

Physical Activity among Kashmiri Urban Women during Winter and Summer

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Abstract:

The aim of the study is to find out the physical activity among Kashmiri urban women during winter and summer. The main objectives of the study are to assess the Physical Activity Index - Urban Women (winters & summers). The data was collected through a questionnaire from a sample of 400 Kashmiri women. The results revealed that the Physical activity based on the occupation/physical exercise (hrs/week) in winters: Majority (46.7%) were found to be inactive followed by 24.2% who were moderately inactive, 16.13% were moderately active and only 12.9% were active. While as during summer, 41.93% were found to be moderately inactive followed by 25% who were moderately active, 20.97% were found active and 12.10% were inactive. A substantial difference was observed in physical activity levels during summer and winter season.

Keywords: Physical Activity, Kashmiri, Urban Women, Winter, Summer

INTRODUCTION

Sedentary lives are becoming common among Kashmiri adults, who have seen dramatic lifestyle changes in recent decades. Since the inception of the turmoil, Kashmir has witnessed less physical activity patterns across different forms of life. Kashmir has also seen lot of disturbances socially, economically and psychologically which is believed to have tremendous impact on their dietary & activity pattern besides impact of seasonal change.

The rising prevalence of high blood pressure, diabetes and obesity can be attributed, at least in part, to decreasing levels of physical activity. Unhealthy or processed foods are becoming risingly popular in every part of the world and so is the case with Kashmir. Today's age in Kashmir has developed a daily practice of consuming processed foods, which is thought to be a major contributor to obesity and diabetes because they are rich in sugar, artificial ingredients, refined carbohydrates, low in nutrients, low in fibre, and high in trans fats.

Modern lifestyle is directly related to rising body weight, which is currently a global health issue (Janssen, et al., 2005; Sameera & Amar, 2012). Greece has recently taken a bad lead among the European nations since 11.7% of its young people and 29.5% of them are overweight (Avgerinos, 2008). Researchers concur that the primary causes are changes in lifestyle and food choices, as well as a decline in PA (physical activity) (Farajian, et al., 2011; Hill, Wyatt, Reed &, Peters 2003). So, for the prevention and treatment of this phenomena, worldwide health

organisations advise a set of special instructions (Khan, et al, 2009). International recommendations encourage young people to engage in physical activity (PA) of moderate to high intensity for at least an hour each day, with at least three sessions of PA of at least 20 minutes each that maintain and advance fitness occurring each day (Cavil, Biddle & Sallis, 2001). There is proof that adolescents' eating habits and physical activity are related. For instance, studies by Kremers et al. (2003) and Driskell et al. (2008) discovered a link between a poor intake of fruits and vegetables and a low level of physical activity. Keski-Rahkonen et al. (2003) and Cohen et al. (2003) discovered a link between skipping breakfast and seldom exercise.

The type and duration of physical exercise, whether moderate or intense, has a significant role in determining energy requirements. Allowances must be higher for those whose jobs include heavy lifting than for those who either sit all day or labour in a moderate capacity. The allowances are calculated assuming that the energy used for non-work activities stays constant.

Previous studies have demonstrated that changes in weight are influenced by energy balance, which is the interplay between caloric intake and caloric expenditure as a result of food's thermic effect, resting metabolic rate, and overall physical activity (PA). Studies have also shown that seasonal variations in body weight exist (Van Staveren et al., 1986; Sasaki et al., 1998; Shahar et al., 1999). The association between seasonal variations in calorie intake and physical activity and seasonal variations in body weight, and particularly the relative weight of these variables in influencing weight change, have not been as thoroughly investigated. Examining trends over time and identifying times when people eat more, move less, and gain weight may be useful for future studies. Additionally, the occurrence of seasonal change would need to be considered when developing studies that observe diet and physical activity as well as when counselling patients about good behaviours.

LITERATURE REVIEW

Studies have suggested that healthy diet and physical activity is the key to health and when it comes to old age it becomes even more important to follow the healthy lifestyle to have a physically fit and mentally healthy life. Medical advancements have increased life expectancy in many parts of the world. Preventing unhealthy lifestyle behaviours like alcohol consumption and tobacco use and preventing chronic diseases like cancer and cardiovascular disease can result in a long and healthy life.

Life style related disorders are common in modern human life across the world. But when it comes to Kashmir the prolonged turbulence in the region has produced generations of individuals who suffer from severe chronic diseases. A study was conducted by (Nissar, Vaida, & Khan, 2017) to assess the hypertension level amongst the hypertensive patients both in urban and rural areas of Kashmir. The sample of the study consisted of 400 participants under the age

group of 45 years or above selected through purposive sampling. The sample was collected from four district hospitals in Kashmir namely SMHS Government District Hospital, Government District Hospital Baramulla, ASYM Government District Hospital and MMABM Govt. District Hospital. The study revealed that 56% of the participants had sedentary lifestyle, followed by 21.25% who were involved in mild work, 12.25% of the respondents noted to have been involved in moderate work and only 10.5% suggested to have actively involved in some physical work. A majority of participants that is 66.75% reported to have engaged in physical activity for only 2 hours per day whereas only 10.5 % respondents reported to have spent more than 6 hours on a physical activity in a day.

Noriko et al. (2022) conducted research on the connections between seasonal variations in food intake and energy metabolism, physical activity, and body composition in young Japanese women in 2022. The study examined the connections between changes in food intake, energy metabolism, physical activity (PA), and body composition throughout the course of the year. 28 Japanese women from the Kansai region, aged 20 to 23, participated in this year-long study, which spanned the winter, spring, and summer months. The results showed that PA levels were low in the winter, much greater in the spring, and then reduced once more in the summer. Body weight grew throughout the winter as fat storage in the arms and trunk increased, and decreased during the summer as fat storage decreased. Wintertime calorie consumption was higher and PA was lower despite an increase in RMR, which resulted in an increase in body weight.

In order to inform physical activity (PA) programmes that are designed to help people lose weight or maintain their weight reduction, Buchowski et al. (2009) investigated Seasonal Changes in Amount and Patterns of Physical Activity in Women. The objective was to identify seasonal variations in the quantity and distribution of women's free-living PA. Using advertising, posters, e-mail, or casual connections, 63 women between the ages of 18 and 55 were sought out in Tennessee's Nashville metropolitan region.

This part of the United States has greater rates of obesity and lower levels of PA than other locations, and this study explored specific seasonal fluctuations in PA using objective measurements in a rather large cohort of women. The key conclusion from this study is that young and middle-aged women in the southeastern United States had different amounts and patterns of PA throughout the winter compared to other seasons. Both weekends and weekdays showed this effect, but the weekend effect was more pronounced. Even though the group mean followed this seasonal pattern, it's maybe an interesting discovery that certain women had lower or stable PA levels in the winter compared to other seasons. In addition, 75% of the participants were women, and only 7% of them engaged in any intense activity (defined as >6 METs) during any season.

In comparison to summer and spring/fall, participants completed less PA in the winter, and this difference was more pronounced on the weekends than on weekdays. More particular,

wintertime PA counts were around 9% lower than summertime counts. Although it is impossible to determine based on the findings of our study, the variation between the seasons may be related to a variety of factors, including environmental factors like the weather and number of daylight hours. Additional evidence for seasonal fluctuation in PA can be found.

In the Framingham Offspring Study, Dannenberg et al. discovered that summertime PAs used more energy from both men and women than wintertime PAs did (P .001). The percentage of adults reporting no involvement in PA during leisure time varied seasonally, with the winter seeing the highest rate (about 34%) and the summer seeing the lowest percentage (around 25%). About 60% of respondents to the third National Health and Nutrition Examination Survey (NHANES III) indicated activity patterns for the last month that were similar to those for the previous 12 months, whereas the remaining 40% reported different activity patterns. The authors hypothesized that seasonal change may have contributed to disparities in the prevalence of inactivity reported.

As per (Kaur, Bains, & Kaur, 2012) study held, 152 sedentary adult women who were students and teachers participated in a cross-sectional study. It was found how the body composition of women in four age groups—21 to 30, 31 to 40, 41 to 50, and 51 to 60 years—related to dietary choices and the amount of physical activity they engaged in. According to the individuals' levels of physical activity, most of them (between 87 and 94 percent) had sedentary lifestyles. Age is a significant element that affects body composition. It was found that the participants had low lean body mass and a high fat mass. Their diets were heavy in fat and poor in protein. The majority of the participants across all age groups led sedentary lifestyles. Combining a diet high in protein and low in fat with regular exercise can help maintain a healthy body composition.

A study on the correlation between work-related physical activity and cancer risk was conducted by (Shah et al. in 2018). They concentrated mainly on the connection between occupational physical activity and esophageal squamous cell carcinoma (ESCC) malignancy. They recruited participants from the "Regional Cancer Centre and Department of Radiation Oncology of Sher-i-Kashmir Institute of Medical Sciences (SKIMS)" to participate in their study, which included 703 cases and 1664 control cases. They gathered information from the chosen participants using a standardized questionnaire and in-person interviews. The data gathered covered dietary preferences, alcohol consumption history, tobacco usage, and fruit and vegetable intake. The control group's mean age was 59.8 years, while the cases group's average age was 61.6 years. 55% of the participants were men, and 95% of them resided in rural areas. The study's findings indicate a connection between a person's risk of getting ESCC and their level of physical activity at work.

OBJECTIVES OF THE STUDY

1. To find out the physical activity pattern of adult urban women in Kashmir.
2. Comparative analysis of physical activity index during summer and winter.

METHODOLOGY

The research was carried out in four (4) Kashmiri districts: Srinagar, Budgam, Baramulla, and Anantnag. The sample comprised females between the ages of 20 and 60. The information was gathered using both primary and secondary sources of information. In the current study, a questionnaire and interviews were the data gathering instruments.

On the basis of this estimation, the sample size derived from the above formula is 124 samples from Srinagar, 104 from Anantnag, 100 from Baramulla and 72 from Budgam.

Table 3.6.1: Distribution of the Sample Subjects

S.No	Districts	Sample size	Categorization
1.	Srinagar	124	Urban
2.	Baramulla	100	Rural
3.	Budgam	72	Rural
4.	Anantnag	104	Rural
	Overall	400	Urban + Rural

TOOLS USED

The tool employed in the current study was primarily a questionnaire augmented by an interview schedule that was developed in accordance with the study's objectives. A draught questionnaire was created following a thorough and in-depth analysis of the issue and a review of the literature. This was employed in the study after being pre-tested on 10% of the sample population to guarantee its validity and viability.

RESULTS AND DISCUSSION

Table 1.1 Physical Activity Performed- Urban Women (winters)
($X^2 = 61.326$; $df = 10$; $p = 0.000$)

Physical exercise (hrs/wk)/ Occupation	PAI Winter	URBAN								Total
		≤ 25 Years		26-35 Years		36-45 Years		≥ 45 Years		
		F	%age	F	%age	F	%age	F	%age	
0 hrs/wk										
Sedentary	Inactive	3	5.2	25	43.1	14	24.1	16	27.6	58
Standing	Moderately Inactive	6	33.3	10	55.6	2	11.1	0	0.0	18
Physical	Moderately active	2	25.0	4	50.0	2	25.0	0	0.0	8
Heavy Manual	Active	0	0.0	0	0.0	0	0.0	0	0.0	0
<1 hrs/ wk										
Sedentary	Moderately Inactive	2	16.7	8	66.7	0	0.0	2	16.7	12
Standing	Moderately active	0	0.0	1	33.3	2	66.7	0	0.0	3
Physical	Active	2	50.0	0	0.0	2	50.0	0	0.0	4
Heavy Manual	Active	0	0.0	0	0.0	0	0.0	0	0.0	0
1 to 2.9 hrs/wk										
Sedentary	Moderately active	1	11.1	6	66.7	2	22.2	0	0.0	9
Standing	Active	0	0.0	0	0.0	1	14.3	6	85.7	7
Physical	Active	0	0.0	0	0.0	0	0.0	0	0.0	0
Heavy Manual	Active	0	0.0	0	0.0	0	0.0	0	0.0	0
≥ 3 hrs / wk										
Sedentary	Active	0	0.0	0	0.0	1	20.0	4	80.0	5
Standing	Active	0	0.0	0	0.0	0	0.0	0	0.0	0
Physical	Active	0	0.0	0	0.0	0	0.0	0	0.0	0
Heavy Manual	Active	0	0.0	0	0.0	0	0.0	0	0.0	0
	Total	16	12.9	54	43.5	26	21.0	28	22.6	124

General Practitioners Physical Activity Index (4-Level PAI) by Department of Health (DH) & National Health Service (NHS) London- GPPAQ

Table 1.1 presents data on the physical activity performed by the urban women during winters.

Women who noted 0 hrs per week physical exercise across different age groups is as under:

Out of N=58 people with sedentary lifestyles, 5.2% were under the age of 25, 43.1% were between the ages of 26 and 35, 24.1% were between the ages of 36 and 45, and 27.6% were over the age of 45.

Out of N=18 (standing exercise), 33.3% of those under 25 years old, 55.6% of those between 26 and 35 years old, and 11.1% of those between 36 and 45 years old were found to be moderately inactive.

Out of N=8 (physical activity), 25% of those under 25 years old, 50% of those between 26 and 35 years old, and 25% of those between 36 and 45 years old were determined to be moderately active.

None of the women was found be involved in heavy manual work.

Women who noted <1 hrs per week physical exercise across different age groups is as under:

From N=12 (sedentary lifestyle), 16.7% of those under 25 years old, 66.7% of those between 26 and 35 years old, and 16.7% of those over 45 years old were determined to be moderately inactive.

Out of N=3 (standing exercise), 33.3% of participants aged 26 to 35 and 66.7% of participants aged 36 to 45 were determined to be moderately active.

Out of N=4 (physical activity), 50% of those under the age of 25 and 50% of those between the ages of 36 and 45 were found to be physically active.

None of the women was found be involved in heavy manual work.

Women who noted 1-2.9 hrs per week physical exercise across different age groups is as under:

Out of N=9 (sedentary lifestyle), 11.1% of participants under the age of 25 were moderately active, as were 66.7% of participants between the ages of 26 and 35 and 22.2% of participants between the ages of 36 and 45.

Out of N=7 (standing exercise), 14.3% of participants aged 36 to 45 and 85.7% of participants aged >45 were determined to be active.

None of the women was found be involved in physical and heavy manual work.

Women who noted ≥ 3 hrs per week physical exercise across different age groups is as under:

Of N=5 (sedentary lifestyle), 20% of those aged 36 to 45 and 80.0% of those over 45 were found to be active.

None of the women was found be involved in standing, physical and heavy manual work under this category.

During the winter, a significantly significant variation in the population's physical activity index was seen between urban and rural areas.

Table 1.2: Physical Activity Performed - Urban Women (summers)
($X^2 = 45.148$; $df = 12$; $p = 0.000$)

Physical exercise (hrs/wk)/ Occupation	PAI Summer	URBAN								Total
		≤ 25 Years		26-35 Years		36-45 Years		≥ 45 Years		
		F	%age	F	%age	F	%age	F	%age	
0 hrs/wk										
Sedentary	Inactive	0	0.0	9	60.0	6	40.0	0	0.0	15
Standing	Moderately Inactive	2	5.9	10	29.4	7	20.6	15	44.1	34
Physical	Moderately active	3	25.0	6	50.0	2	16.7	1	8.3	12
Heavy Manual	Active	0	0.0	0	0.0	0	0.0	0	0.0	0
<1 hrs/ wk										
Sedentary	Moderately Inactive	5	27.8	12	66.7	1	5.6	0	0.0	18
Standing	Moderately active	1	25.0	2	50.0	1	25.0	0	0.0	4
Physical	Active	0	0.0	4	66.7	1	16.7	1	16.7	6
Heavy Manual	Active	0	0.0	0	0.0	0	0.0	0	0.0	0
1 to 2.9 hrs/wk										
Sedentary	Moderately active	5	33.3	5	33.3	4	26.7	1	6.7	15
Standing	Active	0	0.0	6	46.2	3	23.1	4	30.8	13
Physical	Active	0	0.0	0	0.0	0	0.0	0	0.0	0
Heavy Manual	Active	0	0.0	0	0.0	0	0.0	0	0.0	0
≥ 3 hrs / wk										
Sedentary	Active	0	0.0	0	0.0	1	14.3	6	85.7	7
Standing	Active	0	0.0	0	0.0	0	0.0	0	0.0	0
Physical	Active	0	0.0	0	0.0	0	0.0	0	0.0	0
Heavy Manual	Active	0	0.0	0	0.0	0	0.0	0	0.0	0
	Total	16	12.9	54	43.5	26	21.0	28	22.6	124

General Practitioners Physical Activity Index (4-Level PAI) by Department of Health (DH) & National Health Service (NHS) London- GPPAQ

Table 1.2 presents data on the physical activity performed by the urban women during summers.

Women who noted 0 hrs per week physical exercise across different age groups is as under:

Out of 15 people who were classified as having a sedentary lifestyle, 60% of those aged 26 to 35 and 40% of those aged 36 to 45 were determined to be inactive.

Out of N=34 (standing exercise), 5.9% of those under the age of 25, 29.4% of those between the ages of 26 and 35, 20.6% of those between the ages of 36 and 45, and 44.1% of those over 45 were judged to be moderately inactive.

Out of 12 people (N=12) who participated in physical activity, moderate activity was detected in 25% of people under the age of 25, 50% of people between the ages of 26 and 35, 16.7% of people between the ages of 36 and 45, and 8.3% of people above the age of 45.

None of the women was found to be involved in heavy manual work.

Women who noted <1 hrs per week physical exercise across different age groups is as under:

Out of N=18 (sedentary lifestyle), 27.8% of those under 25 years old, 66.7% of those between 26 and 35 years old, and 5.6% of those between 36 and 45 years old were determined to be moderately sedentary.

Out of N=4 (standing exercise), 25% of the participants in the 25–35 year age range, 50% of the 26–35 year age range, and 25% of the 36–45 year age range were determined to be moderately active.

Out of N=6 (physical activity), 66.7% of those aged 26 to 35, 16.7% of those aged 36 to 45, and 16.7% of those aged >45 were determined to be active.

None of the women was found be involved in heavy manual work.

Women who noted 1-2.9 hrs per week physical exercise across different age groups is as under:

Out of N=15 (sedentary lifestyle), 33.3% of those under 25 years old, 33.3% of those between the ages of 26 and 35, 26.7% of those between the ages of 36 and 45, and 6.7% of those above the age of 45 were determined to be moderately active.

46.2% of those aged 26 to 35, 23.1% of those aged 36 to 45, and 30.8% of those aged >45 were found to be active out of N=13 (standing exercise).

None of the women was found be involved in physical and heavy manual work under this category.

Women who noted ≥ 3 hrs per week physical exercise across different age groups is as under:

14.3% of those aged 36 to 45 and 85.7% of those over 45 were found to be active out of N=7 (sedentary lifestyle) participants.

None of the women was found be involved in standing, physical and heavy manual work under this category.

In terms of physical activity index throughout the summer, a highly significant difference was seen between the urban and rural populations.

Table 1.3: Physical Activity Index of the respondents during winter

PAI	Urban	
	F	%age
Active	16	12.90
Moderately Active	20	16.13
Moderately Inactive	30	24.20
Inactive	58	46.77
Total	124	100.00

Table 1.3 presents the data about physical activity index of the respondents during winter.

Majority (46.7%) were found to be inactive followed by 24.2% who were moderately inactive, 16.13% were moderately active and only 12.9% were active.

Table 1.4: Physical Activity Index of the respondents during summer

PAI	Urban	
	N	%age
Active	26	20.97
Moderately Active	31	25.00
Moderately Inactive	52	41.93
Inactive	15	12.10
Total	124	100.00

Table 1.4 presents the data about physical activity index of the respondents during summers.

Majority (41.93%) were found to be moderately inactive followed by 25% who were moderately active, 20.97% were found active and 12.10% were inactive.

Table 1.5: Comparison of Physical Activity Index of urban women during summer and winter

PAI	Urban			
	Summer		Winter	
	N	%age	N	%age
Active	26	20.97	16	12.90
Moderately Active	31	25.00	20	16.13
Moderately Inactive	52	41.93	30	24.20
Inactive	15	12.10	58	46.77
Total	124	100.00	124	100.00

Table 1.5 presents the comparison of physical activity index of the respondents during summer and winter.

20.97% were active during summer, however the percentage fell down during winters and only 12.90% were found to be active. It is pertinent to mention that during summer 12.10% of urban women were inactive and during winters it went to 46.77%. Similar trend was observed for other physical activity index (PAI) categories.

CONCLUSION

The study confirms that the urban women carried less physical activity during winters than summers and therefore signify that seasonal variation has a greater impact on the physical activity.

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