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Sl. No.	Title of the paper	Name of all the authors	Department/ Subject	Journal name	Year of publication	ISSN number	URL of the journal website
1	Effect of Excess Calorie Consumption on Depression of Young and Aged Human Males: Impact of Physical Activity	Aindrila Das, Samir K Ghosh, Goutam Paul and Mrinal K Poddar	Physiology	Acta Scientific Nutritional Health	Volume 3 Issue 8 August 2019	ISSN: 2582- 1423	<a href="https://actascientific.com/ASNH.php">https://actascientific.com/ASNH.php</a>
2	Effects of Ramadan intermittent fasting and pattern of nutrients intake on BMI and MUAC of a population consisting of Indian Muslims. DOI: 10.1080/09291016.2019.1700328	Aindrila Das, Nafisa Hasmata, Samir Kumar Ghosh & Subhashis Sahu	Physiology	Biological Rhythm Research	06 Dec 2019	ISSN: 0929- 1016 (Print) 1744- 4179 (Online)	<a href="https://www.tandfonline.com/loi/nbrr20">https://www.tandfonline.com/loi/nbrr20</a>

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## Effects of Ramadan intermittent fasting and pattern of nutrients intake on BMI and MUAC of a population consisting of Indian Muslims

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### ABSTRACT

'Ramadan' is observed by the Muslims around the world, out of their religious belief, as a period when they fast all day and break fasting only after sun set. The Ramadan fasting, which can be viewed as alternate fasting owing to the nature of food intake during this time, stretches for 28 days. The food intake prior to sun rise is known as 'sahour' and that after sunset is called 'iftar'. In view of intermittent fasting, the present work aims to study the food intake pattern among children, adults and elderly persons before and after Ramadan in the eastern part of India to evaluate the effect of Ramadan fasting on body weight and BMI, if any. Anthropometric measurements, body weight, height, BMI, Mid Upper Arm Circumference (MUAC) and Nutritional Survey were done before and after Ramadan fasting. All three age groups showed increase in body weight and BMI after one month of Ramadan fasting compared to the values of pre Ramadan control. Excess intake of fat, sugar and energy along with a sedentary work routine are the main factors identified as contributors toward such increase. The study also points out socio-economic status as an important determinant.

### ARTICLE HISTORY

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### KEYWORDS

Intermittent fasting; BMI; nutrition survey; MUAC; socio economic status

## 1. Introduction

Periods of voluntary abstinence from food and drink (i.e., intermittent fasting-IMF) have been practiced since ancient time by peoples around the globe. Books on ethnology and religion describe a remarkable variety of fasting forms and practices (Brongers 1997). Muslims celebrate Eid- al-Fitr at the end of Ramadan. Ramadan is a month-long religious fasting which is comparable with alternate fasting for its rhythmic pattern. It has been observed that during Ramadan the fluid and food intake quantity, frequency and type of the diet, sleeping pattern and duration and daily physical activities do alter (Bahammam 2004). The rhythm of the holistic fasting comprises 12 hours alternate fasting (Aslam and Assad 1986). After 4am the next food or drink intake occurs at 4.30 pm. Between 4am and 4.30 pm the Ramadan observers do not even consume water. The rhythm of food intake thus is different from usual. The





## Effect of Excess Calorie Consumption on Depression of Young and Aged Human Males: Impact of Physical Activity

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### Abstract

Depression is less prevalent among older adults than among younger adults but can have serious consequences. Overeating, inactivity, and obesity have emerged as new challenges in manifestation of depressive symptoms. To study the influence of excess calorie intake and physical activity level on depression of a randomized human male population in urbanized areas of West Bengal, India, the present cohort study was carried out with 357 young ( $30.13 \pm 0.24$  yr) and 287 aged ( $58.62 \pm 0.29$  yr) subjects. Participants' socio-economic status (according to Kuppuswamy's socio-economic scale), health status (as per health assessment questionnaire; HAQ), calorie and micronutrient consumption (considering Diet Survey - Three 24h Recall), depression level (using CES-D scale) and physical activity level (PAL) (as per questionnaire) were assessed. No significant differences in depression level was found between At Par (AP) and Excess Calorie (CE) consuming subjects of young and aged groups. However the percent population of depressed aged subjects consuming CE diet was significantly higher compared to young of the same calorie consuming group. High PAL effectively masked the occurrence of depression in the CE diet-consuming aged subjects compared to CE diet consuming young with high PAL. The present study suggests that CE diet in the aged, unlike AP calorie diet, increases the percent population of depressed subjects. Young subjects do not exhibit any significant difference in depressive outcome when on CE diet compared to their AP calorie consuming counterpart. Further, High PAL masks the excess calorie-induced depressive symptoms in aged subjects.

**Keywords:** Physical Activity Level; Excess Calorie; Aging; Depression

### Introduction

WE live in an aging society. In the next 30 years, there will be a rise in elderly population of up to 300% in Asia and Latin America [1,2]. Aging refers to a deterioration of multidimensional processes in humans, at the level of Physiological, Biochemical and even social [3]. Increased longevity is associated with an increase in multiple chronic conditions that sometimes translate into functional disability and need for assistance [4]. The extra years can be marked by declining health, reduced mobility, depression, isolation, and loneliness [5] Health and functioning of older adults are influenced by many factors other than biological senescence. Demographic, social, and environmental factors, including physical activity and dietary habits, play a major role. Fortunately, many of these societal factors are amenable to public health interventions and programs [6]. Among the most important self-care behaviors are those that involve physical activity and diet. In view of the rapid growth of aged population continued good health of the elderly population is a major challenge to public health [7].

In many past studies the success of the efforts at health promotion has been measured in terms of lower mortality rates or reduced disease risk. There is increasing concern that these classic medical endpoints (mortality and morbidity) may not adequately represent functional impairments and disabilities during the later years of life. Increasingly, health is viewed as not only the absence of infirmity and disease but also as a state of physical, mental, and social well-being [8,9]. Much progress has been made in establishing a broader conceptual framework of health status for older adults [10]. Health-related quality of life (HRQL), a relatively new concept, expands the morbidity- and mortality-based definition of health to include a personal sense of physical and mental health, social functioning, and emotional well-being. Other and more global measures of quality of life are even more inclusive, taking overall life satisfaction and happiness into account [11,12]. Quality-of-life measures permit researchers to compare the status of different groups over time and assess the effectiveness of public health interventions and programs [4].