

Occupational Health in the World

A qualitative study of the working conditions in the readymade garment industry and the impact on workers' health and wellbeing

Humayun Kabir^{1,2}  | Myfanwy Maple¹  | Md Shahidul Islam¹  | Kim Usher¹ 

¹School of Health, Faculty of Medicine and Health, University of New England, Armidale, Australia

²Department of Sociology, University of Dhaka, Dhaka, Bangladesh

Abstract

Objectives: There has been debate regarding the working conditions for employees of the Bangladesh readymade garment (RMG) industry since the 1980s. Little is known how the existing working conditions of the Bangladesh RMG sector impact workers' health and overall wellbeing, which remains the key aim of this study. **Methods:** The study adopted a qualitative descriptive design. Twenty-seven RMG workers (female: 21, male: 6) were purposively recruited for focus groups (FGs) from both the Export Processing Zone (EPZ) and non-EPZ factories located in Dhaka and Chattogram, the two largest cities in Bangladesh. FGs were audio-recorded and transcribed verbatim. Inductive thematic analysis was performed to review the transcribed data and to identify themes. **Results:** The study identified that the existing working conditions impacted workers' health and wellbeing severely. These conditions mainly comprise of inadequate workplace facilities (lack of pure drinking water, unavailability of qualified doctors, and fabricated signage of childcare facilities) and poor working environments (lack of hygienic practices, unavailability of safety equipment, sexual harassment, mandatory nights shifts, inappropriate sitting arrangements, and workplaces as death traps). All the female workers reported experience of verbal or sexual harassment at least once inside the factories also noted anxiety and feeling unsafe while working during night shifts. These conditions are presented within the socioeconomic conditions of Bangladesh. **Conclusions:** This study contributes to understanding the nexus between factory owners' profit maximization mindset and workplace conditions in relation to workers' health and wellbeing status. Strict monitoring of the workplace conditions of Bangladesh RMG factories is warranted.

Keywords: Bangladesh, health and wellbeing, qualitative research, readymade garment workers, working conditions, workplace safety

(Received September 29, 2021; Accepted March 22, 2022; Published online in J-STAGE April 30, 2022)

Introduction

Over the past couple of decades, the countries of Asia and the Pacific have become the global leaders in readymade garment (RMG) production¹. However, due to the industrial tragedies and ongoing health and safety risks identified in recent years, concerns have been raised

regarding the working conditions of Asia's garment factories may jeopardize its future success²⁻⁶. Studies have reported the prevalence of distinctive types of health risks (which varied from one country to another) among the Asian garment workers. For example, respiratory infections and skin diseases were commonly found among the Chinese⁷, Cambodian⁸, and Thai⁹ RMG workers, while Sri Lankan garment workers were found to suffer mostly from musculoskeletal problems^{10,11}.

In addition, general health illness indices (such as fever, cold/coughs, diarrhea, headache, jaundice, bodily

Correspondence

Humayun Kabir: School of Health, Faculty of Medicine and Health, University of New England, Armidale, Australia
E-mail: hkabir@myune.edu.au



pain, and gastric pain), stress/work pressure, and workplace safety concerns were prevalent among the RMG workers of Bangladesh¹²⁻¹⁵ and India¹⁶. Along with these health issues and safety concerns, low wage structure in the RMG sector also creates financial hardships and personal difficulties, such as low food buying capacity, family detachment (keeping children away; i.e., living with extended family in the villages to reduce costs in urban settings), and living in slum/semi-slum residential areas^{17,18}.

Currently, Bangladesh is second only to China in exporting RMG products across the globe¹⁹. According to the recent World Trade Statistical Review report, Bangladesh has become second in export growth among emerging economies and first among South Asian nations in the last decade²⁰. This report specifically mentioned the RMG sector remaining the key driving aspect for Bangladesh's export progression, given the stake in the international market. However, the Bangladesh RMG sector is frequently criticized for its poor working conditions^{12,13,21-23}. The poor working conditions are particularly evident with the occurrence of frequent disasters in this sector, such as the physical collapse of Rana Plaza in 2013, killing about 1,130 workers, and the fire in Tazreen Fashions in 2012, where more than 112 garment workers died^{24,25}. Along with these deaths and additional injuries through catastrophic events, previous studies have identified workers' daily health issues as the prime concern resulting from the current hazardous and unsafe working conditions of the Bangladesh RMG sector^{15,21,25,26}.

Existing literature has revealed that the working conditions of Bangladesh RMG factories are comprised of numerous risks, including excessive crowds and noises, lighting problems, high temperatures inside the factory buildings, long working hours, violence at the workplace, lack of safety equipment and materials, and limited and/or no access to healthcare facilities^{18,23,27}. These vulnerable working conditions raise questions about whether Bangladeshi RMG workers have decent working environments, where workers' fundamental rights, social protection, standard living conditions, and continuity of social dialogues are ensured. However, research is yet to elucidate the reason behind the vulnerable working conditions of Bangladesh RMG factories and how these working conditions impact workers' health and overall wellbeing status.

Thus, this study aimed to explore how existing working conditions (with a particular concentration on the available resources/facilities at the workplace, cleanliness/hygienic status, safety arrangements inside the factories, and work nature) impacted RMG workers' health and wellbeing status.

Methods

Study design

Adopting a qualitative descriptive approach, face-to-face focus groups (FGs) were conducted to explore the existing working conditions in Bangladesh RMG factories and how these impacted RMG workers' reported health and overall wellbeing status.

Setting

This study took place among the male and female RMG workers currently employed in both export processing zone (EPZ) and non-EPZ factories located in Dhaka and Chattogram, the two big cities in Bangladesh where the majority of the RMG factories are situated.

Participants

Both male and female workers, aged 18 or above, with a minimum of 1 year of work experience in the RMG sector, currently employed, and consenting to take part in the discussion were selected from different factories. The participants were recruited by following purposive and snowball sampling techniques, which remained a dominant approach in Bangladesh RMG-related studies^{14,15,17,22}. The first author had previous experience of working with RMG workers and trade union leaders, who made phone calls and helped the first author to identify the participants for this study.

The study aims and objectives were shared with the participants, and signed informed consent was received from every participant before data collection commenced. Three FGs were undertaken; one FG in Dhaka and two FGs in Chattogram. As no previous research was found among the Chattogram-based RMG workers²¹, we conducted two FGs in this location to ensure broad heterogeneity among our sample. Aiming for between 6 and 10 participants in each FG²⁸, our sampling strategy achieved a sample of 27 participants. Data saturation was achieved by conducting three FGs, which aligns with previous work that argues 90% of all themes are discoverable within three FGs²⁹, so no further attempt was taken to conduct more FGs. The FG participants were recruited from different factories to cover broad experiences of the topic of interest. Thus, these 27 participants shared their experience of working in different factory conditions allowing for deep — and broad — exploration of health vulnerability issues.

Data collection

Data were collected between February and July 2018. Specific guidelines and unstructured questionnaires were followed to conduct the FGs. Each FG of this study constituted 9 participants (female: 7, male: 2), and attendance at one FG took approximately 90–129 minutes to discuss the topic of interest. Females constitute the

majority of the total workforce in the Bangladesh RMG sector^{30,31}), which was considered while forming the FG participation rate. The homogeneity (in terms of age, sex, marital status, socioeconomic status, and geographical site³²) among the FG participants was maintained. FGs interview schedules were piloted with two workers and one trade union leader, who were excluded from the final sample. No adjustment was required following the pilot studies of the interview schedules.

The FGs were conducted once only in a quiet room in the nearby union offices in Dhaka and Chattogram, with the presence of the interviewer, research assistants, and the contact person (RMG union leader). Only data from the participants was collected during the FGs, with the others present observing only. Consent for the observers was sought from the participants, complying with ethics approval. The entrance into the room was strictly controlled after the commencement of the FGs. The first author conducted the FGs with the assistance of two trained research assistants. These researchers had no prior acquaintance with the participants to avoid any possible influence. The FGs were recorded using an audio recorder, and field notes were taken during each FG, with the aim to capture non-verbal responses and shared sentiments amongst participants. At the end of the recording, the first author checked the main issues of the topic of interest with the participants discussed during each FG session.

Data analysis

Audio recordings were transcribed verbatim into Bangla/Bengali (the first language of the interviewees and the interviewer) and then translated into English (and also checked for accuracy) by the first author. Based on FG discussions and the stories of the participants, data were analyzed thematically. First, inductive thematic analysis (i.e., codes were generated from the data itself rather than predetermining what could be found³³) was performed, following six phases described by Braun and Clarke³⁴, to identify themes. For accuracy, transcripts of each FG were verified independently by the first author against the audio recordings followed by deep immersion with the data by reading the transcripts several times. To determine consistency, transcripts were independently coded and compared by HK and MM. Thereafter, codes of similar meaning were gathered together gradually to form a thematic map comprising of themes/subthemes, which were further refined and distinguished. Finally, a review of the themes and subthemes was conducted by the second author to check whether they reflected the meaning of the coded extracts and data set appropriately.

Ethical consideration

Ethical approval was sought from the Human Research Ethics Committee of the University of New England,

Australia (approval number: HE17-277; approved on: 20 December 2017) prior to study commencement. Before initiating each FG, the participants were ensured that their names and identifications would not be disclosed under any circumstances, which could potentially result in loss of their jobs. Participants were informed that they could withdraw their participation from the FG at any time without explanation. Permission to quote them using a pseudonym was obtained. Factory premises were avoided to conduct each FG so that participants were able to share their experience of workplace conditions without external pressure from the factory management. In addition, they were given contact details of a local prominent activist (who works for the rights of RMG workers) in case they had complaints against the researcher or if they had any research-related concerns. The presence of an RMG trade union leader during each FG session provided further support for the participants to feel comfortable to disclose relevant information with full confidence.

Results

Background/demographic characteristics of the participants

The study sample (n=27) was predominantly female (n=21), married (n=24), with low education level (e.g., can read and write: n=7; primary school: n=9; high school: n=9; tertiary: n=2), originated mainly from rural settings (n=25), and worked as sewing operators (n=16) (Table 1). The age of the participants ranged between 18–48 years. However, the majority (n=21) were less than 30 years of age, aligning with the dominance of comparatively young workers in Bangladesh RMG work. Both EPZ (n=6) and non-EPZ (n=21) workers participated in this study with the work experience ranged between 1–17 years. The monthly salary of the participants ranged from Bangladeshi taka (BDT) 6,600 (United States dollar [USD] \$78) to BDT 13,000 (USD \$154), which can be considered very low to lead a decent life in urban/semi-urban setting, where the majority of the RMG factories are located. Participant demographic information is presented in Table 1.

The results section is presented under two themes: (1) Inadequate workplace facilities affecting workers' health status; (2) Poor working conditions/environments affecting workers' health status (Table 2). Several subthemes are discussed under these two main themes, which are illustrated through participants' quotes.

Theme 1: Inadequate workplace facilities affecting workers' health status

In all three FGs, participants reported the lack of fresh/pure drinking water, Bachelor of Medicine and Bachelor of Surgery (MBBS) doctor, and day/childcare facilities as being the most troublesome issues in relation to the lack

Table 1. Participating RMG workers' socio-demographic characteristics ($N=27$)

Participant code	Sex	Age	Place of origin	Marital status	Literacy level	Designation	Working years	Factory type	Monthly salary
Dhaka-based factory workers									
P01	F	30	Rural	Married	Can read & write	Sewing operator	8 years	EPZ	BDT 11500
P02	F	35	Urban	Married	Primary school	Sewing operator	10 years	EPZ	BDT 13000
P03	F	25	Rural	Married	High School	Helper	1 year	Non-EPZ	BDT 7000
P04	F	21	Rural	Married	High School	Sewing operator	8 years	Non-EPZ	BDT 9500
P05	F	28	Rural	Married	High School	Finishing	10 years	Non-EPZ	BDT 7500
P06	F	48	Rural	Married	Primary school	Sewing operator	8 years	Non-EPZ	BDT 9000
P07	F	20	Rural	Married	High School	Sewing operator	5 years	Non-EPZ	BDT 10000
P08	M	25	Rural	Married	Primary school	Iron man	6 years	Non-EPZ	BDT 7700
P09	M	26	Rural	Married	High School	Sewing operator	8 years	Non-EPZ	BDT 9000
Chattogram-based factory workers									
P10	F	25	Rural	Un-Married	Tertiary	Sewing operator	9 years	EPZ	BDT 10500
P11	F	18	Rural	Un-Married	Primary school	Sewing operator	4 years	EPZ	BDT 9500
P12	F	34	Rural	Married	Can read & write	Sewing operator	15 years	Non-EPZ	BDT 8000
P13	F	26	Rural	Married	High School	Helper	3 years	Non-EPZ	BDT 6800
P14	F	32	Rural	Married	High School	Sewing operator	12 years	Non-EPZ	BDT 7500
P15	F	29	Rural	Married	Primary school	Cutting	12 years	Non-EPZ	BDT 8500
P16	F	18	Rural	Married	Primary school	Sewing operator	3 years	Non-EPZ	BDT 8500
P17	M	37	Urban	Married	Tertiary	Quality control	14 years	Non-EPZ	BDT 11000
P18	M	26	Rural	Un-Married	High School	Cutting	3 years	Non-EPZ	BDT 6600
P19	F	19	Rural	Married	Can read & write	Sewing operator	2 years	EPZ	BDT 11500
P20	F	23	Rural	Married	Primary school	Sewing operator	6 years	EPZ	BDT 14500
P21	F	27	Rural	Married	Can read & write	Sewing operator	10 years	Non-EPZ	BDT 9500
P22	F	21	Rural	Married	High School	Finishing	4 years	Non-EPZ	BDT 7500
P23	F	36	Rural	Married	Can read & write	Sewing operator	17 years	Non-EPZ	BDT 9500
P24	F	22	Rural	Married	Primary school	Finishing	3 years	Non-EPZ	BDT 7500
P25	F	28	Rural	Married	Primary school	Sewing operator	10 years	Non-EPZ	BDT 9500
P26	M	21	Rural	Married	Can read & write	Cutting	4 years	Non-EPZ	BDT 10000
P27	M	19	Rural	Married	Can read & write	Washing	2 years	Non-EPZ	BDT 10500

Note: Abbreviations: F, female; M, Male; N, total number of participants; BDT, Bangladeshi Taka (Bangladeshi currency); EPZ, Export Processing Zone; Non-EPZ, Non-Export Processing Zone.

Table 2. Summary of themes

Themes	Subthemes
Inadequate workplace facilities affecting workers' health status	<ul style="list-style-type: none"> Lack of fresh/pure drinking water and the risk of being affected by water-borne diseases Unavailability of MBBS/qualified doctors when needed Signage of day/childcare facilities vs additional mental health stress
Poor working conditions/ environments affecting workers' health status	<ul style="list-style-type: none"> Lack of clean and hygienic workplace affecting workers' health Unavailability/ill-fitting of safety equipment/materials and workplace injuries Sexual harassment at the workplace affecting female workers' mental health status Mandatory night shifts and feeling unsafe Inappropriate/inadequate sitting arrangements, overcrowds, noise leading to frequent illnesses RMG workplace as a death traps

Note: Inductive thematic analysis was performed to review the transcribed data and to identify themes and the identified issues; Abbreviations: MBBS, Bachelor of Medicine and Bachelor of Surgery

of available facilities at the workplace.

Lack of fresh/pure drinking water and the risk of being affected by water-borne diseases

For the most part, there was a lack of accessible water in the factories the participants worked within. While some participants' workplaces did supply drinking water, they lacked confidence about the purity/cleanliness of the supplied water.

"Drinking water is available in our factory but we cannot drink it because of the bad smell on that water", said Participant 06.

Where participants did drink the available water, this had health consequences, including water-borne diseases such as jaundice, typhoid, and diarrhea.

Unavailability of MBBS/qualified doctors when needed

When participants become ill, they require advice from the qualified medical persons. However, they reported qualified doctors were not available at their workplace when needed. Where there was a doctor's room in the factory, accessibility was limited. As Participant 05 stated, "MBBS doctor is available only once in a week in my factory."

It is worth noting that nurses were available in most of the participants' factories. Within the context of Bangladesh, it is important that workers get access to medical care through the workplace. Because of their poor socioeconomic conditions, workers have very limited access to qualified doctors. High cost of private medical care outside the workplace prevents access, so workplace healthcare is of vital importance to maintain a healthy workforce.

Signage of day/childcare facilities vs additional mental health stress

Participants mentioned that the factory management commonly keeps one room visible with signage of 'day/childcare room' or similar near the entrance of the factory gate so that visitors from national/international organizations and international brands/buyers see such signage. Yet, according to participants, such day/childcare services were rarely provided. Where such services did exist, participants reported very limited access to places for employee's children. As Participant 12 mentioned, "Day/childcare facilities are available only for the children of the managers, supervisors, and or at best for the union leaders, not for us."

Due to the lack of suitable facilities for their children, participants reported experiencing considerable stress about the safety and care of their children while they are at work. To manage this challenge, the majority of participants' children were living with their grandparents in rural villages some distance from their parents. Due to the low wages and high expenses of living in urban/semi-

urban setting (where the factories are mainly located) participants neither could afford to send their child to the private day/childcare centers nor could bring their parents to live with them in the urban setting. Staying away from the children for longer periods affected participants' mental health status. Many participants reported that they were likely to leave their employment due to these issues. Generally, there was consensus that when they could save sufficient funds to start a small business, such as a grocery or vegetable shop or tea stall in their village they would do so to be close to their children again.

Theme 2: Poor working conditions/envirments affecting workers' health status

The participants reported concerns about the existing cleaning, ventilation/cooling, and exit systems inside the factories, which further impacted their reported poor health.

Lack of clean and hygienic workplace affecting workers' health

The majority of participants stated that they had access to separate toilet facilities at the workplace; however, they were highly dissatisfied with the cleanliness and hygienic conditions of those toilets, which is evident from the statement of Participant 15,

"The cleaners clean the floors and toilets without any hygiene items. No soap or hand wash liquid is available in the washroom."

Participants further reported suffering from ill-health as a result of these unhygienic facilities. Concerningly, these facilities were reported as being used to consume food, as workers reported a lack of scheduled break times. This is illustrated in the quote from Participant 13, "With the permission from supervisors for toilet purpose, we sometimes use the toilet premises to eat snacks/biscuits as we do not get snack break."

This quote highlights two issues, one is about not getting a needed snack break and another is that the workers have to use such a place (toilet premises) for eating purposes. Another participant (Participant 10) furthered this issue by saying that,

"Our work is mainly physical labor-intensive, it is hard to continue work without taking some snacks and water in between lunchtime. We eat little snacks when we go to the toilets as we do not get regular breaks between works."

The lack of scheduled break times to eat and to use the bathroom separately has significant consequences for the participants' health.

Unavailability/ill-fitting of safety equipment/materials and workplace injuries

While personal protective equipment (PPE) is required to be provided by factories to ensure a safe workplace,

participants reported this was rarely the case, and where this was available, it was not appropriate. For example, where participants reported PPE, such as hand gloves, face mask, aprons, and shoes were made available, they also described these as ill-fitting. This discouraged workers from using these items, which increases the risks of being impacted/injured by workplace hazards.

Sexual harassment at the workplace affecting female workers' mental health status

Interpersonal safety was also a significant risk for the participants' health. All female participants reported experiencing verbal or sexual harassment at least once in their workplace. While anti-sexual harassment cells (a formal body works against sexual harassment incidence) exist within their factories, they reported these were ineffective in preventing violence and sexual harassment. Participant 16 says, "Most of the young and newcomer female workers experience physical and mental harassment in the factories. Sometimes the supervisors beat us if we do any mistake...they also touch our hands, heads, and body which apparently seems to be a good caring of the workers (e.g., Hey X how are you today? By saying this, they touch us), but actually, this is sexual harassment never been exposed."

Such behaviors significantly impacted participants' mental distress. They showed deep frustration of being harassed and not being able to receive justice within the existing system. They further reported that, when female workers did expose these behaviors, they were more likely to be targeted with more harassment, or they lost their jobs and become stigmatized, unable to secure future employment. Therefore, the reporting of such events was viewed as problematic. This was reported as being due to their male supervisors/managers being the decision-makers of sexual harassment-related complaints. The female participants did not trust this system. They desired more active and participatory anti-sexual harassment cells, as they are known, where female workers or their representatives will take part in the decision-making process if any incident happens. This is illustrated in the following from Participant 3: "Sexual harassment is a common practice in the RMG sector. We [female workers] rarely talk about this issue... When all the board members of the anti-sexual harassment cell are males, how could a female worker expect justice? We also scared of BODNAM [means being stigmatized and fear of facing more harassment in the future] and being sacked from the job."

As the FG membership was both male and female RMG workers, it is important to note the male participants agreed to what female participants said regarding sexual harassment issues at the workplace.

Mandatory night shifts and feeling unsafe

Female participants' mental health conditions were getting worsen in relation to the danger of working at night-time, known as 'night shift'. Female participants shared the experience of insecurity during the night shift, which included the dangers of being inside the factory, and the need to travel to and from the workplace is being unsafe. Not surprisingly, most of the participants were found reluctant to work during the night shift. As Participant 07 said: "I have to work 15 days during the night shift in a month. It is not safe for a female to work at night shift... I feel insecure while going and coming from the factory during the night shift."

Participants recommended that extra bonuses, proper security, and vehicles (to be provided by the factory management) to bring and return them would increase their willingness to work the night shift.

Inappropriate/inadequate sitting arrangements, overcrowds, noise leading to frequent illnesses

The participants mentioned that they frequently suffer from some common, yet preventable illnesses mainly because of the hot condition inside the factories, sound produced from sewing machines, congested workplace, sitting position, and so forth, as illustrated by Participant 23: "Headache, cold/flu, fever, and bodily pain are very common among garment workers. Our work is physically demanding and we work in congested rooms, sometimes in standing and bent positions. So, we commonly suffer from these health problems".

Participants mentioned that they do not get their rightful sick leave even if they suffer from severe illnesses. Thus, illness became a part of their life, which they had to ignore continuously. In this regard, Participant 14 said: "Illness is a common matter for the RMG workers. We have to work almost every day ignoring our illnesses. Workers have no choice..."

RMG workplace as the death traps

Participants identified significant safety concerns, particularly in an industry well known for fires and building collapse, stating they are fearful about the use of emergency exits if needed, reporting exists as either locked or blocked by clothing items/raw materials. In addition, since factory gates and floors always remain locked; the participants expressed great concern that they would not be able to escape if a fire occurs in the factory building. Two participants shared the following,

"Many workers die almost every year for being stuck inside the factories during a fire. I fear...I may also die by such a fire in my factory as all the exit gates remain locked" (Participant 09).

"We did not forget the Rana Plaza building collapse tragedy yet. We work in fear... We start to work keeping in mind that our factory building may collapse and we

may be found as dead like the fellow Rana Plaza workers” (Participant 25).

The lack of physical safety in the workplace resulted in the participants feeling scared, worried, and tense about facing sudden accidents in their workplaces. They clearly mentioned that the history of previous accidents (i.e., Rana Plaza collapse in 2013 and fire in Tazreen Fashions in 2012) in the RMG sector made them psychologically vulnerable to face possible future workplace injuries and deaths.

All participants recommended better healthcare facilities, such as the availability of qualified doctors, nurses, and free medicine at the workplace. Participants also strongly desired proper occupational safety and health (OSH) measures to be taken by the relevant agents (RMG factory owners, international clothing brands, and individual clothing wearer) for whom they make the fashions. They demanded snacks and prayer breaks during work.

Discussion

In the study, it is evident that RMG workers’ physical and psychological health and overall wellbeing are impacted by conditions in which they work. This includes the lack of basic facilities (e.g., fresh drinking water, availability of the qualified doctors, and childcare facilities) and poor working conditions (including lack of hygiene/cleanliness and PPE, congested and overcrowded workspace, and sexual harassment at the workplace). The study further reports RMG workers’ concerns about their workplace safety in relation to ventilation, emergency exits, history of previous building collapse and fire in the factory building, and night duties. The study exposes the frequent physical illnesses that workers suffer as a routine part of RMG workers’ life. Even when unwell, participants could not access their rightful sick leave. In addition, being absent from their children for long periods, facing sexual harassment at the workplace and social stigma around it, feeling unsafe about working night shifts, and low salary had been exposed additional concerns for female workers. Most participants had plans to leave their current employment, yet these were dependent on being able to save sufficient funds to set up a small business. As one of the highest producing RMG suppliers in the world, the workers in Bangladesh RMG sector, while often voiceless, are the core part of the global clothing supply chain.

This situation can be corrected. Prior research from the Sri Lankan garment sector, where almost all the factories had basic facilities and at least one visiting doctor at the workplace and adequate ventilation¹¹⁾ report better health among the workers than where these facilities do not exist²¹⁾. Additionally, previous research report that the lack of PPE and other safety measures at the workplace maybe potential for various types of injury risks for the

workers³⁵⁾. Thus, Bangladeshi RMG workers are at serious risk of being affected by health injuries, as they do not get proper safety materials and PPE at the workplace. Further, the Bangladesh RMG sector has experienced some of the deadliest factory disasters. Workers are rightly concerned that they too may become a fatality given this history and a lack of progress toward creating safe workplaces²¹⁾.

Female workers reported sexual harassment and safety fears, which are reported as a serious concern when the workplace is male-dominated³⁶⁾. They specifically mentioned social stigma and barriers reporting sexual harassment incidence at the workplace, which was not unexpected considering the gendered construction of work and the existing social structure of Bangladesh¹³⁾. In addition, eating snacks in the toilet premises represent the cruel working environment present in Bangladesh RMG sector.

RMG workers frequently suffer from a variety of physical illnesses (such as fever, cold, diarrhea, bodily pain, and musculoskeletal symptoms) due to the lack of appropriate ventilation/cooling and for the poor working environment inside the factory^{10,22)}. Supporting these prior findings, this study found very poor working conditions reported by the participants. Such environments result in vulnerability to many different diseases/health risks²¹⁾ and physical injuries³⁷⁾. Lack of basic cleaning stations and factory hygiene are reported as the main reasons for respiratory infections, breathing problems, and occupational allergic contact dermatitis (OACD)/skin problems^{7,9,21)}. From the reported working conditions in the FGs, the participants are highly susceptible to such physical illnesses. The wages reported by the participants were considerably low, which obviously creates additional tensions/stress among the RMG workers in relation to their food buying capacity, being connected with family members, and future financial security^{17,18,21)}.

The study explored that working conditions of EPZ factories were slightly better compared to non-EPZ factories. This is likely due to these factories primarily being owned by foreigners³⁸⁾, where strict monitoring of the rules and regulations are maintained. It is therefore probable that the locally-owned non-EPZ factories have poorer working conditions due to a variety of political and cultural issues. Bangladeshi businessmen are generally the owners of these factories, and they commonly have strong ties with the ruling political parties and have previously been reported as not adhering to labor rights-related laws^{23,26)}. Further complicating this situation, a corrupt political system obstructing the establishment and implementation of labor laws, labor rights, and decent working conditions exists in Bangladesh²⁷⁾. This is despite Bangladesh being part of International Labour Organization’s (ILO’s) decent work agenda³⁹⁾. The findings from this study demonstrate that, across the two largest areas producing readymade garments, Bangladesh has grossly

failed to ensure safe and healthy working conditions for the RMG workers. These factories frequently experience disasters resulting in loss of life and significant and permanent injuries¹³.

Due to the financial incentives for a few, we argue that the practice of ‘more profit through less investment’ for the factory owners is the key reason for this situation that causes such vulnerability for workers in the Bangladesh RMG sector. Khanna³⁸) argues that the profit maximization tendency of the factory owners and international brands/buyers is liable for the appalling working conditions of the Bangladesh RMG sector. That is, factory owners have the general tendency to avoid investment regarding health and safety concerns as these are often costly and thus reduce profit margins. However, this also results in disasters including fires and collapse of factory buildings due to poor maintenance. In addition, the lack of availability of basic resources puts workers at risk in an unsafe workplace. Given the lack of internal political pressure to rectify this situation, and in the context of international influence through trade, external pressures must be placed on supply chains through agencies advocating for workers’ rights, including the ILO, the World Health Organization, international non-government organizations, and trade unions. Regular ‘report card’-style information should be routinely published to assist buyers in supporting factories that meet minimum basic standards.

Briefly, this article contributes to understanding the vulnerable working conditions of Bangladesh RMG factories which eventually impact RMG workers’ health and wellbeing. The article presents empirical data detailing the poor working conditions, arguing that the cause lies in the factory owners’ profit-maximizing tendency (more profit through less investment), which is facilitated by their strong connections with the political system in this country. While this research builds on prior work demonstrating the poor working conditions of the Bangladesh RMG sector, identifying why these conditions persist is urgent to ensure these workers are provided with a safe workplace while producing garments for the populations of countries that are covered by strong occupational health and safety laws.

Implications for occupational health and safety practices

This study highlights the connection between unsafe workplaces and RMG workers health vulnerabilities. The study demonstrates how RMG workers’ physical and psychological health vulnerabilities within the existing working conditions. It clearly pointed out that due to the lack of basic facilities and proper safety arrangements inside the factories, workers suffered from frequent physical illnesses and mental stress. The study strongly suggests active and regular monitoring of the RMG working conditions by state, ILO, trade unions, Western retailers,

and other relevant agencies to minimize occupational health and safety concerns of the workers. In line with the previous research/evidence^{13,24}), this study warns that the failure of proper corporate social responsibility initiatives to ensure a safe and healthy workplace condition may increase health vulnerabilities among the current RMG workers.

The United States’ Centers for Disease Control and Prevention (2018) defined Total Worker Health[®] as “policies, programs, and practices that integrate protection from work-related safety and health hazards with promotion of injury and illness-prevention efforts to advance worker well-being”⁴⁰). Thus, hazardous/poor working conditions are liable for the total health and safety of workers. The policymakers, occupational health practitioners, public health experts, factory owners’ association, international clothing brands, trade unions, and ILO may use the findings of the study to work together to improve working conditions in the Bangladesh RMG sector, which would eventually reduce workers’ health and safety concerns.

Limitations

The study findings were derived from three FGs which consisted of only 27 RMG workers. Thus, the findings are limited and may not represent the working conditions of all RMG factories, there may be similar and different experiences from other workers in different factories. However, as workers were all recruited from different factories, the findings across the 27 locations were staggeringly similar. The FGs were conducted in the local language and through several procedures including transcriptions (preparing Bangla scripts from audio recordings) and translations (Bangla to English), some concepts (including those hard to translate) may remain underreported. Due to the nature of the study and ethical restrictions, working conditions were understood only from the RMG workers’ perspectives. The inclusion of RMG trade union leaders, factory owners, and factory management level personnel could provide us with different stories. However, workers from multiple factories from different areas and from both EPZ and non-EPZ areas, with a diversity of experience are the strength of the design.

Conclusions

By exposing the existing conditions in the Bangladesh RMG sector (comprising inadequate workplace facilities and poor working conditions/environments), this study demonstrates how RMG workers’ health and wellbeing are impacted through their employment. Highlighting the nexus between factory owners’ profit maximization mindset and poor working conditions, it demonstrates the impact on RMG workers’ health and wellbeing vulnerabilities. This study suggests that factory owners and the international brands benefitting from the cheap, poorly

regulated RMG industry in Bangladesh maximize profits while simultaneously limiting workers' access to necessary basic resources, hygienic practices, and basic rights at the workplace.

The Bangladesh RMG sector employs millions of workers and is playing a crucial role in the supply chain of garments across the globe. Yet, employees of this sector are vulnerable to poor health and overall wellbeing. Without broader international pressure, this situation is unlikely to change given the political and social context of Bangladesh. It is critical to understand in what conditions fashion garments are being made, who they are made by, and how the makers are treated within the process of making fashions. The two biggest disasters (the Rana Plaza collapse in 2013 and the fire in Tazreen Fashions in 2012) in the Bangladesh RMG sector, which have already produced huge loss of life, injuries, and numerous other risks for the workers, demonstrate how poor the working conditions were. The present study did not observe much improvement in those conditions since then.

Lastly, this study contributes to understanding the current working conditions of the RMG sector in Bangladesh and how the conditions produce risks for workers' health and overall wellbeing. Researchers from the Asian countries, especially the South and Southeast Asian countries where the majority of the RMG factories are located, may consider our findings to build on to explore the impact of these working conditions on the RMG workers' work every day, every month, and year while they produce fashion for unknown consumers across the globe.

Acknowledgements

We would like to acknowledge the garment workers participating in the study and all garment trade union leaders involved.

Ethical approval

Ethical approval to conduct this study was sought from the University of New England (Australia) Human Research Ethics Committee (approval number: HE17-277), on 20 December 2017.

Informed consent

All participants signed a consent form, and anonymity and confidentiality were assured.

Conflict of interest

The authors declare no conflicts of interest.

Funding

This research received no external funding. However, the first author is in receipt of the Research Training Program (RTP) scholarship (funded by the Australian Commonwealth Government).

Author Contributions

All authors conceptualized the study. H.K. was involved in the data collection, transcription, translation, analysis, and preparing the first draft of the manuscript. M.M. was involved in checking the translations, coding and formulating themes, critical revision of the article, and also contributed to the final write up of the manuscript. M.S.I. and K.U. critically revised, commented, and contributed to write up of the initial drafts of the manuscript. All authors have read and approved the submitted manuscript.

ORCID

Humayun Kabir  <https://orcid.org/0000-0002-2770-3107>

Myfanwy Maple  <https://orcid.org/0000-0001-9398-4886>

Md Shahidul Islam

 <https://orcid.org/0000-0001-8984-8689>

Kim Usher

 <https://orcid.org/0000-0002-9686-5003>

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How to cite this article: Kabir H, Maple M, Islam MS, Usher K. A qualitative study of the working conditions in the readymade garment industry and the impact on workers' health and wellbeing. *Environ Occup Health Practice.* 2022; 4: eohp.2021-0020-OHW. <https://doi.org/10.1539/eohp.2021-0020-OHW>

Appendix 1. Questions/checklist; Focus Group (FG) study

Demographic information and introductory questions

1. Background information: Age, sex, marital status, education level, monthly income place of origin, etc.
2. How long have you been working in the readymade garment (RMG) sector?
3. What types of work do you usually perform in the factory?
4. What do you think about discussing our topic today (available facilities for the RMG workers at workplace)?
5. What are the available facilities for the RMG workers in your factory?

Personal health and hygiene related questions

6. What are the toilet facilities inside the factory?
 - (a) What about the hygienic status of the toilets?
 - (b) Are these enough for the workers?
 - (c) Are you able to use these facilities as needed, or is access restricted?
 - (d) For women only, how does this impact on your feminine hygiene needs?
7. Is fresh drinking water available in the factory?
 - (a) Is this free?
 - (b) Is access restricted?
 - (c) Is there enough water to meet the needs of the workers?
8. Do you have access to healthcare facilities or services in your workplace?
 - (a) Are there any Bachelor of Medicine, Bachelor of Surgery (MBBS) qualified doctors in your factory?
 - (b) Are there any nurses available in your factory?
 - (c) If yes, are these doctors/nurses available when you need them?
 - (d) Are they able to identify and treat the problem you see them for?
 - (e) Overall, how would you evaluate the treatment facilities available at your workplace?
9. Is health insurance available to you?

Working conditions related questions

10. What is your experience about the temperature of the room where you do work in the factory?
 - (a) What about the ventilation and cooling system inside the factory?
11. Can you describe any physical/mental health concerns you have as a result of working in the factory?
 - (a) Any experience of verbal/physical/sexual harassment issue at your workplace?
 - (b) Do you think your health is important to your employer?
12. What kind of facilities would you want more at workplace from the management?
13. What are the emergency procedures in your factory?
 - (a) What kind of emergency exit systems available in your factory?
 - (b) Do you know how to exit the building in an emergency?

Breaks (between works) and nutrition related questions

14. What is the average length of a shift in your workplace?
 - (a) Do you get breaks in your shift?
 - (b) If yes, how long do you have to work to have any breaks?
 - (c) How long and how often per shift do you get a break?
 - (d) Do you have to stay onsite during your break?
 - (e) Bathroom facilities?
 - (f) Outdoor areas?
15. Is there a canteen or kitchen facility in your factory?
 - (a) Is this available to all workers? When?

Childcare facility related question

16. Can you explain the availability of childcare facilities in your factory?

Ending questions

17. Overall, how do you evaluate the role of factory owners in providing workplace facilities?
18. Anything else you want to share?