

# Simulating the Ideal Body Mass in Adult Human Samples

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**Abstract:** Estimating ideal body mass in adult human samples in a specific geographic level is vital for effective health promotion programmes in order to seeking better health services. Lack of nutritional knowledge and information gap on various health and nutritional tools affect the ability of national and international agencies to manage serious health related risks in the community. A solution to this challenge would be to develop a method that simulates reliable statistics on assessing the ideal body mass in adult human samples. This paper provides a significant appraisal of the biophysical methodologies for estimating ideal body mass to mitigate health problems of samples at different sites. There is no procedure in this ground that can be used to assume the ideal body mass in human samples in health physics and nutritional mathematics. The physical educators are often in confusion to direct the advice of taking proper exercise which would be beneficial for the learners' health. The aim of this study is making a dot over these ongoing hesitations simulating a biophysical modeling in nutrition counseling to sustain long term sound health. The study findings is the mathematical equation (4) that can be a superb modeling as an instructive tool in physical education.

**Keywords:** Physical Education, Ideal Body Mass, Nutritional Mathematics, Malnutrition, Biostatistics and Nutritional Simulation, Human Samples

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## 1. Introduction

About 2 billion people in the world suffer from various degrees of malnutrition [1-3]. Malnutrition is an underlying cause of deaths of about 2.6 million children each year-a third of child deaths globally [4-6]. There are 73.9%, 63.3% and 57.9% overweight populations in North America, Oceania and Caribbean regions respectively [7-9].

One in every four of the world's children is stunted and in developing countries this is as high as one in three [10-12]. Undernutrition accounts for 11% of the global burden of diseases and is considered the supreme risk to health status [13-15].

Childhood malnutrition leads to stunted growth and inflamed mortality and morbidity which are lowering the survival opportunities of adults in their later life span [16-19]. About 4 of every 5 malnourished children live in South-East-Asia region accounting some 83% of their deaths to be liable to mild to moderate malnutrition intensity [20, 21]. These health giants are eating up the world's population day by day and so health problems are in need of identification to

overcome these sorry tales with a view to meet healthy samples of population in different communities [22-24]. Therefore, this study is done to formulate a simple biophysical simulating of ideal body mass to sustaining healthy health status taking different health-suitable physical exercise.

## 2. Methodology

This is a methodological review study to form a biophysical model for simulating ideal body mass in adult human samples. A wide range of instruments have been collected from the logarithmic biophysical modulator in nutritional physics, unit bracket method in biological mathematics, definitions and equations on weight and mass in biophysics. These instruments have then undergone on different mathematical music to simulate a new formula in computational physics for estimating ideal body mass in human samples in a population aiming to continue healthy health status in human population in health statistics.

### 3. Results

Let's move with the logarithmic biophysical modulator [25, 26] to estimate the ideal body mass in kg in adult human samples where  $m_{kg}$  is considered as body mass in kg,  $h_{cm}$  as body height in cm and  $H$  as modulator of health status,

$$H = \log^{-1}(4 + \log m_{kg} - 2 \log h_{cm}) \quad (1)$$

We can get the ideal body mass using the value of  $H$  as 18 to 25 in equation (1) as per the WHO's BMI classification [27]. So, we get the following equation where  $m_i$  is considered as the ideal body mass in kg in adult human samples in a population,

$$\frac{1}{8} \int_{18}^{25} H \, dH = \log^{-1}(4 + \log m_i - 2 \log h_{cm}) \quad (2)$$

We get the following equation solving the integration [28-32] in equation (2),

$$\begin{aligned} \frac{1}{8} [H^2/2]_{18}^{25} &= \log^{-1}(4 + \log m_i - 2 \log h_{cm}) \\ \text{Or, } \frac{1}{8} [25^2/2 - 18^2/2] &= \log^{-1}(4 + \log m_i - 2 \log h_{cm}) \\ \text{Or, } \frac{1}{8} \times 150.5 &= \log^{-1}(4 + \log m_i - 2 \log h_{cm}) \end{aligned}$$

$$\text{Or, } 18.8125 = \log^{-1}(4 + \log m_i - 2 \log h_{cm}) \quad (3)$$

Taking log [29] in both side of equation (3),

$$\log 18.8125 = 4 + \log m_i - 2 \log h_{cm}$$

$$\text{Or, } 1.27 = 4 + \log m_i - 2 \log h_{cm}$$

$$\text{Or, } \log m_i = 2 \log h_{cm} - 4 + 1.27$$

$$\text{Or, } \log m_i = 2 \log h_{cm} - 2.73$$

$$\text{Or, } m_i = \log^{-1}(2 \log h_{cm} - 2.73) \quad (4)$$

### 4. Discussion

Simulation reproduce the behaviour of a system using a mathematical model. Simulations have become a useful tool for the mathematical modeling of many natural systems in physics, astrophysics, climatology, chemistry and biology, human systems in economics, psychology, social science and engineering. It can be used to explore and gain new insights into the new technology and to estimate the performance of systems too complex for analytical solutions [33-41]. This study aims to introduce a newly formed simulation modeling in the branch of nutritional mathematics in estimating ideal body mass in human samples in different populations [42-50] for sustaining healthy population status in different countries. The study results can take a new turn in simulating ideal body mass in human samples evading all the previous faulty procedures. This biophysical simulation can be a spatial health microsimulation modeling constructive to design effective policies and see the governments and NGOs, environmental and spatial effects across different countries to bear up against the health and nutritional perils to make sure for ending malnutrition by 2020 [51-56].

### 5. Conclusions

Malnutrition is one of the common public health threat in the developing countries. The current study outcome is

the biophysical equation (4) that can simulate ideal body mass in biological mathematics. The national and international think tank should popularize this health and nutritional simulation to reduce malnutrition intensity. Future research should adopt this cozy biophysical simulation modeling in physical education. This simulation modeling should also be explored in further study for policy designing, analysis and checking spatial effects for health condition in adult human samples in the worldwide nutritional epidemiology.

### Conflict of Interests

There is no conflict of interests regarding the publication of this manuscript.

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