Nutritional and Socio-economic Status of Female Garment Factory Workers of Urban Dhaka

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Abstract

The present study was carried out to determine the socio-economic as well as nutritional status of the female garment factory workers of Dhaka city. A total of 402 female workers from 7 selected garment factories were included in this study. The age of the respondents were between 14–30 years. Half of the respondents (56 %) were adolescent. Among them near about 37% were found illiterate and 45% were educated up to alimentary class. Though mean income was found 1150 taka per month, 43% draw less than 1000 taka. As a consequence most of the workers (62%) lived in slum. According to the Body Mass Index (BMI) 24% respondents were malnourished. In this study mean height and body weight were found a little bit higher than the previously known data. Prevalence of anemia was also found higher among the workers. About 51% subjects had blood hemoglobin level below 12 g/dl. On the other hand highly paid group was found to have relatively better health condition and living a comfortable life. Finally it can be concluded that the causes of malnutrition and anemia among the female garment factory workers are both due to poverty and lack of knowledge.

Key Words: Socio-economic Status, BMI, Hemoglobin.

Introduction

The emergence and growth of garment industries, an export oriented industry is quite recent in Bangladesh. Ready-made-garments emerged as a promising export-earning sector in socio-economic context of the country by the year 1983. Today 2500 small and medium scale privately owned garment factories are spread in clusters over the EPZ and urban areas of Dhaka, Chittagong and Khulna. Garment industries made a revolution in the economy of the country by exporting ready-made-garments and 52% of the total foreign currency is coming from this sector [1]. In export oriented ready-

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made-garments 9,66,600 females are working and this is about equal to male workers. Before the development of ready-made-garment industries, countries female population had no sector to work in huge number. This sector has given employment to a big portion of women folk, which in turn has helped in the socio-economic development of the country. The high rate of illiteracy and low level of education of these female workers almost predetermined their placement in low paid unskilled jobs. The majority of these women workers needed to enter wage employment to save their family from starvation[2].

Malnutrition is a significant public health problem in the third world countries. The vulnerable groups – young children, pregnant and lactating mothers, in general women are worst victim of malnutrition. A recent study on adolescents female workers of garment factories revealed strikingly lower energy intake (27%) than the WHO/FAO recommendation[3]. Consequently majority of the female population are below the cut of point for BMI. Among the nutritional problem of women anemia is the most frequently observed diseases (37%) in Bangladesh[4]. Anemia is the first and foremost problem of women in the reproductive age group[5]. Anemia may result by various causes but the most common one is iron deficiency and such kind of iron deficiency anemia causes fatigue, weakness, anoxia etc. which adversely affect the working capability[6]. In Bangladesh context almost cent percent of the female garment workers are of the reproductive age and apparently have low socioeconomic background. Therefore, assessment of the nutritional status (with special reference to anemia) of these female garment workers in relation to their socioeconomic condition is of crying need.

Materials and Methods

Study design: The study was conducted among the female garment factory workers of different parts of Dhaka city. The garment factories as well as samples were selected randomly.

Study population: Study population (respondent) consisted of female workers aged between 14-30 years working at different garment factories of Dhaka city. A total of 402 female garment factory workers from seven selected garment factories were included in this study, of which 63 from Prince garment of Tejgaon commertial area, 52 from Anika garment of Katabon, 63 from Creative garment of Mirpur-I, 60 from Babylon garment of Mirpur-11, 67 from Friends garment of Mirpur-11, 32 from Apparel garment of Shamoli and 63 from Sarwer garments of Katasur, Mohammadpur.

Anthropometric measurement: Height and weight of the respondents were measured by height scale and weighing machine respectively. Then the Body Mass Index (BMI) was calculated from the following formula,

$$BMI = \frac{Weight\ (Kg)}{Height\ (m^2)}$$

where the cutoff points for measuring nutritional status (from BMI) are <18.5=malnourished, 18.5-24.9= normal and > 25.0= overweight.

Estimation of blood hemoglobin: Blood samples were collected on filter paper by pricking the fingertips. The blood bound filter papers were then subjected to hemoglobin estimation according to the method of Cartwright using a commercial kit (Bochringner, Mannhum, Germany)[7]. Cutoff point for normal blood hemoglobin in case of female was considered as 12.0 g/dl, and <12.0g/dl as anemic (WHO criteria).

The questionnaire: A questionnaire was constructed to get information about the socioeconomic status of the respondents. The questionnaire consisted of respondents name, age, educational qualification, duration of stay in Dhaka, marital status, monthly income, housing condition, house rent, family size, living style, height and weight.

Data management and data analysis: Each survey form was manually edited to verify the correctness in filling the survey forms. Then the data entry was done manually and analyzed by using SPSS software package.

Results

A total of 402 female workers from seven selected garment factories of Dhaka city were examined for their nutritional and socioeconomic status assessments. Table 1 shows the distribution of the respondent according to their age, educational qualification and monthly income. It can be seen from the table that majority of the respondent (56%) was 15-19 years of age and an appreciable percent (14%) belonged to 20-24 years age group. The mean age of the respondents was 15.66±4.21 yrs. Information on formal educational qualification of the respondent was also presented in table 1. About 37% were found illiterate and only one subject was bachelor's degree holder. An appreciable percent of respondent were educated up to class IV-VI. It is also revealed from table 1 that 38.3% respondent earned 500-999 taka per month and about 36% respondents earned 1000-1499 taka per month. Only 7.5% among the respondent belonged to highly paid group,

earning more than 2000 taka per month. There was also a small portion of low paid population (5%), whose monthly income was below 500 taka.

Table 1. Distribution of the female garment workers* according to their age, educational qualification and monthly income

Age (yr)	14** 9.0% (77)	15-19 56.0% (224)	20-24 14.0% (58)	25-29 8.0% (31)	30 3.0% (12)	15.66+4.2*
Educational Qualification (class)	Illiterate 36.8% (148)	I-III 15.4% (62)	IV-VI 31.1% (125)	VII-IX 12.2 (49)	SSC 4.2% (17)	B.A. 0.2% (1)
Monthly Income (taka)	500*** 5.0% (20)	500-999 38.3% (154)	1000-1499 35.8 (144)	1500-1999 13.4 (54)	>2000 7.5% (30)	1150+494

In parenthesis number of subjects are mentioned
*Total number of respondent was 402 (100%)
**Age range
***Salary range
  Mean value

Table 2 shows marital status and living pattern of the respondents. It is found that out of 402 respondents 245 (61%) were unmarried and 157 were married (39%). Most of the studied population live in slum (62%), followed

Table 2. Marital status, housing condition and living style of the female garment workers*

Parameters	Number of Subject	Percent
MARITAL STATUS		
Married	157	39
Unmarried	245	61
LIVING in		
Building	36	9
Tin shaded	117	29
Slum	249	62
LIVING STYLE		
Alone	56	14
With other garment workers	157	39
With own family members	189	47

• Total number of respondent was 402 (100 %)

by habitant of tin shaded house(29%). It was also found that 47% respondent live with their own family members. A big portion of the worker was found to live with other garment workers. Only 14% maintain individual

establishment. The house rent and family size of the respondents were also surveyed in this study (data not shown). It was found that more than 60% spend 200-400 taka for accommodation. And more than 80% of the respondents who lived with their family had 4-7 members.

Mean height, weight and BMI of the respondents according to their age are shown in table 3. Out of 402 subjects 305 (76%) had normal BMI values between 18.5-24.9. and 97 (24%) individuals were malnourished (BMI <18.5). Blood hemoglobin profiles among the female workers are shown in table 4. About 11% respondents were found to have blood hemoglobin level below 10.0 g/dl. Six percent respondents showed normal hemoglobin status (>14.0g/dl), 28.6% were mildly (11.0-11.99 g/dl) anemic and 12% were moderately (10.0-10.99 g/dl) anemic[8]. Mean blood hemoglobin level was found 11.94±1.53 g/dl among the respondents and the range was 6.28 to 16.33 g/dl.

Table 3. Mean height, weight and BMI of the female garment workers* according to their age

Age (yr)	Number of subjects	Mean weight (Kg)	Mean height (Meter)	Mean BMI (Kg/M^2)
14	77	38.61	1.46	18.11
15	64	40.17	1.46	18.85
16	66	41.75	1.48	19.06
17	32	41.92	1.49	18.88
18	56	42.54	1.50	18.90
19	6	44.08	1.50	19.95
20	32	42.79	1.49	19.27
21	5	46.20	1.53	19.73
22	9	41.38	1.40	21.11
23	8	39.00	1.52	16.88
24	4	47.00	1.54	19.82
25	18	44.89	1.51	19.67
26	9	44.83	1.50	19.92
27	0	0	0	0
28	2	41.50	1.48	18.94
29	2	52.00	1.54	21.93
.30	12	39.20	1.50	17.42

• Total number of respondent was 402

Table 4. Blood hemoglobin level among the female garment workers*

Number of subject	Blood hemoglobin (g/dl)	Percentage
44	<10.00	10.90
47	10.00-10.99	11.80
115	11.00-11.99	28.60
112	12.00-12.99	27.70
57	13.00-13.99	14.30
14	14.00-14.99	3.40
10	15.00-15.99	2.50
3	16.00-16.33	0.80

Total number of respondent was 402

Discussion

The future of Bangladesh economy depends largely on the pace of its industrialization. Garment industries, a sub-sector of textile industry, have enormous importance in national economy and its importance is increasing day by day. In this sector 2nd largest number of people are engaged, the prime being the agricultural sector. About 68% of Bangladesh's total foreign currency comes from this sector. In garment industries most of the workers are female. As females are more malnourished compared to men, an attempts have been taken to measure their nutritional status as well as their socio-economic condition. In this study it was found that majority of the subjects were adolescent and all of them were in childbearing age. Moreover, a large portion of the subjects was found illiterate. A similar finding was also reported few years ago[3.] Socio-economic status is closely related to a person's income. In the present study mean income of the workers was found 1150.00 taka per month and above 43% respondents' monthly income was less then taka 1000.00 per month, which placed the concerned population in lower socioeconomic class. It can generally be said that wage of the workers was relatively low to live a comfortable life. This is the reason why 62% of the studied populations live in the slum.

In this study a tendency to share the house rent was observed, consequently, the majority of the garment workers (86%) live either with their family members or with other garments workers. Only 14% of the studied population maintained individual establishment and these persons belonged to highly paid group.

Anthropometric measurements and BMI are useful indicators for evaluation of the nutritional status of a community[9]. In a previous study on adolescent

female garment workers mean height and weight were found 140.0±6.9cm and 37.2±6.6kg respectively [10]. In the present study, the height and weight of the adolescent group (age between 10-19 years) were found 147.1±7.3 cm and 38.8±8.07 kg, respectively which reflect a slight rise in body weight as well as height in the last few years. But while considering the BMI, 24% respondents were found still malnourished. Looking behind, low socio-economic class can't provide their growing child adequate amount of food. Moreover, in this class of population boys enjoy greater care and attention than the girls. The efficacy of these female workers can be increased to several folds with the elimination of the problem of malnutrition.

Along with malnourished subjects, 51% of the respondents were found anemic i.e. their blood hemoglobin level was below 12 g/dl. A similar finding was reported few years ago [11]. Although there are several factors causing anemia in the female population of our country, iron deficiency is found as the major factor. Illiteracy is also one of the factors because it is not true that only expensive foods can give better nutrition. Expensive foods like meat, liver are not the only sources of iron, sufficient amount of iron can be obtain from several types of legumes, vegetables and fruits. High prevalence of anemia adversely affects the working ability of the female workers. But the result where almost half of the subjects are malnourished and anemic is not surprising as they belong to low socio-economic class of the society.

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