Coverage of Health News in the English-Language Newspapers of Pakistan: A Case Study of Dawn and The News

Muhammad Adnan | MA Journalism & Mass Communication, University of Peshawar, KP, Pakistan.

Amir Hamza Marwan | Lecturer, Department of Journalism & Mass Communication, University of Peshawar, KP, Pakistan. Email: hamzamarwan@uop.edu.pk (Corresponding Author)

Mussarat Anwar | Associate Professor, College of Home Economics, University of Peshawar, KP, Pakistan.

Abstract: This research study investigates health news coverage in the two mainstream English-language newspapers of Pakistan – Dawn and The News – to understand how they covered it. The researchers have focused on the frequency of published news stories, contributors of the news items; nature of coverage; contextualization and use of jargon in the published stories. The researchers applied the Quantitative Content Analysis to answer all the outstanding inquiries of this research project. Based on the data collected in February 2019, the researchers found that both the newspapers played down the health-related coverage in their pages – besides relying on the same contributors to report it. The findings revealed that The News needs to bring more diversity in its coverage of different issues related to health, while Dawn needs to work on the language – by avoiding jargon. The Gatekeeping Theory guides the findings.

Key Words: Health News, Media Coverage, Dawn, The News, Pakistan

Introduction
The importance of media in people's life has multiplied over time. The need for accurate, reliable, and objective information is much more felt today than before due to the challenges in peoples lives (Anwar et al., 2020). Mass Media is considered a medium of communication between the public and government as it almost reports on every aspect of their life, including civic, economic, political, cultural, and health. Thus, it has enabled the people to gain information related to these quarters of life and inform and educate themselves about it (Sharma and Gupta, 2017).

Scholars stress that health remains a significant aspect of peoples lives that have long-lasting impacts on their lives. The importance of health information during the time of pandemics and epidemics has multiplied over the time (Zhao et al., 2020), and thus scholars suggest that in developing countries like Pakistan, it is much needed that the mainstream newspapers update the readers about their health issues as now people have more access to the information – due to the availability of smartphones and cheaper internet services – compared to the early time when people were struggling to get themselves updated.

Despite the massive importance of accurate, impartial, and objective news coverage of health issues in print and electronic media, scholars suggest that mass media highlights more social, cultural, political, crime and sports stories in their news and views pages and bulletins than health-related issues (Gupta & Sinha, 2010). It is much needed that mass media outlets empower and guide people about
health issues so that they can make informed and sensible decisions in their lives.

This research study investigates health news coverage in the two mainstream English-language newspapers of Pakistan – Dawn and The News – in February 2019. It would inform us about the broader approach of the selected newspapers towards the health issues – by ascertaining how much they emphasized these issues to their readers – besides reporting it professionally. The researchers have utilized the quantitative content analysis to answer the research questions of this study.

The main research question answered in this research study is:

**How did the Two Selected English-language Newspapers of Pakistan Cover the Health News?**

This primary research question has been supplemented with additional research questions – mentioned briefly in the methodology section of this research article. This research study aims to evaluate the content of the health stories published in the selected newspapers from multiple perspectives, including assessing the frequency and nature of coverage, identifying the attributions in the news stories, and examining the contextualization of stories and the language of the coverage. The data related to all these variables would help us understand the holistic picture of the coverage.

**Literature Review**

Health communication has remained the interest of many research scholars as they emphasized the need for authentic, impartial, and timely information to be shared with the people (Sharma and Gupta, 2017). They stress that such communication informs the readers and educates them to make better decisions for themselves. However, some scholars also criticize the media outlets for not giving due coverage to the health issues compared to their coverage of social, political, cultural, and criminal aspects of people’s life (Gupta & Sinha, 2010).

Many scholars suggest that the need for health reporting increases during a crisis as it has often been observed that it becomes the only available source for information (Zhao et al., 2020). Many researchers, including Voss (2002), claim newspaper plays a significant role in disseminating information to the people to shape their perception of the health issues, government policies, and health workers’ efforts to overcome the problem. However, scholars hold different opinions about the performance of media about it. Many criticize the role of media for promoting sensationalism – by giving excessive, unverified, misleading, and sensational coverage to the issues – as it threatens the public health at large; In contrast, others appreciate the role of media by bringing more awareness among the people (Movinian et al., 2000).

Briggs and Hallin (2016) also claim that mass media has played a vital role in health epidemics, including disseminating information to the people about the swine flu, avian flu, SARS, and Ebola, as they gave considerable coverage to the issue by sharing the latest news with the people – besides educating them about the causes and preventions. Other researchers claim that they can also influence people’s decisions by guiding them about the possible vaccination to stay safe (Ries, Rachul & Caulfield, 2011). Hilton and Hunt (2010), while investigating the swine flu coverage in the British newspapers, concluded that they rightly highlighted the issue to the people when it was needed.

Researchers highlighting the impact of media coverage on the readers emphasize that it significantly affects people’s approach to the different health problems. Yu et al. (2020) suggested that the media framing marijuana as a source of recreation – rather than a source of harm (or hazardous) to the body and society encouraged many Americans to use it. It resulted in the increasing use of marijuana, as one in every eight Americans use it. Scholars argue that news framing of health issues could be a turning point to convince people to change their attitudes and behaviour. Pierce, Lee, and Gilpin (1994) suggest that countries lagging in smoking cessation need to work on promoting the newsworthiness of smoking and health issues. Li et al. (2008) also confirm that the Australian media framing of iodized salt has an everlasting impact on the consumers' behaviour as it convinced many to start taking it.

Many researchers, including Dwivedi & Pandey (2013), on the other hand, claim that despite the vital role played by media in bringing awareness among the people or convincing them to change their
attitudes has been halted by many issues, including acceptance of a bribe by journalists covering health beat to publish and emphasize a planted story about fake health practices or cure. According to these researchers, it may include playing up the services of any pharmaceutical company, cosmetic company, and acupuncture, which in reality may be useless. Leask, Hooker & King (2010) also believe that health reporters have more sound and technical knowledge, access to appropriate sources, and the ability to ensure quality coverage on the news pages. Thus, one can assume that if health reporters are willing to stay away from such practices, they can provide better and quality coverage of issues in media outlets.

There are many other researchers, including Piotrow & Kincaid (1997), Wilson and Willis (2004), Dunwoody (1999), Barnhurst (2013), Lunau (2016), and Simon & Amanda (2006). They have explored the coverage of health issues in media from different angles and have contributed significant knowledge to the existing literature.

**Research Framework**

Researchers in this research study have selected the two leading English-language dailies of Pakistan – Dawn and The News (Naz, Marwan, and Anwar, 2022). These two are the most resourceful newspaper in Pakistan – having bureau offices and reporters/ correspondents in all the major cities of Pakistan. The selected newspapers have a higher readership among this country’s educated people and policymakers (ibid, 2022).

The researchers are looking at the coverage of health issues from the 1st of February 2019 to the 28th of February 2019. The reason for choosing the month of February is as it makes the start of the Spring, and one can feel the variations in the day and night temperature. The temperature variation also leads to different seasonal diseases. Furthermore, with the arrival of Spring, people in Pakistan are also hit by pollen allergy and dengue.

It is significant to mention that the researchers collected the hard copies of the Dawn newspaper, studied it, and analyzed the data. Similarly, data from The News was collected from its website: http://e.thenews.com.pk. Notably, the researchers looked at the coverage of health issues on all the newspaper pages – including news, views, magazine, or even special weekly pages. Thus, the researchers made no discrimination and selected, coded, and analyzed the relevant news stories, editorials, opinion pieces, and special weekly write-ups appearing on any newspaper page – but containing the word "Health."

**Research Methodology**

Research methodologies help researchers execute their research projects by collecting the data – directly responding to their research questions or hypothesis. Kerlinger (1986, p.10) views the research method as a systemic, controlled, empirical, and critical investigation of hypothetical propositions about the presumed relations among observed phenomenon. In this research study, the researchers look at the coverage of health news in the broadsheet English-language newspapers of Pakistan – Dawn and The News from the multiple perspectives, including assessing the frequency and nature of coverage, identifying the source and attributions in the news stories, and examining the language of the coverage.

The researchers selected the Quantitative Content Analysis as a method to collect the data to answer the research questions of this study. Riffe, Lacy, and Fico (1988) deliberate that content analysis is the best research method when precise research inquiries are posed by the researcher(s). The researchers in this study have finalized the research questions that are clearer and have no ambiguity, like counting the number of published stories, identifying the source and attributions in the text of a news story, and examining the jargon and their explanation in the coverage.

Researchers claim that it is essential to divide the communication content into several parts to apply the content analysis in a research method. One can then meticulously look at the desired part and count it or assess its quality (Wright, 1974). Hansen et al. (1998) also support the view and stress that measuring or counting the particular word, phrase, or perspective in a text is significant. Then it can be accumulated together to place a broader opinion on the holistic picture of the coverage. Indeed, content analysis helps us place an opinion on the coverage – supported by the statistics. Holsti (1969) also supports the identification of specified characteristics.
in a text – but he pleads that it needs to be done systematically and objectively.

Keeping in view the above discussion, the researchers in this research study also attempted to collect the data related to the questions systematically and objectively – by identifying the source of news stories; attribution in the intro and body of news stories; identification and counting of health experts in the text of a story; and identifying and seeing the explanation of scientific jargons. The researchers relied on the most valuable scientific tool for data collection – a coding sheet – to answer the questions of this research study (Krippendorf, 2004). The coding sheet containing the variables and values was finalized after the inter-coder reliability of 93% was achieved. Once the data was collected, it was entered into the SPSS, and relevant tables were produced.

Theoretical Framework

The findings of this research study are guided by the "Gatekeeping" Theory. Kurt Lewin, a German psychologist, first put forward the 'Gatekeeping' concept in 1943 to explain the filtration of information before it is disseminated, published, broadcasted, or shared on the internet on a large scale with the people. The theory was later explained by many researchers, including Shoemaker and Vos (2001). They define it as the process of segregating and producing a message – based on limited information – that reach people every day and play an essential role in their life. This process is significant as it not only informs us about the information selected but also determines the content and nature of the message (news).

Kurt Lewin identified that information in mass media passes from one gate to another, and then it gets published. It could be understood from the editor’s approval to the reporter to cover the event, collect information, and file a story. The news story then comes to the sub-editor for further editing and proofreading. The sub-editor then shares the news story with the page-in-charge for final decision and placement. In this cycle of covering events and publishing news stories, different gatekeepers are involved who make decisions. Indeed, reporters can’t publish all information related to the news story, so they are selective. There are various reasons for it, including space issues and different pressures on the reporters and other related staff – besides their likes and dislikes regarding that event. The researchers also want to assess how the health issues were covered in the selected newspapers to understand what was included or excluded in the coverage.

Findings and Discussion

The findings of this research article have been produced in the five sections. The first section deliberates on the strength of coverage given by the selected newspapers to the health issue; the second section informs the readers about the contributors of the news coverage; the third section reflects on the themes covered by the newspapers; the fourth section reveals that did the selected newspapers covered the health issue in Pakistani context; while the last section informs readers about the medical/scientific jargons used by the reporters or correspondents to report the issue.

Strength of Coverage in Dawn and the News

This section informs the readers about the total number of news stories published in Dawn and The News – compared to the overall news stories, opinion pieces, or other write-ups published by the selected newspapers. The findings would help us understand the importance given by the newspapers to health-related issues. The results are produced below in Table 1.

| Name of Newspaper | Total News Items Published | Strength of Health-related News |
|-------------------|----------------------------|---------------------------------|
| Dawn              | 3,192                      | 45                             |
|                   | 98.6 %                     | 1.40%                          |
| The News          | 3,976                      | 49                             |
|                   | 98.7 %                     | 1.23%                          |
The above findings demonstrate that the total number of news items, including opinion pieces, editorials, and other weekly write-ups, published in *Dawn* in February 2019 is 3,192. On the other hand, the same nature of news items published in *The News* is 3,976. Interestingly, in the mentioned period, the number of news items related to health published by *Dawn* is just 45, which makes up 1.40% of the overall coverage of *Dawn*. *The News*, on the other hand, published only 49 news items in the said period, making 1.23% of the overall newspaper coverage. If we accumulatively look at the data, it demonstrates that overall, both the selected newspapers published only 94 news items, making up 1.3% of the overall news items.

The above findings reflect that both *Dawn* and *The News* showed less importance to the health-related stories in their coverage, and thus they did not debate it much in the news and views pages.

Almost every newspaper has a reporter covering the health beat in nearly all the major cities of Pakistan, but still less highlighting the health issue to the people raises concern among the researchers that how Pakistani English-language newspapers inform and guide their readers about the issues – directly related to their well-being. It was expected that the selected newspapers should have highlighted the issue more as their readers are educated, but they did not.

### Contributors in the News Coverage of Health

This section informs the readers about the contributors of the news coverage in health in the selected newspapers. The findings would help us know whether their own reporters covered the stories or write-ups or borrowed them from other sources. The results are produced in table 2 below.

| *NPs* | Staffers of NP | Handouts | Bureau reports | Stories from Wires | *Experts opinion | Reader's letters | *Stories From NAT/INT Med Research |
|-------|----------------|----------|----------------|-------------------|------------------|-----------------|----------------------------------|
| *Dawn* | 33 | 73% | 0 | 6% | 2 | 10% | 4 | 7% | 3 | 4% | 2 | 1% |
| *The News* | 25 | 53% | 3 | 6% | 1 | 2% | 8 | 17% | 5 | 11% | 5 | 11% |

Here * terms refer to as:

NPs= Name of the newspapers. Expert opinion= News write-ups by health professionals, e.g. doctors, faculty members of the school of health science. Stories from NAT/INT Med Research= News items taken from national or international medical/health sciences journals.

The above findings demonstrate that most of the news stories related to health in the selected newspapers were covered by their own correspondents and reporters, followed by the news stories collected from the news agencies. News write-ups written by the health professional or faculty member of the School of Health Sciences stood third, while letters written by the readers to the editor stood fourth. If we compare the findings of the selected newspapers, it is evident that they almost relied on the same contributors to tell the story of health issues to the readers.

It is significant to mention here both the newspaper avoided extracting any news items from the health and medical sciences journal that would have guided the readers in a more updated and professional way by mentioning the latest development in the cure of diseases; most recent research on the prevalent diseases or even informing the readers about the potential pandemic or epidemic situation – but they showed less importance to it. Write-ups of health experts or academia in health sciences were also sidelined to share the story of health with the readers, and they relied on their readily available local sources to share updates and information with the readers.

### Themes Discussed in the Selected Health News Stories

This section informs the readers about the nature of new items published in the selected
newspapers about health. The data will help us understand what they emphasized in the coverage and what they less emphasized or even left out. It would indeed guide us about the focus of the newspapers while debating health. The findings can be seen in Table 3 below.

Table 3. Themes Discussed in the selected health News Stories

| Name of Newspaper | Allergies | Epideemics | Polio | *Media Awareness | Odd Med cases | *Tec adv. | Psychological issues | Draw Govt. attention |
|-------------------|-----------|------------|-------|------------------|--------------|----------|---------------------|---------------------|
| Dawn              | 1         | 6          | 11    | 1                | 1            | 1        | 2                   | 12                  |
|                   | 2%        | 13%        | 24%   | 24%              | 1%           | 2%       | 2%                  | 27%                 |
| The News          | 2         | 4          | 3     | 22               | 0            | 0        | 3                   | 3%                  |
|                   | 4%        | 8%         | 6%    | 45%              | 0%           | 0%       | 6%                  | 31%                 |

*Media Awareness = News stories aimed at public awareness about an epidemic or other health issues. 
*Tec adv. = Technical advancement in the medical field, e.g. medicines or surgery etc.

The above findings reveal that *Dawn* primarily focused on drawing the government's attention toward specific health problems as it made 27% of the overall coverage of the newspaper. The second dominant theme for the newspaper was bringing awareness among the people about specific health issues and problems, as it made up 24% of the overall coverage. Interestingly, news coverage related to polio also made almost a quarter (24%) of the overall coverage. The less emphasized issues for *Dawn* were sharing details about the epidemic, odd medical cases, technological advancements, and psychological problems as it accumulated 25% of the overall coverage.

The coverage of *The News* was drastically different than the *Dawn* as the most dominant theme in the coverage was bringing awareness among the people about specific health issues and problems as it made up 45%, almost half of the total coverage. The second dominant theme for *The News* was to draw the governments attention to specific health issues and problems, as it made up 31% of the overall coverage. The third dominant theme for *The News* was sharing the details about certain epidemics with their readers. The coverage of *The News* was 84% of the total coverage. The less emphasized themes in the coverage include sharing details about the epidemic, odd medical cases, technological advancements, and psychological issues. Interestingly, the newspaper did not share a single news story sharing details about the odd medical cases and technological advancements.

From the above findings, it is clear that the focus of coverage of *Dawn* was more diverse than *The News* – which got stuck to only a few selected themes. On the other hand, *Dawn* tried to keep a balance in the coverage by sharing details with the readers about all the possible lines related to health. It was earlier found that both *The News* and *Dawn* have tried to utilize the same sources to share the details about the different health issues – but here, it has been revealed that despite that similarity, they both explored the other lines to their readers.

From the above findings, we can conclude that *Dawn* has tried to inform and educate the readers more about the different issues related to health – despite publishing a smaller number of stories than *The News*. It is also much needed that *The News* newspaper brings diversity in its coverage by debating more lines related to health as it would help the readers have an informed opinion about the different issues.

**Coverage of Health Issues in the Context of Pakistan**

This section aims to inform the readers about the slant of the coverage of the selected newspapers in the context of Pakistan. It means that now we know the focus or nature of the coverage of these two newspapers – *Dawn* and *The News* – but now it is essential to understand whether they discussed those themes in the context of Pakistan or not. It would further specify the coverage of the selected newspapers. The findings can be seen in Table 4 below.
The above findings reveal that both the selected newspapers – *Dawn* and *The News* – have tried to address health issues to their readers in the Pakistani context. From the data, it is evident that almost two-thirds of the overall coverage of both the newspapers revolved around Pakistan – while one-third addressed it in the rest of the world's context. It demonstrates the strengths of the Pakistani newspapers coverage as they looked at the issues from the Pakistani prism. *Dawn* and *The News* – both are the mainstream English-language newspapers of Pakistan and highly popular among the educated readers here, so they would have expected to look at the issues from the local context until and unless it was necessary to touch the rest of the world's perspective.

### News Stories Containing Medical/scientific Jargon

This section informs the readers about the medical jargon or terminologies used by the reporters/correspondents in the news stories. It is significant to mention that such vocabularies are used by professionals related to the field, and they are only able to understand it. The best example of medical jargon is "Angina Pectoris," which in layman's language means "heart attack."

Indeed, most ordinary men won't be able to understand the language of jargon as it's beyond their understanding – but their field people will be able to understand it. Here, it becomes highly significant to mention that the newspapers aim to serve the whole society; they are not in the market to help only a particular segment. Therefore, it becomes essential that the reporters tell the readers about the health issues and problems in the laypeople's common language so that everyone can understand it. Otherwise, it will become a futile exercise of informing people.

The researchers have produced two tables below. Table 5 portrays the data about the total number of stories published and the stories containing the medical jargon. In contrast, Table 6 presents the data about the total number of stories in the coverage that have medical jargon. It also informs the readers about the number of stories in which the jargon is explained or not explained. Thus, it would give us a holistic picture of the coverage. The findings can be seen in Tables 5 and 6 below.

| Name of Newspaper | Contextualized in Pakistani Context | Not contextualized in the Pakistani Context |
|-------------------|-------------------------------------|--------------------------------------------|
| *Dawn*            | 31                                  | 14                                         |
|                   | 69%                                 | 31%                                        |
| *The News*        | 31                                  | 18                                         |
|                   | 63%                                 | 37%                                        |

The above findings demonstrate that *The News* relied more on medical/scientific jargon to inform the readers about the health-related issues than the *Dawn*. The above results indicate that 61% of the overall coverage of *The News* carried the medical jargon, while almost half (49%) of *Dawn*s coverage had a jargon. It reveals that both the selected newspapers relied on medical/scientific...
terminologies to share the information with the people. Now it is vital to go a bit deeper into the findings to see whether these medical/ scientific jargons have been explained to the people or not. The results reflecting this can be seen in Table 6 below.

**Table 6. Medical/ Scientific Jargons Explain or not**

| Name of the Newspaper | Strength of Explained Stories having Jargons | Strength of Unexplained Stories having Jargons | Total No. of Stories with Scientific Jargons |
|-----------------------|---------------------------------------------|-----------------------------------------------|---------------------------------------------|
| Dawn                  | 13                                          | 9                                             | 22                                          |
|                       | 59%                                         | 41%                                           | 100%                                        |
| The News              | 26                                          | 4                                             | 30                                          |
| News                  | 87%                                         | 13%                                           | 100%                                        |

Earlier in Table 5, the findings revealed that The News utilized more medical/ scientific jargon to share the health-related stories – but the results in Table 6 above also demonstrate that The News explained these jargons or professional terminologies in 87% of their news stories – compared to Dawn’s 59%. In this case, we can confidently share that The News performed better than Dawn by explaining the medical terminologies to the readers in everyday language. It is much needed that Dawn should revisit their policy and should train its reporters to explain the medical/ scientific terminologies in the news stories if they are utilizing it.

**Conclusion**

This research study investigated the coverage of health-related news in Dawn and The News. The findings revealed that the selected newspapers did not give due coverage to the health-related news in their news, views, magazine, and weekly pages – compared to the overall coverage of newspapers. The findings also demonstrated that the selected newspaper almost relied on similar sources to report the health news to their readers – but they emphasized different lines in health. The data manifested that Dawn’s coverage was more diverse than The News. The findings also confirmed that both the newspapers covered the health news – in the context of Pakistan – and informed readers in the local context. The data relating to the coverage language evinced that The News relied more on medical/ scientific jargon than Dawn – but interestingly, they also explained the terminologies more to their readers than Dawn.

These findings, demonstrated by this research study, are significant as it shows the pattern of health reporting in Pakistan in the mainstream English-language newspapers of Pakistan. The data reveals the strengths and weaknesses in the coverage and provides room for improvement. It is depressing that the newspapers have played down the health beat, and very little coverage is given to it. It is much needed in a developing country like Pakistan that mass media should inform and educate the people about health issues more frequently and intelligently to empower them to make a valid about their well-being and society in general. In Pakistan, people don’t often read books – but many readers share a single newspaper, and therefore the role of media also multiplies. Consequently, they need to start publishing frequent stories about health and consider it an essential part of people’s lives.

It is also much needed that the newspapers bring diversity in their coverage and publish the different news stories related to the various health themes on other pages. It would again help the readers to update themselves about the different events and issues related to health, and then we can rightly claim that they are performing their role much better. Other research studies have emphasized the importance of language – while reporting the events to the readers. The researchers recommend that the newspapers revisit their language while covering health news and try to inform their readers in simple and clear language – without replying with complicated or ambiguous language.
References

Anwar, A., Malik, M., Raees, V., & Anwar, A. (2020). Role of Mass Media and Public Health Communications in the COVID-19 Pandemic. Cureus. https://doi.org/10.7759/cureus.10453

Barnhurst, K. G. (2013). Trust me, I'm an innovative journalist, and other fictions. In Rethinking journalism: Trust and participation in a transformed news landscape, (210–220). London: Routledge.

Briggs, C. L., & Hallin, D. C. (2016). Making Health Public: How News Coverage Is Remaking Media, Medicine, and Contemporary Life, Routledge, 1st Edn, London, UK.

Dwivedi, P. K., & Pandey, I. (2013). Role of media in social awareness, International Journal of Humanities & Social Sciences, 401, 67-70.

Gupta, A., & Sinha, A. (2010). Health Coverage in Mass Media: A Content Analysis. Journal of Communication, 4(1), 19–25. https://doi.org/10.1080/0976691X.2010.11884766

Hansen, A., Cottle, S., Negrine, R. and Newbold, C. (1998) Mass Communication Research Methods. 1st edn. Basingstoke: Palgrave Macmillan.

Hilton, S., Petticrew, M., & Hunt, K. (2007). Parents champions vs. vested interests: Who do parents believe about MMR? A qualitative study. BMC Public Health, 7(1). https://doi.org/10.1186/1471-2458-7-42

Holsti, O. R. (1969) Content Analysis for the Social Sciences and Humanities. Reading, Mass: Addison-Wesley Pub. Co.

Kerlinger, F. N. (1966) Foundations of Behavioral Research. 3rd Edition, Holt, Rinehart and Winston, New York.

Krippendorff, K. (2004). Content Analysis: An Introduction to Its Methodology (2nd ed.). Thousand Oaks, CA: Sage.

Leask, J., Hooker, C., & King, C. (2010). Media coverage of health issues and how to work more effectively with journalists: a qualitative study. BMC Public Health, 10(1). https://doi.org/10.1186/1471-2458-10-535

Lewin, K. (1943). Defining the field at a given time. Psychological Review, 50(3), 292–310. https://doi.org/10.1037/h0062738

Li, M., Chapman, S., Agho, K., & Eastman, C. J. (2008). Can even minimal news coverage influence consumer health-related behaviour? A case study of iodized salt sales, Australia. Health Education Research, 23(3), 543–548. https://doi.org/10.1093/her/cyn028

Lunau, K. (2016). Science journalism’s identity crisis. http://motherboard.vice.com/read/science-journalisms-identity-crisis-CSWA-NASW

Moynihan, R., Bero, L., Ross-Degnan, D., Henry, D., Lee, K., Watkins, J., Mah, C., & Soumerai, S. B. (2000). Coverage by the News Media of the Benefits and Risks of Medications. New England Journal of Medicine, 342(22), 1645–1650. https://doi.org/10.1056/nejm200006013422206

Naz, M., Marwan, A. H., & Ayesha, A. (2022). Elite Official Sources and the Coverage of the First Wave of COVID-19 Pandemic: A Case Study of Dawn and the News. Global Sociological Review, VII(I), 72-81.

Pierce, J. P. (1994). Smoking initiation by adolescent girls, 1944 through 1988. An association with targeted advertising. JAMA: The Journal of the American Medical Association, 271(8), 608–611. https://doi.org/10.1001/jama.271.8.608

Piotrow, P.T. & Kincaid, D.L. (1997). Health Communication Lessons from Family planning and Reproductive Health. London, UK: Praeger

Ries, N. M., Rachul, C., & Caulfield, T. (2010). Newspaper reporting on legislative and policy interventions to address obesity: United States, Canada, and the United Kingdom. a(1), 73–90. https://doi.org/10.1057/jphp.2010.39

Riffe, D., Lacy, S. and Fico, F. (1998) Analyzing Media Messages: using quantitative content analysis in research. 1st edn. London: Erlbaum.

Sharma, S.K. & Gupta, Y.K. (2017). Mass Media for Health Education, Global Research Academy, 1(1), 26–39.

Shoemaker, P. J., & Vos, T. P. (2009). Gatekeeping theory. New York: Routledge.

Simon, C., & Amanda, D. (2006). A strategy for increasing news media coverage of tobacco and health in Australia. Oxford University Press, 16(2), 45-67.
Voss, M. (2002). Checking the Pulse: Midwestern Reporters Opinions on Their Ability to Report Health Care News. *American Journal of Public Health*, 92(7), 1158–1160. [https://doi.org/10.2105/ajph.92.7.1158](https://doi.org/10.2105/ajph.92.7.1158)

Wilsdon, J. & Willis, R. (2004) See Through Science: Why Public Engagement Needs to Move Upstream. London, UK: Demos.

Wright, C. R. (1974). Functional analysis and mass communication revisited. In J. G. Blumler & E. Katz (Eds.), *The uses of mass communications*, Beverly Hills: SAGE Publications, Inc. 197-212.

Yu, B., Chen, X., Chen, X., & Yan, H. (2020). Marijuana legalization and historical trends in marijuana use among US residents aged 12–25: results from the 1979–2016 National Survey on drug use and health. *BMC Public Health*, 20(1). [https://doi.org/10.1186/s12889-020-8253-4](https://doi.org/10.1186/s12889-020-8253-4)

Zhao, X., Fan, J., Basnyat, I., & Hu, B. (2020). Online Health Information Seeking Using #COVID-19 Patient Seeking Help on Weibo in Wuhan, China: Descriptive Study. *Journal of Medical Internet Research*, 22(10), e22910. [https://doi.org/10.2196/22910](https://doi.org/10.2196/22910)