

(RESEARCH ARTICLE)



Bangladesh health journalism: A pilot study exploring the nature and quality of newspaper health reporting

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Abstract

Introduction: The media is an important source of health-related information for patients, general public, policymakers and health professionals and has a large influence on their knowledge and opinions. No studies so far have explored the content, nature and quality of health journalism in Bangladesh.

Objectives: To i) explore the nature and quality of media coverage of health stories in Bangladeshi newspapers, ii) understand the perceptions of reporters about medical- and health journalism, including the perceived barriers and facilitators, and iii) identify factors influencing health reporting.

Methods: In a mixed-method pilot study, during a five-month period, all medical and healthcare related news articles published in three leading Bangladeshi daily newspapers (N=461), were content analyzed, and journalists were asked in a questionnaire about their knowledge and medical skills.

Results: Only 44% of the articles reported in a positive tone on health services aspects, while 27.1% were related to malpractice or treatment errors. Many articles contained questionable medical information (49.9%), mostly regarding unregistered clinicians (67.5%), often referred to as ‘doctor’. Treatment errors by unregistered clinicians were reported seven times more often than those by registered physicians ($p < 0.001$). A survey was completed by 23 selected medical- or health journalists (77% response); most of them (78.3%) had no previous training in health journalism and in only 26.1% this was offered by their media house. Journalists self-reported their own insufficient understanding of medical terminology (73.9%), ethics (95.7%) and relevant laws (91.3%).

Conclusion: This study is an eye opener about shortage of medical knowledge among health journalists in a developing country. This shortage may often result in misinformation regarding medical (mal)practice, health laws and ethics.

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There is ample room for improvement of the quality of health news reporting and health journalism skills in Bangladesh.
N=287

Keywords: Medical journalism; Bangladesh; Health reporting; Media; Health literacy; newspapers

1. Introduction

Scientific knowledge regarding health and medical advances is often disseminated to health professionals, researchers and to the public through the mass media [1-4]. People's health perceptions, knowledge and behavior may all be influenced by these reports [5,6]. Policymakers also often obtain health and medical information from the media to make decisions regarding the promotion of health [7,8]. For example, the development of new laws and regulations on patients' rights depends, to a certain extent, on exposure to the information published by the mass media. As such, the mass media often serve as an agenda setter for important health issues, transferring these issues to the public health and policy agenda [9,10]. Due to the burgeoning of mass media, including print, electronic, radio, television and online media, its impact on the availability of health information and health literacy of the general public has been increasing rapidly [11]. However, measuring this impact can be challenging and the impact may be mixed. For example, it may increase or decrease expectations of certain health benefits or risks [9,12] or may influence confidence in certain medical approaches or the health care system [13,14]. Media reports may even create fear and panic [13,15]. Media coverage of dramatic medical stories such as organ transplantation or cures for severe conditions, on the other hand, often raises unrealistic hopes and may lead to the promotion of novel technologies that have yet to be properly evaluated and licensed.

Health journalists can thus have a large influence on the knowledge and opinions of the general public. For example Van der Wardt and co-workers [16] showed that, besides their level of education and acquaintance with rheumatic patients, the general public's knowledge about rheumatic diseases correlated positively with their use of the mass media. These authors also showed that the amount of attention a disease category received from the media depended on its fatality rates and not on its prevalence [17]. Heart disease and cancer were portrayed as being more serious than the more lingering diseases like rheumatoid arthritis. On the other hand, surprisingly, the proportion of articles and programs that included the influence of lifestyle in their coverage was lowest for cancer and heart disease, where one would have expected the opposite. Their study concluded that more frequent and more accurate coverage of chronic diseases is needed if their image is to be brought into line with their importance for and impact on the community [17].

The health industry is very sensitive to the demands of the community and has a high level of public interest, thus health journalism plays a vital role. However, it is well recognized that the mass media can be a poor vehicle for the communication of scientifically precise information about health and medicine and is frequently prone to sensationalism, inaccurate claims and over- or under-statements [4,18,19,20,21]. As a result, scholars, health professionals and journalists are all calling for 'evidence-based journalism' [13,22,23]. Most of the research into the quality of health news reporting, however, has been performed in developed, Western countries and no studies so far have explored the content, nature and quality of health journalism in developing South Asian countries such as Bangladesh.

Despite the importance of accurate and balanced health news reporting, health journalists have to work with many obstacles and challenges [24,25]. Besides pressure from the media company and financial limitations, lack of time, lack of space available for health news and lack of knowledge and training are widely reported practical barriers for health journalists [20,26,27,28]. In Bangladesh, it is likely that such issues are also a problem, yet, to date, no data regarding the knowledge of health journalists and their perceptions of health journalism and perceived barriers, facilitators and opportunities in health journalism has been reported among Bangladeshi health reporters.

The current multi-method study presents a first exploration of the state of health journalism in the Bangladeshi media. The specific objectives of this study were to i) explore the nature and quality of media coverage of health stories in Bangladeshi newspapers, ii) understand the perceptions of reporters about medial and health journalism, including the perceived barriers and facilitators, and iii) identify factors influencing health reporting.

2. Material and methods

A mixed-method study was performed combining a qualitative and quantitative approach. The qualitative part of the study included conceptual content analysis of health news articles and the quantitative part included descriptive analyses of survey responses among health journalists using a structured questionnaire.

A selected sample of journalists of national news agencies of both electronic, print, and online media who were involved in health journalism across the country were approached through email and in person to complete a structured questionnaire. As the majority of the available newspapers circulating across Bangladesh have no specialized health reporters, the Bangladesh Health Reporters' forum [29] was used to recruit journalists affiliating themselves with health reporting. At the time of the study, only 32 journalists were enlisted in the forum, of whom 30 met the inclusion and exclusion criteria.

2.1. Content Analysis of Health News Articles

The three highest circulated national dailies (two in Bangla and one in English) according to the Press institute of Bangladesh (PIB) were selected as source of health news articles. Besides being the most popular and widely circulated newspapers in the country, the three newspapers are recognized for their balanced reporting, particularly of political views. According to the PIB, as of March 1, 2017, the highest circulated national Bengali dailies were 'The Bangladesh Protidin' and 'The Dainik Prothom Alo' and one English newspaper, 'The Daily Star'.

The nature and quality of all news articles published between March 1, 2017 to July 31, 2017 in these three dailies were included in the study and analyzed. Health tips and health-related columns were not considered as news and excluded from the study. A five-month period was considered enough to capture a representative sample of health reporting from which to draw the conclusions for this exploratory study. The selected news articles were analyzed by conceptual content analysis using consensus methodology with a task force consisting of a senior journalist, a physician and a language expert.

2.2. Survey of Health Journalists

A structured survey was developed covering themes including demographic characteristics, working experience, training, barriers to write reports on health issues, opportunities, need of training, and knowledge on ethical issues related to health journalism. The research team distributed the survey form through email and/or in person to the 30 targeted journalists involved in medical / health journalism. Of them, 23 (77% response rate) responded and returned the completed surveys. The survey questionnaire was self-administered. The full list of survey questions is outlined in Appendix 1.

2.3. Analysis

Descriptive statistics and quantitative analyses were performed using SPSS version 22.0. Results from the content analysis and survey were categorized and tabulated for interpretation. The categorization of variables is outlined in Tables 1 and 3. Binary and other categorical data were summarized using frequencies and percentages and compared using chi-square and Fisher's exact tests where appropriate.

2.4. Ethics

Ethical permission for the study was granted by the institutional review committee (IRB) of Bangabandhu Sheikh Mujib Medical University as per the policy of the sponsoring university (Ref: BSMMU/2016/70, 29 November 2016).

3. Results

3.1. Analysis of Print Media Outputs

In total, 461 news articles were included for analysis (Table 1). As shown in Table 1, almost two thirds of the health-related news was published in the Daily Prothom Alo (62.9%), followed by the Daily Bangladesh Protidin and the Daily Star (20.8% and 16.3% respectively). The most frequently published news category was 'health service delivery systems' (20.6%), followed by 'medical negligence' (12.8%), and other categories. The categories of 'health budgets' and 'bioethics' were the least frequently published news categories and were 1.7% and 5.6% respectively among all categories.

Of all the health care providers discussed in the news, just under one third (32.5%) were registered physicians, whereas the remaining two thirds (67.5%) concerned unregistered clinicians or health care providers, including: physiotherapists, medical assistants, nurses, homeopaths, community health care providers (CHCP), kabiraj (Ayurvedic practitioners), fakirs (faith healer), religious leaders, health administrators, and pharmacists.

The overall tone of the health-related news articles, as judged by our consensus task force, was that 44% of articles were 'positive' and 29.3% were 'negative' in nature. In particular, 41.4% of the published news had a more negative

slant and was perceived as having a high risk of negatively framing the existing health care services of the country. Generally, medical terminology was used correctly (65.4%) but incorrect medical terminology was used in 11.5% of the cases (table1).

Table 1 Content analysis of news articles published in the top three national daily newspapers (N=461)

Variable	Category	n (%)
Name of the newspapers	The Daily Star	75 (16.3)
	The Bangladesh Pratidin	96 (20.8)
	The Prothom Alo	290 (62.9)
News category	Health budget related	8 (1.7)
	Bioethics related	26 (5.6)
	Successful treatment related	27 (5.9)
	New technology introduction	30 (6.5)
	Corruption	34 (7.4)
	Human resource related	40 (8.7)
	Health infrastructure related	52 (11.3)
	Treatment negligence related	59 (12.8)
	Health service delivery system	95 (20.6)
	Other	90 (19.5)
Type of health provider in news	Community health care provider	1 (0.2)
	Sub-Assistant Community Medical Officer	4 (0.9)
	Homeopath	4 (0.9)
	Nurse	16 (3.5)
	Allied health professional like physiotherapist	77 (16.7)
	Medical Doctor	150 (32.5)
	Other	209 (45.3)
Motive of news	Health tourism	11 (2.4)
	Awareness creation	13 (2.8)
	Personal benefit	42 (9.1)
	Neutral	56 (12.1)
	Negative	135 (29.3)
	Positive	203 (44.0)
	Other	1 (0.2)
News quality	Flawless	208 (45.1)
	Error	230 (49.9)
	Other	23 (5.0)
Malpractice related news	Yes	125 (27.1)
	No	336 (72.9)
Use of Medical Terminology	Incorrect use of medical terminology	53 (11.5)
	Correct use of medical terminology	302 (65.5)
	Other	106 (23.0)
Effect on society regarding existing health services of the country	Positive effect	214 (46.4)
	Negative effect	191 (41.4)
	No effect	34 (7.4)
	Other	22 (4.8)

More than a quarter (27.1%) of all published news articles related to malpractice or treatment errors (Table 2). We cross-tabulated news related to treatment errors reported from registered and un-registered clinicians, which revealed that the majority (87%) of news reports about treatment errors referred to care offered by unregistered clinicians. This was about seven times more frequent than reports of treatment errors committed by registered physicians (p value < 0.001; (Table 2).

Table 2 Distribution of news article based on type of health providers and malpractice

News related to treatment error	Medical Doctor, n (%)	Unregistered health care provider, n (%)	P
Yes	19 (13.01)	127 (86.98)	<.001
No	87 (56.49)	67 (43.51)	
Others	44 (27.33)	117 (72.67)	

P-value estimated by chi-square test.

The quality of reporting varied widely. Overall, less than half of the medical news stories were rated as appropriate (45.1%) by the consensus task force, while a larger proportion was considered to reflect questionable scientific understanding of the issues involved (49.9 %). For about two-thirds of the health care providers (62.4%) the prefix ‘doctor’ (Dr.) was misused in the news articles when referring to unregistered or unqualified health providers such as kabiraj, quacks, medical assistants and medicine sellers. Moreover, this prefix was also used when referring to registered physiotherapists, which, according to the state regulatory body, the Bangladesh Medical and Dental Council (BMDC), is inappropriate.

3.2. Survey among Health Reporters

The 23 health journalists who completed the survey reported for printed, electronic and online media. Journalists’ ages ranged from 21 to 39 years, and the majority was male (Table 3). Responses showed that most journalists (78.3%) came from printed media, only 13.0% from online media, and 8.7% from electronic media, as shown in Table 3. The majority (69.6%) worked in metropolitan areas, followed by 26.1% in the suburbs, and only 4.3% in rural areas. Mean (\pm standard deviation) duration of experience regarding reporting across the group was 2.91 ± 1.83 years (Table 3). Nearly all respondents (91.3%) were regular reporters, while only 2 respondents (8.7%) were senior journalists, holding positions such as news editor or editor. The majority (60.9%) of the respondents had a basic university degree in arts and humanities, while 26.1% had graduated in journalism/mass communication, and only 13.0% in science-related subjects. Most respondents (65%) had no previous training in health journalism, while 21.7% had training in health journalism for more than six months. The majority (73.9%) of media houses did not offer any specific training in health journalism for staff or *apprentices*. In contrast, the vast majority of participants (82.6%) expected to receive training on health journalism, particularly on medical terminology and health service delivery system.

Health journalists faced several challenges in their work, with 82.6% of the respondents reporting to face problems often or very often. By far, the most frequently problem reported (in 60.9%) was difficulties with the understanding of medical terminology, which corresponds roughly with the 73.9% of the respondents reporting to having poor or only fair understanding of medical terminology. Just over half (52.2%) of the health-journalists sought the help from other journalists, in some cases journalists without a health focus, or used the internet to understand medical terminology to overcome problems with medical terminology. In general, over two thirds (69.6%) of the journalists used their colleagues or patients as the main source of news information, and a similar proportion (65.2%) agreed that information doesn’t have to come directly from hospital authorities or from physicians (table 3).

Despite the problems faced by many respondents, about one-fifth (21.7%) of the respondents believed that health journalism was a good career choice. However, an equal number of the journalists surveyed found themselves in their position due to the demands of editors, rather than by choice. More than one third (39.1%) of the journalists felt that the main strength of medical journalism in Bangladesh is the easy to access to information, and about one third (30.4%) believed that health journalism has a higher level of social acceptance compared to other areas of journalism.

Table 3 Health journalists' characteristics and experiences (N=23)

Variable	Category	Value
Age in years, minimum – maximum		21 - 39
Experience in years, mean±SD		2.91±1.83
Gender	Male	18 (78.3)
Type of Media	Print Media	18 (78.3)
	Online Media	3 (13.0)
	Electronic Media	2 (8.7)
Working Area	Metropolitan area	16 (69.6)
	Suburbs	6 (26.1)
	Rural area	1 (4.3)
Current position	Reporter	21 (91.3)
	Senior journalist	2 (8.7)
Educational background	Basic university degree arts / humanities	14 (60.9)
	Journalism /mass communication subjects	6 (26.1)
	Science related subjects	3 (13.0)
Previous training on health journalism	Not trained	18 (78.3)
	Trained > 6 months	5 (21.7)
Training in health journalism provided by media house	No	17 (73.9)
	Yes	6 (26.1)
Understanding of medical terminology	Poor	10 (43.5)
	Fair	7 (30.4)
	Good	4 (17.4)
	Excellent	2 (8.7)
	Not oriented	0 (0.0)
Problems faced	Very frequently	11 (47.8)
	Often	8 (34.8)
	Invariably	3 (13.0)
	Less frequently	1 (4.3)
	Never	0 (0.0)
Type of Problem Faced	Medical terminology	14 (60.9)
	Fake information	4 (17.4)
	Limited access to information	3 (13.0)
	Less cooperation	2 (8.7)
	Harassment	0 (0.0)
	Illegal offer	0 0.0)
Opportunities in health journalism	Promising field of career	5 (21.7)

	Challenging field	5 (21.7)
	Editor's choice	5 (21.7)
	Financial benefit	3 (13.0)
	Scope of health tourism	2 (8.7)
	Easy filed of journalism	2 (8.7)
	Scope of contribution in health service	1 (4.3)
Main strength of medical journalism in Bangladesh	Easy access to information	9 (39.1)
	High social acceptance	7 (30.4)
	Health Reporters Forum	4 (17.4)
	Major media has health beat	3 (13.0)
Opinion regarding health tourism	Not Involved	12 (52.2)
	Involved	11 (47.8)
Help seeking to understand medical terminology	Journalists colleagues	6 (26.1)
	Google search/website	6 (26.1)
	Others	4 (17.4)
	Medical experts	3 (13.0)
	Unregistered clinicians or health providers	3 (13.0)
	Other health professionals	1 (4.3)
Main source of news information	From colleagues/friends/relatives	8 (34.8)
	From patients/patient's relatives	8 (34.8)
	Visiting the site of news facts	5 (21.7)
	From service provider Institution	2 (8.7)
	Others	0 (0.0)
Importance of taking information directly from hospital authorities or physicians	Not mandatory	15 (65.2)
	Mandatory	8 (34.8)
Do you expect training on health journalism particularly on medical terminology and health service delivery system	Agreed	19 (82.6)
	Not agreed	4 (17.4)

Values are n (%), unless noted otherwise.

Approximately, three quarters of the respondents (73.9%) reported that they did not have adequate knowledge regarding the ethics of health journalism (Table 4). More than ninety percent (95.7%) did not have adequate knowledge of medical ethics, and a further 91.3% did not understand state laws in relation to health services. Only 13.0% felt that they had an adequate understanding of health services' infrastructure or about existing manpower levels in the health services in Bangladesh. About one third (34.8%) reported adequate knowledge about health budgets in Bangladesh, while, fewer than ten percent (8.7%) of respondents had knowledge or awareness of health service policy, health administration, health service delivery systems and salary and remuneration structures for health personnel in the country. Self-reported knowledge regarding the health system of Bangladesh, particularly in the fields of medical ethics, journalism ethics, existing laws related to health, service delivery policies and systems, budget, infrastructure, existing manpower and salaries did not differ significantly between journalists of different educational backgrounds or status of previous training. Interestingly, self-reported knowledge about health administration among graduates in journalism or sciences was less frequently adequate than that of graduates from other subjects ($p < 0.05$).

Table 4 Distribution of health journalists by their perceived knowledge regarding the health system of Bangladesh (N=23)

Knowledge about		Education			Training		
		Journalism and sciences n (%)	Others n (%)	P	Trained n (%)	Not trained n (%)	P
Medical Ethics	Adequate	3	1	0.26	2	2	0.19
	Inadequate	6	13		3	16	
Health Journalism Ethics	Adequate	2	1	0.54	1	2	0.54
	Inadequate	7	13		4	16	
State Laws related to Health Services	Adequate	0	1	0.61	0	1	0.78
	Inadequate	9	13		5	17	
Health Service Infrastructure	Adequate	2	5	0.66	2	5	0.62
	Inadequate	7	9		3	13	
Health Budget	Adequate	2	5	0.66	2	5	0.62
	Inadequate	7	9		3	13	
Health Services Policy of the Country	Adequate	2	0	0.14	0	2	0.61
	Inadequate	7	14		5	16	
Health Administration	Adequate	0	6	0.03	1	5	0.61
	Inadequate	9	8		4	13	
Existing Manpower	Adequate	3	3	0.64	0	6	0.27
	Inadequate	6	11		5	12	
Health Service Delivery system	Adequate	2	0	0.14	0	2	0.61
	Inadequate	7	14		5	16	
Salary and Remuneration in health services	Adequate	4	6	0.64	4	6	0.13
	Inadequate	5	8		1	12	

P-value estimated by chi-square test.

4. Discussion

Health journalism is an important means for the public to access information about various aspects of health, new treatments, and developments in health services and in the health system. It can influence public sentiments and attitudes towards healthcare providers, the health system, increase health literacy and even influence health behaviors. In a population with low health literacy such as in Bangladesh [30,31], access to reliable and understandable health information is crucial. The current pilot study suggests that Bangladeshi journalists regularly publish health news, particularly regarding medical breakthroughs and treatment errors, but often without sufficient expertise in the area or without citing expert opinions. Frequently, reports of treatment errors were based solely on the opinions of patients or unqualified health providers. This misrepresentation of medical interventions can have negative repercussions for physicians, health services as well as hospitals and decrease overall public confidence in health services generally.

Overall, the quality of health reports in the three selected Bangladesh newspapers appeared to be low compared to those reported in developed, Western countries. However, studies from these countries have also shown that there is much room for improvement [13,32]. For instance, in the UK a content analysis was done of eight national newspapers, comparing health topic coverage of popular and quality papers between 1981 and 1990. The most commonly reported health subject categories were: diseases, preventive medicine (including diet and exercise) and the National Health

Service. Although some informative, balanced and useful articles about health were found, the study also showed clear differences between quality and popular press coverage of health topics. Quality papers provided more scientific information making more use of authoritative journals and reports than popular papers. Popular press focused rather on individual case histories and quoting lay viewpoints and the reporting style of popular press articles was in general more sensationalized and less objective [33]. This while especially the readership of popular press is concentrated in lower socio-economic groups, who are likely to already have lower health literacy. Similarly, a more recent study in Australia showed that, although the quality tended to somewhat improve over time, the overall quality of medical reporting in the general media between 2004 and 2008 remained poor, with broadsheet newspapers and online news receiving average satisfactory scores of only 58% and 48%, respectively [4].

One important possible determinant of the rather low quality of the health reports in Bangladesh newspapers may be the sources of information used by health journalists. For instance, medical journalists in the UK routinely make use of full research articles published in high quality medical journals to obtain information for their newspaper articles [2,34,35]. Also, the journalists relied greatly on experts to check information. In contrast, the health journalists in the current study relied mostly on colleagues, friends, or relatives patients and their relatives as the main sources of news information.

In the current study, health news reports often confounded the nature of medical or health ‘experts’, by reporting the opinions and views of unqualified health providers alongside, or in preference to, qualified health professionals. For example, the prefix ‘Doctor (Dr.)’ was often misused when referring to unregistered or unqualified health providers such as kabiraj, quacks, medical assistants and medicine sellers. Moreover, this prefix was also used when referring to registered physiotherapists, which, according to the state regulatory body, the Bangladesh Medical and Dental Council (BMDC), is inappropriate. This situation also may threaten the trust between the health profession and the media, potentially endangering a vital medium for the transmission of health information to the public.

The demographic characteristics of the participating journalists in our survey were broadly similar to those of studies undertaken in other developing countries including Ghana and Iran [26,36]. In those studies, the age of the participants also ranged between 20–40 years, somewhat younger than the age range of 30-50 years found in various European studies. More than 3 out every 4 journalists in our study were male (78.3%). In Bangladesh, the proportion of men in the news outnumbered women by a ratio of 5:1, thus our sample of health journalists is representative of the gender gap in the profession in general [37]. For health journalism, this is a potential concern since a significant amount of health reporting relates to women and children’s health issues, and, it can be argued that raising the level of health awareness and health literacy in women through the media is an important means of influencing the health behaviors of a nation.

Even though our sample of health journalists’ educational background and working environments differed from those in Iran [26], they shared the same three key barriers in their work, which were: a lack of understanding of medical terminology, lack of time to verify the information received, and limited access to reliable sources of health information and obtaining insufficient qualified expert opinions. Furthermore, they expressed problems in finding suitable experts willing to assist them and to explain scientific terminology in local languages. This is also comparable to the findings of Keshvari et al. (2018) [26], reflecting a wider issue for the field globally.

The majority (60.9%) of the health journalists in our sample had basic university degree in arts/humanities, but 60% had no academic degree nor higher training in journalism, mass communication or the health sciences, which, together with a lack of understanding medical terminology, how to interpret clinical research studies, and details of health service delivery, represented a significant barrier to quality health reporting. More than three quarters of our sample had never received training in writing medical news, which is comparable with the findings of a previous study of health journalism from Europe [27]. Moreover, similarly to the findings in the study by Keshvari et al. [26], and Appiah et al. [36], most of the respondents in our sample lacked sufficient knowledge regarding medical ethics, health related laws, health infrastructure, health budgets and health administration, service delivery system, and state health policy. In many countries, training in health journalism does not exist [26, 27,38], as is the case in Bangladesh. Adequate specialist education is critical for the field to achieve a level of credibility and realistically take on the role of being a trustworthy source of health news for the population.

With the rapid advances in the field of medicine and health, accurate news reporting has never been more important. Furthermore, with the recent proliferation of ‘fake news’ and the rapid spread of false medical claims, the health of the population is being compromised, particularly in areas where literacy, and health literacy in particular, is low. The recent global outbreak of measles, related to misperceptions of the use of vaccines, is an example of the dangerous

effects of fake news [39]. Journalists with an educational background in sciences or medicine are more able to quickly appraise scientific outputs related to health and medicine and accurately report the findings in a manner suitable to a lay readership.

The literature suggests that another important obstacle to improving the informative value of medical reporting lies in the attitudes of editors [40]. Many respondents in our study would welcome training in critical appraisal for themselves, as well as for their editors. Unfortunately, respondents indicated that editors would be unlikely to prioritize such training for them. The same results were found in several studies [40,41]. The most optimistic finding of this study was that there is a great interest among young journalists to improve both the scientific and ethical quality of health journalism, an attitude which is reflected in the literature [42,43]. While the authors feel that basic training courses on medical and health journalism should be provided, these interventions ought to be tailored to address the barriers and opportunities seen in Bangladesh. For quality reporting to be achieved, health journalists must have the required knowledge regarding health topics, as well as the necessary skills regarding research approaches, including the scientific method, different study designs, and various methods of statistical analysis of data.

The current study had some limitations. The sample size of the health journalists in our survey was small, and we included a limited number of newspapers in our evaluation. Furthermore, the focus of our enquiry was very general and encompassed all aspects of health and medical reporting. In the near future we aim to investigate the reporting of specific areas of emerging health concerns, such as the growing impact and prevalence of non-communicative diseases in a low-income country such as Bangladesh. Including other types of media besides newspapers will also be important.

Our study also has some strengths. This study is the first to explore health journalism in Bangladesh and one of the few performed in a developing country. The three most important daily newspapers were included during a period of 5 months. The multi-method design, combining both content analysis of actual news reports and experiences of health journalists' themselves, provided a heterogenous perspective and allowed triangulation of findings. We were able to include journalists from a wide range of media, experience and levels of education. Moreover, these journalists worked in different parts of the country with different cultural, economic, political and healthcare circumstances, thus providing a country-wide snapshot of certain practices in the field.

5. Conclusion

This pilot study will be an eye opener about shortage of knowledge among journalists in this developing country. Patients' and their families are often unaware of misinformation for example regarding malpractice as described by journalists with little knowledge about health and medicine. The findings of this pilot study suggest that the quality of health news reporting in Bangladesh leaves much room for improvement. Specific training on medical terminology, health care systems and ethics for those journalists working in the field of health journalism could improve this important field of journalism and help journalists contribute to the overall health literacy of the nation.

Compliance with ethical standards

Acknowledgments

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Disclosure of conflict of interest

The authors declare that there are no conflicts of interest.

Data Availability Statement

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Abbreviations

IRB: institutional review committee
BSMMU: Bangabandhu Sheikh Mujib Medical University
PIB: Press institute of Bangladesh
CHCP: community health care providers

BMDC: Bangladesh Medical and Dental Council.

Authors' Contributions

MRK performed the initial analysis and drafted the initial version of the manuscript. FH, SY, TM ABS, KMH, SARS, MTI, AKMS, SS, SSI, and IL made substantial contributions to the conception and design of the work or data collection. PMtK and JJR contributed to the interpretation of the data and made substantial revisions to the manuscript. All authors read and approved the final manuscript.

References

- [1] Brownson RC, Eyler AA, Harris JK, Moore JB, Tabak RG. Getting the word out: New approaches for disseminating public health science. *Journal of Public Health Management and Practice*. 2018; 24(2): 102–11.
- [2] Entwistle V. Reporting research in medical journals and newspapers. *BMJ*. 1995; 310(6984): 920.
- [3] Phillips DP, Kanter EJ, Bednarczyk B, Tastad PL. Importance of the Lay Press in the Transmission of Medical Knowledge to the Scientific Community. *The New England Journal of Medicine*. 1991; 325(16): 1180–3.
- [4] Wilson A, Bonevski B, Jones A, Henry D. Media Reporting of Health Interventions: Signs of Improvement, but Major Problems Persist. *PLoS One*. 2009; 4(3): e4831.
- [5] Hughes R. Patient safety and quality: An evidence-based handbook for nurses. Rockville, MD: Agency for Healthcare Research and Quality (US). 2008.
- [6] Van Slooten E, Friedman DB, Tanner A. Are We Getting the Health Information We Need from the Mass Media? An Assessment of Consumers' Perceptions of Health and Medical News. *Journal of Consumer Health on the Internet*. 2013; 17(1): 35–53.
- [7] El-Jardali F, Bou Karroum L, Bawab L, Kdouh O, El-Sayed F, Rachidi H, et al. Health Reporting in Print Media in Lebanon: Evidence, Quality and Role in Informing Policymaking. *PLoS One*. 2015; 10(8): e0136435.
- [8] Saunders BJ, Goddard C. The role of mass media in facilitating community education and child abuse prevention strategies. Melbourne: Australian Institute of Family Studies. 1996.
- [9] Frost K, Frank E, Maibach E. Relative risk in the news media: A quantification of misrepresentation. *American Journal of Public Health*. 1997; 87(5): 842–5.
- [10] McCombs ME, Shaw DL. The agenda-setting function of mass media. *Public Opinion Quarterly*. 1972; 36(2): 176–87.
- [11] Leask J, Hooker C, King C. Media coverage of health issues and how to work more effectively with journalists: a qualitative study. *BMC Public Health*. 2010; 10(1): 535.
- [12] Kone D, Mullet E. Societal Risk Perception and Media Coverage. *Risk Analysis*. 1994; 14(1): 21–4.
- [13] Schwitzer G. The future of health journalism. *Public Heal Forum*. 2010; 18(3): 19.e1-19.e3.
- [14] Truitt AR, Nguyen MHV. Printing Unrealistic Expectations: A Closer Look at Newspaper Representations of Noninvasive Prenatal Testing. *AJOB Empirical Bioethics*. 2015; 6(1): 68–80.
- [15] Krishnatray P, Gadekar R. Construction of death in H1N1 news in The Times of India. *Journalism*. 2014; 15(6): 731–53.
- [16] Van Der Wardt EM, Taal E, Rasker JJ. The general public's knowledge and perceptions about rheumatic diseases. *Annals of the Rheumatic Diseases*. 2000; 59(1): 32–8.
- [17] Van der Wardt EM, Taal E, Rasker JJ, Wiegman O. Media coverage of chronic diseases in the Netherlands. *Seminars in Arthritis Rheumatism*. 1999; 28(5): 333–41.
- [18] Bubela TM, Caulfield TA. Do the print media “hype” genetic research? A comparison of newspaper stories and peer-reviewed research papers. *CMAJ*. 2004; 170(9): 1399–407.
- [19] Cassels A, Lexchin J. How well do Canadian media outlets convey medical treatment information?: Initial findings from a year and a half of media monitoring by Media Doctor Canada. *Open Medicine*. 2008; 2(2): e45-8.
- [20] Schwitzer G. How Do US Journalists Cover Treatments, Tests, Products, and Procedures? An Evaluation of 500 Stories. *PLoS Medicine*. 2008; 5(5): e95.

- [21] Smith DE, Wilson AJ, Henry DA. Monitoring the quality of medical news reporting: early experience with media doctor. *Medical Journal of Australia*. 2005; 183(4): 190–3.
- [22] Snow J. How the media are failing the health service. *BMJ*. 2008; 337: 23.
- [23] Swan N. Evidence-based journalism: A forlorn hope? *Medical Journal of Australia*. 2005; 183(4): 194–5.
- [24] Lăzăroiu G. Health reporting in the mainstream media. *American Journal of Medical Research*. 2015; 2(2): 124–9.
- [25] Schwitzer G. The state of health journalism in the US. A Report to the Kaiser Family Foundation. Menlo Park: Kaiser Family Foundation. 2009.
- [26] Keshvari M, Yamani N, Adibi P, Shahnazi H. Health journalism: Health reporting status and challenges. *Iran Journal of Nursing and Midwifery Research*. 2018; 23(1): 14–7.
- [27] Veloudaki A, Zota D, Karnaki P, Petralias A, Papasaranti ES, Spyridis I, et al. Reporting health in Europe: Situation and needs. *Journal of Communication in Healthcare*. 2014; 7(3): 158–70.
- [28] Voss M. Checking the Pulse: Midwestern Reporters' Opinions on Their Ability to Report Health Care News. *American Journal of Public Health*. 2002; 92(7): 1158–60.
- [29] Bdnews24.com. Bangladesh Health Reporters' Forum forms new committee [Internet]. © 2017 [cited 19 February 2017].
- [30] Das S, Mia MN, Hanifi SMA, Hoque S, Bhuiya A. Health literacy in a community with low levels of education: findings from Chakaria, a rural area of Bangladesh. *BMC Public Health*. 2017; 17(1): 1–10.
- [31] Jahan RA. Promoting health literacy: A case study in the prevention of diarrhoeal disease from Bangladesh. *Health Promotion International*. 2000; 15(4): 285–91.
- [32] Cassels AK. The media-medicine mix: quality concerns in medical reporting. *Open Medicine*. 2007; 1(1): e52-4.
- [33] Entwistle V, Hancock-Beaulieu M. Health and medical coverage in the UK national press. *Public Understanding of Science*. 1992; 1(4): 367–82.
- [34] van Trigt AM, de Jong-van den Berg LTW, Haaijer-Ruskamp FM, Willems J, Tromp TFJ. Journalists and their sources of ideas and information on medicines. *Social Science & Medicine*. 1994; 38(4): 637–43.
- [35] Van Trigt AM, Haaijer-Ruskamp FM, de Jong-Van Den Berg LTW. Reporting research in medical journals and newspapers. *BMJ*. 1995; 311(6996): 62.
- [36] Appiah B, Gastel B, Burdine JN, Russell LH. Science reporting in Accra, Ghana: Sources, barriers and motivational factors. *Public Understanding of Science*. 2015; 24(1): 23–37.
- [37] Byerly CM. Global report on the status of women in the news media. Washington, DC: International Women's Media Foundation. 2011.
- [38] Voss M. Why reporters and editors get health coverage wrong. *Nieman Reports*. 2003; 57(1): 46–8.
- [39] World Health Organization. Measles cases spike globally due to gaps in vaccination coverage [Internet]. © 2018 [cited 19 February 2021].
- [40] Larsson A, Oxman AD, Carling C, Herrin J. Medical messages in the media - barriers and solutions to improving medical journalism. *Health Expectations*. 2003; 6(4): 323–31.
- [41] Michel K, Frey C, Wyss K, Valach L. An exercise in improving suicide reporting in print media. *Crisis*. 2000; 21(2): 71–9.
- [42] Haines A, Silagy C. Evidence based practice in primary health care. 2nd ed. London: BMJ Books. 2001.
- [43] Oxman AD, Lewin S, Lavis JN, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP) 15: Engaging the public in evidence-informed policymaking. *Health Research Policy and Systems*. 2009; 7(Suppl 1): S15.