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Abstract
Introduction: The way in which information in news are curated or framed have a significant impact on how information is being processed by public or defined in a specific perspective. This study aims to content analyze the trends of online mainstream news coverage on cancer before the novel coronavirus 2019 (COVID-19) and secondly, to determine the framing approach of news coverage on cancer before COVID-19. **Materials and Methods:** Quantitative framing analysis on two Malaysian mainstream online newspapers were done and the analysis were employed to focus on how the content was framed, noting the catch phrases, keywords, examples, source listings, metaphors, images, and photos for the duration of six months from 1st June 2019 until 31st December 2019. A total of 836 news coverage on cancer before the spread of COVID-19 within the said duration were analysed. **Results**: Finding shows that The Star covers more news on cancer at 86.12%, compared to the New Straits Times at 13.88% at the end of the six months of 2019 before COVID-19 truly gained the media's attention and coverage. Aside from that, The Star and New Straits Times focused on the human interest as a news value when covering topics on cancer. **Conclusion:** This result provides insight on how topics on cancer were covered by the media prior to the spread of COVID-19 to help gain a better understanding in future research during the spread of COVID-19, whether news on cancer were drowned out against that of news on the COVID-19 virus.
Keywords: Cancer, Health Information, Infodemiology, News Framing, Online News

Introduction
The years 2019, 2020 and 2021 will forever be in the minds of global citizens due to the epic health crisis, the Coronavirus or better known as COVID-19. Infected humans, with comorbid conditions are reported to be more susceptible to the complications of the COVID-19 infection. The importance of effective communication is particularly critical during health

crises. The media is recognized as an essential platform for communicating health issues as well as advocating health awareness to the public. As such, news coverage through the depth and breadth, content of news especially news framing is essential in communicating risks or shaping the perception of diseases such as cancer.

Although the reporting of COVID-19 has taken centre stage due to its acute urgency, the war against other chronic diseases such as cancer is very much related, and thus must not lose ground. Cancer has been depicted in the media as 'an evil and immoral predator,' as an 'enemy' addressed with military techniques, as leading to a 'untrustworthy' and 'suspect' body, as linked to death, despair, and pessimism, and as potentially caused by nearly anything (Clarke & Everest, 2006). Riles et al., 2015 presents support for the idea that digital news consumers are amenable to health-related news framing influence epitomised by individuals' perceptions of someone with cancer (e.g., the stigma cues of hazard and culpability, sympathy for victims, and activism for cancer initiatives), and the disease itself.

The fact that cancer is the second leading risk factor for mortality throughout the globe, and was also the second leading cause of mortality for Malaysia in 2018 is concerning. Gleneagles Hospital Penang chief operations officer Yong Zi Ling highlighted figures from the World Health Organisation indicating 48,000 new cancer cases in Malaysia in 2021 and describes her worries that cancer cases are expected to double by 2040 (Tan, 2022). Unfortunately, with the onset of Covid-19 pandemic demonstrated a persistent gap in reporting of other diseases. According to online medical bloggers, Dr. Mastura Md Yusof and Wan Zamaniah Wan Ishak consultant clinical oncologists (*Cancer in My Community: Addressing Increasing Cancer Cases in Malaysia*, 2022), cancer is indeed a disease that many Malaysians fear. However, according to them the general public's awareness and knowledge are still poor when it comes to understanding and knowing about the signs and symptoms of common cancers. This requires accurate and effective coverage by the media which will facilitate much-needed public awareness in an effort to prevent, as well as initiate early detection, treatment and cure specially cancer.

Communication, according to framing theory, is defined by the articulation of coherent patterns of meaning that emerge from acts of selection and the use of words (Dan & Raupp, 2018). Framing theory posits that communication is characterized by the articulation of coherent patterns of meaning resulting from acts of selection and emphasis. In (Entman, 2003) words:

> To frame is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described.

In the context of health communication, framing theory is used to develop strategies to promote individual behavioural change or result in changes of public policies in promoting a balanced reporting despite the demands of a global pandemic updates in the mainstream media, be it print or online. Journalists use frames to delineate the subject of the article by distinguishing between viewpoints deserving of emphasis and those that are not. Journalists employ frames to demarcate the issue at hand by discerning between perspectives that are

worthy of attention from those which are not. However comprehensive content analyses of cancer news frames in Malaysia are scarce. The central focus of this paper is to examine the framing approach for cancer news coverage in the local online mainstream media for the duration of six months before the COVID-19 pandemic hit Malaysia.

Specifically, for this paper, researchers look at news coverage before the spread of the virus, from the duration of June 2019 to December 2019. The first six months of data for this research will provide insights into trends of online mainstream news coverage on cancer and the framing approach of news coverage on cancer before the novel coronavirus 2019 (COVID-19) pandemic.

Materials and Methods

This study adopts quantitative framing analysis on Malaysian two (2) online mainstream newspapers. Analysis focused on how the content was framed, noting the catch phrases, keywords, examples, source listings, metaphors, images and photos for the duration of the first six months from 1st June 2019 until 31st December 2019.

The mainstream online newspapers selected in this study are The Star and the New Straits Times (NST), the oldest and most significant newspaper with most digital page views, readership and circulation in Malaysia. This study on framing focuses on the news sources, text concept, written scripts, discussed theme and rhetoric structure. As for finding the news framing elements, the researchers adopted five general frames and altered them on certain qualities to link them to cancer cases in Malaysia ("Framing European Politics: A Content Analysis of Press and Television News," 2006; Ogbodo et al., 2020).

Results

This study on framing focused on the news sources, text concept, written scripts, discussed theme and rhetoric structure. In the context of this research, news coverage about cancer during the early stage of the coronavirus outbreak was plotted against the time period between June 2019 to December 2019.

Initial findings showed that The Star covered more news on cancer that is 86.12% compared to The New Straits Times which is at 13.88% at the end of the six months of 2019 before the novel coronavirus 2019 (COVID-19) truly gained the media's attention and coverage following the declaration by World Health Organization (WHO) on the spread of Covid-19 as a global health crisis in March 2020. Both samples of online mainstream newspapers were chosen because each of these newspapers have the most readership and circulation.

Results also showed the trend which indicated the frequency and percentage of news about cancer illness in two different online newspapers within the last six months of 2019. Both mediums gave important values towards the news coverage of cancer illness in Malaysia. News on cancer was heavily reported in June 2019, in NST with the amount of 25.9% while The Star was found heavily reporting the cancer news in September 2019 with 31.0%. Therefore, these findings showcased that during the end of six months of 2019, before COVID-19 became the word of mouth, The Star and The New Straits Times framed cancer illness the majority of the time as the main part of the news story.

The researchers also found that during this duration, cancer received prominent coverage by news portals if the story possesses human interest as a news value. The findings of this present research corresponded to the research by Hallin et al., comparative content study of four nations' press (Norwegian, Spanish, United Kingdom, and United States) recording that over the year 2016–2017 human-interest framing is quite widespread in healthcare reporting across the four nations, appearing in around one-third of all reports (2020).

The findings of the research showed that in 2019, The New Straits Times framing approach for cancer is peculiar when a story possessed human interest (38.82%) as a news value, then followed by responsibility (20.39%), economy (9.21%), conflict (5.92%) and morality (1.97%). Correspondingly, The Star also covered news stories on cancer when it possessed human interest (39.86%) news value, followed by responsibility (34.58%), economy (15.97%), conflict (7.22%) and morality (2.36%).

The overall units of analysis provided the outcome of identifying how these two online newspapers framed cancer information in the six months from June to December 2019 before Covid-19 became a hit across all news platforms. The five generic frames were analysed using the model created by (Semetko & Valkenburg, 2006). To further clarify the measurement, the researchers devised a series of 20 questions to which coders must respond with either Yes (1) or No (0). Each inquiry was designed to assess one of five news framing values: human interest, conflict, morality, attribution of responsibility, and economic consequences. These five general frames are referred to as framing values in this study, and they serve as dependent variables.

Cross tabulation of framing values across both online newspapers showed the majority of framing value was the human-interest frames with The Star as the most at 287 items (39.9%), followed by responsibility frames found the most in The Star with 249 items (34.6%). The human-interest narrative of news illustrates how health concern has directly transformed the quality of lives of individuals and small groups. These accounts were typically emotionally appealing, and they have the power to affect viewers' interpretations of new information and decision-making (Dan & Raupp, 2018).

In this work, the approaches of (Semetko & Valkenburg, 2006) were used to examine news frames 2018. The representation of these frames was assessed across a six-month research period. Finally, the total mean scores visibility of frames and measures during the research period was summarised. All news items were categorised using a list of frame variables and publications from the news items identified to assess the visibility of these frames with both online newspapers. To assess visibility, all 836 news items were categorised using classifications derived from those items and sampling units.

Conclusion
The press actively engages in mass discourse through a specialised reporting framework, influencing and representing public knowledge and views on specific subjects such as cancer (Min et al., 2020). Thus, cancer news coverage can give empirical evidence about the information that the media send to the public about cancer and how Malaysians manage cancer, as well as how the press's reporting framework influences the audience. In this regard, the findings of this study present a few key points for consideration of the media's effect on

cancer awareness, as well as the need of action by health organisations, whether government, policy, or even the cancer association itself.

In sum, the newspaper frames the news within a particular viewpoint and is influenced by various factors. Comparatively, as revealed in this present study, the trend of online mainstream news coverage on cancer within the stipulated date revealed that the frequency of news on cancer for The Star was much higher from June 2019 until December 2019 as compared to New Straits Times. Likewise, news coverage on COVID-19 during this time has yet to receive any limelight therefore cannot be seen whether it outweighs the news on cancer and whether the content was framed with values prioritizing the effect of the world pandemic. Nevertheless, a more recent research on news framing concluded that news framing on Covid-19 booster shot in mainstream media has in fact transformed the infodemic into informing which ultimately was assuring, and encouraging in tackling the new wave of a health crisis (Lai Hoon, 2022). Researchers hopes that this would be the same for news framing on cancer. This particular study should help in guiding future research to explore how cancer is covered during the pandemic will differ much prior to the spread of the virus.

The result found the importance of media and health authorities in using the mainstream newspapers, particularly in online media, to frame cancer information and to study cancer illness. The research also noted that, despite the widespread use of alternative media and other conventional media, news sites serve as a tool of reaching society.

In such an instance, the gap existed while other diseases still exist and it poses a more profound effect on health care services, and health reports associated with cancer are deemed affected. In the context of this research, findings reveal salient factors that influence in creating and modifying the understanding of an issue or event in the media, that is the extent of attention in reporting a particular issue and the news style or storytelling. Indeed, these factors construct the frame, and it has a huge impact on how media portray and perceive an event or issue.

While the media devote volumes of news coverage to their audiences, the findings suggest the need for media practitioners to emphasize and determine positive tones in streamlining and presenting news content on health issues. As media plays an important role in creating perceptions, framing attention among mainstream media is vital in presenting a balance and fair reporting on health issues despite the worldwide pandemic. News on health must be framed to support the magnitude of emergence, prevalence and value affecting all issues associated to the public interests.

As such, best practices for news organizations and media practitioners to balance their agenda must be set to bring adequate awareness to future public health crises. This echoes the conclusion from Ali & Malaco (2021) that calls for practitioners and scholars to develop their ability in techniques and models of advocacies for health campaigns that involve both the public and policymakers in tailoring health policies for the greatest benefit and the society at large, by analysing the various frames utilised by the media outlets in communicating a public health crisis.

Moving forward, future research on cancer coverage should look at whether this pattern will continue for future data sets or will it be affected by the COVID-19 pandemic reporting. While researchers believe that cancer illness will continue to receive prominent media coverage if the story indeed carries human interest values, this might change in future study during the time where COVID-19 crisis becomes prevalent globally.

Declaration of Interest Statement
The authors declare that they have no conflict of interests.

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