Research Article

A Pragmatic Study of Argumentation in COVID-19 Healthcare Discourse

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Abstract

The present study tackles pragmatically the concept of argumentation in COVID-19 advisory health infographics which have been designed by the World Health Organization (WHO) to increase public awareness towards the misconceptions which spread through the novel coronavirus disease crisis in 2020.Thus, the current work takes the following aims into the consideration: (1) showing the pragmatic structure of argumentation in COVID-19 health infographics; (2) figuring out how speech acts and conversational maxims are utilized by writers in health infographics;(3)identifying the argumentation appeals and schemes which the writers exploit in the selected data. In relation to the above mentioned aims, the following hypotheses are set: (1) speech act of warning is highly utilized in the data under study;(2) the cooperative principles are highly observed in the selected health infographics; (3) logos and argument from consequences are the dominant argumentation strategies in the selected data. To fulfill the aims and to test the hypotheses, these procedures have been tackled:(1) developing an eclectic model to analyze the pragmatic components of argumentation in the selected data;(2) adopting a qualitative and quantitative methods to analyze the data under study. The findings have rejected the first hypothesis and proved the second and third ones.

*Keywords***:** arguments,COVID-19,misconceptions,health infographics

1.Introduction

According to Eemeren et al., (2018,p.13), argumentation theory has been rooted in classical dialectic by Aristotle since it came into being to resolve different opinions about certain viewpoints where an arguer advances arguments in a defense of the standpoint at issue to convince the addressees of its acceptability by taking their doubt or criticism towards it into account. As provided by Eemeren (2010, p. 29 as cited in Eemeren et al., 2014, p.7), argumentation is an act with communicative and interactional insights mainly aiming at resolving different opinions before the doubted addressee by means of a set of propositions with a convincing effect to make the target- addressee judges the acceptability of the claim at question in a reasonable way. According to Walton (2006, p. 1), the term argumentation refers to a dynamic process by means of which arguments are connected together to support a claim in an exchange. In the same vein, Rieke, et al. (2013, p.2) describe argumentation as a process of communication by means of which claims at issue can be defended. They (p. 3) refer to a claim as a statement an arguer wants others to adopt and act on.

2.Argumentation and Health Communication

Until recently, talking about argumentation in the healthcare domain seems odd because the healthcare system was one -to-one contact depending on the ethos of the healthcare provider as the main source of the medical information. On the contrary, nowadays the receivers of health information are exposed to a large amount of such information as searching websites for certain health problem. Thus, they may doubt the health professional's opinion . That is why, the provider and the receiver may need to engage in a critical discussion in order to convince the recipient to accept the intended opinion at issues. Viewing the importance of argumentation theory in healthcare settings have encouraged some theorists to investigate the most prominent insights of argumentation which can be exploited to enhance the manner that helps the participants in healthcare discourse (professionals and recipients) to arrive at an agreement about certain health treatment, whether the advised drug is good or not for the drug consumers, and to what rational and effective extent the governmental institutions are, in supporting certain behaviours which are expected to improve public health positively (Rubinelli & Henkemans,2014,p.1).

As for health publications, such as leaflets , brochures, posters ,etc. they are considered persuasive means which are designed on assumption that the decisions taken by public about certain health problems are made freely depending on the information and the provided evidence. Hence, arguments are advanced to induce the intended addressees work on the advocated action (Schellens & De Jong 2004, p. 299).Similarly, in health publications such as health brochures which aims at increasing public awareness about certain health issues, brochures writers adopt argumentation as an essential tool to change certain lifestyle (Poppel, 2014,p. 97).

3. The Model of Analysis

The current section is concerned with developing an eclectic model to analyze the pragmatic issues of argumentation in the selected data according to the pragmatic components of speech acts, Grice's conversational maxims, persuasive appeals, and argumentation schemes.

3.1 Speech Acts

Speech act theory, as Cutting (2002,p.16) mentions, arises from the idea that people do not only use language to say things but also to carry out actions. As a part of his contribution to speech act theory, Searle presents a comprehensible classification of speech acts. Following Searle's (1976,pp.10-13) classification, illocutions include the following macro-classes: representatives: are types of utterances a speaker produces to express his belief in certain things as they are in the world (e.g., asserting ,explaining), directives: are speech acts a speaker performs to make a hearer acts or not to act on a certain course of action(e.g., ordering, advising),
commissives: are utterances by means of which a speaker commits him or herself to do a certain action in the future (e.g., promising, offering), expressives: are speech acts which a speaker produces to reflect his attitude towards certain situations (e.g., congratulating, thanking), and,
declarations: whose performance results in some altering in reality(e.g., declaring wars, firing from employment).However, the successful performance of these speech acts is governed by certain conditions called the felicity conditions(Rekema & Schubert,2018,p.18).

3.2 Cooperative Principle

One of the basic theories which has contributed to the foundation of pragmatics is that of Grice, namely Conversational Implicature. Unlike Austin, Grice takes both speakers and hearers into account when they are communicating in social situations, referring to the hidden meaning that a hearer can figure out from what a speaker literary says "how hearers get from what is said to what is meant" (Thomas, 2011,p.56). Grice has introduced the mechanism that people follow in their conversations, proposing that people want to cooperate when they exchange meaning so as to reduce misunderstanding (p.61).Hence, he presents the concept of Cooperative Principle (CP) which is read as follows: "Make your contribution such as it is required at the stage in which it occurs, by the accepted purpose or direction of talk exchange in which you are engaged" (p. 62). CP has been elaborated to include four maxims (Cruse, 2000):

Quality: The maxim of quality has to do with the truthfulness of the information delivered. That is, speakers need to be sincere in what they are stating (p.355),

Quantity: This maxim is concerned with the amount of the given information. That is, the information conveyed should be no more no less than is required (p.356),

Relevance: This maxim has to do with the relevantly of the contribution made in a given speech situation. Simply speaking, this maxim is read as: Be relevant (pp. 356-7), and

Manner: The maxim of manner refers to the way in which things are said. It requires that participants to contribute clearly, briefly, and orderly (p. 357).

3.3 Persuasive Appeals

Before identifying the means used to persuade, it is worthy to define persuasion first. "Persuasion is a human communication that is designed to influence others by modifying their beliefs, values and attitudes" (Simon,1976, p. 21). It is well known that persuasive or argumentative appeals fall within the Aristotle's rhetorical theory. The means, principles, or as Aristotle calls artistic proofs of persuasion are of three main categories: ethos (persuading through character), pathos (persuading through hearers), and logos (persuading through reasoning) (Cockcroft & Cockcroft, 1992, pp. 3-8; Kennedy, 2007, pp. 38-9).

3.4 Argumentation Schemes

Walton (2007) defines argumentation schemes as forms of inference the interlocutors use in their normal and special interaction (e.g., scientific and legal). For Walton, these schemes are of a premise-conclusion relation where some have logical forms, that of deductive or inductive reasoning, while others take the form of abductive reasoning which might not be very strong schemes, yet they can serve as a plausible justification in relation to the conclusion (p. 26).

-**Argument from sing**: The premise-conclusion relation in this type of argument is understood in the sense, that the existence of (X) is taken as a sign or evidence for the existence of an event (E) in a particular context   Walton (1996, p.47).

-**Argument from consequences**: Argument from consequences is a common kind of schemes which are used in in public policy related issues where a certain practice is encouraged or discouraged by showing its positive or negative outcomes respectively (pp.75-6).

-**Argument from ignorance**: In this argument type the truthfulness of the proposition expressed has not been proven yet; therefore, it is reasonable to infer but not assure its falsity. Unless some alternatives come in sight to prove the opposite (p.113).

-**Argument from position to know**: This kind of argumentation occurs when one party depends on the other party as a reliable source in providing him or her with the information that the recipient needs to know about (p.61).

-**Argument from expert opinion**: in which the claim of a specialized expert in a certain domain will be taken as a for granted for the truthfulness of the proposition expressed in that domain (p. 64).
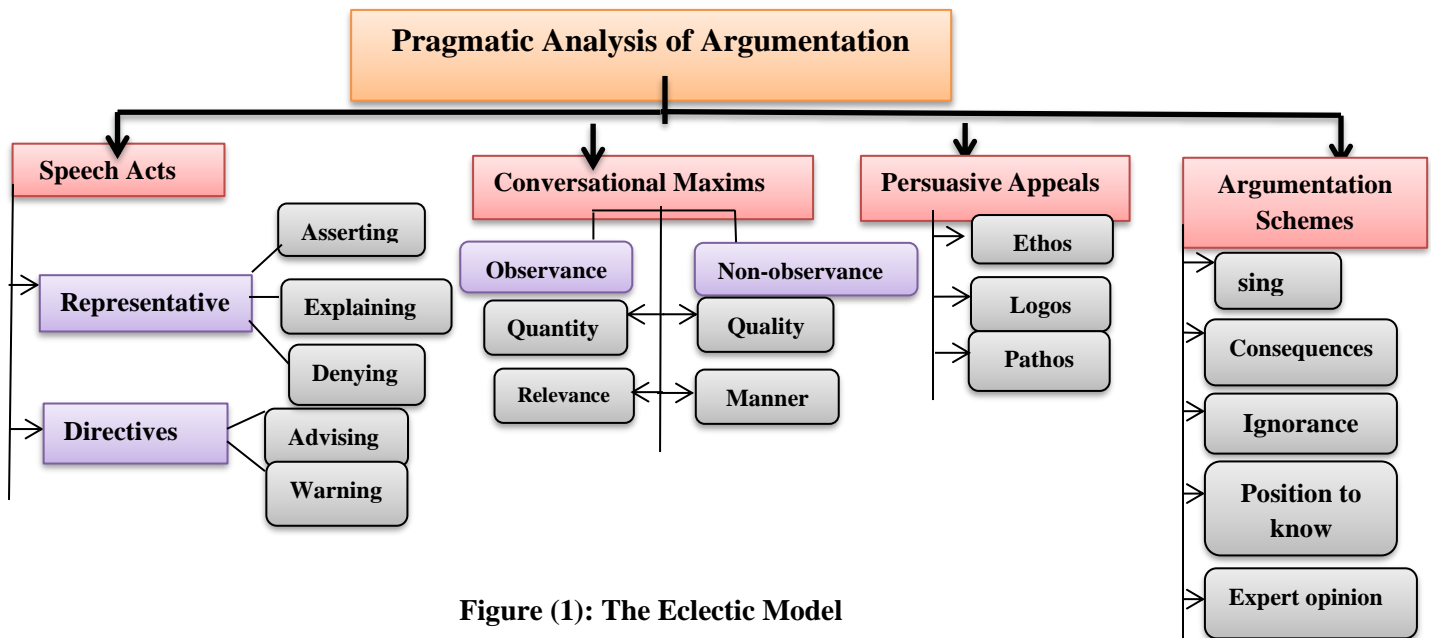
4. The Eclectic Model

Figure (1): The Eclectic Model

5.Data Collection

The data are collected from the website below belonging to the World Health Organization (WHO):

https://www.who.int/emergencies/diseases/novel-coronavirus- 2019/advice- for-public/myth-busters

They consists of five argumentative samples chosen from five advisory health infographics that have been designed to correct the misconceptions and to increase the public awareness of certain facts as a response to certain myths through the outbreak of coronavirus pandemic in 2020.

6. Analysis of Data

Sample (1): Antibiotics and COVID-19

"FACT: Antibiotics CANNOT prevent or treat COVID-19.Antibiotics do not work against viruses, only bacteria. The new coronavirus (2019- n COV) is a virus."

Speech Acts: In order to make people refrain from using antibiotics for COVID-19 treatment, the claim in advance "Antibiotics CANNOT prevent or treat COVID-19" is defended by the representative speech acts of denying and asserting as a writer denies that taking antibiotics can cure viruses "Antibiotics do not work against viruses, only bacteria", asserting that the novel COVID-19 is caused a virus not by a bacteria in order to convince public that antibiotics cannot be used to get rid of COVID-19.

Grice's Maxims: Cooperatively, all the conversational maxims are obeyed since the contribution made by a writer in the present sample is informative, relevant, clear, and true.

Persuasive Appeals: Rhetorically, logos is the persuasive strategy which is resorted to in the present sample to convince public of not using antibiotics to treat or to protect themselves against the coronavirus disease; since antibiotics are prescribed to treat bacterial infection only, and since COVID-19 is a virus, antibiotics do not work against it.

Argumentation Schemes: Schematically, argument from position to know scheme is the type of inference which is utilized to defend the expressed opinion:

Major Premise: A writer is in a position to know whether COVID-19 is caused by a virus or by a bacteria.

Minor Premise: A writer asserts that the new coronavirus is caused by a virus.

Conclusion: Therefore, the novel coronavirus cannot be cured or prevented by antibiotics.

Sample (2): Pneumonia vaccines and COVID-19

 "*FACT*: *Vaccines against pneumonia, such as pneumococcal vaccine and Haemophilus influenza type B (Hib) vaccine, do not provide protection against the new coronavirus.The virus is so new and different that it needs its own vaccine. Researchers are trying to develop a vaccine against 2019-nCoV,and WHO is supporting their efforts.*"

Speech Acts: As a correction to the misinformation of using pneumonia vaccines to prevent the new coronavirus, the argument advanced is triggered by the representative speech act of asserting as a writer asserts that the coronavirus is a new disease therefore the vaccine developed against it should be different from the available vaccines which have been developed against other diseases. In addition to that, the specialists are working on developing a vaccine against coronavirus disease and the World Health Organization is encouraging their efforts. Thus, the public can be convinced of the uselessness of the pneumonia available vaccines against COVID-19"Vaccines against pneumonia, such as pneumococcal vaccine and Haemophilus influenza type B (Hib) vaccine, do not provide protection against the new coronavirus." as a refutation to the opposite misguided belief.

Grice's Maxims: A writer's contribution in the current sample goes in a line with the conversational guidelines. Thus, no breaching to Grice's maxims is observed as the meaning intended is expressed in an informative, true, relevant and explicit way.

Persuasive Appeals: Rhetorically, by giving factual information, a writer appeals to logos and ethos as persuasion strategies to convince public that by logic and in order to be effective, the vaccine needed against the new COVID-19 should be developed in accordance with this new virus. By appealing to the expert opinions in a reference to the efforts made by researchers and the World Health Organization to find a treatment for the new coronavirus, a writer exploits ethos to indicate the worthlessness of the available vaccines against COVID-19.

Argumentation Schemes: Schematically, argument from position to know and expert opinion are the types of argument schemes which are employed in the current situation. The structure of inference for these schemes can be interpreted as follows:

Argument from position to know:

Major Premise: A writer is in a position to know whether pneumonia vaccines are active in preventing the coronavirus infection or not.

Minor Premise: A writer asserts that COVID-19 is a new disease which requires its own vaccination.

Conclusion: Therefore, pneumonia vaccines are not active against COVID-19.

Argument from expert opinion:

Major Premise: The researchers and WHO are experts in health domain concerning developing a vaccine against COVID-19.

Minor Premise: The researchers are trying to find vaccine against the new coronavirus disease and WHO is after these tries.

Conclusion: Therefore, the available vaccines do not protect from COVID -19.

Sample (3): Mosquito bites and COVID-19

"FACT: The new coronavirus CANNOT be transmitted through mosquito bites. To date there has been no information nor evidence to suggest that the new coronavirus could be transmitted by mosquitoes. The new coronavirus is a respiratory virus which spread primarily through droplets generated when an infected person cough or sneezes, or through droplets of saliva or discharge from the nose."

Speech Acts: The arguments put to support the advisory standpoint "The new coronavirus CANNOT be transmitted through mosquito bites" as a refutation to the opposite opinion are triggered by the representative speech acts of denying and explaining. A writer denies the availability of any scientific evidence to prove that mosquito bites can cause infection with COVID-19 to human beings "To date there has been no information nor evidence to suggest that the new coronavirus could be transmitted by mosquitoes", this can be argued by the fact that the coronavirus is a respiratory disease and the infection with this virus mainly occurs because of the transmission of the respiratory droplets released from a COVID-19 patient's cough or sneeze to

another person. Thus, readers can be convinced to reject the misguided belief of the possible transmission of COVID-19 through mosquito bites.

Grice's Maxims: Cooperatively, no breaching to Grice's maxims is observed as the intended message is given the right amount of information, true, relevant and easy to understand.

Persuasive Appeals: Rhetorically, a writer resorts to logos to persuade the public that the coronavirus disease cannot be transmitted through mosquitos; if there is no scientific evidence to support the belief that mosquito bites can cause infection with the new COVID-19, and if coronavirus is classified as a respiratory illness that primarily transmits among people through the droplets produced by a person who carries the coronavirus to another person causing his or her infection with the virus, then mosquitos do not cause infection with COVID-19.

Argumentation Schemes: As argumentation schemes regards, two types of argumentation schemes are employed; argument from ignorance and argument from position to know. The inference of argument from ignorance scheme is that:

Major Premise: If COVID-19 were able to transmit through mosquito bites, then it would be known.

Minor Premise: The transmission of COVID-19 through mosquitos has not been proven yet.

Conclusion: Therefore, mosquitos do not cause infection with COVID-19.

Whereas that of argument from position to know:

Major Premise: A writer is in a position to know how COVID-19 transmits.

Minor Premise: As a reliable source, a writer asserts that the new coronavirus is a respiratory disease which spreads through the respiratory droplets released from an infected person.

Conclusion: Therefore, mosquitos do not cause COVID-19 infection.

Sample (4): Hot baths and COVID-19

"FACT: Taking a hot bath does not prevent the new coronavirus disease. Your normal body temperature remains around 36.5°C to 37°C, regardless of the temperature of your bath or shower. Actually, taking a hot bath with extremely hot water can be harmful, as it can burn you."

Speech Acts: As a response to the misconception of preventing or curing the novel coronavirus via taking hot bath, the expressed opinion "Taking a hot bath does not prevent the new coronavirus disease" is defended by the arguments which are issued by the representative speech act of asserting and the directive speech act of warning. Firstly, a write makes clear that the normal level of body temperature remains fixed and will not change or go high when exposing our bodies to external conditions as in taking a very hot bath "Your normal body temperature remains around 36.5°C to 37°C". Secondly, a writer warns people of taking a very hot bath as it can be a risky practice "as it can burn you" and it will not help preventing the virus. In this regard, readers can be convinced to refrain from such a behaviour.

Grice's Maxims: As far as Grice's maxims are concerned, a writer is cooperative in conveying the message required as all maxims are observed. A writer is qualitatively and quantitatively informative, relevant and unambiguous.

Persuasive Appeals: As argumentation strategies of persuasion regards, a writer resorts to logos and pathos. Logically speaking, the reasonable argument is that; since taking a hot bath will not increase the temperature of human body as the body keeps its internal temperature between 36°C and 37°C regardless of the external conditions like heating, then taking a hot bath will not work against coronavirus disease. Concerning emotional appeals, it is triggered when a writer arouses the feeling of fear via warning the readers of acting on such a behaviour as they may hurt themselves badly "taking a hot bath with extremely hot water can be harmful, it can burn you".

Argumentation Schemes: In terms of argumentation schemes, two types are utilized in the present sample: argument from sign (36°C to 37°C) to prove the position at issue, and argument from (negative) consequences. The structure of argument from sign can be interpreted as follows:

Major Premise: If your body temperature stays between 36.5°C to 37°C after having a hot bath, then a hot bath has no effect on COVID-19.

Minor Premise: In this case, the normal temperature of human body remains consistent between 36°C to 37°C after taking a hot shower.

Conclusion: Therefore, having a very hot bath does not help preventing COVID-19.

Concerning the structure of argument from negative consequences, it is the following:

Premise: If one takes a very hot bath, then one may burn him or herself.

Conclusion: Therefore, a very hot bath should be avoided.

Sample (5): Hand dryers and COVID-19

"FACT: Hand dryers are NOT effective in killing the COVID-19 virus.To protect yourself, against the new coronavirus, you should frequently clean your hands with an alcohol- based hand rub or wash them with soap and water. Once your hands are cleaned, you should dry them thoroughly, by using towels or a warm air dryer."

Speech Acts: The argument put to defend the proposition expressed "Hand dryers are NOT effective in killing the COVID-19 virus" which comes as a rejection to the opposite practice is triggered by the directive speech act of advising as a writer advises readers to follow the most active ways to get rid of the virus from hands, which is regularly washing hands with soap and water or disinfecting them with an alcohol-based hand rub. Hence, public can realize that using hand dryers is no longer effective in removing the coronavirus from hands.

Grice's Maxims: Concerning conversational maxims, the intended message is expressed in an informative, true, relevant, and clear way.

Argumentation Appeals: As for the pragma rhetorical appeals, the tone of the message and a writer's knowledge concerning the best ways that the readers can follow to eliminate the coronavirus, indicate a writer's credibility or honesty towards the readers, viz., his or her appealing to ethos as a persuasive strategy.

Argumentation Schemes: Schematically, argument from position to know is the type of inference which is exploited in relation to the defended opinion in the standpoint. The readers can infer that:

Major premise: A writer is in a position to know whether hand dryers are effective in killing the coronavirus or not.

Minor Premise: A writer asserts that the most active ways to exclude the viruses from hands are to wash them with soap and water or to rub them with alcohol-based hand rub.

Conclusion: Therefore, hand dryers do not work against coronavirus.

7.Findings

Table 1
Speech Acts

Speech Acts	Freq.	Percent%
Asserting	3	37.5%
Denying	2	25%
Explaining	1	12.5%
Warning	1	12.5%
Advising	1	12.5%
Total	8	100%

Table 2
Grice's Maxims Observation

Observance	Freq.	Percent%	Non-observance	Freq.	Percent%
Quantity	5	25%	Quantity	0	0%
Quality	5	25%	Quality	0	0%
Relevance	5	25%	Relevance	0	0%
Manner	5	25%	Manner	0	0%
Total	20	100%	Total	0	0%

Table 3
Persuasive Appeals

Persuasive Appeals	Freq.	Percent%
Logos	4	57.14%

Pathos	1	14.28%
Ethos	2	28.57%
Total	7	100%

Table 4
Argumentation Schemes

Argumentation Schemes	Freq.	Percentages
Position to know	4	50%
Expert opinion	1	12.5%
Consequences	1	12.5%
Sing	1	12.5%
Ignorance	1	12.5%
Total	8	100%

8.Result and Discussion

From the qualitative analysis, it can be concluded that argumentation is a powerful persuasive strategy in health domain, and it is pragmatically structured through the pragmatic components of speech acts, Grice's principles of cooperative communication, persuasive appeals, and argumentation schemes, whereas the findings of the statistical analysis confirm that the arguments put to refute the wrong beliefs and to prove the right ones are highly activated by the representative speech act of asserting, adhering to the cooperative principles, appealing to logos, and exploiting from position to know argumentation scheme. Hence, in addressing important health public related issues, as in WHO's COVID-19 advisory health infographics, writers tend to convince readers through the reliability of the facts being asserted against the misconceptions without any misunderstanding is being introduced as the intended messages are conveyed in an informative, true, relevant and explicit way.

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