

Morbidity patterns, nutritional status, and healthcare-seeking behavior of female garment workers in Bangladesh

Md. Golam Hasnain¹, Monjura Akter², Md. Shadab Ibn Sharafat¹, Ayesha Mahmuda³

¹. International Centre for Diarrheal Disease Research, Bangladesh (icddr,b), Dhaka, Bangladesh

². Nandail Upazilla Health Complex, Mymensingh, Bangladesh

³. MPH student, American International University Bangladesh (AIUB)

Corresponding Author:

Md. Golam Hasnain, Flat 3/A 5th Floor, 370-371 Outer circular road, Rajarbag, Motijheel, Dhaka, Bangladesh. Tel: +880-01754315494, Email: hasnain.abir@gmail.com

Abstract

Background: The ready-made garment (RMG) sector is the main pillar of Bangladesh's economy, and female garment workers are the key workers in this sector. Unfortunately, they are paid very little; in fact, their pay is among the lowest anywhere in the world. This situation makes the workers very vulnerable to different kinds of health-related problems, including malnutrition, and it also results in their having poor healthcare-seeking behavior. So, the aim of this study was to determine their nutritional status, their various kinds of health-related problems, and their healthcare-seeking behavior.

Methods: This was a cross-sectional study in which purposive sampling was done. Data were collected through a structured questionnaire, and the participants' heights and weights were measured according to the guidelines provided by the World Health Organization (WHO). All data were computed and analyzed using SPSS version 16.01 software. Chi squared values were calculated to analyze the data and the prevalence rate ratio (PRR) was measured to determine the association of body mass index (BMI) with health problems.

Results: More than half of the participants (53.67%) had various health problems, and almost half of them (43.33%) were underweight (BMI ≤ 18.5 kg/m²). Among those who were underweight, about 96% of them had one or more health-related problems in the last three months (P-value < 0.001). Their PRR was 2.59, which comprises low BMI as a risk factor for high morbidity. Among the workers who had one or more health-related problems, more than 22% of them did not go to see a doctor during their illnesses. Only about 12% of them went to qualified practitioners, and, surprisingly, 37% of those completed the prescribed treatment.

Conclusion: The study showed that there is high morbidity among female garment workers who have low BMI values and poor healthcare-seeking behavior, factors that should be addressed by their employers and policy makers.

Keywords: morbidity pattern, garment worker, nutritional status

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1. Introduction

To maintain one's quality of life, sound physical health and mental health are essential. It is a human right to have access to proper healthcare facilities provided by the state and society. This view is no longer considered merely as a humanitarian value that is independent of the social environment. Rather, it is viewed more and more as an essential force for promoting socioeconomic progress in a society. In an undeveloped country, such as Bangladesh, hospital data are available about disease patterns, but information about the morbidity patterns of a specific community is

rarely available. Only a community-level study can reflect the true picture of the disease patterns in a given community and determine people's preferences when they seek healthcare services. Regarding this point of view, information about the morbidity patterns of garment worker and their healthcare-seeking behavior is of great importance. The salaries of female garment workers are very low, averaging about \$40 per month, which is among the lowest in the world (1). So, the high incidence of morbidity reduces their household budget, not only their spending money, but for the ways in which they can seek treatment and by impairing their ability to work and earn money. The most likely consequence of this situation is that their families will live in permanent poverty (2).

The ready-made garment (RMG) industry has played a pioneering role in the development of the industrial sector in Bangladesh. The \$16 billion this industry has earned comprise about 79% of the country's total exports and 17% of the country's gross domestic product (GDP) (Board of Investment Bangladesh Report, 2013). But the standard of living of female garment workers is still in a precarious condition, and they are not free from the vicious cycle of poverty. They face extreme difficulty in obtaining their basic needs for survival (3), and this situation makes them even more vulnerable. Their nutritional status is very poor because of their low pay and their extreme vulnerability. Healthcare-seeking behavior refers to the sequences of remedial actions that individuals undertake to rectify perceived ill health (4). The treatment choice depends on several factors, including socio-demographic status, the pattern and severity of illness, their existing beliefs about disease, availability of the needed services, the quality of those services, and their cost effectiveness (5).

In almost all developing and undeveloped countries, the public and private sectors are often at odds with each other, which generate a lot of controversy and conflict. As a result, in the healthcare area, little attention is paid to harmonizing this coexistence for the benefit of the users (7). Several studies have been conducted that showed the trends for the utilization of public and private healthcare, including the consideration of such factors as age, gender, women's autonomy, urban or rural habitat, economic status, severity of illness, the availability of physical infrastructure, the type of healthcare providers, and the attitudes of the providers (8).

In Bangladesh, a wide range of therapeutic options is available, ranging from self-care to folk medicine and western medicine. But, unfortunately, poverty and gender are the two main determinants of the prevalence of disease and the lack of available, quality healthcare⁸. The severity of illness may have a significant effect on peoples' health care-seeking behavior. For example, when a flu-like syndrome exists, people may seek folk cures or homemade remedies; however, with multi-system involvement and long durations of illness, people are more likely to consult a biomedical healthcare provider (9). Even though many traditional treatments are not effective, people utilize them due to lack of education, poverty, and their lack of satisfaction with healthcare providers (10). The overall situation of the healthcare system is poor in developing countries, such as Bangladesh, due to inadequate access to modern health services and poor utilization of the few services that are available. Therefore, one of the public health challenges in Bangladesh is to identify vulnerable groups and provide them with needed preventive and curative health services (11). So, this study was designed to identify the specific factors that may enhance the overall health status of the garment workers considering their morbidity patterns, nutritional status, and healthcare-seeking behavior.

2. Material and Methods

2.1. Study design and setting

This study was designed and implemented as a cross-sectional study from August 2012 to February 2013. The study was conducted in some selected garment factories in Dhaka City, Bangladesh.

2.2. Sampling

We calculated the required sample size based on our assumption of the proportion of the target population, i.e., female workers in the garment industry that had particular characteristics, a desired 50% accuracy, and a desired degree of accuracy 0.05; given those assumptions, we calculated the minimum sample size to be 284, and we enrolled 300 participants in the study. A purposive type of sampling was conducted because the study was based on some ideas that were established before it was implemented.

2.3. Selection criteria and data collection

The criteria for inclusion in the study were that participants had to be female garment workers who had worked in the industry for more than six months, were at least 18, and were willing to participate. Two garment factories were selected for the study, and 150 participants were selected from each factory following the sample selection criteria.

Then, data were collected using a semi-structured questionnaire; the heights and weights of the participants were measured following the WHO's standard operating procedure (SOP).

2.4. Ethical consideration

The study protocol was approved by the Ethical Review Committee (ERC) of the American International University-Bangladesh (AIUB). All participants provided both written and verbal informed after the researchers had explained the study's objectives, procedures, and likely outcomes.

2.5. Statistical analysis

All data were computed and analyzed through SPSS version 16.01 software. Chi square test were used to analyze data, and the prevalence rate ratio (PRR) was measured to determine the association of body mass index (BMI) and health problems.

3. Results

Table 1 shows the socio-demographic characteristics of the participants. Ninety percent of the participants were 30 or younger, and the ages of the remaining 10% of the participants ranged from 31 to 35. Most of them were Muslims (94.33%), and the rest were Hindus (5.67%). The percentages of unmarried and married participants was close, i.e., 53.33% and 46.67%, respectively.

Among the 300 participants, 43.33% were illiterate, 40% had completed the primary educational level, and only 16.67% had completed the secondary educational level. Concerning their living situations, 65% lived alone and 35% lived with their families. Concerning their housing situations, 58.33% lived in kutchha houses and 41.67% lived in pakka houses. Most of them (49.67%) had at least 1.5 years of experience, whereas 36% had a year of experience, and 14.33% had only six months of experience. Their monthly incomes were very low, with 19% making 4000 BDT monthly, 24.67% making 4500 BDT monthly, 22.33% making 5000 BDT monthly, and 42.33% making 5500 BDT monthly. (Note that 4000 BDT per month is approximately equal to \$51.50 per month.) Generally the workers worked 10 hours per day, six days per week for these wages, with some working as much as 12 hours per day.

Table 1. Socioeconomic characteristics of the participants

Characteristics		Respondents (%)
Age	18-25	140 (46.67%)
	26-30	130 (43.33%)
	31-35	30 (10.00%)
Religion	Islam	283 (94.33%)
	Hindu	017 (05.67%)
Marital Status	Unmarried	160 (53.33%)
	Married	140 (46.67%)
Educational Status	Illiterate	130 (43.33%)
	Primary Level	120 (40.00%)
	Secondary Level	050 (16.67%)
Living Status	Living with Family	105 (35.00%)
	Living without Family	195 (65.00%)
Housing Condition	Kaccha House	175 (58.33%)
	Pakka House	125 (41.67%)
Length of Service	6 Months	043 (14.33%)
	1 Year	108 (36.00%)
	1.5 Years	149 (49.67%)
Monthly Income	\$ 51.31	057 (19.00%)
	\$ 57.73	074 (24.67%)
	\$ 64.14	067 (22.33%)
	\$ 70.56	060 (20.00%)
	\$ 76.97	042 (14.00%)
Daily Working Period	8 Hours	131 (43.67%)
	10 Hours	127 (42.33%)
	12 Hours	042 (14.00%)

Table 2 shows the health-related complaints the participants had within the three months preceding the study. Most of the participants (53.67%) had multiple symptoms. The percentages of participants who had anorexia, nausea, fever, epigastric pain, and burning micturition, and dysmenorrhea were 22.33%, 14.33%, 11.67%, 11.33%, 10.67%, and 10.33%, respectively. In addition, 8% complained about coughing, 7.67% about headaches, 7% about lower abdominal pain, 5.67% about runny noses, 4.33% about diarrhea, 4% about vomiting, 3% about menorrhagia, and 2.33% about leg pain. On examination, 31% of the participants were found to have anemia, but no other signs of deficiency disorders were observed. Among those with anemia, 40.33% were within the normal weight range, 43.33% were underweight, and the remaining 16.34% were overweight.

Table 2. List of symptoms/signs (within three months); distribution by BMI

Symptoms/Signs		Respondents (%)
No complaints		136 (45.33%)
Symptoms	Headache	23 (7.67%)
	Vertigo	14 (4.67%)
	Fever	35 (11.67%)
	Runny nose	17 (5.67%)
	Cough	24 (8%)
	Anorexia	67 (22.33%)
	Nausea	43 (14.33%)
	Vomiting	12 (4%)
	Epigastric pain	34 (11.33%)
	Lower abdominal pain	21 (7%)
	Dysmenorrhea	31 (10.33%)
	Menorrhagia	09 (3%)
	Diarrhea	13 (4.33%)
	Burning micturition	32 (10.67%)
Leg pain	07 (2.33%)	
Signs	Anemia	93 (31%)
	Leg edema	00
	Goiter	00
	Glossitis	00
BMI (kg/m ²)	≤ 18.5	130 (43.33%)
	18.5-24.9	121 (40.33%)
	25-29.9	32 (10.67%)
	≥ 30	17 (5.67%)

Table 3. Relationships between BMI and major symptoms/signs

BMI (kg/m ²)	No complaint	Anemia	Anorexia	Nausea	Fever	Epigastric pain	Burning micturition	Dysmenorrhea
< 18.5	11 (3.67%)	86 (28.7%)	59 (19.7%)	31 (10.3%)	24 (8%)	20 (6.7%)	20 (6.7%)	21 (7%)
18.5-24.9	64 (21.33%)	7 (2.3%)	8 (2.7%)	12 (4%)	11 (3.7%)	13 (4.3%)	12 (4%)	8 (2.7%)
25-29.9	31 (10.33%)	0	0	0	0	0	0	1 (0.3%)
≥ 30	15 (5%)	0	0	0	0	1 (0.3%)	00	1 (0.3%)

Table 3 shows the relationship of BMI and the morbidity pattern. Among the participants, 43.33% had BMIs ≤ 18.5 kg/m², slightly more than 96% of them had different types of complaints within the last three months. Among the large percentage of participants with health-related complaints, 28.67% of them had anemia, 19.67% were anorexic, 10.33% had nausea, 8% had fevers, 6.67% had epigastric pain, 6.67% had burning micturition, and 7% had dysmenorrhea. Conversely, 40.33% of the participants had BMI values within the normal limits, and more than half

of them (21.33%) had no complaints. So, a BMI below the normal level has a significant relationship with more health-related complaints (P -value < 0.001). Also, we considered those with BMI values < 18.5 kg/m² as one group and those with BMI values ≥ 18.5 kg/m² as another group. In each group, we further divided the participants into those with and those without complaints; then, we measured PRR and found it to be 2.59.

Table 4 describes the participants' healthcare-seeking behavior. Note that 22.33% of the participants indicated that they do not seek healthcare when they are having health-related problems. Among the other 77.67% only 11.67% participants went to qualified doctors when they had a health issue, and the remaining 25.67%, 22.67%, and 17.67% went to paramedics, homeopathic doctors, and kabiraj, respectively. A very alarming finding was that only 37% of those who went to qualified doctors completed the treatment that their doctors prescribed.

Table 4. Healthcare-seeking behavior of the participants

Healthcare-Seeking Behavior	Respondents (%)
Do not go to Doctor	67 (22.33%)
Go to Kabiraj (Traditional local healthcare provider practicing Ayurveda)	53 (17.67%)
Go to Homeopathic Doctor	68 (22.67%)
Go to Paramedics	77 (25.67%)
Go to Qualified Private Doctor	12 (4%)
Go to Qualified Government Doctor	23 (7.67%)
Complete Treatment Advised	44 (14.67%)
Not Complete Treatment Advised	189 (63%)

4. Discussion

This was a cross-sectional study that was conducted with the aim of determining the morbidity pattern, nutritional status, and healthcare-seeking behavior of female garment workers in Bangladesh, who are now the key personnel of the country's growing economy and development. In Bangladesh, most female garment workers are adults, and almost half of them are married. Another country in the same region, Sri Lanka, has very similar circumstances to those in Bangladesh (13-14). The mean age of our participants was 25.73 ± 5.31 years, and more than half of them were unmarried (53.33%) and living alone (65%). Considering the educational level 59.67% were literate, whereas the literacy rate among young females in Bangladesh is 76.86% (World Bank, 2010). The garment workers' average monthly income was $\$63.20 \pm \14.01 , but the average monthly income of the Bangladeshi people in general is $\$68.16$ (Bangladesh Bureau of Statistics, 2010-11). So, the garment workers have low education levels and low income levels, both of which increase their vulnerability.

Most of the participants (53.67%) had different kinds of symptoms. Among the participants, the percentages who had anorexia, nausea, fever, epigastric pain, burning micturition, dysmenorrhea were 22.33%, 14.33%, 11.67%, 11.33%, 10.67%, and 10.33%, respectively. On examination, 31% of the participants had anemia, and no other signs of deficiency disorders were observed. But a recent study shows that 79% of the female garment workers had some illness, and the major problems were diarrhea and respiratory tract infections (11). However, another study showed that the illnesses were headaches, excessive menstrual bleeding, and eye problems (13), which clearly do not match the results of the previous study. However, studies conducted in countries that have similar socio-demographic characteristics as Bangladesh, such as Sri Lanka and Fiji, showed that headaches, accidents, fatigue, stress, and depression were the most commonly-experienced health-related issues among garment workers (14, 15). So, further epidemiological evaluations are needed.

Among our participants, 43.33% had BMI values less than 18.5 kg/m², but the average BMI among such workers in Sri Lanka was 20.9 ± 3.6 (14). Again, these malnourished people had significant rates of high morbidity (P -value < 0.001) and, overall, an PRR of 2.59 signifies BMIs below the normal level, which is a risk factor of high morbidity. A recent study showed that about one-third (30.8%) of Bangladeshi women of reproductive age are malnourished (BMI < 18.5 kg/m²) (12), which means that the ratio of malnutrition is higher among the female garment workers than in the general population of women. Moreover, their healthcare-seeking behavior is poor, i.e., 22.33% of the participants indicated that usually they do not seek healthcare for health-related problems. Among the others, only 11.67% participants go to qualified doctors, and 25.67%, 22.67%, and 17.67% of the participants go to paramedics, homeopathic doctors, and kabiraj, respectively. The most alarming situation is that those who did seek

medical care, only 37% of them completed the treatment that their healthcare provider prescribed. Another study conducted in Bangladesh showed that 11% did not seek healthcare services and that 87% of them did not go to qualified doctors (11), so the two studies were in close agreement.

5. Conclusion

The low educational levels and poor economic status of female garment workers make them much more vulnerable to illnesses, and this study showed that they have high morbidity, poor nutrition, and poor healthcare-seeking behavior, so policy makers and owners should take notice and proactively provide sufficient incentives and awareness programs to help correct the healthcare and economic conditions their workers face.

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Conflict of Interest:

There is no conflict of interest to be declared.

Authors' contributions:

All of authors contributed to this project and article equally. All authors read and approved the final manuscript.

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