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## Examining Framing Strategies in Health Vodcasts about Genetic Diseases and Pre-Marital Screening

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### Abstract

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**Keywords:** Health Vodcasts, Health Frames, Journalistic health practices, Genetic Disorders, Pre-Marital Screening

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### Title

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### Abstract

*This research delves into the evolving strategies for effectively communicating genetic information. Specifically, it explores health communication strategies as tools for enhancing health literacy. With the burgeoning role of digital media in disseminating public service messages, there is a growing emphasis on digital journalistic practices within health Vodcasts. However, despite the potential of health Vodcasts to promote preventive health behaviors against genetic disorders, their precise impact remains unclear. To address this gap, the study employs content analysis of health frames within digital health Vodcasts from popular media outlets in Pakistan. This research sheds light on journalistic practices related to genetic diseases, their preventive measures, and pre-marital screening. The findings reveal the prominence of the Health Severity frame, followed by the Consequence and Human-interest Frame, in Health Vodcasts. By advocating for more persuasive health campaigns on public health issues, this study contributes to advancing the field of health communication.*

### Contents:

- [Introduction](#)
- [Literature Review](#)
- [Consanguineous Marriages](#)
- [Thalassemia](#)
- [Hepatitis B](#)
- [Hepatitis C](#)
- [Down's Syndrome](#)
- [Conclusion](#)
- [References](#)

### Keywords:

[Health Vodcasts](#), [Health Frames](#), [Journalistic health practices](#), [Genetic Disorders](#), [Pre-Marital Screening](#)

### Introduction

Genetic diseases are hereditary as DNA is responsible for heredity in humans and condenses to create chromosomes. In the nucleus of human

cells, 46 chromosomes are organized in 23 pairs. Only genetic testing can reveal the presence of a faulty gene in either parent and the likelihood of its transfer to the children. Because genetic illnesses



flow in the blood, if one parent has a genetic condition, it is quite likely that half of his or her offspring will also have the disease. As a result, pre-marital genetic screening (PGS) aids in the prevention of hereditary disorders, improving the probability of having a happy and stable family. According to WHO (2021), One single gene mutation is likely to produce an estimated 10,000 different types of single-gene disorders.

Consequently, 10% of the population can get genetic disorders. This indicates genetic disorders affect between 70 and 80 million individuals worldwide. However, even though genetic illnesses are rare, they make up around 80% of thousands of uncommon disorders. Given that, due to the sheer quantity of rare ailments, they evidently affect 1 in 17 people worldwide (Saylor et al., 2019). Pre-marital genetic screening aids in the early detection of genetic disorders to prevent or reverse the disease process and achieve the finest patient management. This counseling helps to make informed reproductive decisions or disease management. Pre-marital genetic screening can uncover and change behavioral, medical, and other health risk factors that have been shown to influence pregnancy outcomes through prevention and treatment. It has the potential to alleviate the burden that birth abnormalities and genetic illnesses. The major objective of pre-marital screening is to reduce the number of children born with genetic illnesses (Bener et al., 2019). Moreover, Pre-marital screening is primarily intended to provide couples with medical advice on the chances of transferring the genetic problems to their future children. For that reason, it is highly crucial to provide awareness about pre-marital screening at individual, family, and communal levels, primarily through media along with primary health care professionals.

Genetic disorder Patients face many challenges when making decisions on genetic testing. First, genetic information can be intricate and challenging to understand without proper genetic literacy. Second, there is a chance that testing will not immediately pay off (Addie et al., 2018). Pre-marital screening is no longer only the domain for getting information and awareness about genetic diseases. Pre-marital test counseling is demonstrated through modern technologies to help create understanding and preferences that

influence behavioral intention (decisions) through informational media. The popularity of digital health apps, virtual care, digital websites, and new media technology is on the rise among individuals, as these technologies are increasingly being employed to detect health concerns and facilitate diagnosis, treatment, and disease monitoring (Bombard et al., 2022). In terms of genetic disorders or genetic screening, lately, media coverage has been focusing on a relatively new elective medical test that gives parents the information that their unborn child may have a genetic ailment (Canary et al., 2018). Public opinions may be highly influenced by these newly popular fields of science and health with the increase in coverage of genetic issues as well as the frames, themes, and language employed in reporting on genetic disorders and testing-related genetic problems.

According to recent research, narrative elements such as loss and gain framing may influence how people perceive the information in terms of their health (Wang et al., 2023). In a nutshell, the help of framing health issues, especially genetic disorders and genetic screening, may influence health perceptions and intentional behavior toward genetic issues (Holton et al., 2017). Reproductive decisions and disease management are influenced by test results related to genetic screenings, which are no longer limited to specialized clinics. Additionally, Genetic information is hard to absorb and can be complicated to understand without sufficient genetic literacy that helps in making decisions about genetic testing (Azzahra & Kartikawati, 2023).

A practical and easily available venue for disseminating health information to a wide audience is social media. Social media is a tool used by health organizations and experts to spread knowledge on a variety of subjects, such as treatment options, healthy lifestyle choices, and illness prevention. Since the days of print brochures and public service announcements, health promotion has advanced significantly (Raza et al., 2022). The scholars contend that visually appealing information (framing) used in digital journalistic content such as documentaries or videos can be used by healthcare professionals to interact with the public in new and creative ways on digital platforms. The evolution of efficient strategies for communicating genetic and genomic

information to individuals with varying levels of health awareness certainly requires the collaboration of researchers. In this context, the present research will explore theoretical health communication strategies that might be used as a health literacy tool. To this end, the role of Digital media, i.e., Vodcasts, Websites, and awareness of public service messages, health communication intervention as a determinant of preventive behavior, is investigated (Matalon et al., 2023).

Individuals who utilized digital platforms were more inclined to decide on genetic tests compared to those who did not use digital tools. Moreover, individuals using digital platforms attained a level of genetic information equivalent to or greater than those in the control group. Additionally, participants who utilized digital platforms spent 10–40 minutes less with doctors for pre-test counseling compared to traditional methods (Raza et al., 2021). However, Genetic disorders are rarely found. There is a paucity of information and knowledge related to specific digital tools employed in decision-making processes or in enhancing knowledge about genetic disorders. However, research in this field is currently limited. There is an urgent need to investigate how health literacy influences individuals' interpretation of information regarding genetic susceptibility to common, complex illness outcomes (Bener et al., 2019). The evolution of efficient strategies for communicating genetic and genomic information to individuals with varying levels of health awareness certainly requires the collaboration of researchers. To this end, the role of Digital media, i.e., Vodcasts, Websites, and public service awareness messages, health communication intervention as a determinant of preventive behavior is investigated. This study seeks to intercept the informational gaps in health awareness by examining the ongoing digital communication contents. Furthermore, this study contributed to the managerial front by describing the vodcast frame strategies for an understudied area of public health concern that has been identified in the United Nation's sustainable development goals.

## **Literature Review**

### **Context of the Problem**

There are following known genetic diseases that

can be avoided by adopting pre-martial genetic screening. The study underlined that the use of digital platforms can help create awareness about the following diseases.

### **Consanguineous Marriages**

Children from cousin marriages are at a high risk of genetic disorders such as thalassemia and sickle cell anemia. Down's syndrome and other genetic defects. Hence, the closer the biological relationship of parents, there will be higher the probability that their kids would receive one or more deadly recessive genes (Shoba et al., 2023). Therefore, Births after cousin marriages have higher neonatal, post-neonatal, and infant mortality rates than children born to nonconsanguineous parents. Moreover, cousin marriages are more likely to result in metabolic diseases and multifactorial problems.

### **Thalassemia**

Thalassemia is a genetic blood disorder. This condition causes the human body to produce less amount of red blood cells than it ought to produce, hence producing less hemoglobin.

### **Hepatitis B**

An infection of the liver causes chronic conditions and transmits through body fluids such as saliva. Also, the sickness is sexually transmitted. The World Health Organization reckons that 2-5 percent of Middle Eastern populations are highly infected with hepatitis B. Nevertheless, this disease can be prevented by vaccination; after testing positive for it, the other spouse/partner should take the vaccine before marrying (Cheemerla & Balakrishnan 2021). Chronic hepatitis B patients are more prone to develop liver cirrhosis and -liver cancer.

### **Hepatitis C**

Hepatitis C is the damaging or inflammation of the liver, leading to liver cirrhosis and cancer, as well as the most common reason for liver transplantation.

### **Down's Syndrome**

Down syndrome is a condition causing developmental delays in children, physical and mental, causing an increased risk of health issues.

Hence, kids with Down Syndrome may have different health problems and physical appearances (Azimova, 2023).

## **Theoretical Underpinnings**

### **Framing Theory**

According to framing theory, the audience perceptions can be influenced by the way the media presents issues (Gamson & Modigliani, 1989; Scheufele, 1999, 2000).

Readers are more likely to react in a predictable way when they are exposed to components of a new item that are emphasized. Previous research has also indicated that people use media coverage as an intellectual shortcut to help them understand difficult situations (Gamson & Modigliani, 1989; Scheufele & Lewenstein, 2005). This may be particularly true for health issues or illnesses that have the potential to spread like an outbreak, as most people have little firsthand experience managing them (Ball-Rokeach & DeFleur, 1976). Dan and Raupp's (2018) study states that the framing theory holds that acts of selection and emphasis result in the articulation of coherent patterns of meaning that define communication. Frames make use of the dominant beliefs, standards, and conventions in any given society. This indicates that frames are culturally specific and implies that there should only be an appropriate amount of news frames. Since the concepts, values, and norms that prevail in that culture are equally specific (Raza et al., 2020). Research on how framing affects health information messages has yielded inconsistent findings. The framing impact may differ concerning representations of genetic screening information, prevention, and awareness of genetic disorders. These variables may affect health behavior, and messages with different dominant frames may have an impact on this behavior.

### **Health Framing**

Previous research has shown that there is a general covenant of scholars that "entirely frames are not constructed identically since the framing theory was pioneered. However, there is a great deal of dispute over the sorts of constructions that research needs to identify as frames and give priority to. The framing theory states that a person's judgments on

a particular topic, issue, or item are shaped by a range of evaluative notions. Understanding and recognizing the possibility of inconsistent descriptions in messages transferred via different media is made possible by the framing theory. According to the framing theory, a frame's influence is determined by three cognitive processes: message availability, message accessibility, and message application (Entman et al., 2008). The concept of availability describes the framing effects' mechanism. The impact on the lives of those who are affected is defined as the human-interest frame (Yousaf et al., 2022).

### **Vodcast Message Framing**

Video podcasting, known as Vodcasting, is originally explained as downloadable clips, transportable and available for viewing at any time or place (Raza et al., 2022). Because of their multifunctional presentation, they are believed to improve the learning process (Jin et al., 2021). Finally, some audiences discover video podcasts due to an episode or a few selected clips embedded in a visual format. They are further used as snippets of videos integrated into smaller clips that are then shared on social media sites like Facebook, Twitter, and others, or podcast segments embedded into digital print media articles (O'Connell, 2020). The rising popularity of video podcasting in health education and communication. Yet, there is a lack of research on how the message frames of health video podcasts are being constructed. However, the medium of vodcast is still unexplored. How can a particular frame be credible, and what are the predominant health frames being utilized in Vodcasts? Based on framing theory, this research provides a method for examining health vodcasts concerning genetic diseases, aiming to raise awareness and influence preventive behaviors effectively (Yousaf et al., 2022). To develop sustainable communication and public health methods, this research first assesses health vodcasts utilizing framing theory principles (Raza et al., 2020). It analyzes the primary health frames employed in covering genetic diseases in Pakistan. Consequently, this research uses framing theory to improve health vodcast interventions. This study employs framing theory principles to evaluate Vodcasts on genetic diseases and pre-marital screening. It examines the common health frames

used in Pakistan to discuss genetic illnesses, aiming to devise sustainable strategies for promoting public health awareness. Additionally, this research utilizes health vodcasts to enhance persuasion in health communication through digital media in the field of genetics and pre-marital screening. After carefully reviewing the literature, we constituted the following research questions:

1. What are the leading health frames employed by major media outlets in their Vodcasts related to Genetic diseases and Pre-Marital screening?
2. Which framing approach proved more impactful in promoting health-preventive behavior concerning genetic diseases?

### Research design

To address the above research questions, the research design utilized for this Study is content analysis. Initially, this method evaluated the substantive frames utilized in digital health Vodcasts broadcasted by popular media outlets in Pakistan. Subsequently, we employed this method to examine dominant frames used in health Vodcasts, focusing on journalistic practices covering genetic diseases, preventive measures, and pre-marital screening.

### Content Analysis

To assess the health vodcast interventions on health behavior prevention regarding genetic disorders and the adoption of preventive measures like pre-marital screening, Content Analysis was conducted. This analysis focuses on the implementation of behavioral interventions through digital media, particularly vodcasts.

This communication platform (vodcasts) offers a productive atmosphere of learning and sharing opinions. In addition to healthcare practitioners, everyday users turn to digital technology to find

solutions to health-related questions online. This is how digitally generated data can facilitate prompt responses to disease management. To achieve this, the present study utilizes the quantitative method technique known as content analysis of Vodcasts. Vodcast, the video version of Podcast, refers to video sessions of Podcasts. The content analysis focuses on the frames related to genetic diseases and pre-marital screening in the Vodcasts of the top 11 popular channels in Pakistan: Ary News, Geo New, 24 News, Dunya News, BBC Urdu, Voa Urdu, Sama TV, 92 News, Express-News, Hum News and Dawn News.

This research aims to gather data on genetic disease information, awareness, and pre-marital testing through the analysis of Vodcasts. The integration of digital technology is crucial for the future of the health sector, and Vodcasts have the potential to impact healthcare information and awareness significantly. This study focuses on health frames extracted from digital health Vodcast content produced by major digital channels in Pakistan. The Vodcasts were sourced from YouTube channels and other online platforms, covering a timeframe spanning from 2011 to 2023. A total of 36 Vodcasts were scraped from the major outlets' websites and the categories for content analysis were utilized from already used categories in the past literature. We adopted relevant health frames that have been previously utilized in past studies. The major frames identified in the literature from the study of Dan & Raupp, [2018](#), were coded and are explained below. Two coders were chosen from the field of Mass communication. Coders were provided with an overview of the study and training on how to enter data into the coding sheets.

### Results

The 36 Vodcasts were collected over the last five years from 11 digital channels, from 2020 to 2023, and are presented in the following table.

**Table 1**

*Top Health frames in Genetic diseases Vodcasts*

| Substantive health frames | Explanation of frames   | Vodcast during 2011-2023 |
|---------------------------|---|--------------------------|
| Consequence Frame         | The outcomes of health risks and disease on human life. (For example, Genetic diseases) | 9                        |



| Substantive health frames | Explanation of frames  | Vodcast during 2011-2023 |
|---------------------------|--|--------------------------|
| Health severity Frame     | The severity and seriousness of genetic health risks and genetic diseases on the lifestyle and well-being of a human as a whole. | 19                       |
| Human interest Frame      | The overall impact of genetic diseases on the lives of those who are directly impacted and the related people.                   | 8                        |
| Total Number of Frames    |  | 36                       |

Based on the coding material provided above, the Health Severity frame emerged as the most prevalent among the identified frames, totaling 19 vodcast stories. Following closely, the Consequence frame appeared in 9 vodcast stories concerning genetic diseases. Other frames, such as the Human-Interest Frame, were represented by 8 stories respectively.

**Discussion**

Vodcasts as a digital medium frame health communication messages regarding genetic diseases and pre-marital testing. These Vodcasts are increasingly recognized as vital sources for content creation for powerful health communication strategies. As a powerful medium for media consumption, the framing of health topics in Vodcasts influences public understanding. Moreover, given the substantial impact of health issues on individuals' lives, these topics garner significant interest among audiences. To enhance preventive behaviors, it is crucial to establish a model that may be utilized to comprehend genetic disease-preventative behaviors. However, an absence of research combines normative health behavior theory and digital health communication-related elements to comprehend genetic disease preventative practices. This research addresses the existing void in the literature. It enhances the comprehension of primary health frameworks, enabling us to grasp better the elements associated with digital health communication, such as platforms, message features, and exposure. There is a dearth of research in the domain of how the presented information through digital platforms can influence decision-makers' choices. Digital media consumers are given a choice environment for decision-making. To influence decision-making predictably, the context of a decision can be framed

positively – either as a gain – or negatively – as a loss.

Nevertheless, when it comes to genetic testing and hereditary illnesses, the principles of framing effects are essentially unexplored. This kind of information would be extremely important for creating autonomy and independence for decisions regarding genetic testing. This research study first utilizes the framing theory to study the framing of messages that specifically target the systems responsible for framing effects. Based on research findings on health frames, the probability of encountering framing effects increases when the material is seen as pertinent or relevant. The importance of message relevance is a critical component of health communication messaging. Health communication initiatives like this research study aim to improve the relevance of their communications by employing strategies such as targeting.

**Implications for Digital Content Providers**

As we look ahead to the future, it's evident that the healthcare systems and health communication are undergoing significant transformations, particularly with advancements in human genetics. Given this evolving landscape, it is important to ensure widespread awareness about pre-marital screening and related services for soon-to-be-married couples through various mass media and digital platforms, including public service advertisements, the Internet, mobile applications, posters, and more.

One implication for research stemming from this is recognizing a gap in reporting on health issues to promote community health. There is an urgent and clear need for Vodcasters and other digital media platforms to prioritize health information and intensify their efforts in accurately covering relevant health topics. By doing so, they can contribute to raising awareness, educating the

public, and ultimately improving health outcomes within the community. This will invariably help shape and determine audiences' attitudes to health issues. Health information should also include frames that offer solutions (such as treatment recommendations) and accurate medical information. Achieving this requires Podcasters to be proficient in factually and scientifically assessing and reporting on health issues.

In sum, our findings indicate a notable framing pattern concerning genetic disorder issues, highlighting the need for attention to all frames. Nevertheless, it's important to acknowledge consistent gaps in evidence concerning balanced and comprehensive coverage of health risks across different frames. Addressing these disparities can contribute to a more holistic understanding of health issues and facilitate more effective communication strategies in the future.



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