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State of Knowledge on Emergency Response and Crisis Management: Evidence of Sample Secondary Students of Bangladesh

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Abstract

In the era of late modernity, individual vulnerability is affected by various threats and risks. Consequently, people need to be aware of these and fit in more than ever before. To help people become competent in this changing world and to prepare for future threats, academic institutions play a vital role. To understand such an academic role, a part of the literature has highlighted how a student can better learn emergency responses (ER) and crisis management (CM). Nevertheless, very little literature has focused on how a developing country's students, particularly teenagers, learn and understand ER and CM. Focusing on such gaps in the literature, this study aims to understand a sample of Bangladeshi secondary students' state of knowledge related to ER and CM. With the help of cluster sampling, the researcher distributed a survey among a sample of 360 students between 9th and 12th standard from two southern districts respectively Khulna and Noakhali, which are also disaster-prone areas of Bangladesh. Adopting Krathwohl's model of knowledge typology, such as factual knowledge, conceptual knowledge, procedural knowledge, and metacognitive knowledge, the researcher collected and evaluated the data with descriptive statistics. The findings of this study show that even though most of the students are familiar with different ER- and CM-related keywords, they have limited deeper knowledge. Furthermore, there was a significant knowledge difference between the genders. Similarly, the lack of training in the academic environment also makes these young students vulnerable to any kind of threat from their surroundings that could affect the districts' weak institutional and legislative structure. The scholarship of this study, which has policymakers and young academics as its possible audience, could assist them in raising the knowledge levels of students by adding new information to textbooks with illustrations and by setting up drills.

Keywords: secondary school, students, education policy, risk mitigation

1. Introduction

Throughout history, humans have often found it a struggle to manage changing environments. Over the past few decades this struggle has increased dramatically due to globalisation, uncertainty, rapid changes in technology and communication, global warming, war, pandemic, hyper-reality, and so on. Observing the volatile nature and unstable characteristics of these changes, Beck et al. (1992) and Morin and Orsini (2014) have theorised that contemporary society is a risk society, as each day there are unknown threats from various dimensions such as the environment, economy, politics, technology, and so on. Some threats are also generated at the individual level, affecting individual relationships and day-to-day behaviour (Giddens, 2020). Giddens (2020) argued these in the following manner,

“Lifestyle is not a term which has much applicability to traditional cultures, because it implies choice within plurality of possible options, and is ‘adopted’ rather than ‘handed down’. Lifestyle choices and life planning are not just ‘in’, or constituent of, the day-to-day life of social agents, but form institutional settings which help to shape their actions.”
(p. 354)

In these circumstances, learning emergency responses (ER), within either short-term or long-term crisis management, is an important skill for every age group in order to be prepared for any impending threats. The World Health Organization (2020) (WHO) defined ER as, “an outline of the behaviours, processes and procedures to be followed when handling sudden or unexpected situations, including exposure to or release of biological agents. The goal of an emergency/incident response is to prevent injuries or infections, reduce damage to equipment or the environment, and accelerate resumption of normal operations” (p. 9). Since an emergency event can take place at any time and any place, a person should always be prepared. Likewise, the WHO (2020) defines hazards as, “An object or situation that has the potential to cause adverse effects when an organism, system or (sub)population is exposed to it...A hazard does not become a “risk” until the likelihood and consequences of that hazard causing harm are taken into account” (p. 9). In short, a hazard is a hazard until it creates vulnerabilities in a person’s life and property.

In this context, Cieslik and Pollock (2017) have identified young people as being more vulnerable in today’s late modernity because the young citizen is generally coping with a “transition” in terms of “employment, sexuality and household formation”. In line with this view, it is assumed that young people, especially adolescents and above, need to be aware of potential ER and learn crisis management (CM) skills because these three social elements are changing quickly. As today’s youth, especially teenagers, are the adults of the future they will need to navigate more complex crises when a super-smart society, known as society 5.0, will merge the physical and cyber worlds within their lifetimes (Hasan & Sony, 2023).

However, Giddens (2020) and Hoffmann and Muttarak (2017) believe that educational institutions can be a perfect place for learning and practicing ER and CM to develop a young student’s future actions. Hoffmann and Muttarak (2017) explain that “formal education raises the propensity to prepare against disasters”. After critically examining such behavioural attributes they concluded, “...[E]ducation improves abstract reasoning and anticipation skills such that the better educated undertake preventive measures without needing to first experience the harmful event and then learn later” (p. 32).

Similarly, Segovia (2010) has argued that education for sustainable development, as promoted by national and international agents over the last couple of years, has been recognised as a key tool in reshaping society, however it will only be effective if there is a genuine shift in students' perspectives. Notwithstanding, such development in student's behaviour always remain uncertain in developing countries like Bangladesh.

Building Segovia's (2010) perspective, it is the belief of the researchers of this current study believe that academic institutions and curriculums can be key actors in teaching emergency responses and disaster preparedness. Additionally, Hasan et al. (2022) stated students with stronger disaster education were more prepared than those who have not received such knowledge in an institutional setting and so they recommended university courses should include disaster education, training, exercises, and simulations. Unlike Hasan et al. (2022), the authors of this study believe that secondary school could be the best learning and practice place for ER and CM, as this is where teenagers spend a significant amount of their time. Besides this, in the context of Bangladesh more than half of the population does not advance to higher education, instead they enter the professional life or create homes. For instance, a significant number of girls marry between the ages of 16-20 in Bangladesh (Carrico et al., 2020; Islam et al., 2016; Uddin, 2021). These indicate a particular vulnerability for this age and sex group in terms of not receiving enough knowledge about ER and CM.

Bangladesh's National Curriculum and Textbook Board (NCTB) recognises the importance of ER and CM and have published 39 textbooks that feature disaster risk reduction (DRR) for students between pre-primary to grade 12 since 2004. The Ministry of Education stated in January 2014 that 'disaster preparation will be included into 10 more texts with crisis and disaster management process (CDMP) financial and technical support' (Kagawa & Selby, 2014). Although some studies (Ahmad & Numan, 2015; Parvin et al., 2022; Rahman & Missingham, 2018) have highlighted the availability of disaster-related knowledge and topics in the national curricula, Habiba et al. (2013), and Rahman and Missingham (2018) have raised questions about ER and CM related literacy within Bangladeshi school textbooks, and criticised them as being disorganised and lacking logical development. The research strongly recommends updating the curriculum, reorienting, and reorganising textbooks using an interdisciplinary and holistic approach (Habiba et al., 2013). Such literature motivates the authors to understand the current level of Bangladeshi secondary school students' knowledge in terms of ER and CM. This can then inform the policy makers, along with academics, about the existing situation.

Though very few studies have explored this issue, some, like Kamil et al. (2020), have highlighted that most of the students did not know about emergency measures. Kamil et al. (2020) also concluded that every school should have a community-specific safety plan, covering mitigation/prevention, preparation, recovery, and reaction. Though policy was considered in the study of Hasan et al. (2022), few publications emphasise secondary school students' knowledge level. The urgent need to learn what to do during a sudden shock event like a terrorist attack in school or another place was also highlighted by Stene et al. (2019) and Hošková-Mayerová et al. (2021). Similarly, the importance of first-aid training has been shown in a Norwegian context (Bakke et al., 2017), but these areas have not been studied in a Bangladeshi context.

Additionally, some researchers like Ahmed and Braithwaite (2006), Ahmed et al. (2014), Mohiuddin (2019), Daisy et al. (2001), and Jahan et al. (2010) have carried out research in Bangladesh exploring issues like sexual harassment in school, drug addiction, school bullying, fire explosions, and early marriage of school students and their socio-economic impact, but none of the studies have evidence of the current knowledge level of the students regarding ER and CM. In these studies, statistical information about what is ER and how to act in any crisis have also not been clearly indicated. Aiming to address this omission, the researchers designed a study to seek the answer in the context of Bangladesh.

1.1 Review of the education policy of Bangladesh

Prior to understanding the existing student knowledge scenarios, it is important to know how much emphasis has been given to ER- and CM-related literacy in the Bangladesh education policy. Since public policies are the core driver and guiding principle for all settings (Fischer, 2019), for this study, the researchers have reviewed the National Education Policy (2010) of Bangladesh, although the latest education policy will be adopted in Bangladesh by the beginning of 2023. After reviewing the aim and objectives of the policy, two objectives (i.e., 18 and 30) were found partially related to this study.

The objectives are: "... to build students as skilled human resources to fight the challenges of the world threatened by climate change and other natural disasters and to create in them a social awareness about environment" (p. 9) and "... to caution the students and make them aware of the dangers of taking drugs or similar items" (p. 10). Apparently, the contents of the earlier policy (2010) were focused on increasing numbers of participants in school and minimising drop-out rates (Rouf, 2021). Some guidelines like "[S]pecial attention will be given to create residential facilities in the schools of hilly and remote areas" for primary education is a good example of this. Subsequently, special attention to core student needs has remained uninvestigated. Therefore, Habiba et al. (2013) have condemned the academic system as having a lack of logical development about ER and CM. Nonetheless, in the absence of a thorough investigation, such a conclusion cannot be made, and given that the research was conducted roughly ten years ago, it would be reasonable to call for further scrutiny to determine the level of student knowledge within the existing legal guidelines.

2. Methodology

To meet the research objective, of understanding the knowledge level of ER and CM among high school students in Bangladesh, the researcher decided the quantitative methodology would be best to portray the percentage of the respondents according to their level of knowledge. Although a unitarian secondary curriculum governed by the whole of Bangladesh exists, the researchers have assumed that the students may have received special education according to their sex and geographic vulnerability. Therefore, the two most disaster-prone southern districts of Bangladesh, respectively Khulna district and Noakhali district, were selected to collect primary data.

Through the cluster random sampling technique, with the help of a self-administered questionnaire (SAQ), a survey was run between July 2022 and August 2022. 360 secondary students from three secondary schools and three higher secondary schools in each study area completed the questionnaire. Participating in this survey was completely voluntary and before taking part in this survey, oral informed consent was taken from each respondent. The whole

data collection process happened in the presence of two class teachers, one male and the other one female, and each respondent's comfort was the highest priority. It was ensured that for any discomfort in answering the questions, the respondents were free to leave and withdraw their responses at any stage of the survey.

Before the data collection began, the researchers explained each question in the native language (Bengali) of the students. Furthermore, each respondent and teacher were ensured that this study's findings and data would only be used for academic purposes. Subsequently, no personal identification data, like name and residence, were collected from the respondents during the survey.

The average age of the respondents for this study was 16.05 years with 1.436 standard deviations where the percentage of the boys and girls were respectively 47.2 and 52.8 (Table 1). To understand the knowledge level, the participants were asked to complete a series of statements using a Likert scale response. Each scale had five choices: 0) no knowledge; 1) I read it but forget; 2) I know but can't explain; 3) I have some knowledge and can explain it; 4) I have clear knowledge and express it well. The participants were also asked a number of cognitive level questions. The structured SAQs helped respondents complete it without external assistance. These methods helped them to express their actual responses independently.

TABLE 1. RESPONDENTS' DESCRIPTIVE INFORMATION

Percentage distribution of respondent's Age		Percentage distribution of Respondents enrollments	
<i>Age</i>	<i>Percent</i>	<i>Class</i>	<i>Percent</i>
13	0.6	9	37.2
14	16.7	10	21.1
15	25.0	11	33.3
16	12.2	12	8.3
17	29.2	Total	100.0
18	13.9	Percentage distribution of respondent's sex	
19	2.2	<i>Sex</i>	<i>Percent</i>
20	0.3	Boy	47.2
Total	100.0	Girl	52.8
Mean= 16.05; S.D.= 1.436		Total	100.0

Source: own calculation, 2022

The respondents were asked about some basic emergency training, as well as crisis management and response issues under four broad categories of knowledge, postulated by Krathwohl (2002) which include factual knowledge, conceptual knowledge, procedural knowledge, and metacognitive knowledge (see Table 2). Each category of knowledge also consisted of several important ER and CM related issues. To make it understandable for the respondents the questionnaire was prepared in Bengali and later translated into English, and the data was coded and analysed in the Statistical Package for Social Science SPSS (version 22) software package.

TABLE 2. MAJOR THEMES THE RESPONDENTS WERE ASKED

Factual Knowledge

What is ER?

What is a disaster?

Mood swings

Behavior with opposite sex and autistic children

Conceptual Knowledge

Type of disaster?

The meaning of signals

Emergency services' contact numbers

Procedural knowledge

Responses to different disasters and hazards

Responses to emergency health issues

Responses to a fire incident

Responses to harassment and abuse

Metacognitive Knowledge

Responses to a terrorist attack

Responses to a road accident

Response to bullying and teasing

Source: own compilation, based on Krathwohl (2002)

3. Results

The study's findings, which have been presented in accordance with its objectives, show the percentage distribution of respondents' overall factual knowledge of self-defence, emergency response, and disaster management (see Table 3). The highest percentage of respondents who said they knew anything about disasters and could explain it was 32.2 per cent, while 29.2 per cent said they were aware of it but were unable to describe it.

On the other hand, just 32.5 per cent of students who responded to the survey had a firm understanding of and could articulate the different types of disasters, while 25.0 per cent of other students admitted to having read it but forgotten. However, only 22.8 per cent of respondents who had an opinion on emergency responses had knowledge they could explain. Also, among all respondents, there are 15.0 per cent who have no knowledge about self-defence and 26.7 per cent who have a clear understanding and can articulate it well.

TABLE 3. PERCENTAGE DISTRIBUTION OF RESPONDENTS' LEVEL OF KNOWLEDGE ABOUT WHAT DISASTER, EMERGENCY RESPONSE, AND SELF-DEFENCE TECHNIQUES MEAN

	No knowledge	I read it but forget	I know but can't explain	I have some knowledge and can explain it	I have clear knowledge and express it well	Total
What is a disaster?	3.3	19.4	29.2	32.2	15.8	100.0
What are the types of disaster?	11.4	25.0	15.3	15.8	32.5	100.0
What is emergency response/emergency measure?	16.9	19.7	20.6	22.8	20.0	100.0
What are self-defense techniques?	15.0	12.2	19.4	26.7	26.7	100.0

Source: own calculation, 2022

According to conceptual comprehension, Table 4 shows the respondent's level of knowledge of natural catastrophes such as earthquakes, thunderbolts, cyclones, and floods and what steps should be taken. With regard to an abrupt earthquake, the majority of students (44.2%) felt that they had clear information and could articulate it well. Similar to this, 18.3 per cent of students who responded to the survey knew what to do during thunderbolt, but only 28.6 per cent of them could describe it.

TABLE 4. PERCENTAGE DISTRIBUTION OF RESPONDENTS' LEVEL OF KNOWLEDGE ON NATURAL DISASTERS

	No knowledge	I read it but forget	I know but can't explain	I have some knowledge and can explain it	I have clear knowledge and express it well	Total
What to do in sudden earthquake?	4.4	10.8	11.4	29.2	44.2	100.0
What to do during thunderbolt?	11.9	14.2	18.3	28.6	26.9	100.0
How many signals are there for cyclone/whirlwind?	25.8	21.9	21.7	14.2	16.4	100.0
What is the meaning of each signal of cyclone?	41.7	23.3	19.2	10.3	5.6	100.0
What should we do during the cyclone?	19.7	22.5	23.9	16.7	17.2	100.0
What should we do during the flood?	3.1	10.0	19.2	29.2	38.6	100.0

Source: own calculation, 2022

The outcome reveals what students think about how many signs there are in a cyclone, about which 25.8 per cent of respondents reported having no information and 21.9 per cent of other respondents having read it but forgotten. Also, the data shows that only 5.6 per cent of respondents have clear knowledge and are able to articulate it adequately, compared to 41.7 per cent who have no idea what each cyclone indicator means.

The greatest response rate (23.9%) of the students knew the answer to the question about what to do during a storm but was unable to describe it. Lastly, 38.6 per cent of the students who responded indicated that they had a clear understanding of what to do in floods and could articulate it clearly, while 19.2 per cent of them were unable to do so.

A maximum of 40.20 per cent of respondents claimed to have clear knowledge and to be well informed about what to do in the event of a fire in their school or neighbourhood, but 48.6 per cent of respondents did not know the fire brigade’s phone number (Table 5). This factual knowledge relates to man-made disasters such as fire, terrorist attacks, accidents, and so on.

Also, as the table illustrates, 25.6% of the respondents have some information and can explain, but 23.6% of the respondents have no idea what to do in the event of a terrorist attack at the school (Table 5). A maximum 37.2 per cent of respondents indicated that students have clear information and can articulate it well in response to the topic of how to prevent accidents on a trip (by vehicle, boat, or other means) whereas up to 28.9 per cent of respondents had no understanding of number 333, which is the hotline service for weather information. A maximum of 41.1 per cent of student respondents have clear knowledge of and can articulate it clearly about number 999 which is the 24/7 national emergency services.

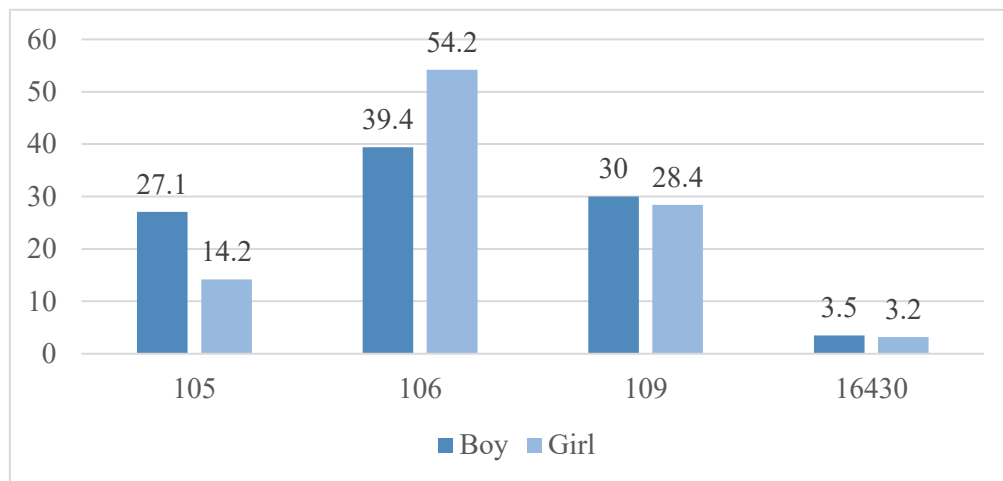
TABLE 5. PERCENTAGE DISTRIBUTION OF RESPONDENTS’ LEVEL OF KNOWLEDGE ON HUMAN-CAUSED DISASTERS

	No knowledge	I read it but forget	I know but can’t	I have some knowledge and can explain it	I have clear knowledge and express it well	Total
What to do if there is a fire in your school or neighborhood?	8.1	6.9	15.3	29.7	40.0	100.0
Do you know the contact number of fire brigade?	48.6	13.1	9.2	10.6	18.6	100.0
What to do if there is any terrorist attack at the school?	23.6	7.2	22.2	25.6	21.4	100.0
What is 999?	17.2	12.5	11.1	18.1	41.1	100.0
What is 333?	28.9	14.7	14.7	13.6	28.1	100.0
How to avoid accidents on the way (car/boat/others)?	5.8	10.8	20.8	25.3	37.2	100.0

Source: own calculation, 2022

This study shows significant limits in another factual knowledge level difference in males and females about the emergency helpline number to prevent women and child abuse. The researchers created hypothetical helpline numbers and presented them alongside the original one 109. The results show that a significant portion of boys (39.4%) and girls (54.2%) picked the wrong number, whereas a small portion of boys (30%) and girls (28.4%) knew the correct one (Figure 1). Additionally, girls were more likely to pick hypothetical numbers than boys.

FIGURE 1. PERCENTAGE DISTRIBUTION OF THE KNOWLEDGE LEVEL OF RESPONDENTS ABOUT WHICH NUMBER THEY CAN CALL TO GET HELP FOR 'WOMEN AND CHILD ABUSE'



Source: own calculation, 2022

Table 6 below shows the percentage distribution of respondents' procedural knowledge scores for certain CM items. If a classmate is bitten by a snake, the majority of the pupils (41.9%) who responded favourably indicated that they had clear understanding and good communication skills. On the other hand, 21.9 per cent of the pupils had no understanding, compared to 57.5 per cent of respondents who had clear information and can articulate it well about swimming.

Furthermore, the table displays the students' opinions regarding what would happen if a classmate falls into water. A maximum of 51.7 per cent of respondents indicated that they had clear knowledge and could express it, while 19.4 per cent indicated that they had some knowledge and could explain it. Similar to this, the majority of students (44.2%) who responded clearly knew what to do and can explain it well if a classmate gets electrocuted, although 18.3% read it but did not remember. Again, while up to 34.2 per cent of respondents had some understanding of, and could explain how to, administer first-aid in the event of an accident, 26.1 per cent had knowledge but were unable to do so.

TABLE 6. PERCENTAGE DISTRIBUTION OF RESPONDENTS' LEVEL OF KNOWLEDGE ON CRISES MANAGEMENT

	No knowledge	I read it but forget	I know but can't explain	I have some knowledge and can explain it	I have clear knowledge and express it well	Total
What do you do if your classmate is bitten by a snake?	5.0	6.7	16.4	30.0	41.9	100.0
Do you know how to swim?	21.9	4.7	7.5	8.3	57.5	100.0
What to do if your classmate falls into the water?	7.5	6.4	15.0	19.4	51.7	100.0
What to do if your classmate is electrocuted?	7.2	7.8	18.3	22.5	44.2	100.0
How much do you know about how to take first-aid in case of any accident?	7.5	10.8	26.1	34.2	21.4	100.0

Source: own calculation, 2022

According to the research, just 10.8 per cent of respondents had no information on health emergencies, while up to 38.6 per cent of pupils have clear understanding and can articulate it clearly, along with 25.0 per cent who have some understanding and can explain whether a classmate is ill or has mental health issues (Table 7).

TABLE 7. PERCENTAGE DISTRIBUTION OF RESPONDENT'S LEVEL OF KNOWLEDGE ON HEALTH CRISES

	No knowledge	I read it but forget	I know but can't explain	I have some knowledge and can explain it	I have clear knowledge and express it well	Total
What to do if your classmate gets sick or senseless?	10.8	5.8	19.7	25.0	38.6	100.0
What to do if anyone has 'heat stroke' during drought or extreme heat?	47.5	14.2	21.4	10.3	6.7	100.0
Do you know what adolescence is?	3.3	6.7	17.2	20.6	52.2	100.0
What is mood-swing?	16.1	10.8	19.7	24.7	28.6	100.0
What to do if you or your classmate has mood swings?	26.9	10.6	19.7	20.3	22.5	100.0

Source: own calculation, 2022

47.5 per cent of respondents do not know whether "heat stroke" occurs during times of drought or excessive heat. As well, when it comes to opinions on adolescence, approximately 52 per cent have a good understanding and can articulate it clearly, while about 17 per cent were aware

but unable to do so. Also, as seen in the table, 16.1% of respondents do not know anything about mood swings, compared to 28.6 per cent of students who have clear knowledge and can articulate it clearly. Also, only 26.9 per cent of student respondents were able to answer the issue of whether their friend’s mood changes (Table 7).

The findings of this poll helped to understand societal concerns since they show that, when asked what to do if they are the targets of Eve teasing, unwanted sexual remarks by a man to a woman, 36.4 per cent of respondents stated they had clear information and could communicate it properly, while 13.1 per cent had no idea (Table 8).

In a similar vein, just 20.6% of respondents had any understanding of what to do if a teacher, staff member, or other student engages in sexual harassment. However, 26.4% of respondents can explain their knowledge (Table 8). The result illustrates that, while 20.6 per cent of students do not know, 24.4 per cent of students have clear knowledge and can communicate it well about prejudice based on race, religion, skin, colour, or health (Table 8).

TABLE 8. PERCENTAGE DISTRIBUTION OF RESPONDENT’S LEVEL OF KNOWLEDGE ABOUT SOCIAL ISSUES/CRISES

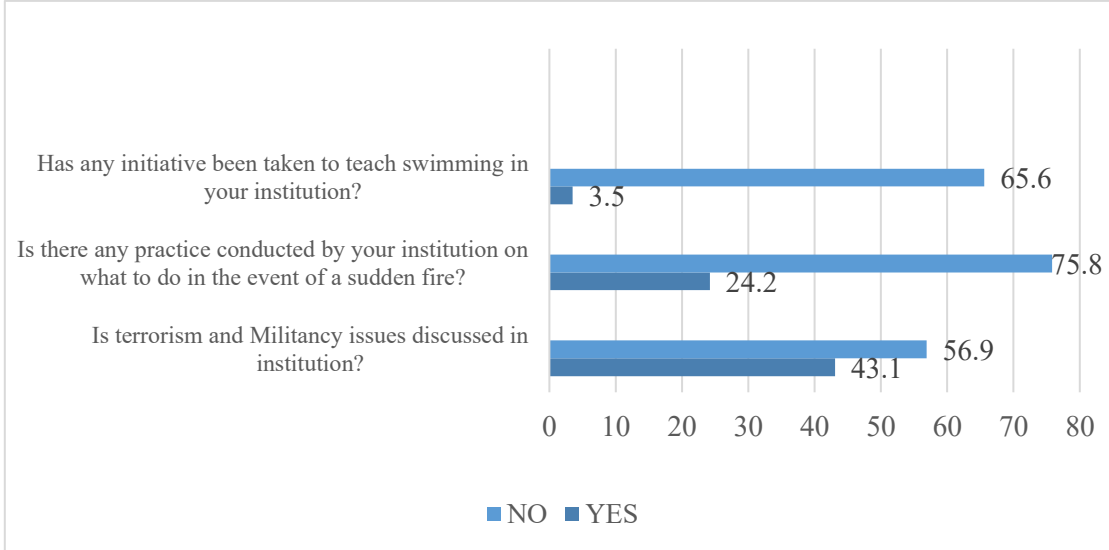
	No knowledge	I read it but forget	I know but can't explain	I have some knowledge and can explain it	I have clear knowledge and express it well	Total
What to do if you or your classmate is a victim of eve-teasing?	13.1	7.5	15.6	27.5	36.4	100.0
How much do you know about what to do if you or a classmate is being sexually harassed by a teacher/staff/other?	20.6	7.2	19.7	26.4	26.1	100.0
What to do if you or your classmate gets discriminated on the basis of race, religion, skin, color, health?	20.6	11.7	19.7	23.6	24.4	100.0
What to do if any friend or classmate is bullied at school or playground?	25.6	6.1	24.2	23.3	20.8	100.0
Are the evils of drugs or topics of drugs discussed in the institution?	17.8	4.4	15.6	16.9	45.3	100.0
How to deal with your autistic friend?	5.3	3.6	14.2	21.9	55.0	100.0
How to deal with your transgender friend?	13.1	7.5	16.7	20.6	42.2	100.0
How to prevent child marriage of your classmate?	9.2	6.1	13.1	24.2	47.5	100.0

Source: own calculation, 2022

In addition, 25.6 per cent of respondents said they were unsure of what to do if a friend or classmate was being bullied at school or on the playground (Table 8). The majority (45.3 per cent) of students who responded to the question about the negative effects of drugs or themes related to drugs discussed at the institution had a clear understanding and could articulate it clearly, while 17.8 per cent of students had no knowledge. Up to 55.0 per cent of pupils have clear information and can convey it effectively about how to interact with autistic classmates (Table 8). About a transsexual acquaintance 13.1 per cent of students lack knowledge, 20.6 per cent have some understanding and can explain it, and 42.2% of students have clear information and can communicate it effectively (Table 8). The following data demonstrates that 25.3 per cent of respondents have some knowledge and can explain strategies to prevent child marriage to a classmate, while 47.5 per cent of respondents have a clear comprehension and can communicate it clearly (Table 8).

However, up to 65.6 per cent of students disagreed with the statement that their institution was teaching them how to swim in response to the metacognitive knowledge-based questions, while only 4.5 per cent agreed, as seen by the clustered bar in Figure 2.

FIGURE 2. PERCENTAGE DISTRIBUTION OF RESPONDENTS’ LEVEL OF KNOWLEDGE ABOUT INSTITUTIONAL INITIATIVES REGARDING CRISIS MANAGEMENT

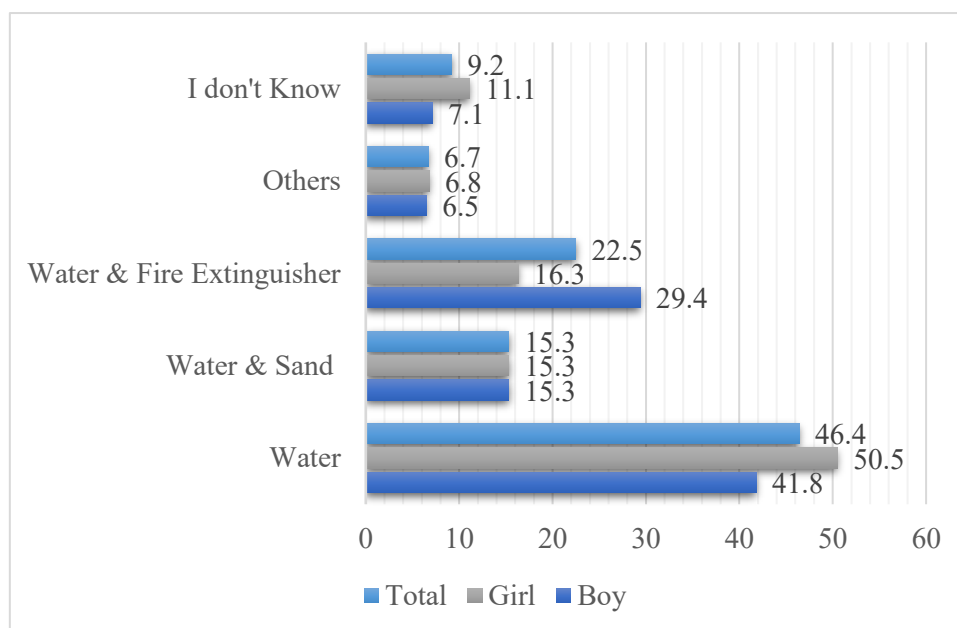


Source: own calculation, 2022

75 per cent of students who responded said their schools do not conduct fire drills. 43.1 per cent and 56.9 per cent of the student respondents indicated that their school did not talk about terrorism and militant issues, respectively.

Likewise, the knowledge of home/school fire extinguishing measures among respondents is shown in Figure 3. Just water was mentioned by 46% of respondents, followed by water and sand (15%), water and a fire extinguisher (23%), others (7%), and not sure (9%) (Figure 3). Regarding to male and female differences, a significantly larger portion of girls (50.5%) than boys (41.8%) chose water as a means of fire control. At the same time, more boys (29.4%) chose water and fire extinguisher than girls (16.3%) as a means of fire control. For water and sand, the same portion of students selected (15.3%) it as a means of fire control.

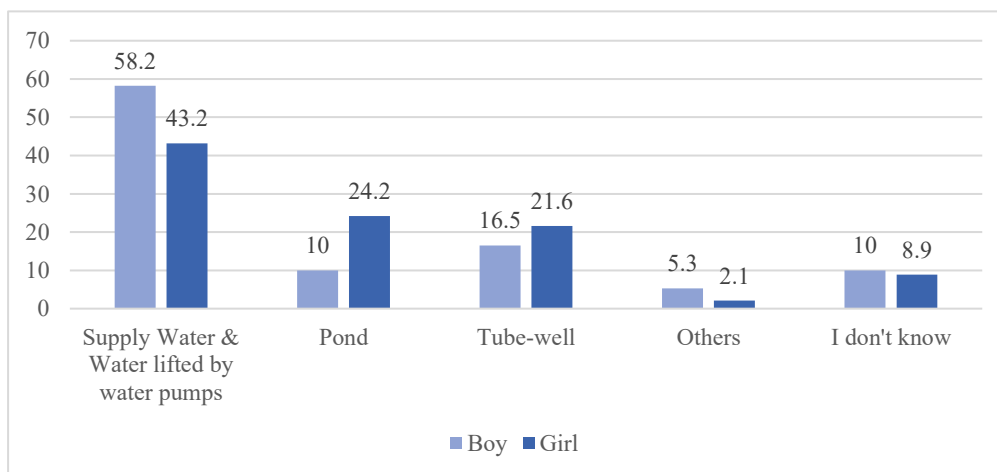
FIGURE 3. PERCENTAGE DISTRIBUTION OF RESPONDENTS' LEVEL OF KNOWLEDGE ON MEASURES TO EXTINGUISH A FIRE IN HOME/EDUCATIONAL INSTITUTIONS



Source: own calculation, 2022

In line with this perception, the respondents' degree of familiarity with water sources for home and school fire extinguishing is shown comparatively in Figure 4. The results show that a significant portion of boys (58.2%) and girls (43.2%) selected supply water and water lifter by pumps as a source of water systems for fire control. Among the others, more girls than boys selected ponds and tube-well as a source of water to control fire incidents.

FIGURE 4. PERCENTAGE DISTRIBUTION OF THE KNOWLEDGE LEVEL OF RESPONDENTS ABOUT SOURCE OF WATER SYSTEMS FOR FIRE EXTINGUISHING AT HOME/EDUCATIONAL INSTITUTIONS

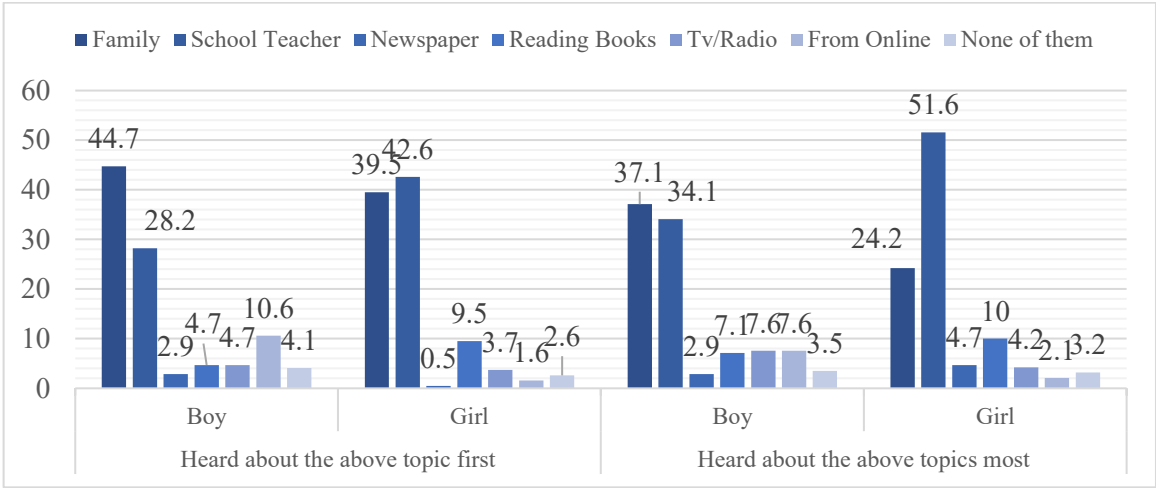


Source: own calculation, 2022

Figure 5 summarises where students initially and frequently learned about ER and CM. More boys (44.7%) were the first to learn about ER and CM from family members than girls (39.5%), whereas girls (42.6%) were the first to learn about ER and CM from school teachers compared to boys (28.2%) (Figure 4). Although a small percentage of boys (10.6%) initially learned about ER and CM through internet media, very few girls (1.6%) have done so. Instead, a nearly equal percentage of girls (9.5%) learned about these issues through reading books. On the other hand, more (37.1%) of the boys heard about ER and CM from their family members than the girls

(24.2%). Notwithstanding, similar to the girls who made up half of the respondents (51.6%), the boys made up a maximum of 34.1 per cent of the respondents who were accustomed to hearing about ER and CM from school teachers.

FIGURE 5. PERCENTAGE DISTRIBUTION OF THE KNOWLEDGE LEVEL OF RESPONDENTS ABOUT WHERE STUDENTS HEARD ABOUT EMERGENCY RESPONSE AND CRISIS MANAGEMENT FIRST AND MOST



Source: own calculation, 2022

4. Discussion

Institutions can play a crucial role in the urgent need to learn ER and CM in order to successfully adapt to changing environments (Giddens, 2020). Building on this, the present study was developed to critically examine the level of knowledge of a sample of secondary school students in Bangladesh in the field of EM and CM, following the guidelines of Cieslik and Pollock (2017) and Giddens (2020). Every school should have a safety strategy that considers mitigation/prevention, planning, readiness, recovery, and reaction, according to a number of studies that have recently been published, including Kamil et al. (2020). The findings of this study, which support Kamil et al. (2020), also show that the majority of respondents had very little knowledge of emergency procedures, such as what to do in the event of a fire (about 50%), since the highest response rate of about 75% stated that there had never been a fire drill conducted in an academic setting.

Considering the function of institutions, this study discovered that roughly 65 per cent of respondents said they had no help from educational institutions to learn fundamental life-saving skills like swimming. Similarly, when it comes to sudden events like terrorist attacks, which have been highlighted by prior studies (Hoková-Mayerová et al., 2021; Stene et al., 2019), this study has made it evident that neither academic settings nor curricula encouraged teachers to explore these topics. In a similar vein, this study’s findings demonstrate that a sizeable percentage of students—between 30 and 40 per cent—do not know the emergency hotline numbers, leaving them very vulnerable. Furthermore, based on male and female differences there is a wide variety of knowledge gaps. For example, more than half of the girl respondents did not know what the national helpline number for women or child abuse was. Bakke et al. (2017) also stressed the significance of first-aid training, although this study showed that students’ levels of first-aid knowledge were unclear, highlighting another flaw in the national

curriculum. This study concurs with Bakke et al. (2017) and urges secondary schools to require students to receive ER and CM first-aid training.

Several studies over the past few years—including Ahmed and Braithwaite (2006), Ahmed et al. (2014), Mohiuddin (2019), Daisy et al. (2001), and Jahan et al. (2010)—have highlighted the need for specialised instruction on issues like sexual harassment in schools, drug addiction, bullying in schools, fire explosions, early marriage of school students, and the socioeconomic impacts. Given that the results of this study demonstrate that students have very little knowledge or a clear understanding of the material, it is also recommended that unique content be added to the curriculum and textbook in this direction. These situations could cause great misunderstanding in these young individuals and put them in danger.

Furthermore, this research reveals that although the majority of students have a basic understanding of crisis management, their training has not been entirely comprehensive because there are no simulations. The advice to policymakers would be to include this specific training for students because the education policy lacks a clear directive about the education and training of ER and CM. However, because this study focused on the general scenario of students' level of understanding rather than presenting an in-depth scenario like why the students have poor knowledge in ER and CM or how it could be improved, the researchers feel that an experimental study could be more appropriate to develop useful policy guidelines for this situation. Due to the researchers' time and expertise constraints, gender-specific ER was only briefly examined; therefore, future studies should address this topic.

5. Conclusion

The rapid changes in contemporary environments and societies has led to an increasing amount of vulnerabilities in the general population. Each person needs to be ready for an unexpected event, whether it be environmental, biological, man-made, or hyper-reality, in order to keep up with this changing culture. The ideal place to educate young people, according to scholars, may be academic institutions because they are more vulnerable than any other age group. In line with this idea, national education curriculum often offers a basic direction in shaping the academic environment. To illustrate secondary school students' knowledge and awareness of ER and CM in Bangladesh, this study's researchers set out to create a study with this information in mind. The results, however, demonstrate that because ER and CM have not been given significant attention in the national secondary school curricula, student knowledge levels remain extremely low. A sizable portion of the respondents lacked procedural and metacognitive level understanding for various natural or man-made threats.

Similarly, the majority of students were unable to explain how to stop situations like sexual harassment, child marriage, bullying, and Eve teasing. The level of knowledge also varies based on gender. Therefore, the researchers recommend to policymakers to take the necessary steps to resolve this challenge and minimise the vulnerabilities of young people by emphasising the theoretical and practical scope of learning ER and CM in early academia. Adding, placing, and introducing different ER and CM-related actions in textbooks with pictures and along with a story could be a good form of theoretical education. For vocational learning, specifically, some mandatory drills and mock classes associated with ER and CM could be introduced in the academic setting so that the students can effectively educate themselves. Overall, the scholarship of this study could also help young scholars by exploring the relationship between students' knowledge level and spatial location in a definite time dimension.

References

- Ahmad, S., & Numan, S. M. (2015). Potentiality of Disaster Management Education through Open and Distance Learning System in Bangladesh Open University. *Turkish Online Journal of Distance Education*, 16(1), 249-260. <http://doi.org/10.17718/tojde.24161>
- Ahmed, E., & Braithwaite, V. (2006). Forgiveness, Reconciliation, and Shame: Three Key Variables in Reducing School Bullying. *Journal of Social Issues*, 62(2), 347-370. <https://doi.org/10.1111/j.1540-4560.2006.00454.x>
- Ahmed, S. I., Jackson, S. J., Ahmed, N., Ferdous, H. S., Rifat, M. R., Rizvi, A. S. M., . . . Mansur, R. S. (2014). *Protibadi: A platform for fighting sexual harassment in urban Bangladesh* Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, Toronto, Ontario, Canada. <https://doi.org/10.1145/2556288.2557376>
- Bakke, H. K., Bakke, H. K., & Schwebs, R. (2017). First-aid training in school: amount, content and hindrances. *Acta Anaesthesiologica Scandinavica*, 61(10), 1361-1370. <https://doi.org/10.1111/aas.12958>
- Beck, U., Lash, S., & Wynne, B. (1992). *Risk Society: Towards a New Modernity*. SAGE.
- Carrico, A. R., Donato, K. M., Best, K. B., & Gilligan, J. M. (2020). Extreme weather and marriage among girls and women in Bangladesh. *Global Environmental Change-Human and Policy Dimensions*, 65, 102160. <https://doi.org/10.1016/j.gloenvcha.2020.102160>
- Cieslik, M., & Pollock, G. (2017). *Young People in Risk Society: The Restructuring of Youth Identities and Transitions in Late Modernity* (1st ed.). Routledge, London. <https://doi.org/10.4324/9781315189468>
- Daisy, S., Mostaque, A. K., Bari, S., Khan, A. R., Karim, S., & Quamruzzaman, Q. (2001). Socioeconomic and Cultural Influence in the Causation of Burns in the Urban Children of Bangladesh. *The Journal of Burn Care & Rehabilitation*, 22(4), 269-273. <https://doi.org/10.1097/00004630-200107000-00004>
- Fischer, F. (2019). *Politics, values, and public policy: The problem of methodology*. Routledge. <https://doi.org/10.4324/9780429302558>
- Giddens, A. (2020). Modernity and self-identity: Self and society in the late modern age. In S. Seidman, & J.C. Alexander, (Eds.). *The New Social Theory Reader* (2nd ed., pp. 354-361). Routledge. <https://doi.org/10.4324/9781003060963>
- Habiba U., Abedin, M.A., & Shaw, R. (2013). Disaster Education in Bangladesh: Opportunities and Challenges. In R. Shaw, F. Mallick, A. Islam, (Eds.), *Disaster risk reduction approaches in Bangladesh*. (pp. 307-330). Springer, Tokyo. https://doi.org/10.1007/978-4-431-54252-0_14
- Hasan, M. K., Moriom, M., Shuprio, S. I. M., Younos, T. B., & Chowdhury, M. A. (2022). Exploring disaster preparedness of students at university in Bangladesh. *Natural Hazards*, 111(1), 817-849. <https://doi.org/10.1007/s11069-021-05080-2>
- Hasan, M. K., & Sony, M. A. M. (2023). Covid-19, Social Change, and Society 5.0. In R. Baikady, S.M. Sajid, V. Nadesan, J. Przeperski, M. R. Islam, J. Gao (Eds.). *The Palgrave Handbook of Global Social Change* (pp. 1-19). Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-87624-1_48-1
- Hoffmann, R., & Muttarak, R. (2017). Learn from the Past, Prepare for the Future: Impacts of Education and Experience on Disaster Preparedness in the Philippines and Thailand. *World Development*, 96, 32-51. <https://doi.org/10.1016/j.worlddev.2017.02.016>

-
- Hošková-Mayerová, Š., Bekesiene, S., & Beňová, P. (2021). Securing Schools against Terrorist Attacks. *Safety*, 7(1), 1-18. <https://doi.org/10.3390/safety7010013>
- Islam, M. M., Islam, K., Hasan, M. S., & Haque, A. (2016). Marriage Before 16 or 18 years: The Effect of Marital Age on Women's Educational Attainment in Bangladesh. *Journal of Population Social Studies*, 24(2), 117-132. <https://doi.org/10.14456/jpss.2016.9>
- Jahan, N., Jabbar, M. A., & Hossain, M. T. (2010). Factors Affecting Early Marriage of the Women in Bangladesh. *Journal of Socioeconomic Research and Development*, 7(5), 958-963. <https://doi.org/10.18034/ajhal.v4i1.315>
- Kagawa, F., & Selby, D. (2014). Disaster Risk Reduction in the School Curriculum: The Present and Potential Role of Development Agencies and the Implications for the Hyogo Framework for Action 2005-2015 Successor. Unpublished Report commissioned by PLAN International. Available online also at: <https://www.preventionweb.net/english/hyogo/gar>
- Kamil, P. A., Utaya, S., Sumarmi, & Utomo, D. H. (2020). Improving disaster knowledge within high school students through geographic literacy. *International Journal of Disaster Risk Reduction*, 43, 101411. <https://doi.org/10.1016/j.ijdr.2019.101411>
- Krathwohl, D. R. (2002). A Revision of Bloom's Taxonomy: An Overview. *Theory Into Practice*, 41(4), 212-218. https://doi.org/10.1207/s15430421tip4104_2
- Mohiuddin, A. K. (2019). Drug addiction in Bangladesh: "A Consequence of Social Demoralization Rather Than Individual Flaws." *International Journal of Addiction Research and Therapy*, 2(10), 1005. <https://doi.org/10.28933/ijart-2019-11-1005>
- Parvin, G. A., Takashino, N., Islam, M. S., Rahman, M. H., Abedin, M. A., & Ahsan, R. (2022). Disaster-induced damage to primary schools and subsequent knowledge gain: Case study of the Cyclone Aila-Affected community in Bangladesh. *International Journal of Disaster Risk Reduction*, 72, 102838. <https://doi.org/10.1016/j.ijdr.2022.102838>
- Rahman, M. I.-u., & Missingham, B. (2018). Education in Emergencies: Examining an Alternative Endeavour in Bangladesh. In R. Chowdhury, M. Sarkar, F. Mojumder, & M. M. Roshid (Ed.), *Engaging in Educational Research: Revisiting Policy and Practice in Bangladesh* (pp. 65–87). Springer. https://doi.org/10.1007/978-981-13-0708-9_4
- Rouf, M. A. (2021). Ten Years of the National Education Policy in Bangladesh: Examining the Policy Directions and Implementation Gaps. *Jagannath University Journal of Arts*, 11(2), 220-232.
- Segovia, V. M. (2010). Transforming Mindsets Through Education for Sustainable Development. In P. Peterson, E. Baker, & B. McGaw (Ed.), *International Encyclopedia of Education* (Third Edition, pp. 746-752). Elsevier. <https://doi.org/10.1016/B978-0-08-044894-7.00224-4>
- Stene, L. E., Schultz, J.-H., & Dyb, G. (2019). Returning to school after a terror attack: a longitudinal study of school functioning and health in terror-exposed youth. *European Child & Adolescent Psychiatry*, 28(3), 319-328. <https://doi.org/10.1007/s00787-018-1196-y>
- Uddin, M. E. (2021). Teenage marriage and high school dropout among poor girls: A narrative review for family pathways in Bangladesh. *Journal of Research in Social Sciences Language*, 1(1), 55-76. <https://www.jssal.com/index.php/jssal/article/view/15>
- World Health Organization. (2020). Biosafety programme management. World Health Organization. <https://apps.who.int/iris/handle/10665/337963>

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