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Pragma-Semiotic Analysis of Hausa Print Media Advertisement

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Abstract

The paper titled pragma-semiotic analysis of Hausa print media advertisement focuses on the two main aspect areas, which is the study the pragmatic aspect of speech act as well as the semiotic aspect of visual element in advertisement. The methodology employed in this research was purposive sampling technique whereby the researchers selected the target area based on the objectives of the study. The data was collected within Kano state metropolis, four sample data was analysed based on model of analysis by Pierce and Searle. The study used triadic model of analysis by Pierce (1931) and Seale (1969) theory of speech act. The findings reveals how nonverbal communication (sign, symbol, and image) are used to represent the product or services rendered by the companies, as well as how meanings are conveyed through these representations. Pragmatically, the findings identify the strategies used, such as assertive act and directive act in the adverts which include persuading a customer and manipulation of language or information.

Keywords: Pragama, semiotic, analysis Hausa and advertisement.

Introduction

In the globalisation era a message is not only communicated directly to people but through media such as magazines, newspapers, posters, banner, and advertisement. These are media communication channel which are used by various companies, to communicate indirectly with their customers and to deliver a message about products, ideas, or services. In particular advertisement can be a mediator of communication between sellers and buyers.

Advertisement has an important role in marketing activities which are offered to the public. It can influence customers' mind and perception about the products, services, or ideas (Izuogu & Umoren, 2017). This is supported by Arens (2004) who gives a definition for advertising. He says, "advertising is



the structured and composed non-personal communication of information, usually paid for and persuasive in nature, about products, services, and ideas by identified sponsors through various media.”

The aim of this paper is to study the pragma-semiotic analysis of print media advertisement in Hausa language. Pragmatic approaches examine language use and explain how language is used to convey meaning and create or persuade audience. On the other hand, sign and symbol depict how visuals and linguistic sign convey meaning, create association, and shape consumer attitude. Advertisement uses different method of conveying their message through non-verbal method, particularly by using attractive colour and symbol of picture in the advertisement, in order to capture the mind of customer to patronise their product. Semiotics is concerned with everything that can be taken as a sign’. (Eco 1976, 7). Semiotics involves the study of not only what we refer to as ‘signs’ in everyday speech, but of anything which ‘stands for’ something else. In a semiotic sense, signs take the form of words, images, sounds, gestures and objects.

Muzahi-luntani and Pollaroli (2014) revealed that the rhetorical organisation of a product advertisement that performs the action of persuading somebody to buy something (the action in view of which text elements and semiotic resources are orchestrated in ads). After establishing an exhaustive inventory of text units independently of their semiotic mode (following recent research highlighting the need of overcoming pre-structured interpretations of multimodal texts), we employ Congruity Theory to function-pragmatically define the subordinate actions of text units in relation to the superordinate pragmatic function of the text.

Coutinho, et Al. (2026) discovered that communication and semiotics content in undergraduate design courses in Brazil. It is part of a doctoral thesis in communication, carried out at the Federal University of Juiz de Fora. The research question addressed was: how are communication and semiotics contents applied in design courses? The objective was to understand the logic of the teaching-learning process of communication and semiotics from the perspective of teachers and coordinators. A sample of 42 participants from 26 Brazilian institutions was included. The data were evaluated through dendrogram analysis, using the Iramuteq software, and content analysis. The discussion was based on authors such as Lucia Santaella and Winfried Nöth. The study pointed to communication and semiotics as fundamental to design and necessary for an integrated education.

Solomon and Nweya (2017) revealed that communiqué made by the Ibadan Catholic Bishops to the congregation on the Ebola epidemic. The paper identifies the praxs, gives a semiotic interpretation of the signs visible, and discusses the impact of the communiqué on the Catholic faithful in the University of Ibadan, Nigeria. The data were collected from the Catholic Sunday Bulletin and the interviews conducted with, and the field notes collected from, the Catholic faithful informants (N=30) in the University of Ibadan. It utilised Mey’s pragmatic acts theory (PAT) and Saussure’s model of semiotic signs as the theoretical framework. The study shows that the communiqué is information motivated discourse on Ebola which comprises of direct acts that make use of the contextual features of shared situational knowledge, inferences, relevance, shared cultural knowledge, and references thereby exhibiting the pragmemes of cautioning, commanding, counselling and threatening; the semiotic sign ‘Holy Communion’ signifies the Body and Blood of Jesus Christ present in Bread and Wine, the semiotic sign ‘self-signing of oneself with holy water’ signifies spiritual cleansing, and the ‘sign of peace’ signifies love and unity among the people of God in the Church. Both the pragmemes and the semiotic signs have an impact on the Catholic Faithful in University of Ibadan.

Theoretical framework

The theoretical framework upon which this study based is Piercean Triadic Model (1931) and speech act theory by Seale (1969). Piercean theory used to analyse the visual image of the advert while the symbolic (inscription) is used theory of speech act The Piercean provides a coordinated way of talking about how



the thought in our mind can be expressed in terms of the world outside our mind. Thus to qualify as a sign, Peirce (1931) proposed that it must consist of triadic (three-part) model. On the other hand, the study used only one of the assumptions of this theory that is *there is limited set of basic illocutionary act*. All speech acts can be reduced to five (5) categories on their direct fit and psychological state. The study outline the types of speech act involved in the selected advertisement. These are: Assertive, directive, commissive, expressive and declarative. In addition, these theories are relevance to the study as iconic (pictures) sign was analysed by semiotic model of analysis while the inscriptions was analysed to suit the speech act theory.

Method

The methodology employed in conducting this research was purposive sampling. This is because the participants have specific trait or relevance to the research purpose. The common type of homogeneous was selected, to pick advertisements that are similar, to focus on one group. This study categorized Kano into four different locations western part, eastern part, northern part and southern part where one advertisement was picked to represent others. In conducting this research of this nature are some key elements which guide the researchers to per take in the following areas: description of the research area, data collection procedure, area of the study, sample and sampling technique, sample size, and data analysis procedure.

Description of the research area

Kano is one of the largest populated states in Nigeria with diverse business setting environment in various locations, markets and productions companies. This makes it necessary for companies to make their advertisement in order to suit the teeming people of Kano to know that they are part of stakeholders of all business activities in the state and there is the need for carrying them alone.

Sample and sampling technique

This study employed the purposive sampling techniques. Purposive sampling has to do with non-probability selection. Here various advertisements were observed but only the adverts that contain relevant information for this research were used. The data of the study are visual text (picture, colour). Four (4) different data were selected randomly for the study, the data was snapped via smartphone and analyzed both the visual and textual element of the advertisement. There are different companies that produce goods and services to humanity, but out them, the key companies that are selected among them includes: Detergent product, technology product, drinks product and seasoning product. After collecting the whole data from different advertisement four (4) are selected to represent other companies.

Data collection procedure

The methods through which the data collected for this research work are Artifacts and Materials. This include the analysis of physical objects, such as products, equipments, or infrastructure, related to the case. Meanwhile, this study gave an additional insight to the advertisement on billboard. Photography: Taking photographs of artifacts captured both textual and visual element of advertisement.

Method of data analysis

The method employed for the analysis of this data was descriptive analysis where the researcher described the data based on the Piercean model and Searle theory. The data was described based on iconic sign, interpretan and object, while the inscription was categorised based on the type of speech act involved.

Findings

The paper examines the strategies used in deducting meaning through two different processes. These are speech act theory and model of analysis through triadic model, which involved three components (sign, object and interpretant). Also, the paper adopted purposive sampling technique in collecting data while used a descriptive way in interpreting data.

4.1 Example 1 Chivita Drink



Fig. 4.1 Kowàa da Irin Nasàa Chivita (everyone has his own type of Chivita)

The above sample data is a billboard of advertising product of Chivita Company which is one of the companies that produce different types of beverages. The billboard uses three different channels in advertising their product to the general public particularly to their customers who drink the product or patronise the company's product. These includes: variety of the product as well as the sample size and taste.

Analysis

The first way is the written form which comes in a statement as **Kowa da Irin Nasa Chivita (everyone has his own type of Chivita)**. This is an assertive speech act (informing).

This act is informing the general public that this product is available for consumption of everybody, and is of different sizes.

Semeiotically, it is the picture of a man in a physically relaxed way, and drinking one of the company's products. It also implies that the drink is meant for the consumption of everybody.

The iconic sign shows a picture of a man and the company's logo. This picture portrays a man well seated and dressed in the native attire, drinking one of the company's product. Beside him are different varieties of chivita products which comprises big size, medium and small.

The interpretant shows a man and the different types of beverages which contain meaning that can be deduced from the picture as well as the different colours that are reflected in the advertisement. The iconic sign interprets the meaning of this advert which is a consumable item to human being. The different

types of beverages indicate that the company has different size and taste of the product. In addition, the company chooses a white background which is a symbol of peace. This means that the product is a source of peace to humanity. However, in another dimension the meaning can also be interpreted from the form of written statement which is in green, which is an indication of joy from fruits which gives the human body some certain defence mechanism. It means that the product is made from fruits. The use of red colour in the name of the product it also that attracts the readers. The can or the juice (beverages) on the table shows that the company has different types of taste and size.

The object posture of the image shows that the man is dressed in Hausa traditional dress which shows that he is the native or a close relative with Hausa speakers. This is done perhaps to draw the attention of the Hausa native speaker patronised the product.

4.2 Example 2 Terra Seasoning



Fig. 4.2 Vaaree fàarin cikii sàakii daddaaxn xàanxàno (unlock the happiness, unravel a pleasant taste)

The above sample data show the billboard containing advertisement of seasoning product. The advertisement shows a picture on the billboard which portrays two slides left and right sides. On the right hand side there is a picture of a woman with a smile on her face holding a sachet of seasoning which is called Terra. Terra is a new brand of seasoning which is used as a cooking ingredient which women use as one of their spices. On the left hand side, there is a written statement advertising the product in the Hausa language. *Vare fari ciki saki daddaxan xanxano (unlock the happiness, unravel a pleasant taste)*

Analysis

The advertisement is categorized into two sections. These are Pragmatic meaning and semiotic meaning. The two statements are *Vare fari ciki (unlock the happiness)*, *saki daddaxan xanxano (unravel a pleasant taste)*. These are directive speech acts (enjoyment), inviting the reader to experience happiness and pleasure of the product. This act is directing the readers to go for this product and enjoy the taste of this seasoning. While semeiotically the meaning maybe seen as follows:

The iconic sign shows a picture of woman smiling to the viewers. On her hands, are two sachets of seasoning Terra seasoning. On the other side of the billboard is an inscription of expressions of the product Terra and its slogan as well as the three different type of Terra which contain big and small size.

The interpretant shows a woman after cooking with Terra, showing the product to the public and urging them to make use of it to taste its happiness. The three sachets show that it is affordable in small and big sizes for all customers. The woman seated dressed neatly in both a gown and a wrapper, with a head-tie, showing different varieties of the seasoning type of Terra. It is an indication that using this variety of Terra will give you the maximum taste.

The type of interpretant is immediate interpretant. This is because the red colour is an indication that all ingredients of soup are ready, as only Terra seasoning is needed to make it complete.

The object is another way of disseminating information to the general public, both who can read and those who cannot read. Those who can read have the advantage of reading and viewing the pictures, while those who cannot read can only see the picture and comprehend the meaning visually. In addition, the red colour is used as part of the advertisement because it is the colour that can easily draw the attention of customers to purchase the product. Additionally, the red colour signifies soup which shows that after putting all the ingredients, the next item is Terra seasoning. In addition, the yellow and green colours are used for more customers to patronise the product especially as the woman's dress tallies with the colour of the sachets of Terra seasoning. The logo is another way of differentiating this product from another.

4.3 Example 3 MTN Promo

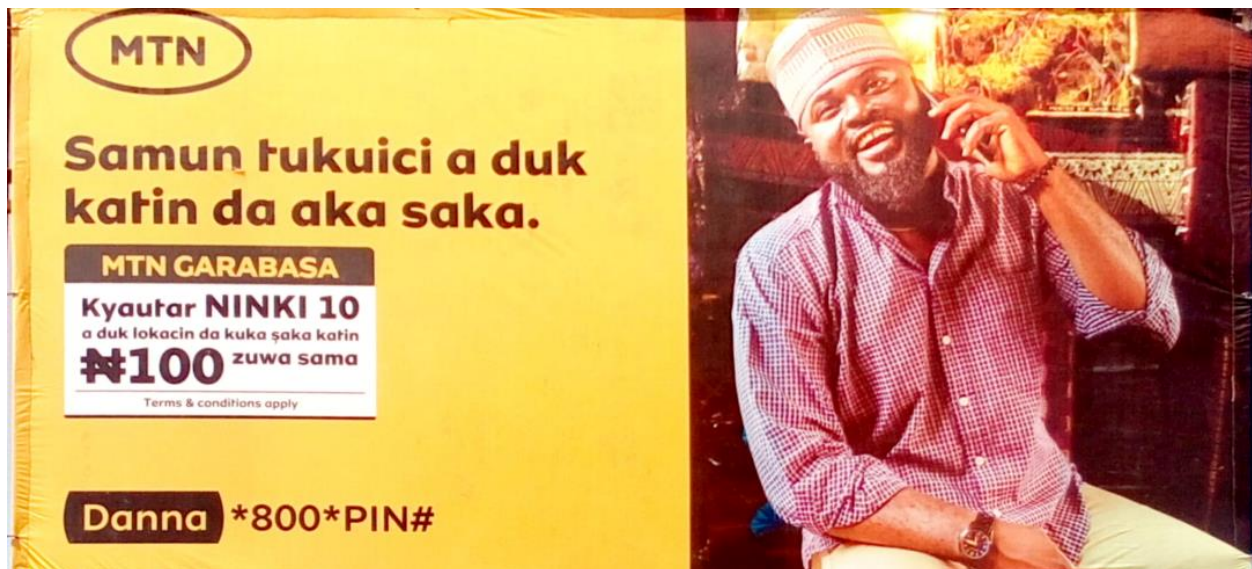


Fig.4.3 Sàamun tukwiicii a duk kaatin da aka sakaa (Getting value for every recharge). MTN Garavasa Kyautar ninki 10 (MTN AWUF ten percent reward for every recharge).

The above sample data shows a man sitting down on a chair happily making a call with a smile on his face. When you look at him, you will know that he is in happy mood. On the other side of the advertisement, it is written boldly that **Samun tukuici a duk katin da aka saka (Getting value for every recharge)**. Thus, by mere looking at the man on the picture, one will understand the secret behind his smile. The man smiles due to the value he got from recharging his phone using MTN. Also, another inscription is used to persuade customer, **MTN Garavasa Kyautar ninki 10 (MTN AWUF ten percent reward for every recharge)**. It indicates that when a customer recharges his phone with MTN he will get an automatic 10% awuf free air time for every recharge. If a customer realizes that he will be given 10% air time many will rush to subscribe to the mobile network.

Analysis

The advertisement is categorised into two sections. These are Pragmatic meaning and semiotic meaning. The two statements are: **Samun tukuici a duk katin da aka saka (Gettingvalue for every recharge) MTN Garavasa Kyautar ninki 10 (MTN AWUF ten percent reward for every recharge)**. This statement is considered to be an assertive act (informing). This act is informing the general public particularly the MTN users; that value of what they recharge is given on every recharge. It is an expression that makes a promise about the benefit of a particular product.

The iconic sign shows a picture of man sitting and smiling. On his left hand side there is a wristwatch and mobile phone, with which he is making a call to someone. On the other hand, there is an inscription of MTN and some expressions in Hausa, a naira sign and the MTN code for the `awuf` free air time. **Samun tukuici a duk katin da aka saka (Gettingvalue for every recharge) MTN Garavasa Kyautar ninki 10 (MTN AWUF ten percent reward for every recharge)**. This statement is considered to be an assertive act (informing). It is an expression that makes a promise about the benefit of a particular product.

Interpretant The MTN trademark is conventionally made up of yellow colour and the company`s logo. The advertisement uses multi –colour process to advertise the product. The interpretant is comprehended by looking at the colour, and the man sitting and making a call happily with MTN.

The type of interpretant is immediate interpretant as shown in the logo of the company and the colour of the product.

Object: The meaning captured from this advertisement shows that the man is sitting in his room and enjoying his calls with the MTN company`s network.

The picture shows how a combination of two dress codes is used in the advertisement: The traditional dress code and the English dress code. This indicates that even local people at villages enjoy the benefit of the MTN `awuf`. It also means that enjoying call with MTN network does not require any form of education, as even local people at their rooms can happily make their calls. The smile on his face shows that the man is making calls (converse) using the company product which is MTN network. Likewise, the colour and the logo of MTN network make it easy for people recognise the product.

4.4 Example 4 KLIN Detergent



Fig. 4.4

Kowanèe xigo zai amfanèe ku (every drop will benefit you)



Gariin sinadarii mai sauriin aikii (fast acting chemical powder)

Narkewaa cikin sauqii (easily dissolved)

Kumfaa da saurii (fast foaming)

The above sample data shows an advertisement billboard of the detergent company of called “So Klin”. This company is one of the companies that produce detergent of different kinds. This detergent is naturally white in colour to show how effective the product is, to the general public in terms of washing and cleaning of any object.

Analysis

The advertisement is categorised into two sections. These are Pragmatic meaning and semiotic meaning. The two statements are: **Kowane xigo zai amfane ku (every drop will benefit you)** **Garin sinadari mai saurin aiki (fast acting chemical powder)** **Narkewa ciki sauqi (easily dissolved)** **Kumfa da sauri (fast foaming)**. This statement is an assertive speech making an informing and influencing reader’s decision to buy the product. This act is informing the public that this product is easily dissolve and fast foaming detergent.

The iconic sign: The billboard carries an advertisement of detergent powder which is popularly known as “So Klin”. The company uses the trademark name and its logo to capture the mind of its customer by using an inscription in Hausa and use of logo of the company. The company uses white colour which is the colour of the detergent and shows someone’s hand using the detergent from its sachet.

Interpretant: The product signifies that the name and logo differentiate the company from others. The hand is used to show that a little of the detergent can be used to wash or clean a whole surface area. The company uses the colour as well as the logo to portray the advert as highly effective.

The type of interpretant is immediate interpretant by using the company trademark, logo and the powder of the detergent which may attract the initial attention of the reader to the advert.

Object: the object in this billboard is an iconic sign of the human hand which is an indicator of a little of the detergent, showing that a handful is enough for you to wash many clothes. The powder on his hand indicates the quality and quantity of the detergent when applying it, it washes many things. The logo of the company shows the differences between this product (Klin) and other types of the product in terms of cleanliness and the effective of removing dirt. The size of the product shows that the company produces for all types of customers (small, medium and large).

Discussions

The aim of this paper was to analyse pragma-semiotic analysis of print media advertisement. The findings of the paper show that advertisement use two different processes in sending or persuading customers to patronise their goods and services, among them includes: pragmatically and semiotically. Based on the pragmatic, the study discussed the speech act involved in all inscriptions or expressions which contained phrases, sentences that appeared in the advertisement. The finding of the pragmatic aspect indicates that, advertisement used assertive and directive speech act that shows commitment of informing the customers about the product or services. As it appeared on sample 1 of the data is an assertive speech act which informing the target audience, the company produce its drinks on variety; it’s left to consumer to choose the types he prepare. While the second sample was directive speech act, which call the attention of consumers to go for this type of seasoning of effective taste of their cooking. Also the third and fourth data falls under category of assertive speech act. On the semiotic aspect shows that advertisement use two different ways in sending information to customers. This includes; picture, and colour. The picture carried information of the product with sample or type of the product or services



rendered. As show in sample 1 the data show picture of man and different types of product displayed. Second data show a picture of woman but the dress does not matched with Hausa culture, because dress was good but no veil attached to it. In addition, the third and fourth data display the picture, colour and types of the product was made available to customer to see, notice and patronage. It also discovered that sign in Hausa generated meaning through sign (icon), what it represent, interpretan and object. In addition, it also showed that colour, posture play a vital role in the analysis of Hausa semiotics, and they have their role to play in the analysis. Furthermore, other studies dwell mostly on either semiotics or pragmatics while the current study combine the two field pragma-semiotics. However the triadic model of analysis (theoretical framework) indicate that Hausa semiotics can be analysed through this process, as it appeared in example 1,2,3 and 4 where all the pictures were analysed via triadic model. However, the finding concludes that Muzahi-lunati and Pallori (2014) shows that this study corresponds to one another on the semiotic aspect whereby the posture colour and cultural relation varies, on the meaning they represent. (Coutinho 2026), shows the application of colour varies due to cultural differences, this is because representation of colour differ from one culture to another, where the content of advertisement was to create patronage between the customer and company`s product. Lastly, Solomon (2017), this also differs between the current studies and later. The later study focused on invisible sign and their in fact on bible while the current study focused on pragma-semiotic analysis of print media advertisement. This signifies that the two correspond on semiotic aspect but they differ on context.

Conclusion and Recomendations

The paper concludes by examines the implicit meaning of billboard advertisement by using underlying assumptions that are not explicitly stated in the advertisement. The paper adopted speech act theory (examine written aspect of the advertisment) and Peirce model as a model of analysis (discussed the visual element of the advertisement).

The findings reveals how nonverbal communication (sign, symbol, image) are used to represent the product or services rendered by the companies, as well as how meanings are conveyed through these representations. However, it also discovered that iconic sign of pictures contributed to the dissiminating the information of the product and services beign advertised. Furthermore, colour also shape the design of picture which make the pictures more attractive and persuading to the public. In addition, the paper examines how different visual and linguistic symbols are used to form and convey meaning. Moreover, it also shows how each and every sign of picture or symbol on any advert has its own meaning that is assigned to convey message to customers or readers. Pragmatically, the findings identify the strategies used, such as assertive act and directive act in the adverts which include persuading a customer and manipulation of language or information.

This type of study is recommended for researchers, scholars and advertisers to make effective use of Hausa language for the purpose of their advertising goods and services. This contributes to meanings, persuasive and culturally loaded. Students are also encouraged to per take in this type of research, which deeply rooted from Hausa language that helps to provide meaning form semiotic and pragmatic perspective.

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References

- Aleshinloye, O., & Mogbogu, J. R. (2026). Determinants of seeking and altruistic sharing of medical health tips on new media platforms among young people in Lagos State. *American Journal of Health Research*, 14(2), 111–123. <https://doi.org/10.11648/j.ajhr.20261402.16>
- DataReportal. (2026). Digital 2026: Nigeria. <https://datareportal.com/reports/digital-2026-nigeria>
- Issaka, B., Allor, P., Aidoo, E. A. K., Wood, S. F., Amisssah, A. A., & Muturi, N. (2025). Enhancing cancer prevention behaviors through social media: The role of source credibility and message characteristics in Ghana. *BMC Public Health*, 25, Article 2471. <https://doi.org/10.1186/s12889-025-23693-1>
- Izuogu, K. C., & Umoren, P. (2017). Political advertising and smear campaigns: Whither Nigeria. *International Journal of Communication*, , 121–131.
- Kaňková, J., Binder, A., & Matthes, J. (2024). Helpful or harmful? Navigating the impact of social media influencers' health advice: Insights from health expert content creators. *BMC Public Health*, 24, Article 3511. <https://doi.org/10.1186/s12889-024-21095-3>
- Kim, S., Lilani, A., Redemptus, C., Campana, K., Tozan, Y., & Wai, K. T. (2024). A pre-post evaluation study of a social media-based COVID-19 communication campaign to improve attitudes and behaviors toward COVID-19 vaccination in Tanzania. *PLOS ONE*, 19(5), Article e0300206. <https://doi.org/10.1371/journal.pone.0300206>
- Kuipers, M. F., Konus, U., Brundel, B. J. J. M., & Birbil, S. I. (2025). Communication strategies driving online health community patient awareness and engagement investigated within atrial fibrillation context. *npj Digital Medicine*, 8, Article 446. <https://doi.org/10.1038/s41746-025-01854-1>
- Kuyinu, Y. A., Femi-Adebayo, T. T., Adebayo, B. I., Abdurraheem-Salami, I., & Odusanya, O. O. (2020). Health literacy: Prevalence and determinants in Lagos State, Nigeria. *PLOS ONE*, 15(8), Article e0237813. <https://doi.org/10.1371/journal.pone.0237813>
- Li, J., & Shi, C. (2025). Who do we follow online? An experimental study on source clarity and social proximity in digital health communication. *Frontiers in Public Health*, 13, Article 1661328. <https://doi.org/10.3389/fpubh.2025.1661328>
- Olumuji, E., & Akerele, I. (2025). Youth engagement with social media skits for health awareness in Nigeria: A descriptive study. *De-Centre: Journal of Interdisciplinary Studies*, 1(1), 1–12. <https://doi.org/10.36615/chctt594>
- Oni, O., Esalomi, O., Orok, E., & Adelusi, A. (2026). Social media usage for health information among undergraduate students: A cross-sectional study. *BMC Public Health*, 26, Article 417. <https://doi.org/10.1186/s12889-025-26099-1>
- Paul, B., & Headley-Johnson, S.-A. (2025). The impact of social media on health behaviors: A systematic review. *Healthcare*, 13(21), Article 2763. <https://doi.org/10.3390/healthcare13212763>
- Rosenstock, I. M. (1974). Historical origins of the Health Belief Model. *Health Education Monographs*, 2(4), 328–335. <https://doi.org/10.1177/109019817400200403>
- Roy, R., & Malloy, J. (2023). Evolving role of social media in health promotion. In B. S. Garg (Ed.), *Health promotion—Principles and approaches*. IntechOpen. <https://doi.org/10.5772/intechopen.111967>
- Simba, H., & Girma, E. (2025). Optimizing social media influencers for health communication in Africa. *Global Health Action*, 18(1), Article 2572009. <https://doi.org/10.1080/16549716.2025.2572009>
- Thapliyal, K., Thapliyal, M., & Thapliyal, D. (2024). Social media and health communication: A review of advantages, challenges and best practices. In M. B. Garcia & R. P. Pereira de Almeida (Eds.),



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Emerging technologies for health literacy and medical practice (pp. 364–384).IGI Global Scientific Publishing. <https://doi.org/10.4018/979-8-3693-1214-8.ch017>