

Periodic Research

General health of the villagers in the western part of the West Bengal, India, with a special reference of Ainch Bari, Bishnupur, Bankura

Abstract

Data related to different health issues were collected from the village of Aich bari, situated in the Bishnupur sub-division of the district of Bankura, West Bengal, and analyzed. General health awareness and the sense of basic hygiene were found to be higher in the females when compared to that of the males. The poor food habit could be attributed to the low income status and low literacy rates among the villagers. The general health, growth and maturity were again found to be better in females. These finding can be explained on the basis of lifestyle and social constrains.

Keyword General Health, Food, Nutrition, Growth

Introduction

In India, there exists extensive intra- and inter-district variability in health scenario in different states. Therefore district-level planning is critical for health systems delivery and strengthening. In the absence of strong district-level vital statistics data, state estimates are used for planning and impact measurement, thereby diluting information about some of the high-focus areas in a specified state. As a result, there has been growing demand for vital statistics that are more regularly and locally reported, for use in planning and evaluation.

The western part of West Bengal (districts of Purulia, Bankura and West Midnapore) is lagging behind according to the scale of development in health scenario as a whole, when compared to the rest part of the state. The conditions are worse especially for the remote villages that are far from and not well connected to the district or sub-divisional headquarters. The majority of the rural population is smallholders, artisans and labourers, with limited resources that they spend chiefly on food and necessities such as clothing and shelter leaving no money left to spend on health. The rural populations work in hazardous atmosphere, live in abysmal living conditions and often become the first victim of epidemics. Unsafe and unhygienic birth practices, unclean water, poor nutrition, subhuman habitats, and degraded and unsanitary environments are challenges to the public health system in these areas. This present paper attempts to review critically the current health status of the villages in the western part of West Bengal, with a special reference to the village Aich bari (23.01° N, 87.28° E), situated in the Bishnupur sub-division of the district of Bankura. No report describing similar studies on the above mentioned areas has been found hitherto.

2. Materials and Methods

2.1. Data Collection

A health camp was organized on 28th March, 2012 at the village of Ainch Bari, Bishnupur as a part of the National Service Scheme (NSS) programme, organized by Ramananda College, Bishnupur, Bankura. More than 1000 people of the village participated enthusiastically in the health camp. In this health camp, there was a health awareness programme for the participants. A survey work was done in detail on the lifestyle, food habit, occupation and education among the villagers. In the health camp there was the facility of measuring the height, weight and the blood pressure of the participants. There was also an option of testing the blood group.



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2.2. Data Analysis

Data Collected from survey work and measurements were categorized to analyze and demonstrate the health awareness and general health among the villagers of Aichbari.

Attendance of the villagers to the health camp was used to study the health awareness while the height and weight data were utilized to reveal the nutrition, growth and maturity among the villagers.

3. Results and Discussions

3.1. Response to the health camp

More than 75% of the villagers came to participate in the health camp organized. Though the sex ratio of the village was found to be male: female=1:0.989, yet the number of female participants were found to be greater than male indicating more health awareness among females that compared to male. Figures 1(a) and (b) show the age distribution curves for male and female participants of the health camp. Figure 1(a) shows the data for females fitted well with Gaussian distribution of peak value around 45 years. The distribution is symmetric with respect to the peak indicating both the young and old females participated in the camp. The full width at half maxima (FWHM) of the curve indicates that more awareness was seen for the age group 35-55 years of female. Figure 1(b) shows the data for males fitted well with Lognormal distribution of peak value around 25 years. This indicates younger males are more aware to health programme compared with that of females. The distribution is not symmetric with respect to the peak showing tail in the older age side. This indicates older males participated in the camp more when compared to the older females. The full width at half maxima (FWHM) of the curve indicates that more awareness was seen for the age group 15-45 years of male.

3.2. Food, feeding behaviour and nutrition

The main food of the villagers of Aichbari is found to be rice, chapati and vegetables. The average diet is found to be rich in carbohydrate. Percentage of protein in the daily diet is found rather low. The main sources of protein in the daily diets are dal, small fishes and soyabean nuggets. Villagers consume milk, home made paneer, egg and meat (chicken and mutton) in very less proportion.

Proteins are an indispensable part of human nutrition. Food proteins are essentially needed for the formation of tissue proteins. From the biochemical point of view, both the quality as well as the quantity of the proteins is taken into consideration by our metabolic system. Proteins are regarded to be the "Building Blocks of our body". It has already been established that the nutritive value of a protein depends on its digestibility and essential amino acid content. A protein containing adequate and balanced amount of all the essential amino acids, has a high nutritive value, again, if a protein is deficient in one or more of the essential amino acids, it is considered to be a poor protein as much as its amino acids cannot be readily utilized for protein synthesis. Animal sources, such as milk, egg, fish and flesh have been found to be rich in the essential amino acids, but many of the plant sources, such as cereals, pulses,

oilseeds and nuts are deficient in some essential amino acids. Therefore it is advisable to eat mixed food with more than one item of protein. This type of food habit is not seen among the villagers of Aichbari. Most of the villagers have rice thrice daily. Practice of taking other foods and fruits or small intake in regular intervals are not found in the village. Most of the villagers drink water collected from the deep tube wells but some of them also collect drinking water from pond or river. This type food intake and feeding behaviour can be attributed to the higher percentages of low income status among the villagers and also to the low literacy rates.

Nutrition is a basic human need and a prerequisite for healthy life. A proper diet is essential from very early age of life for growth, development and active life. Therefore it is essential to take care of all the factors of which food is composed and the way in which proper nourishment is brought about. The average nutritional requirements of groups of people are fixed and depend on such measurable characteristics such as age, sex, height, weight, degree of activity and rate of growth. Figure 2 shows the bar diagram of daily required protein intake per kilogram body weight of different classes of people for healthy living as prescribed by the World Health Organization (WHO). Figure 3 shows the data of daily protein intake per kilogram body weight as a function of the body weight for the villagers of Aichbari and for the people of Bishnupur (23.08°N, 87.32°E), the nearest urban population from Aichbari, for comparison. In both cases, the daily protein intake value is found to be lower than that prescribed by WHO but in case of Aichbari the deficit in daily protein intake is found to be higher than that of the Bishnupur. Figure 3 (inset) shows the deficit in the daily protein intake for the villagers of Aichbari and the people of Bishnupur. In both cases, the data show similar qualitative trend showing a peak in the body weight range of 40-65 Kg. This observation can be attributed to the fact related to the social behaviour that being the able, matured and responsible member of the families, male and females having their body weights in this range of 40-65 Kg share their food of high protein value with their growing children or aged superiors of their families.

3.3. General health, growth, and maturity

The overall health scenario of Aichbari can be established from the data collected through the survey work. In general the villagers are found to be health conscious. More than 80% of the villagers drink safe water collected from the deep tube wells. More than 75% of the villagers are aware of the auxiliary health workers. They sought help for ailments at government outposts such as Bishnupur sub-divisional hospital. Less than 20% of the villagers still have the sole belief on the local quacks for different ailments. Most of the villagers in the age group of 55-75 (in male) and 50-62 (in female) belong to this group.

The growth and health of the community can be estimated by analyzing the height (H) and weight

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(W) that were recorded for individual participant during the health camp. The data are categorized for male and female participants.

It is assumed that the height (H) and weight (W) obey the relationship governed by simple power law

$$W=AH^B \quad (1)$$

where the coefficient A is the intercept in the y-axis and the exponent B indicates the strong ness of dependence of W on H. The statistical significance level of r^2 was estimated and the parameters A and B were obtained by linear regressions on the transformed equation

$$\ln W = \ln A + B \ln H \quad (2)$$

using the experimental data (Fig.4a and 4b). The B value is found to be lower in males ($B= 1.659$; $r^2 =0.953$) (Fig. 4a) compared to that in females ($B=1.841$; $r^2=0.965$) (Fig. 4a). Analysis of covariance revealed significant differences between sexes for the slopes (B) of the regression lines ($P < 0.001$). Both the values are found to be lower than that of the isometric growth ($B=2.000$) indicating lower growth rate in the village. Lower B value in males compared to that of females indicates that the general health and growth is better in females compared to that of the males in this village.

This result is influenced greatly by food habit, life style etc. Lower income status in the males of the village build up economic and social insecurities among them causing stress among the males. Many of them are found to be alcoholic and smokers. Many of the males of this village currently have their occupation in different small towns and major cities. These persons are reported for higher rates of smoking, higher exposures to second-hand smoke, higher overweight/obesity rates and lower rates of fruits and vegetable consumption. It should also be noted that higher levels of stress and a lower sense of community belonging are found as levels of urbanity increased in case of these peoples.

Some of the males from Aichbari are engaged in the fields related to the forestry, farming and fishing, manufacturing, and mining labour forces. These latter occupations are often accompanied with greater health and safety hazards due to the use of complex machinery, exposure to chemicals, working hours, noise pollution, harsher climates, and task related physicality. Poor Health and growth in males compared to females can be thus explained.

4. Conclusion

A survey was done in detail on the lifestyle, food habit, occupation and education among the villagers of Aichbari, Bishnupur during a health camp. Measurement of the height, weight and the blood pressure of the participants are done and the data are analyzed to get the general health scenario of this

locality. General health awareness and the sense of basic hygiene are found to be higher in the female when compared to that of the male. The general health, growth and maturity are also found to be better in females. The health camp threw light on the general health of a remote village in the district of Bankura. More health camps of this type will help us to gather knowledge about the different villages in the western part of the West Bengal.

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Figure 1

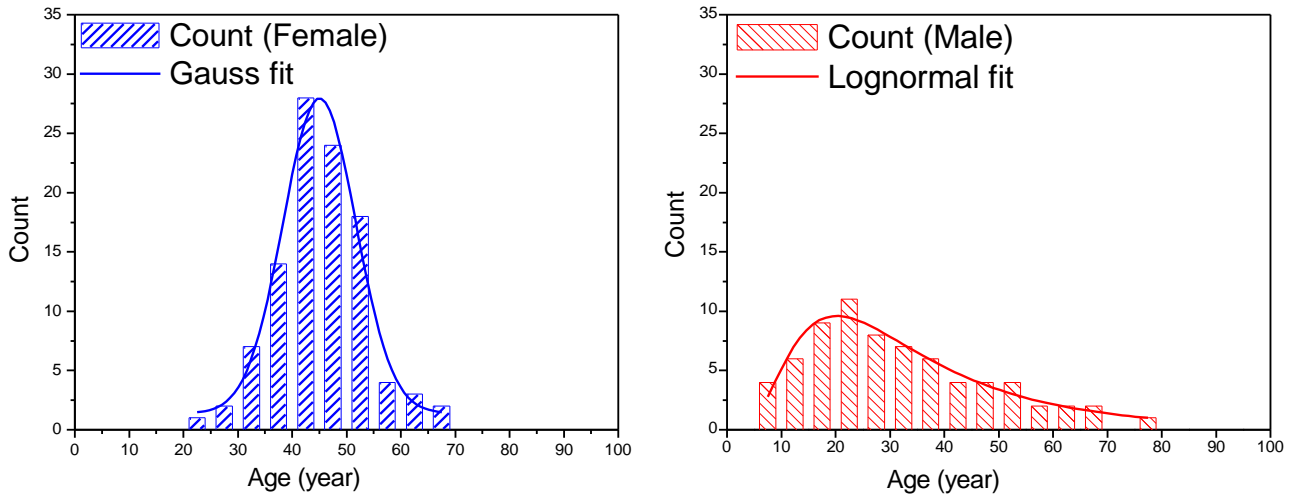


Figure 1- (a): Age distribution curve of the female participants in the health camp; (b): Age distribution curve of the male participants in the health camp

Figure 2

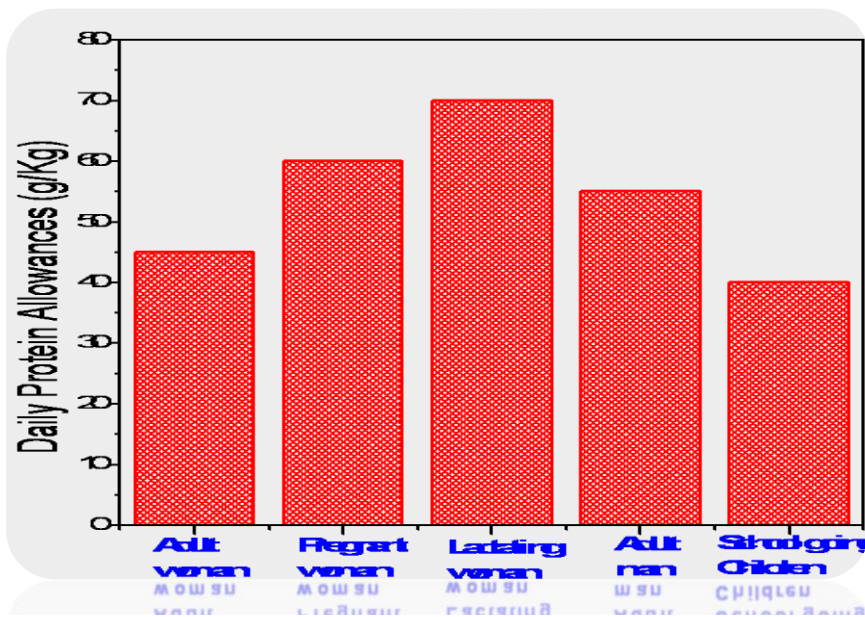


Figure 2- Standard value of daily required protein intake per kilogram body weight for different classes of people as recommended by WHO.

Figure 3

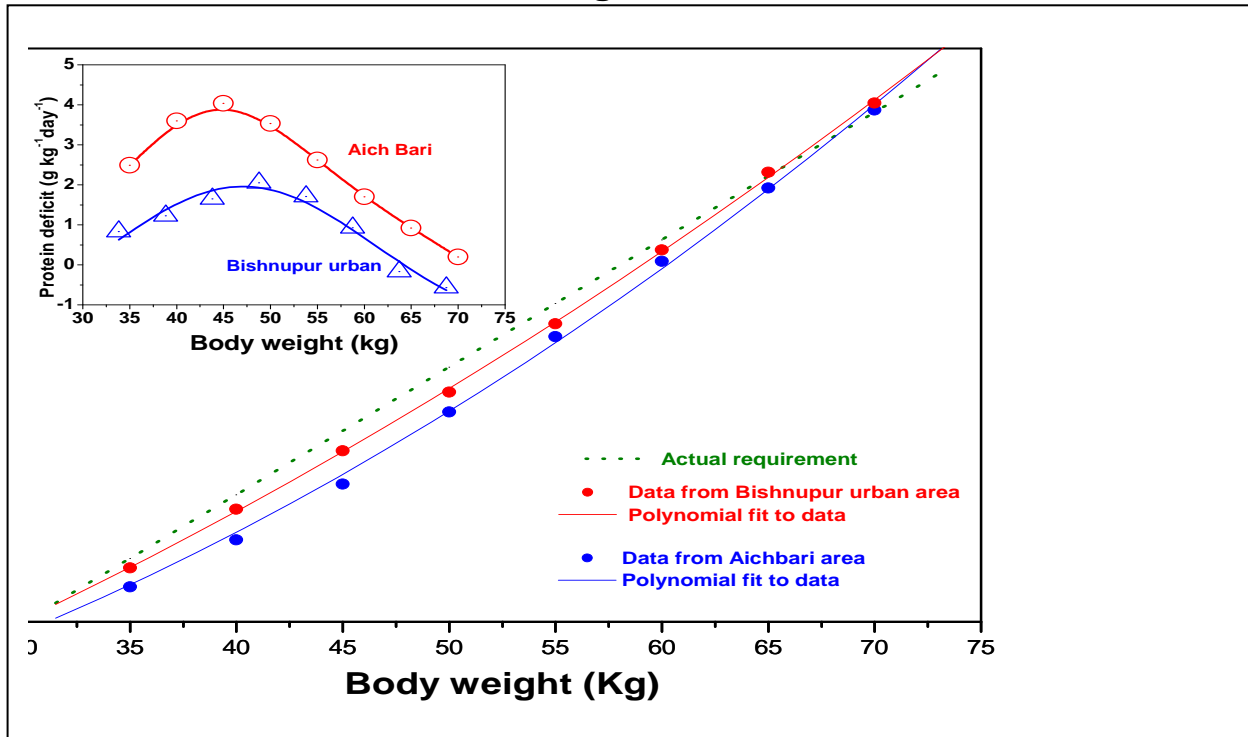


Figure 3- Daily protein intake per kilogram body weight as a function of the body weight for the villagers of Aichbari and for the people of Bishnupur. (inset) the deficit in the daily protein intake per kilogram body weight as a function of the body weight for the villagers of Aichbari and the people of Bishnupur.

Figure 4

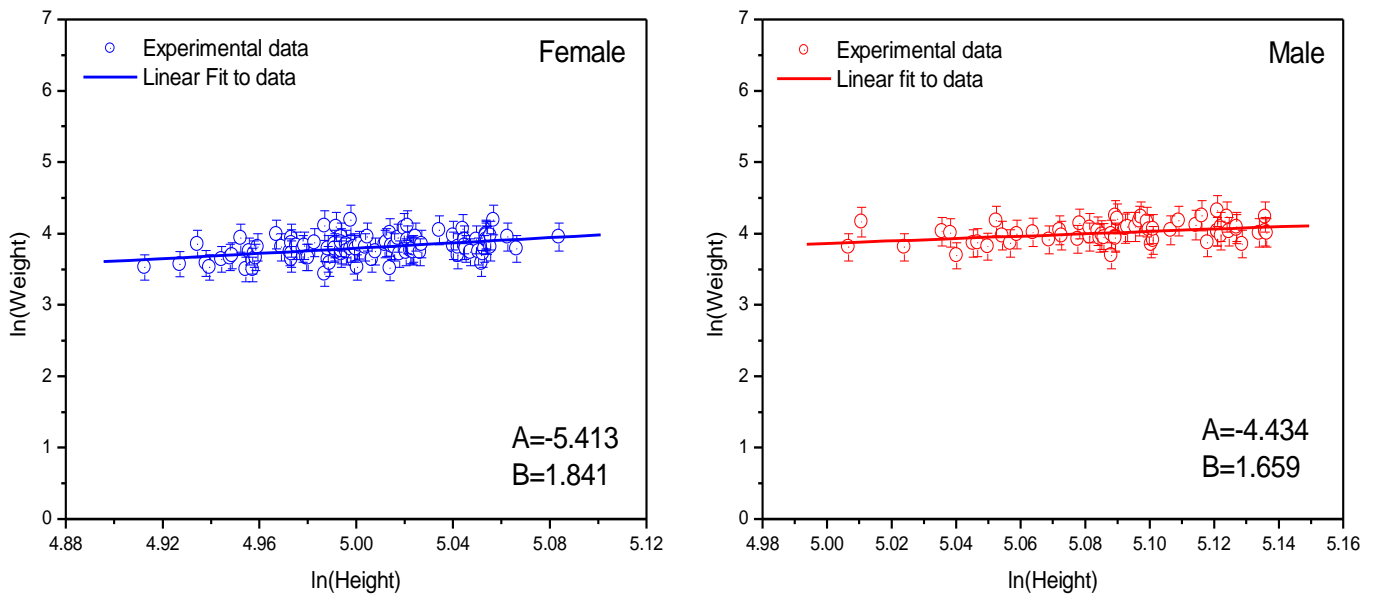


Figure 4- (a): Height-Weight relationship of the female participants in the health camp; (b): Height-Weight relationship of the male participants in the health camp.