Original Research Article

ANALYSIS OF RELATIONSHIP AMONG BMI AND ACTIVITY OF DAILY LIVING IN HOMECARE INDIVIDUALS

ABSTRACT

Objective: Obesity has been linked to a variety of chronic diseases. Numerous researchers have discovered that having a high BMI is connected with substantial morbidity and mortality in the aged. As a result, obesity or being overweight may have a negative effect on everyday life. The main aim of our current research remained to look at association among BMI and Action of Everyday Living in Homecare Individuals.

Method: The data for 2019 from Allied Hospital Faisalabad's homecare unit. During this time, 1125 students come to this clinic. Subjects who were unconscious or bedridden (hemiplegia, hemiparesis, and tetra paresis), as well as those with insufficient information, were eliminated from the research. As a result, the study was finished with 260 files including all of information required for our research. Age, ethnicity, BMI, and Barthel Index values have been entered into the statistical analysis software; p0.06 was deemed statistically substantial.

Results: One hundred fifty-one (61.5%) comprised females, while 97 (38.7%) were males. Age and sex, weight, and Disease activity index scores had no strong correlations. Weight and Barthel index scores had a strong positive connection, as did BMI and Barthel index scores ($r = 0.196$; $p = 0.004$). The cases remained separated into two sets: Unit I (low weight for height and normal weight) in addition Class Ii (obese and obese) (overweight and obese). Group II had significantly greater capacity to execute Activities of Daily Living than Group I ($p = 0.003$).

Conclusion: Many researches claim that overweightness protects in contradiction of activities of everyday living, whereas others claim reverse. Quality and outcomes of BMI and Activity of Daily Living abilities were found in our study, indicating protective benefits. The association among BMI and physical impairment has yet to be shown as linear.

KEYWORDS: Daily Living, Aged, Body Mass Index, Homecare Patient.

INTRODUCTION

Overweight or being obese can lead to a variety of chronic diseases. Moreover, some research has found that having a BMI remains linked to increased death and illness in aged. Other crucial subject in connection to the aging is movement [1]. Limited mobility is frequently the first indicator of functional deterioration and might even signal the need for preventative actions. Motion issues have already been linked to an increase throughout all deaths, and individuals having BMIs more than 32 kg/m2 had high mobility scores on the "Time Up to Go" test [2]. Dependency is caused by reduced mobility but also diseases that induce cognitive deficits [3]. In people with mild cognitive decline, dietary weight loss may be related with cognitive improvement. As a result, obesity or even being overweight may have a negative impact on everyday life activities (ADLs). The Barthel index remains the straightforward indicator of individuality that is utilized to assess individuals' capacity to complete ADLs. This indicator has been used in hospitals for persons with symptomatic disorders since 1959 [4]. The Barthel index consists of 12 elements, encompassing faucal and urine continence and the requirement for support during grooming, toilet use, feeding, transfers walking, dressing, mounting stairs, in addition bathing. In this research, researchers looked at the relationship among BMI and ADLs in homecare cases [5].

METHODOLOGY:

The data from homecare unit of Allied Hospital Faisalabad were appropriate processes during 02 July 2019 and 28 August 2020. During this time, 1120 patients came to this clinic. Participants who have been conscious or bedridden (hemiplegia, hemiparesis, and tetra paresis), as well as those with inadequate data, were eliminated from the research. As a result, the survey was finished containing 260 files including all of information required for the current study. BMI is characterized as body mass multiplied through body height squared, is always represented in kilograms per square meter, and is classed as following.

Underweight	<19.52 kg/m^2
	$19.51 \leq X \leq 24.99$
Normal range	kg/m^2
Overweight	≥ 26.03 kg/m^2

Obese ≥31.05 kg/m^2

To measure the capacity to do ADLs, the Barthel index being utilized as a screening instrument. The Barthel index scores remain already in quantities of six, ranging from 0 (entirely reliant) to 100 (fully independence). Scores indicate the greater quality of life. A statistical tool was used to examine age, ethnicity, chronic illnesses, BMI, and Barthel index scores. Our research population has an irregular distribution, as per the Shapiro–Wilk test (p 0.002). To evaluate significant factors among sets, the Mann–Whitney U test remained applied. The Chi-square test remained being utilized to examine relationship of two non-continuous variables; association test was used to determine relations between various dependent variable. P 0.05 was regarded as statistical significance.

RESULTS:

In this research, 250 individuals have been included: 154 (61.5 percent) were women and 97 (36.7 percent) were males. Figure 1 depicts the participant ages and genders patterns. The proportion of women over the age of 64 was much higher than that of males, and hypertension is by far the most frequent clinical syndrome (n = 175; 62%; Fig.2). Figure 3 depicts age, weight, height, BMI, in addition Barthel index scores separated through women. Age and gender, weight, in addition to Barthel index scores did not have strong correlations (p = 1.053, 1.539, also 0.589, accordingly). Males, meanwhile, significantly physically stronger than females (p = 0.0001), and females had higher Body Mass Index than men (p = 0.0002). Solitary with females (r = 0.297; p = 0.00) were there strong relationship amongst BMI and Barthel index scores. Age and diet, height, and Barthel index scores all had significantly adverse relationships. Table-I Weight and Barthel index scores had a strong positive connection, as did BMI and Barthel index scores (r = 0.191; p = 0.004). As a result, as people aged, their weight, BMI, Relative strength rating scale, and capacity to do ADLs deteriorated. Many of the Barthel index elements proved unrelated to BMI. BMI was strongly connected increased support during food, toilet usage, clothing, mounting stairs, bathing, and walking, also urine and faucal cleanliness. As demonstrated in Table-II, the requirement for grooming help or the necessity for transfers using a wheelchair just weren't associated. The participants were categorized as malnutrition (n = 10; 5%), normal weight (n = 126; 53%), weight (n = 78; 31.5%), or obese (n = 39; 15.6%) based on their BMIs. Self-conscious, 27.53 21; normal weight, 23.94 28.14; obesity, 32.52 32.87; and obese, 43.32

32.29 were the average Barthel index values divided by BMI. The individuals subsequently split into two sets: Set I and Group II (overweight and overweight) (overweight and obese). Set-II demonstrated significantly greater capacity to conduct ADLs than Assembly-I (p = 0.003). Furthermore, 29 (12.3 percent) of our deaths occurred in 2019, with 16 (54.7 percent) of them being women. We found no link among death as well as gender (p = 0.435). Moreover, no relationship was found between mortality also oldness, BMI, or Barthel index values (p = 0.483, 1.738, also 0.289, correspondingly).

Table 1: Correlation analysis

Pearson Correlation						
Age	Pearson Correlation	**2**	-	-	-	-
Pearson Association	-0.184**					
Weight			**2**	-	-	-
		Sig. (2-tailed)	0.005			
	Pearson Relationship	-0.208**	0.417**			
Height				-	-	-
	Sig. (2-tailed)	0.002	0.0001			
	Pearson Relationship	-0.112	0.896**	0.042		
BMI					**3**	-
	Sig. (2-tailed)	0.081	0.001	0.613		
Barthel Index	Pearson Correlation	-0.148*	0.164*	0.038	0.191**	

	Sig. (2-tailed)	0.018	.011	0.566	0.004	**2**

Table 2: Data statistics

Sig. (2-tailed)	-	-	**1**	**1**	-	**1**
Pearson Association	0.782**	11	-	-	-	-
Sig. (2-tailed)	0.0001	-	**1**	-	**1**	-
Pearson Relationship	0.7113**	0.6411**	**2**	-	-	-
Sig. (2-tailed)	0.0001	0.0001		-	-	-
Pearson Connection	0.6611**	0.5751**	0.6271**	**2**	**1**	**1**
Sig. (2-tailed)	0.0001	0.0001	0.0001		-	**1**

Fig 1: Obesity and immune system

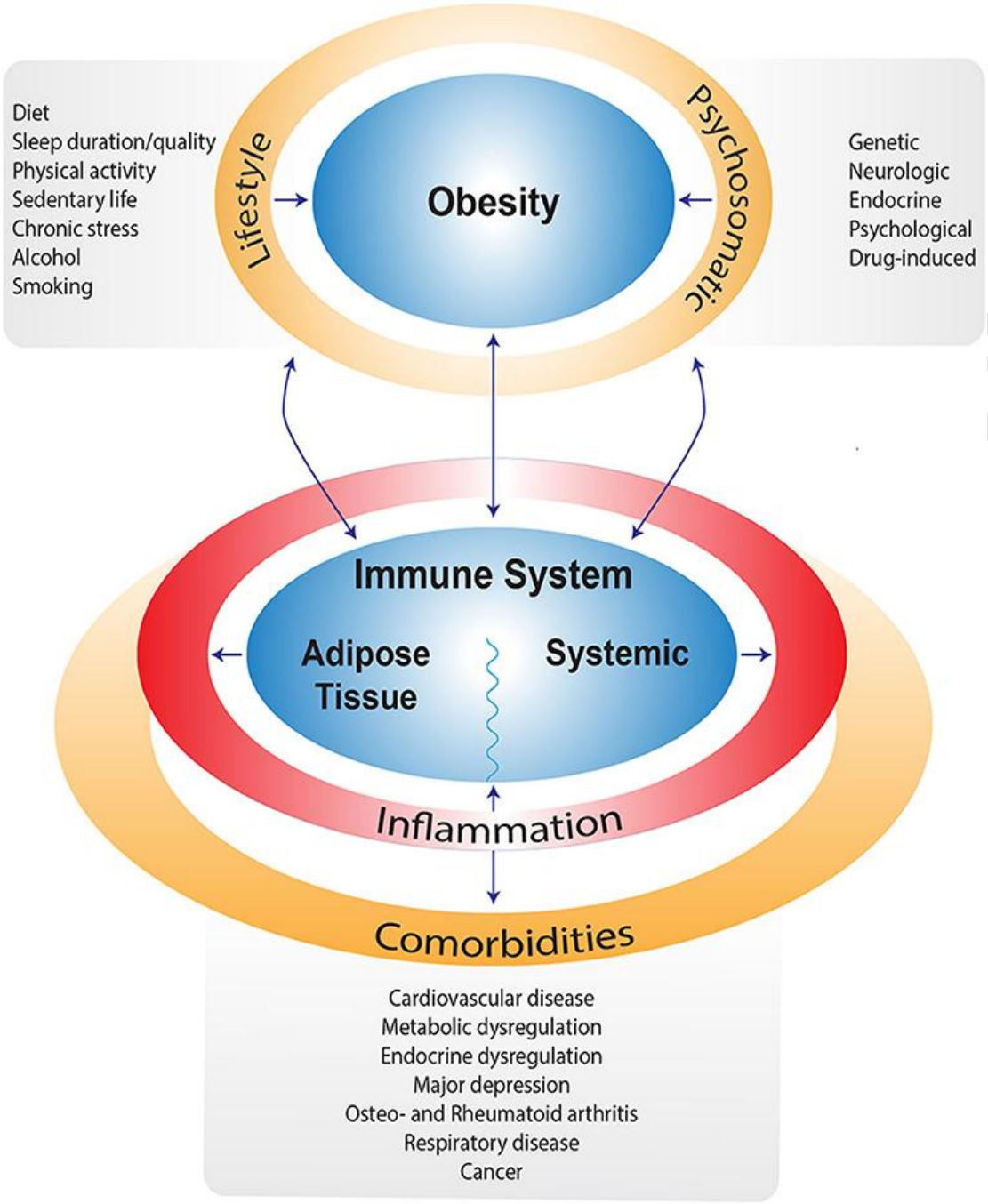

Figure 2: Obesity

DISCUSSION:

As per the World Health Organization, the average age of onset is 72.5 years (males: 68.2 years; females: 74.8 years), and the average lifespan beyond the age of 61 years is 21.5 years (Men: 19.8 years; women: 22.8 years) amongst some of the world population in 2019 [6]. The average lifespan in Turkey is 67.3 years. Thus, according official data, the elderly population in 2019 reached 7,652,505, accounting for 9.4 percent of all people (males: 44.8 percent; females: 57.3 percent). Conversely, 61.5 percent of our research sample was female, which is likely due to women's greater life span. According with Turkey Statistic Department, 62.6 percent of aging demographic stands among ages of 64 in addition 75, 31.3 percent remains among ages of 73 in addition 85, also 9.3 percent should be among ages of 86 in addition 86 [7]. Numerous research has found that the majority of homecare clients are over the age of 64. In our survey, 17.7 percent of the aging demographic was among ages of 67 and 76, 39.4 percent remained among ages of 76 and 86, and 46.2 percent remained over age of 86. Those results are due to the fact that the requirement for homecare rises with age; as a result, the majority of our research sample was above the age of 85. Chronic diseases are those that last over an extended period of time and are typically irreversible [8]. According to the WHO, the much more common illnesses globally are cardiovascular accidents, cancer, obstructive pulmonary illness and diabetic. Thus, according Turkey's manner of death data, circulatory system disorders killed 47.4 percent of the elderly in 2015. Chronic renal problem was the most common debilitating disease amongst 148,379 long-term homecare patients in a 2-year (2020–2021) Canadian homecare data analysis, followed by hypertension, diabetes, cardiac arrest, and melancholy. Research in Turkey discovered hypertension in 42.9 percent of homecare participants. Hypertension has been the most often detected chronic condition in our research (n = 175; 61%) [9]. Furthermore, hypertension affects

31–44 percent of the entire population, and this number rises increasing age. Overweight and obesity are becoming more common in the elderly community. Obesity is a major contributor to increased morbidity and mortality. Numerous research has demonstrated that sarcopenia, one of the most common disorders in elderly, remains connected through a loss of muscle mass and strength and remains the marker of poor results such as death, incapacity, and lower standard of living. 24 Sarcopenia, which remains related through functional reliance in ageing, is caused by malnutrition and weight loss. When a result, in our experiment, as BMI fell, so did ADL-performing capacity, apparently due to a sharp slowdown of activity related to malnutrition or sarcopenia [10].

CONCLUSION:

In studies, association among BMI also ADL is ambiguous. Some research claim that overweightness is protective against ADL, whereas others claim reverse. Amplified values of BMI and ADL capability were found in our research, indicating therapeutic potential. The association among BMI in addition physical impairment has up till now to remain shown as linear. It is since the hazards of being malnourished and obese are identical. As a result, we infer that in some circumstances, obesity, overweight, and female sex are connected including an improvement in ADL-performing capability.

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