

KNOWLEDGE, ATTITUDE AND PRACTICE OF AN OCCUPATIONAL SAFETY AND HEALTH AMONG THE READY MADE GARMENT WORKERS IN BANGLADESH

Reshma Begum

Department of Public Health

Victoria University' USA

Email: zerinareshma@yahoo.com

Abstract—Ready Made Garments (RMG) is one of most important sectors those are earning foreign currencies for Bangladesh. Due to terrible tragedies in the garment sector in Bangladesh, the world's attention is on the worker safety. The shareholders of the global retailers take initiatives for improving safety issues. Besides the safety, Occupational health is also important issues which need to be improved. I tried to identify the knowledge, attitude and practice of occupational safety and health among the Ready Mate Garments (RMG) workers living in Ashulia, Bangladesh. I have conducted a survey based research where quantitative (main) and qualitative both data were used. I have also scheduled interviews with the RMG workers and used Personal observation to do this survey. Workers were selected randomly as the sample size which covers workers, concerned departmental executives, supervisors and managers of the garment companies those are dealing with ready made garments products. Finally, some important recommendations are given to improve the health and safety environment for the garments worker on the basis of findings. This study also has been suggested that the garment organizations, concerned stake holders and regulatory body (including government of Bangladesh) should be sincere to improve practice and behavior for RMG workers on Occupational Safety and Health at Ashulia in Dhaka city.

I. INTRODUCTION

The Bangladesh Ready-Made Garment industry has grown over the space of a few short decades to become the second largest in the world. The RMG sector has become a key driver of the Bangladesh economy and the nation's development. RMG exports totalled US\$24.5 billion (2013-14) accounting for over 80% of the nation's export earnings and employing around 4 million workers, an estimated 55-60% of whom are women [1]. It is the only major labor intensive sector with huge employment generating potential in the garment sector in Bangladesh which is essentially the lifeline for both urban and rural poor in terms. It is the only major labor intensive sector with huge employment generating potential. Half of the Bangladesh population is still dependent on agriculture, facing the worst poverty situations. There is a fast growing service sector and it contributes about 50 percent of GDP, but its contribution in employment is only 34.6 percent [2]. Despite the phenomenal success of the RMG sector, poor working conditions in the factories and the lack of social compliance are other serious concerns. Recent massacre of Rana plaza and Tazreen Fashions reflects the untold story of Safety and Workplace Conditions in the garment sector in Bangladesh.

The research aim to figure out the unresolved issues regarding Health and safety status of the garments workers, states the necessity of Health & Safety policies in work place and attempts to provide a useful guideline for building proper Health & Safety plan for present garments manufactures & exporters [3]. BGMEA and BKMEA have set standards for compliance in factories, including ensuring safe water and sanitation for factory workers. From this backdrop, this project aims to address the existing challenges of increasing access to WASH facilities to improve the health status of 12000 garment workers and indirectly reaching an estimated 21000 family members in Savar and Ashulia upazila of Dhaka where significant number of the garments workers lives. Most of the RMG workers don't have the knowledge on occupational health and safety issues. The companies of garment sector are also not providing the facilities to their workers though they (workers) have the right to get occupational health and safety [4].

This study was conducted on few selected garment industries of different categories to identify gaps related to occupational health and safety among the ready made garments worker and garments established in Ashulia. In this study, variables were considered as per the research objectives. The research objectives were to find out the health and safety issues of female workers of ready made garment industries in Bangladesh.

A. Objectives

- 1) To find out the socio-demographic and economic background of garments worker in the study area.
- 2) To find out the common problems in garments industries.
- 3) To understand the basic safety issue of garments workers.
- 4) To find out the level of knowledge about OSH.
- 5) To identify the present practice of the employees' health and safety environment of garments.

II. BACKGROUND OF THE STUDY

In 1982-83, the ready made garment sector had a 1.1% stake in the total export. In 2013-14 this grew to 79.63% .It makes up of GDP [5]. The apparel industry took the export earnings from USD 31.57 million in 1983 to USD 21.5 billion in 2013 (BGMEA, Members' Directory 2013-2014). However, there

was no magic wand that helped the sector to come to today's position; rather various factors act as impetus for steady growth of RMG sector in Bangladesh. It is still surprising to many that how the garment industry in Bangladesh continues to show robust performance even sometimes rowing against the tide. There are number of reasons why Bangladesh has been a favorite sourcing destination to international customers [6]. Occupational safety and health is essential for the worker in Bangladesh. One of the declared aims of occupational is to provide safe "occupational environment" in order to safeguard the health of the workers and to step up production. Occupational environment is meant the sum of external conditions and influences which prevail at the place of work and which have a bearing on the health of the working population. Basically, physical, chemical and biological agents [7]. Occupational health and safety concerns, any one of which could result in serious injury or death. These hazards are a function of the nature of the site as well as a consequence of the work being performed. They include the following:

A. Occupational safety and Occupational health

Occupational safety is a multidisciplinary field concerned with the safety, health, and welfare of people at work. Occupational health refers to the identification and control of the risks arising from physical, chemical, and other workplace hazards in order to establish and maintain a safe and healthy working environment. Any injury in the back, usually the lower part due to patients or heavy weight lifting. About 40.73% injury has occurred [8]. The main reasons behind accidents are improper and a shortage of using personal protective equipment's (needle guard, hand and finger gloves, eye protective equipment's, masks etc.) workers unawareness, wrong procedure, lack of training, improper knowledge about these injuries, poor supervision, overconfidence, dusty environment and poor maintenance etc.

B. Occupational fire hazards

Fire safety refers to planning and infrastructure design aimed at reducing the risk of fire or impeding the spread of a fire when one does break out. Fire safety encompasses the use of fire-resistant building materials, preventative actions, safe work practices, fire safety training, flame-resistant protective clothing, and more [9].

C. WASH

WASH stands for "Water, Sanitation and Hygiene" - several interrelated public health issues that are of particular interest to international development programs. Affordable access to WASH is a key public health issue, especially in developing countries. Access to WASH, in particular safe water, supply adequate sanitation, and proper hygiene education, can reduce illness and death, and also impact poverty reduction and socioeconomic development [10].

D. Physical agents

The physical factors in the working environment, which may be adverse to health, are heat, cold, humidity, air movement, heat radiation, light, noise, ionizing radiation. violence is strong force or bad behavior of patients, patient's relatives, peoples who attend into health care center, and others health care providers.

E. Workload Issues

Changes in work organization resulting from restructuring, downsizing, and layoffs within the garments industry are resulting in decreased staffing levels, increased workloads and time pressures, and longer hours of work.

F. Occupational environment

By occupational environment is meant the sum of external conditions and influences which prevail at the place of work and which have a bearing on the health of the workers' [11].

G. ILO Convention regarding Occupational Safety and Health

Until now 31 ILO conventions have been ratified by Bangladesh. The ILO convention C 155 and C161 are concerned with the Occupational Safety and Health and the Occupational Health Services respectively [12]. The aim of the policy of the convention C155 is to prevent occupational accidents and injury to health and illnesses by identification and minimizing the causes of hazards in the working environment. However, Bangladeshi exporters have been under continuous pressure to comply with international standards. Ensuring Social compliance is very important in the garments industries to both maintain quality of products as well as meeting the expectations of the export market. Working conditions in the RMG sector frequently violate international standards, and Codes of Conduct [13]. Work areas are often overcrowded with limited workspace, causing occupational hazards such as musculoskeletal disorders and contagious diseases. Injuries, fatalities, disablement and death from fire and building collapses are frequent in the RMG sector [14].

After the disaster of Rana plaza, It was clear that business could not continue as usual for the Bangladesh Ready Made Garment (RMG) sector. Fundamental changes relating to safety, inspection and compliance had to be made. The world agreed. Rana Plaza simply could not be allowed to happen again. Key areas for action were identified that led to the development of a Tripartite Joint Statement on Building and Fire Safety on 4 May 2013 [15].

III. METHOD AND MATERIALS

This was a descriptive type of cross sectional study which was conducted at 10 to 11 different ready made garments in Ashulia. our main focused participants were the workers who was working in garments sector for more than 1 years including both gender. Total RMG workers in Ashulia are approx. 12000 according to BGMEA and BKMEA. The data collection period was November 2017 to April 2018. Respondents was selected who are available and had interest in interview.

A. Research design

The nature of the present study is exclusively a cross sectional study which broadly falls under the exploratory study. Basically quantitative data were used in this study. Personal observation and few interview were scheduled to full file the research objectives to conduct this study.

B. Sample size

The required sample size for the proposed study had been calculated by using the following statistical formula. Calculated by 11% expulsion rate (Sucak A, et al., 2015). To minimum sample size, the following standard formula widely used in biomedical and social research.

$$n = z^2 \frac{pq}{d^2} \quad (1)$$

Here, n= The desired sample size, Z= The Standard Normal Deviation usually set at 1.96 which corresponds to the 95% confident level, P= The proportion of the target population, q=1-p & d= Degree of precision and in this study it will set at 6%. Since there is no ready reference on the mothers perspective about reproductive health problems of their adolescent, we can assume = 50% to be adequate.

Z = 1.96, p = prevalence 19%=0.19, q = 1-p = 1-0.19=0.81, d = Error limit = 5

$$samplesize = 1.96^2 X (0.19)(0.81) / 0.05^2 = 236.80 \quad (2)$$

The feasible sample size will be 237. Sample size will be 240 (approx.) persons (most of them will be women).

C. Preparing questionnaire

Based on the knowledge gathered from the literature and visiting ready made garments in person, questionnaire was prepared. It was checked to ensure its validity. A necessary modification was made before finalizing questionnaire as per the objectives of study.

D. Data collection and analysis

The data was collected from the RMG workers who are working in the garments in the Ashulia Area and face to face interview was also conducted with other related resource person. After collection all the data, data was checked for cleaning and coding. Then data was imputed into software SPSS for windows programmed version 16.0 for analysis. Descriptive statistical analysis, which included frequency, mean and percentages, was used to characterize the data.

IV. RESULT

This cross-sectional study was done among 240 RMG workers including man and women but majorities are women who were working for 1 year in the garments company at Ashulia, Dhaka city to determine the level of knowledge and practice about occupational health and safety problems. The study also tried to find out the respondents level of knowledge about healthy reproductive behavior of management of the companies and the factors influencing of their perception. The data has been arranged in such a way that the early

portion of this chapter dealt with the characteristics of the respondents, and then the later part with the different aspects, of the respondents' perception and knowledge.

1) *Socio-demographic characteristics:* In this section, the characteristics of the respondents are discussed about socio-demographic variables like relating to age, educational status, income and so on.

TABLE I
AGE DISTRIBUTION WITH GENDER OF THE RESPONDENTS

Age in years	Female respondents	Male respondents	Percentage
15 – 25	97	11	45.0
26 – 35	87	9	40.0
> 35	32	4	15.0
Total	216	24	100.00

Table I shows that among 240 respondents, the highest 108 (45.0%) respondents were found between the age group of 15-25 years, 96 (40%) were found between the age group of 26-35 years and rest of the were more than 35 years old. Most of the respondents (90%) were female and (10%) were male.

TABLE II
EDUCATIONAL LEVEL OF THE RESPONDENT

Educational level	No. of respondents	Percentage
below class 8	166	69.2
8 – 10	21	8.7
SSC	36	15.0
HSC	12	5.0
More	5	2.1
Total	240	100.00

According to table II, Most of respondents 92.9% respondents did not attend higher secondary level. Among them, 69.2% respondents studied below class 8, 8.7% respondents studied upto class 10 and only 15.0% respondent passed secondary school certificate. Very few respondents (2.1%) studied in university level and rest (5.0%) stopped their study after passing higher secondary certificate.

TABLE III
INCOME STATUS OF THE RESPONDENT

Income per month	No. of respondents	Percentage
6000 – 7000	56	23.33
7000 – 8000	64	26.67
8000 – 9000	104	46.33
9000 & above	16	6.67
Total	240	100

Above table shows that around 50.0% respondents were earning per month less than 8000 bdt. In addition, 46.33% respondents were earning between 8000 to 9000 bdt. very few respondents (6.67%) were earning more than 9000 bdt per month.

From the figure 1, it is clear that the medical facilities are not available in the ready made garments. 43.75% respondents knew that their factories are providing first aid box services. 42.5% respondents do not have any knowledge that medical

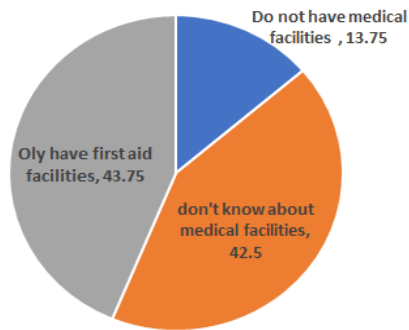
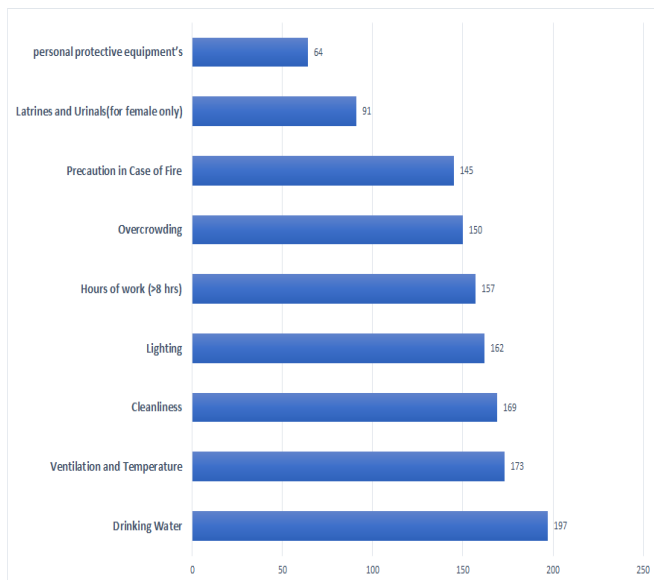


Fig. 1. Medical facilities of RMG workers

facilities should be provided by their employers. 13.75% respondents were confirmed that there were no medical facilities in their factories.

From the figure 2, 78.33% of the respondents confirmed that they have got purified drinking water in their work place. 72.08%, 70.42% and 67.50% respondents mention that their workplace have the facilities of ventilation & temperature, cleanliness and lighting respectively. 65.42% respondents are working more than 8 hours everyday excluding their break time which can be harmful for their eyes and bodies. 62.50% respondents are thinking that they are working in the over-crowded place that can be hazardous during any kind of accidents. 60.42% respondents do not have any kind of training regarding the fire and safety. 37.92% participants of this study are agreed that they are using separate toilets from men where rest of the participants are sharing same toilets with their male colleagues. Only 37.92% respondents get personal protective equipments in their workplace which is highly significant for the accidents.



NB: percentage exceeds due to multiple response

Fig. 2. Respondents' distribution regarding physical environment of the factory

TABLE IV
KNOWLEDGE AND ATTITUDE OF WORKERS IN PRESENT SITUATION

Questions	A (%)	N (%)	DA (%)
1. Everyone receives the necessary workplace health and safety training when starting a job or changing jobs	9	16	75
2. There is regular communication between employees and management about safety issues	10	23	67
3. Systems are in place to identify, prevent and deal with hazards at work	22	19	59
4. Workplace health and safety is considered to be at least as important as production and quality.	3	9	88
5. There is an active and effective health and safety committee and/or worker health and safety.	2	7	91
6. Incidents and accidents are investigated quickly in order to improve workplace health and safety.	5	10	85
7. Communication about workplace health and safety procedures is done in a way that can understand easily.	7	9	84
8. I am clear about my rights and responsibilities in relation to workplace health and safety.	12	35	53
9. I am clear about my employers' rights and responsibilities in relation to workplace health and safety.	10	25	65
10. I know how to perform my job in a safe manner.	61	12	27
11. If I became aware of a health or safety hazard at my workplace,I know who(at workplace)I would report it to.	70	16	14
12. I have the knowledge to assist in responding to any health and safety concerns at my workplace.	45	29	26
13. I know what the necessary precautions are that I should take while doing my job.	47	32	21
14. I know that I can stop work if I think something is unsafe and management will not give me a hard time.	35	43	22
15. If my work environment was unsafe, I wouldn't say anything and hope that the situation improves eventually.	82	9	9
16. I have enough time to complete my work tasks safely.	65	23	12

NB: A= Agree, N = Neutral and DA= Disagree

After summarising table IV, it is clear that knowledge level of worker's about occupational safety and health is very significant. The educational level of most of the workers' of ready made garments are bellow secondary school certificate. In addition they don't get any training regarding occupational safety and health in their work place. Further more, employers are very much concern about their production not for the health and safety issues in work place.

Since workers' do not have proper understanding about their rights in workplace, unhealthy, non-preventive and hazardous workplace are the significant cause for many diseases. They think that they are doing well in jobs but over the time, they are loosing their strength and peace. For this significant reason, workers are attracted for the smoking and alcohol addiction.

V. RECOMMENDATION

Based on the research findings, the requirements of safety and health for the garments worker to be maintained, and followings are recommendations:

- Maintenance of standards of cleanliness.
- Adequate lighting, ventilation & temperature.
- Requirement for making available adequate first-aid facilities.
- offering health and safety management training to the garments employers
- Length of working hours & night work for young persons and women, and prohibition of employment for operating dangerous machines.

- Requirement of canteen, eating place, washing facilities, rest room, child room.
- Sanitary conveniences- requirement of separate (male and female)latrine, urinals, spittoons.
- Primary health care section for reporting accidents and occupational diseases.
- Requirement of protection against fire and explosions.
- Should be reduced the overcrowding in workplace.
- Requirement to arrange personal protective equipments for the worker.

A. Limitations of the study

This research is limited to ready made garments established in Ashulia are in Dhaka only. Respondents were selected randomly that may not be represent all ready made garments. However, I tried my best to make this research as comprehensive and resourceful as possible.

VI. CONCLUSION

The trade unions mainly focus on issues of workers right, although OSH issues are also considered but obtaining secondary importance. The OSH activity of the employers is not sufficient. Bangladeshi labor law states that employers must ensure that basic standards for health and safety in the workplace are complied with. Due to negligence of the safety measures and compliance by the owners, the both factories were unfit and improper workplace. Despite this law, health and safety violations are rife in Bangladesh's garment factories. Over 70% of workers said that their workplace lacked safe drinking water, even though many factories are poorly ventilated and often reach blistering temperatures. An even higher percentage of workers (87%) reported that the factory where they worked did not have a functioning fire escape. The factory building did not have a proper fire exit and the staircase was narrower than is required. The fire exits were locked and if the fire breaks out in any case, the workers would be trapped inside the factory building. It is clearly written in the safety rules and compliance that they have to have a proper staircase of a certain width and that the exits should not be locked. They did not have a fire hose, which can at least prevent horrifying accidents like in Tazreen Fashion and Hameem Group. There were no trained workers who can help the unfortunate to escape off. Moreover, only 23% of those interviewed said they had access to toilet facilities. This study will provide valuable information about the health hazards of ready made garments in Asulia, Dhaka. Further action should be taken regarding occupational health and safety for the ready made garments workers by the Government through providing services based on recommendations.

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