my work.”

(Female House Helper 1)

They make sure to spend quality time with their children and provide proper care, which can be difficult due to their work schedules. Occasionally, they take their kids out as well as assist them with their studies.

“In fact, there are a lot of work at home during the holidays, like the child has a lot of work, I cannot give time to the child properly throughout the week, so when there is a holiday, I try to give more time to the child.”

(Female GMCW 1)

Bodily pain, and discomfort

The informants in the present study experienced adverse health effects because of the physical demands of their jobs. They reported various symptoms such as bodily pain, discomfort in their limbs, headaches, and eye irritation. Specifically, workers in the garment industry are required to sit in uncomfortable positions for prolonged periods and often experience particles from the fabrics they work with, entering their eyes and nose. This leads to back pain, eye, and nose irritation. Additionally, they sometimes injure their fingers with needles or scissors due to the extended use of these tools. Sometimes some workers have even fainted due to excessive workload and a lack of proper breaks.

“While working with raw pieces of clothes, then the dirt comes out of the clothes during work and from there the problems like headache, cough, cold start.”

(Female GMCW 2)

House helpers are required to perform various tasks in multiple homes and are often expected to multitask. Much manual work leads to uncomfortable working positions and frequent exposure to water throughout the day. Consequently, they often experience bodily aches due to their workload and are prone to catching the flu from extended water exposure.

Street vendors commonly experience leg pain and fever because of standing and walking for extended periods, even in hot and rainy weather conditions. They frequently suffer from bodily aches and headaches due to the workload and lack of proper breaks. Rickshaw pullers are required to transport customers on their rickshaws and pull them for extended distances using their own

physical strength. They work outdoors in all seasons and are exposed to harsh weather conditions. As a result, they frequently fall ill, with fever and bodily aches being common ailments. The combination of hot weather and a high workload during the summer season causes them to become dehydrated as well.

“When I go home after a long shift, I feel like somebody has beaten me badly! I feel too much body ache and my legs just want rest that time.”

(Male Street Vendor 2)

“I love my job but during summer I really feel bad due to hot weather, I get tired very fast and always feel thirsty, sometimes I get fever due to hot sunny weather.”

(Male Rickshaw puller)

Carpenters commonly experience bodily aches from carrying heavy wooden materials and furniture during their work. Furthermore, during the process of furniture making, they inhale a significant number of wooden particles and other substances used in the making of furniture, which often results in flu and nasal congestion.

“My whole body gets tired and most of the time feel unbearable pain in my hands and legs. Sometimes I want to quit the job because of this pain!”

(Male Carpenter)

Although they have limited leisure time, some informants engage in LTPA whenever they have the opportunity, and they report feeling good after engaging in such activity. However, they cannot maintain regular LTPA routines.

“I feel really relax and light when I can do some physical exercise, I love to play outdoor games but nowadays I do not get much time to play, but I try to do free hand exercises every morning, I feel good!”

(Male Street Vendor 3)

To summarize, these themes accurately illustrate the comprehensive PA patterns among the population with low SES in Bangladesh, which predominantly involves OPA, household PA (HPA), and transport related PA (TPA). These themes reflect how these activities impact on their health and highlight the scarcity of leisure time available to them.

Discussion

The aim of this study was to explore the level and criteria of physical activities among less-advantaged middle-aged Bangladeshi people in order to better understand PA practices in the context of underdeveloped countries and low SES. The study investigates the relevance of LTPA as part of total PA in this population by delving into their daily experiences. The data reveals that these informants engage in rigorous work throughout the day, with OPA being the most prominent form of PA. Notably, they lack leisure time for LTPA and are mostly occupied with OPA and TPA. Furthermore, women tend to engage in substantial amounts of HPA alongside OPA and TPA. This examination of their PA level and criteria demonstrates that their lifestyle and PA patterns significantly differ from those in Western or developed countries. The 2020 WHO guidelines recommend that all adults should engage in regular PA, consisting of at least 150-300 minutes of moderate-intensity aerobic exercise or 75-150 minutes of vigorous-intensity aerobic exercise per week, or a combination of both for significant health benefits, and perform muscle-strengthening activities targeting all major muscle groups at moderate or higher intensity at least twice a week for additional health advantages (Bull et al., 2020). Based on these guidelines, less-advantaged people of Bangladesh are active; however, numerous prior studies suggest that South Asians or people from Bangladesh are less active or do not meet the criteria of WHO for PA (Chapman et al., 2013; Uddin et al., 2017). There may have been misunderstandings or inaccuracies in measuring PA patterns, which could explain these discrepancies.

The themes emerging from the analysis clearly demonstrate the faultiness of applying uniform methods and interpretations across diverse contexts, underscoring the importance of considering unique circumstances in each situation.

Exhaustive Work around the clock

The theme of long work hours and the resulting tiredness has significant importance. The long workdays of these informants, spanning from 12 to 17 hours, combined with their early morning and sleep late routines, leave them with little time for rest and recovery. This prolonged working

schedule results in both mental and physical fatigue, potentially reducing their motivation or ability to engage in additional physical activities during their leisure time.

Furthermore, the early morning routines of the female informants who need to manage both household chores and professional responsibilities, is an additional burden to their already demanding schedules. The need to balance HPA with OPA further limits the time available for LTPA.

Active commuting, and physical demanding occupation

Through this theme, the study highlights the patterns of PA that less-advantaged middle-aged Bangladeshis engage in their daily life, shedding light on the PA levels and characteristics in a population with low SES in an underdeveloped country. In the context of aim of this study, the theme provides valuable insights into the PA practices and the way of transportation of the informants, who are representative of a less-advantaged population in Bangladesh. Their occupations involve considerable physical exertion, from cleaning and cooking to making furniture, sewing garments, and maneuvering rickshaws as well as selling goods through challenging conditions. While these work-related and transport related physical activities are vital for understanding the overall PA level of this population, the theme also raises the question of whether LTPA is relevant in this context. After exhausting work routines and limited leisure time, it may be challenging for them to engage in additional leisure time physical activities. This finding suggests that for this population, the concept of LTPA might not adequately capture their total PA, as the majority of their exertion stems from their occupations and daily routines.

Shift to Dhaka and work hard for money and supporting their family

The theme provides valuable context for understanding the motivations and challenges faced by these informants who have migrated to Dhaka from their native villages in search of better financial prospects and improved quality of life. The theme highlights the economic factors driving people from rural areas to urban centers like Dhaka. Limited job opportunities and low wages in

their native villages compel them to take up physically demanding tasks in the city. The necessity to provide for their families, educate their children, and save for their future pushes them to work long hours, often at the cost of their health. The PA of these individuals is significantly influenced by their SES. The high level of PA observed in this population is primarily due to work-related demands rather than LTPA. This indicates that the concept of LTPA might not hold much relevance for this population.

The machinery is an illusion - all tasks are performed manually

The theme revolves around the fact that individuals belong to low SES groups in underdeveloped countries like Bangladesh, perform their tasks manually in the workplace and at home. This manual labor extends to various professions, such as house helpers, carpenters, rickshaw pullers, and street vendors. The prevalence of manual labor among these individuals is mostly due to financial constraints.

This means that they must rely on their physical abilities to perform their tasks, often in uncomfortable positions and with limited resources. This results in a higher level of PA compared to those who have access to machinery or more ergonomic work environments. It is important to consider that the high level of manual labor may lead to a decreased inclination to engage in LTPA among this population.

The limited leisure time is not filled with LTPA

The theme of limited time for rest and leisure is highly relevant. The experiences of these informants of long work hours, lack of proper breaks, and limited opportunities for leisure time highlight the challenges they face in incorporating LTPA into their lives.

Additionally, the pressures of maintaining a work schedule across multiple jobs, as seen with house helpers, further exacerbate the challenge of finding time for LTPA. When informants do have a rare break or holiday, they often prefer to spend their time resting or tending to personal matters, rather than engaging in outdoor activities or exercise.

Moreover, the lack of suitable places for LTPA, financial constraints that prevent access to gyms, and negative attitudes from individuals of higher SES all contribute to the limited interest and opportunities for LTPA among this population. These factors further reinforce the notion that LTPA may not be a significant aspect of overall PA for people with low SES from underdeveloped countries.

Additional domestic duties for women

The theme reveals that female informants are not only responsible for their paid work, which involve long hours and physically demanding tasks, but also for the management of their households. As mothers and homemakers, they bear the burden of childcare, cooking, cleaning, and other domestic tasks, often without any help or access to labor-saving technology. This results in a significant amount of physical exertion throughout their day, which contributes to their overall PA levels. These women exemplify the challenges faced by women in underdeveloped countries with low SES. Their long work hours, coupled with their household responsibilities, leave them little time for LTPA. The concept of LTPA is often associated with higher SES populations who have more time and resources to engage in activities for enjoyment or personal development. However, for these women, their PA is primarily dictated by their OPA and HPA.

Bodily pain, and discomfort

The informants in the study reported experiencing adverse health effects due to the physically demanding nature of their jobs, which varied across different occupations. These adverse health effects highlight the importance of examining the PA levels of this population, as their work conditions and physical demands may not only affect their overall health but also impact their ability and motivation to engage in LTPA.

Garment workers, house helpers, street vendors, rickshaw pullers, and carpenters all face unique challenges in their work environments that contribute to health issues such as bodily pain, discomfort, headaches, and eye irritation. These challenges stem from factors like prolonged sitting

or standing, repetitive motion, exposure to harsh weather conditions, and physical strain from manual labor. Despite these challenges, some informants reported engaging in LTPA when possible, but they struggled to maintain regular routines. It suggests that, for this population, LTPA may not be a significant component of their overall PA, as they face numerous barriers in their daily lives.

The theme of adverse health effects due to the physical demands of various jobs highlights the importance of considering contextual factors when examining PA levels in less developed countries and among people with low SES.

Factors that impact PA level

The findings in the present study indicate that these individuals not only do engage in PA as per the WHO's guidelines (Bull et al., 2020), but also participate in higher levels of PA. However, the 'PA paradox' suggests that OPA may negatively impact health due to limited work control or lack of sufficient recovery time (Holtermann et al., 2017). From the finding that the informants in the present study work manually all around the clock, almost without breaks and sufficient resting time, and were suffering bodily pain and discomfort, the paradox fit well. However, an opposite trend has been found in a previous study (Luo et al., 2022) individuals with the lowest education levels, both standing occupations and manual labor were inversely related to overall mortality, whereas the association was reversed for those with higher education, as manual work seemed detrimental in comparison to sedentary workers possessing high school education or higher.

According to Cavill et al. (2006), PA levels depend on a multitude of factors, including macro-environmental elements like general socioeconomic, cultural, and environmental conditions, micro-environmental aspects like the conduciveness of living and working environments for PA, and the support from social norms and local communities, as well as individual factors such as attitudes, self-confidence, and awareness of opportunities, which collectively contribute to the diverse PA levels and standards observed across different countries. In order to accurately understand and analyze PA patterns of each country, studies should be tailored to their specific context; otherwise, the results may be somewhat imprecise, and misassumptions could arise.

Bangladesh is an underdeveloped country ("UN list of Least Developed Countries," n.d.) and majority of the people work in the informal sector to support themselves and their families (Faruk et al., 2022)

Their low income drives them to work more intensely, leaving little leisure time for rest or LTPA. During their limited leisure time, they prioritize rest over LTPA. Adequate rest is crucial regardless of the type of PA. Moreover, due to their low income, they cannot afford to have any kind of gym or sports membership. Additionally, their limited earnings necessitate engagement in TPA due to a lack of affordable transportation options. The lack of governmental social security for low-SES individuals leads them to prioritize OPA over LTPA in order to secure their futures.

According to the findings in the present study, women are solely expected to manage household duties, while men are mostly responsible for providing for the family financially. However, due to low income, many women also work outside the home to contribute their family financially. Moreover, as per them, the environment of Dhaka tends to be not accommodating for LTPA for those with lower SES, as those with higher SES may not be as accepting of them participating in physical exercise or other LTPA activities.

Additionally, manual labor is prevalent, as employers typically do not invest in machinery to ease the workload at Dhaka for the people with low SES. This is because they believe that since workers are paid for their labor, there is no need to provide equipment to facilitate their tasks. While workers in the garment industry use machines, they still face challenges due to uncomfortable working positions. Although they may not require extensive physical movement compared to other informal sector jobs, the nature of their work still results in significant occupational pressure, which contributes to an overall stressful work environment.

Individuals with low SES often experience poor living conditions, commonly sharing their living space with others, which can lead to various issues. They not only lack access to machinery assistance at work but also cannot afford such equipment at home. Additionally, they frequently lack essential amenities and may be marginalized by society. Given these circumstances, it is crucial to consider whether engaging in LTPA is more important to them than OPA and HPA.

Some individuals with low SES may be aware of LTPA or physical exercise but they often lack the time or energy to participate after engaging in strenuous OPA. Many of them may not even have a clear understanding of these concepts. However, a low SES or excessive OPA can lead to chronic health issues and obesity, which is why PA is often studied (Blüher, 2019; Holtermann et al., 2017).

Developed versus developing and underdeveloped countries

As described, the majority of previous studies have been conducted in developed, particularly Western countries and according to those studies, lower SES individuals, especially women, have the highest prevalence of sedentarism and high body mass index (BMI) (Bernstein et al., 2001; Borodulin et al., 2012; Brown & Siahpush, 2006). Higher BMI is also associated with low level of education along with low SES (Borodulin et al., 2008; Łobaszewski et al., 2011) Brown and Siahpush (2006) and Zimmermann-Sloutskis et al. (2010) also identified women as the most inactive group. Interestingly, the informants of the present study with low SES tended not to be obese, but rather lean and thin. Moreover, However, the findings of this study indicate that low SES individuals in Bangladesh, are physically active in OPA, TPA and HPA, with women being more active than men. The themes " Active commuting, and physical demanding occupation " and "Additional domestic duties for women" provide insights into the PA levels and patterns of less-advantaged Bangladeshis, presenting a different scenario than in developed countries.

These findings align with Naseer et al. (2013), which identified structural barriers and personal factors that contribute the lower participation of women in LTPA, such as limited access to exercise facilities, inconvenient scheduling, exercise taking up family time, physical exertion, and lack of family encouragement. However, Guthold et al. (2020) found that, in 2016, the prevalence of inadequate physical activity (IPA) among girls, boys, and adolescents in Bangladesh is relatively lower than the regional average of SA countries and high-income Western countries, among boys, the rate of IPA was 73.1% in the average of SA countries, 72.1% in the average of high-income Western countries, and 63.2% in Bangladesh, while among girls, it was 77.5% in the average of SA countries, 84.6% in the average of high-income Western countries, and 69.2% in Bangladesh, and among adolescents, it was 75.2% in the average of SA countries, 78.2% in the average of high-income Western countries, and 66.1% in Bangladesh.

Moreover, Craike et al. (2018) have observed that individuals with low SES are more likely to face adverse health outcomes and be less physically active than individuals with high SES. Kamphuis et al. (2008) also supports this notion by identifying several factors that hinder PA in those with low SES in a developed country, such as unsafe neighborhoods, lack of sports facilities, and financial barriers to joining sports clubs. These factors were similarly reported by disadvantaged people in Bangladesh, who mentioned insufficient facilities, socioeconomic difference and financial issues preventing them from LTPA in the theme “The limited leisure time is not filled with LTPA.”

Eime et al. (2013) and Zimmermann-Sloutskis et al. (2010) found a positive relationship between high SES and sports club participation while the absence of club membership in sports increased as individuals grow older. However, it is not essential to question whether PA should be solely measured by sports club membership or participation in LTPA by engaging in sports activities, especially for individuals with low SES. According to Kamphuis et al. (2008), individuals with low SES often cannot afford sports club memberships due to financial constraints. If this situation is present in developed countries, it raises the question of how people with low SES in developing and underdeveloped countries can possibly afford sports club memberships given their limited income. Naseer et al. (2013) found that total PA is higher among individuals with low income, and comparatively lower among high income individuals. Consequently, it is vital to consider the broader context of PA and its relationship with SES rather than focusing solely on sports club membership or LTPA.

Additionally, these informants often work long hours to support their families, leaving little time for relaxation, proper sleep, or LTPA which is described in the theme “Exhaustive Work around the clock”. According to Strazdins et al. (2011, 2016), time is a crucial factor in health and wellbeing, as it allows people to engage in healthy habits, utilize healthcare services, work, relax, and provide care. However, Strazdins et al. (2016) also stated that spending more hours on paid work could be associated with physical inactivity. Nevertheless, when people are engaged in OPA, TPA AND HPA, it is hard to consider them physically inactive. The relationship between income and time is crucial here, as those with higher incomes can afford time-saving services, while those in low-paying jobs cannot and this creates a situation where people with low income increases their risk for poor health (Strazdins et al., 2011). This scenario is evident among the less-

advantaged people of Bangladesh, who perform manual labor due to financial constraints, impacting their health. “The machinery is an illusion - all tasks are performed manually” and “Bodily pain, and discomfort” these themes have described about the manual works and the effects of workload of less-advantaged people of Bangladesh.

Strength and limitations

One of the primary strengths of this study lies in the in-depth familiarity of the researcher with the local context of Bangladesh. This intimate understanding proved invaluable in several ways, including the identification and recruitment of suitable informants. The cultural awareness and linguistic proficiency of the researcher facilitated open and engaging conversations, allowing for the collection of rich and nuanced data. Additionally, this familiarity with the social context enabled the researcher to interpret the findings within the appropriate cultural framework, enhancing the overall validity and relevance of the study.

A notable strength of this research lies in the successful engagement with an otherwise hard-to-reach group, overcoming barriers such as time constraints and potential skepticism towards researchers. This accomplishment was made possible by leveraging unique advantage of the researcher, which facilitated the establishment of trust and rapport with the informants. The ability to access and study this group has enriched the dataset and contributed to a more comprehensive understanding of the research topic, ultimately enhancing the validity and generalizability findings of the study.

The potential limitations of this study stem from both the translation process employed during data analysis and the absence of independent validation. The interviews were first conducted in regional Bengali, then translated into formal Bengali, and finally into English. This multistep translation approach might have resulted in the loss of certain details or delicate nuances in the statements of the informants. Despite all efforts to maintain the precision and faithfulness of the translations, some aspects of the original meaning or context might have been unintentionally changed or omitted during the process. Moreover, the fact that the translation process was not independently validated by another bilingual Bangladeshi researcher fluent in English presents an additional

limitation. Although the translations were executed thoroughly and with careful attention to detail, the lack of external validation could have allowed for the possibility of errors or misinterpretations. Consequently, certain nuances or cultural aspects in the responses of the informants might have been inadvertently modified or omitted. These limitations should be acknowledged when interpreting the findings and drawing conclusions from the study, as they may have implications for the overall credibility and dependability of the results.

Another limitation of this study is the relative inexperience of the researcher in qualitative data analysis. The level of training of the researcher may have influenced the interpretation of the data and the themes identified during the analysis. It is possible that a more experienced researcher might have arrived at different themes or emphasized different aspects of the data. While this subjectivity is inherent to the nature of qualitative research, it is important to acknowledge that the background and experience of the researcher may have played a role in shaping the findings of the study. Regardless, there are no reasons to distrust the findings, which are unambiguous regarding the PA practices among the chosen population.

Conclusion

This study has illuminated the distinct challenges faced by individuals from underdeveloped countries with low SES, as their working conditions and everyday experiences significantly influence their overall PA levels and criteria. The issue is not their inactivity during leisure time, but rather their lack of leisure time due to an imbalanced work-life dynamic. Since LTPA is known to enhance health, it is crucial to recognize the facts of limited leisure time among them and explore more to provide them opportunity to engage in healthy LTPA. Future research should continue to investigate this unique population, ensuring that individuals from all SES are thoroughly assessed with accurate methodology.

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