

ACTOR CENTRALITY AND SOCIAL SUPPORT ON THE ALODOKTER YOUTUBE VIDEO SOCIAL NETWORK

ABDULLAH WILDAN ULHAQ¹ and RITA DESTIWATI^{2*}

^{1,2} Faculty of Communication and Business, Telkom University, Indonesia.

Email: ¹abwildanu@telkomuniversity.ac.id, ²ritadestiwati@telkomuniversity.ac.id (*Corresponding Author)

Abstract

Health communication needs to be done to promote herbal plants such as Ginger as an alternative treatment for diseases. Because, besides being a natural medicine to treat diseases, herbal plants have also been recognized internationally by WHO (World Health Organization) as well as in the country through the Regulation of the Minister of Health of the Republic of Indonesia No. 6 of 2006 concerning the Formulary of Indonesian Herbal Medicines. This study aims to determine the centrality of actors (degree centrality, betweenness centrality, closeness centrality, and eigenvector centrality) and health communication in the context of social support in the social network of the Alodokter Youtube video comment column entitled "Berbagai Manfaat Jahe untuk Asam Lambung". This research uses descriptive qualitative methods. The results of this study indicate that there are central actors, such as @Alodokter_id, @ahmadsyukri6926, @abby131, @namadepan4954, and @Pecahan-Beling-Team who both provide social support in the form of informational support, emotional support, appraisal support, and esteem support to fellow stomach acid sufferers who consume ginger as an herbal medicine.

Keywords: Health Communication, Herbs, Social Networks, Social Support.

INTRODUCTIONS

Ginger as an herbal plant has many benefits for the health of the body. Ginger can be used to maintain health and stamina and treat diseases, both internal and external diseases. Ginger (*zingiber officinale*) is efficacious for preventing and treating various diseases, including colds, vertigo, infections, digestive system disorders, muscle and joint pain or arthritis, to bronchitis and cancer (Aryanta, 2019). Active compounds contained in essential oils in ginger such as zingiberin, lemonin, borneol, sineol, gingerol, and zingeron allow ginger to have properties to prevent and treat diseases (Ramadhan et al., 2022).

The utilization of ginger as an herbal medicine has been widely practiced since ancient times in almost all over the world, one of which is in Indonesia. Ginger in Indonesia is usually mixed in herbal drinks to warm the body, maintain stamina and health, and treat various diseases (Edy & Ajo, 2020). Indonesia is also one of the countries that produce and consume the most ginger. When looking at the amount of ginger production globally, Indonesia is one of the countries with the largest amount of ginger production in the world. The average production of ginger in Indonesia is around 218,465 tons per year (Nurhidayati et al., 2022). In fact, based on a study by Shahrajabian et al. (2019), Indonesia is ranked 4th as the country with the largest ginger production in the world after India, China, and Nepal (Shahrajabian et al., 2019).

Although the popularity of ginger plants is increasing every year, herbal plants in general as an alternative medicine, especially in Indonesia, still do not get much attention (Gandhawangi, 2023). Several studies show that Indonesians are still unfamiliar with herbal products. A study

conducted by Pratiwi et al. (2018) showed that only about 29.4% of Indonesians know herbal medicines (Pratiwi et al., 2018). Another study conducted by Elfariyanti et al. (2020) regarding people's preferences for herbal medicines and chemical drugs shows that only 34.78% of people choose herbal medicines, while 65.21% still prefer chemical drugs to herbal medicines (Elfariyanti et al., 2020). This shows that the level of understanding and utilization of traditional medicine (herbs) by the Indonesian people is still uneven.

In fact, currently, the Back to Nature slogan and the trend of herbal medicine are on the rise in almost all countries in the world. The World Health Organization (WHO) also includes herbal medicine as part of the implementation of traditional medicine strategies since 2014-2023 (World Health Organization, 2023). The Indonesian government in the Regulation of the Minister of Health of the Republic of Indonesia Number 6 of 2016 concerning the Formulary of Indonesian Herbal Medicines, in Chapter I also states that "The Ministry of Health through the design of the development and promotion of Indonesian traditional medicines encourages and promotes the use of Indonesian traditional medicines by the community and is developed in medicine" (Menteri Kesehatan Republik Indonesia, 2016).

Some of the factors behind people's decision to consume herbs as an alternative to chemical drugs include cultural factors, perceptions, and beliefs. People are generally accustomed to using chemical drugs and are not used to consuming herbs as an alternative facility to treat their illness. Therefore, the promotion of herbal plants needs to be done more intensively and directed through good health communication (Marwati & Amidi, 2018).

Health communication is the study of messages with meanings related to physical, mental, and social well-being (Parvanta & Bass, 2020). Health communication aims to inform, motivate, and influence individuals, institutions, and the wider community about the urgency of health (Schiavo, 2013). In particular, the objectives of health communication are divided into two, namely strategic goals and practical goals. According to Liliweri in Sari et al. (2020), there are six strategic goals, namely, relay information, enable informed decision making, promote peer information exchange and emotional support, promote healthy behavior, promote self-care, and manage demand for health services. The practical purpose of health communication is to improve the quality of human resources (HR) through various training and education efforts (Sari et al., 2020).

In addition, there are four scopes of health communication that can be done to create healthy living behaviors, namely promotive, preventive, curative, and rehabilitative efforts (Putri et al., 2021). Promotive efforts are efforts made to improve the quality of health such as consuming foods with balanced nutrition, regular exercise, and so on. Preventive efforts or prevention efforts are efforts made so as not to get sick, one example is by vaccinating. Curative efforts or treatment efforts are actions taken against patients who have been affected by the disease. Rehabilitative efforts are the last effort made so that individuals improve in normal conditions as before being affected by the disease so that they can rejoin other communities (Memam et al., 2021). One form of effort to build health communication is by providing mutual social support or social support. Social support is a form of the presence of other people, both individuals and groups, who can provide attention, appreciation, comfort, and assistance to

others (S. M. Sari et al., 2016). Social support is a concept that also acts as an umbrella for various other theories and concepts related to social relationships, health, and well-being (Thompson et al., 2011).

Some forms of Social Support are Informational Support, Emotional Support, Appraisal Support, Network Support, Instrumental Support, Tangible Support, and Esteem Support. Informational Support is social support by providing information and advice or advice that is relevant and beneficial to the health of others. Emotional support is social support by showing or expressing sympathy and empathy for others. Appraisal Support is social support in the form of communication by offering new ideas or perspectives in certain conditions. Esteem Support is social support by providing positive affirmation and affirmation of one's identity and value (Moore, 2018).

Social support is important and important to be obtained by individuals in the context of health communication, especially for patients or individuals with certain diseases. Social support can come from close people such as parents, siblings, friends and companions, as well as social networks or people who have relationships with these individuals. Several studies have shown that social support has a relationship and influence on a person's health. For example, research conducted by Wenn et al., (2022) shows that social support is related to high levels of quality of life (QoL) (Wenn et al., 2022).

Several other studies have shown that social support can reduce burnout and increase the morale of teachers (Goldsmith, 2008). Social support also mediates the relationship between state of mind and level of resilience (Chang et al., 2023). Social support is also related to good health management. That is, if someone gets good social support, then their health management will be good (Visvalingam et al., 2019). In essence, social support is very important for maintaining health, both physical health and mental health (Ozbay et al., 2007).

Currently, with the development of increasingly massive digitalization, social support can be done more effectively. The presence of the internet and social media such as Twitter, Instagram, Tiktok, Website, and Youtube, for example, presents various conveniences in interacting and exchanging health information (Wong et al., 2021). The presence of social media also provides convenience, both for health institutions, professionals, researchers, and the general public for health communication purposes.

There are at least three main characteristics of social media. First, social media can form a digital social network. This allows many people on the internet to connect on the same context or topic. Second, social media is interactive. With interactive features, social media users do not only receive information in one direction, but can build two-way interaction and communication. Third, content on social media is user-generated content (UGC) or content that is entirely owned and contributed by the account owner or user. With UGC-based media, everyone can actively participate in sharing information (Setiadi, 2016). One of the social media that can be used to share information (media sharing) is Youtube (Setiadi, 2016). The Youtube platform has a "comment column" feature so that viewers of video content on Youtube can interact with each other and form a social network. In the context of health communication,

Youtube as a social media platform is also widely used to share health information. One of the Youtube channels that shares health information is Alodokter. Alodokter is a health information and consulting service company since 2014 which is the most popular in Indonesia with a Youtube following of 2.3 million followers. Currently, Alodokter is also an official partner of the Ministry of Health of the Republic of Indonesia.

One of the videos on the Alodokter Youtube channel that discusses the use of ginger is a video with the title "Berbagai Manfaat Jahe untuk Asam Lambung". The video was posted in 2023 and has been watched by more than 550 thousand views with 4700 likes and 572 comments. Through the video, Alodokter informs and educates the audience to treat stomach acid using the *zingiber officinale* plant (ginger). Previous studies related to Alodokter and ginger include research conducted by Haryanti et al., (2024) entitled The Effectiveness of Topical Combinations of Red Ginger Gel and Katuk Leaf Extract Capsules on Breast Milk Production of Breastfeeding Mothers. The study was a Quasi Experiment (quantitative) study that aimed to see the effectiveness of red ginger gel and katuk leaf extract capsules on breast milk production of nursing mothers. As a result, the combination of red ginger and katuk leaf extract capsules is effective on breast milk production of nursing mothers (Ahadian Haryanti et al., 2024).

Other research related to Alodokter, for example, is research conducted by Pramudita et al., (2023) entitled Determinants of Behavioral Intention Towards Telemedicine Services Among Indonesian Gen-Z and Millennials: A PLS-SEM study on Alodokter Application. The study is a Cross-Sectional (quantitative) study that aims to identify factors that influence user satisfaction and behavioral interest in the use of telemedicine applications among Millennials and Gen-Z. The results of this study indicate that customer satisfaction positively affects behavioral intentions, where the factors are performance expectations, outcome expectations, price, and social influence positively impact customer satisfaction (Pramudita et al., 2023).

The studies related to the use of Social Network Analysis (SNA) on Alodokter have been conducted by Navisha et al., (2023) with the title Twitter Social Network Interaction as Customer Engagement in Competition for E-Commerce E-Health Performance in Indonesia. The research is research conducted through the Social Network Analysis (SNA) approach and descriptive interpretation with the aim of identifying customer conversations on Twitter regarding e-commerce health to see its performance and network comparison of e-health results in Indonesia. The results showed that in terms of network property comparison, Halodoc e-health was considered superior to Alodokter because the number of Halodoc nodes and edges was more weighted, both in terms of medicine, consultation, and payment (Navisha et al., 2023). Based on a review of some of the literature, this study seeks to determine four types of actor centrality consisting of degree centrality, closeness centrality, betweenness centrality, and eigenvector centrality (Hadiana & Witanti, 2017). Degree centrality is used to determine the number of relationships owned by an actor. Closeness centrality is used to determine the closeness of one actor to another. Betweenness centrality is used to see how much one actor is passed by another actor. The eigenvector centrality is a measurement of important actors seen from their relationship with other actors who are also important (Bakry & Kusmayadi, 2021).

This study aims to determine the centrality of actors and health communication messages through the concept of social support in the comments contained in the Alodokter Youtube video entitled "Berbagai Manfaat Jahe untuk Asam Lambung". Specifically, this study wants to determine degree centrality, closeness centrality, betweenness centrality, and eigenvector centrality as well as health communication messages in the context of informational support, emotional support, appraisal support, and esteem support contained in the Alodokter Youtube video comment section entitled "Berbagai Manfaat Jahe untuk Asam Lambung".

RESEARCH METHODS

This study aims to determine the centrality of health communication actors and messages in the context of Informational Support and Emotional Support contained in the Alodokter Youtube video comment section entitled "Berbagai Manfaat Jahe untuk Asam Lambung". The research method used in this research is descriptive qualitative method. Qualitative research is a number of methods for exploring and understanding meaning derived from social or humanitarian problems (Creswell, 2019). Research data collection was carried out using the Youtube Data Tools website and Export Comments. The Youtube Data Tools website is used to collect data on actors or Youtube accounts that comment on the Alodokter Youtube video entitled "Berbagai Manfaat Jahe untuk Asam Lambung". While the Export Comments website is used to collect data on comment messages contained in the Alodokter Youtube video entitled "Berbagai Manfaat Jahe untuk Asam Lambung". The following is a chart that explains the stages of the process carried out in this study:

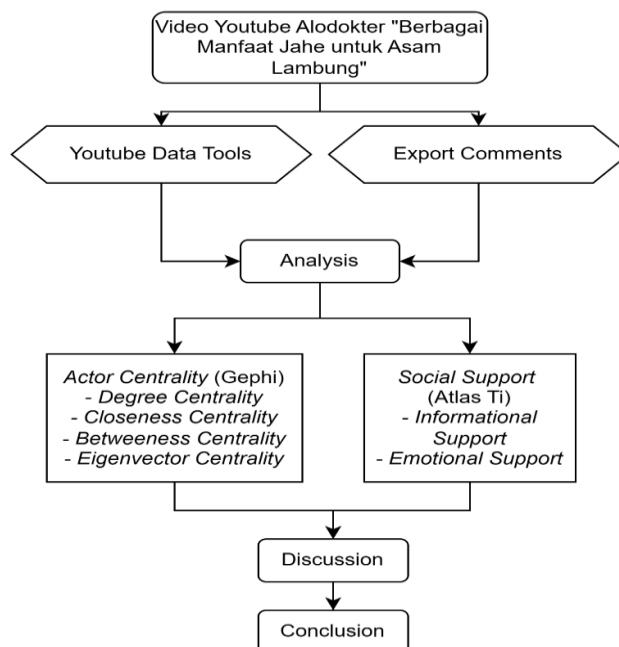


Figure 1: Research Stages

Source: Author (2024)

The picture above shows the stages of the data collection process carried out on the Alodokter Youtube video entitled "Berbagai Manfaat Jahe untuk Asam Lambung". Data collection was carried out on May 7, 2024 through two websites, namely the Youtube Data Tools website and the Export Comments website. Data analysis was carried out with the help of Gephi software version 0.10.1 to find out the four types of actor centrality on the social network in the Alodokter video comment column and Atlas Ti software version 24.1 to conduct qualitative content analysis with the theme of Social Support, namely Informational Support, Emotional Support, Appraisal Support, and Esteem Support. The use of Gephi software is relevant for conducting social network analysis, especially to determine the relationship between actors in a network (Utami et al., 2021). The Atlas Ti software is also relevant to be used in this study to conduct qualitative content analysis contained in the Youtube video comments column (Kuckartz & Radiker, 2023).

DISCUSSION

Social networks can not only be formed in face-to-face interaction and communication, but also can occur in digital spaces (Hanif Joviansyah et al., 2023). Social media is one form of new media innovation product that allows cross-border interactions. One of the social media that is widely used by the public today is Youtube as an interactive platform that offers content that is richer in audio-visual messages. Therefore, Youtube as a social media platform can also form a social network that can be analyzed (Hanif Joviansyah et al., 2023).

One of the focuses of analysis contained in social network research is actor centrality analysis. The centrality of the actor in question is a measure of a network contained in several actors. The actor centrality measures that will be carried out in this study are degree centrality, closeness centrality, betweenness centrality, and eigenvector centrality (Utami et al., 2021). The following is a presentation of the results of the degree centrality analysis on the social network contained in the Alodokter Youtube video comment section "Berbagai Manfaat Jahe untuk Asam Lambung". Degree Centrality is a type of actor centrality that is carried out to determine the popularity of actors through the number of relationships or relationships they have with other actors (Zhang & Luo, 2017).

Table 1: Degree Centrality

No	Actor	Degree	Indegree	Outdegree
1	@namadepan4954	100	99	1
2	@Alodokter_id	18	16	2
3	@Pecahan-Beling-Team	17	16	1
4	@deliaindahpermataa	15	14	1
5	@amhadsyukri6926	11	8	3
6	@abby131	10	9	1
7	@healthycare628	6	0	6
8	@simarmatasimarmata1394	6	5	1
9	@nakasamisalah7735	6	5	1
10	@nakbalijanichannel438	5	4	1

Source: Gephi 0.10 (2024)

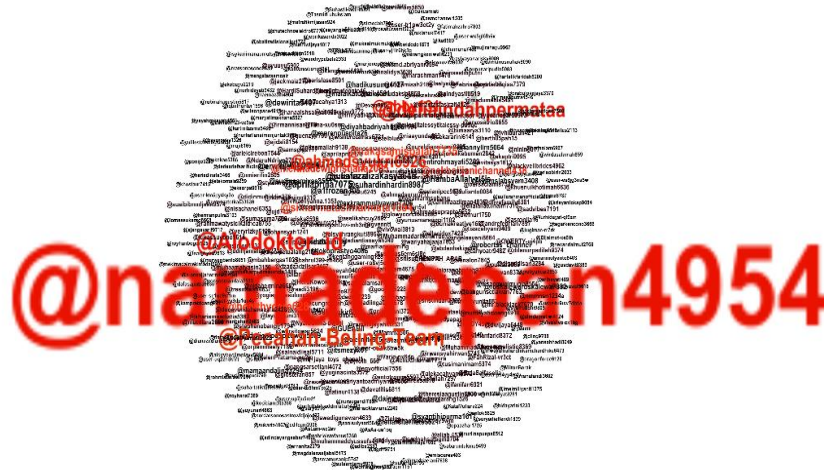


Figure 2: Degree Centrality's Visualization

Source: Gephi 0.10 (2024)

The table above is the ten actors who have the highest degree centrality value. The image above is a visualization of actors who have a degree centrality value contained in the social network in the Alodokter Youtube video comment column "Berbagai Manfaat Jahe untuk Asam Lambung" using Gephi software with the Fruchterman Reingold layout. Through this table, it can be seen that the actor @namadepan4954 is the most popular actor because it has the highest degree centrality value, which is 100. This can also be seen in the network visualization image above with a red actor label. This means that the @namadepan4954 account is the account that has the largest number of relationships, which is 100 relationships.

The other actors who have the highest degree centrality scores in order are @Alodokter_id as the owner of the Youtube video with a value of 18, followed by @Pecahan-Beling-Team with a degree centrality score of 17, @deliindahpermataa with a score of 15, @amhadsyukri6926 with a score of 11, @abby131 with a score of 10, @healthycare628, @simarmatasimarmata1394, and @nakbalijanichannel438 with the same degree value, namely 6, and @nakbalijanichannel438 with a score of 5. Based on the table, it can also be seen that the actor who gave the most comments (outdegree) on this network is @healthycare628 with the largest outdegree value, namely 6, the actor who gave the least comments was @namadepan4954, @Pecahan-Beling-Team, @deliindahpermataa, @abby131, @simarmatasimarmata1394, @nakasamisपालाह7735, and @nakbalijanichannel438 with an outdegree value of 1. While the actor who gets the most reply comments (indegree) is @namadepan4954 with a score of 99 and the actor who gets the least reply comments is @healthycare628 with a score of 0.

In addition to degree centrality, another type of actor centrality is betweenness centrality. Betweenness centrality is part of the measurement of actor centrality which is carried out to determine the actor who has the most connecting or intermediary role of information by looking

at the number of relationships that pass through it on a network (Zhang & Luo, 2017). The following is betweenness centrality on the social network of the Alodokter Youtube video comment column "Berbagai Manfaat Jahe untuk Asam Lambung".

Table 2: Betweenness Centrality

No	Aktor	Betweenness Centrality
1	Alodokter_id	0.000178
2	@ahmadsyukri6926	0.000078
3	@Pecahan-Beling-Team	0.000072
4	@a1frozen305	0.000011
5	@robertss_channel	0.000006
6	@namadepan4954	0

Source: Gephi 0.10 (2024)



Figure 3: Betweenness Centrality's Visualization

Source: Gephi 0.10 (2024)

The table above shows the five actors with the highest betweenness centrality scores. The sociogram below is a visualization of the results of measuring betweenness centrality on the actors contained in this network. Based on the table, it can be seen that @Alodokter_id can be called the actor who best acts as a disseminator of information because it has the highest betweenness centrality score, which is 0.000178. It can also be seen in the sociogram that @Alodokter_id as the owner of the Youtube video "Berbagai Manfaat Jahe untuk Asam Lambung" is the most prominent actor in the network.

Then, other actors who also play a good role as disseminators of information as can be seen in the visualization above with blue actor labels in a row after @Alodokter_id are @ahmadsyukri6926 with a betweenness centrality score of 0.000078, @Pecahan-Beling-Team

with a score of 0.0000072, @a1frozen305 with a score of 0.0000011, and @reboertss_channel with a score of 0.000006. As for @namadepan4954 and the remaining actors who also both have the lowest betweenness centrality value, which is 0, it means that they do not play a role at all to become intermediaries in this network.

Another actor centrality that researchers want to know on this social network is closeness centrality. Closeness Centrality is done to determine the proximity of one actor to another in a network by calculating the average distance between actors (Zhang & Luo, 2017). The proximity between actors affects the speed of information dissemination. The range of closeness centrality values ranges from 0-1. That is, a closeness centrality value that is closer to 1 for an actor indicates that the actor is faster in disseminating information in a network, and vice versa (Utami et al., 2021). The following is the closeness centrality in the social network of the Alodokter Youtube video comment column entitled "Berbagai Manfaat Jahe untuk Asam Lambung".

Table 3: Closeness Centrality

No	Aktor	Closeness Centrality
1	Alodokter id	1.0
2	@ahmadsyukri6926	1.0
3	@Pecahan-Beling-Team	1.0
4	@a1frozen305	1.0
5	@robertss_channel	1.0

Source: Gephi 0.10 (2024)

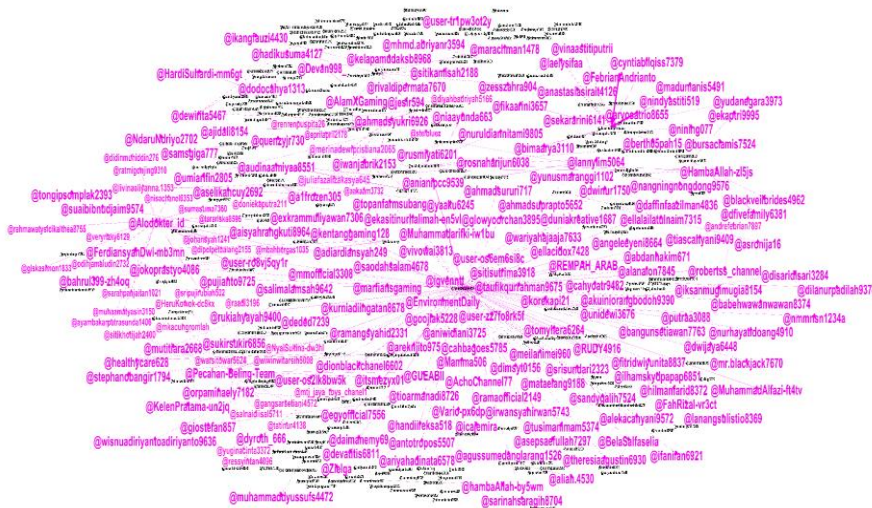


Figure 4: Closeness Centrality's Visualization

Source: Gephi 0.10 (2024)

The table above shows the representatives of the five actors that have the highest closeness centrality score, which is 1. However, based on the results of data analysis using Gephi software, there are 159 actors who have a closeness centrality score of 1, 1 actor with a score of 0.777778, 1 actor with a score of 0.75, 18 actors with a score of 0.666667, 19 actors with a score of 0.6, and other actors with a score of 0. Researchers could not possibly attach all of them in this paper. This can be validated by looking at the actor visualization above. The visualization above is processed using Gephi software with Label Adjust layout. Actors in purple are actors who have a closeness centrality score greater than 0, while actors in black are actors whose closeness centrality score is 0.

Based on the table and sociogram visualization above, it can be seen that @Alodokter_id, @ahmadsyukri, @Pecahan-Beling-Team, @alfrozen305, @robertss_channel, and other actors who have a closeness centrality score of 1 are actors who have the best closeness to other actors so that they can spread information quickly on this network. Then the actors who also have a fairly good closeness with other actors are followed by actors who have a closeness centrality score between 0 and 1. Meanwhile, actors who have a closeness centrality score of 0 are actors who do not have closeness with other actors on this network.

Finally, the actor centrality that researchers want to know is eigenvector centrality. Eigenvector centrality is done to find out the most influential actors in the entire network (Bakry & Kusmayadi, 2021). The following is the eigenvector centrality on the social network in the comment section of the Alodokter Youtube video entitled "Berbagai Manfaat Jahe untuk Asam Lambung".

Table 4: Eigenvector Centrality

No	Aktor	Eigenvector Centrality
1	@namadepan4954	1.0
2	@deliaindahpermataa	0.130487
3	@abby131	0.083885
4	@Alodokter_id	0.076405
5	@Pecahan-Beling-Team	0.076405
6	@ahmadsyukri6926	0.074564
7	@ujid7429	0.056053
8	@dzadzadziisar3467	0.056053
9	@simarmatasimarmata1394	0.055693
10	@nakasamispalah7735	0.046603

Source: Gephi 0.10 (2024)

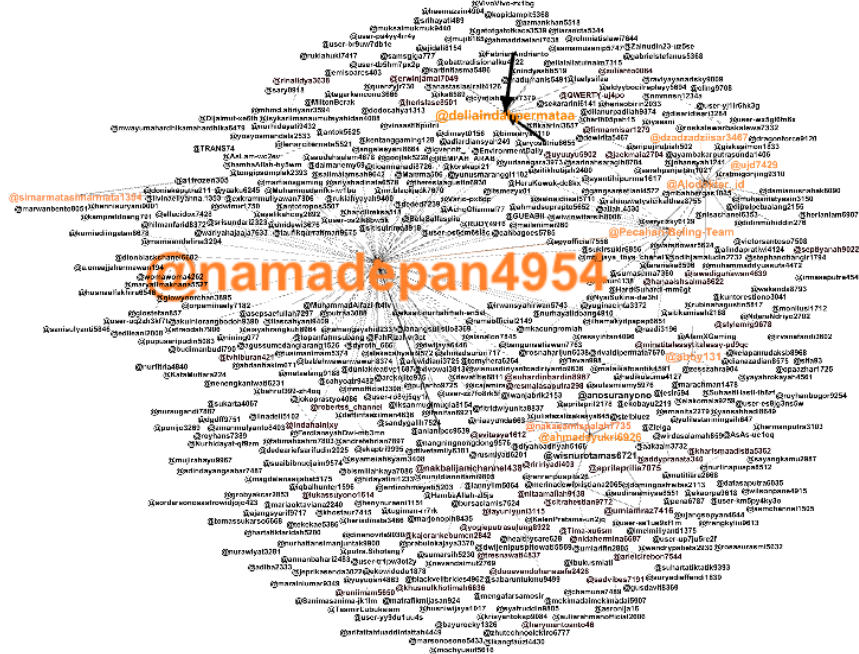


Figure 5: Eigenvector Centrality's Visualization

Source: Gephi 0.10 (2024)

The table above shows the ten actors with the highest eigenvector centrality values in this network. The image below is a visualization of eigenvector centrality using Gephi software with the Fruchterman Reingold layout. The actors in orange are the ten actors listed in the table above. Based on the table above, it can be seen that @namadepan4954 is the only actor who has an eigenvector centrality score of 1. This means that @namadepan4954 is the most influential actor because it has many relationships with other actors who are also influential. Other actors who also have the highest eigenvector centrality score are @deliaindahpermataa with a score of 0.130487, then @abby131 with a score of 0.083885, @Alodokter_id and @Pecahan-Beling-Team with the same score, 0.076405, @ahmadsyukri6926 with a score of 0.074564, @ujd7429 and @dzadzadziisar3467 with a score of 0.056053, @simarmatasimarmata1394 with a score of 0.055693, and @nakasamisalah7735 with a score of 0.046603.

Degree centrality, betweenness centrality, closeness centrality, and eigenvector centrality are part of social network analysis that focuses on seeing relationships between actors (Tsvetov & Kouznetsov, 2011). Therefore, to see the health communication messages conveyed by each actor in the network, researchers used the concept of social support. Social support is a form of the presence of other people, both individuals and groups, who can provide attention, appreciation, comfort, and assistance to others (S. M. Sari et al., 2016). Social support is a concept that also acts as an umbrella for various other theories and concepts related to social relationships, health, and well-being (Thompson et al., 2011). Specifically, this study uses

informational support, emotional support, Appraisal Support, and Esteem Support as the theme of coding and classification of health communication messages in the comment section of the Alodokter Youtube video entitled "Berbagai Manfaat Jahe untuk Asam Lambung" which is processed with the help of Atlas Ti software version 24.1 (Kuckartz & Radiker, 2023). The following are some excerpts from the results of qualitative content analysis using Atlas Ti software conducted on 642 comments on the Alodokter Youtube video "Berbagai Manfaat Jahe untuk Asam Lambung".

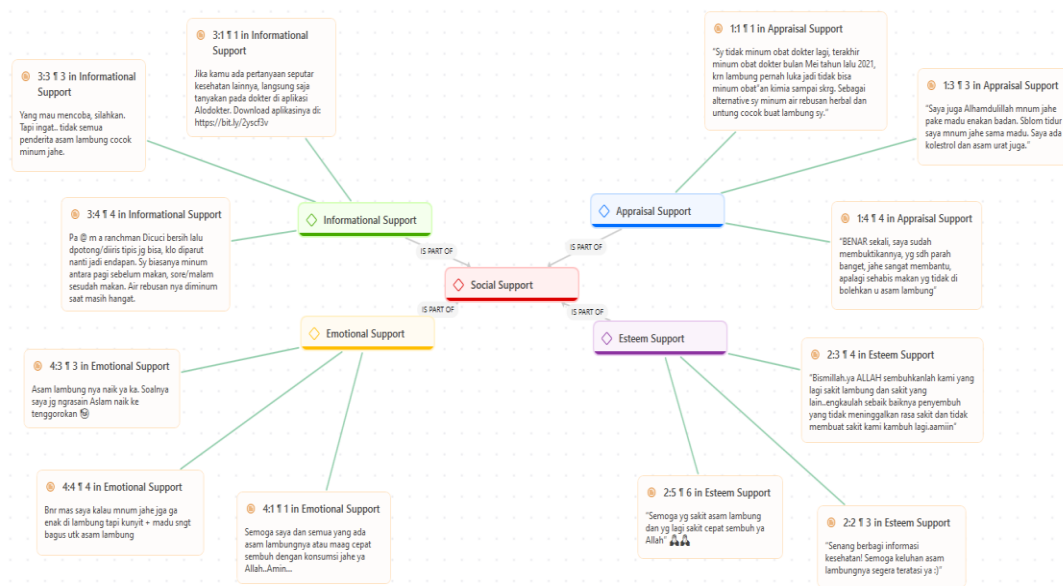


Figure 6: Informational, Emotional Support, Appraisal Support, Esteem Support

Source: Atlas Ti (2024)

The picture above is a visualization of some of the health communication messages in the context of social support contained in the comment section of the Alodokter Youtube video "Berbagai Manfaat Jahe untuk Asam Lambung" using Atlas Ti software version 24, specifically messages with the themes of informational support, emotional support, appraisal support, and esteem support. Informational Support is social support by providing information and advice that is relevant and beneficial to the health of others. For example, telling a coworker the name of a trusted health care provider or advising him to take time off for his health. Emotional support is social support by showing or expressing sympathy and empathy for others. For example, someone feels what their friend is going through or expresses affection for them. Appraisal Support is social support in the form of communication by offering new ideas or perspectives in certain conditions. For example, helping someone to reframe a negative situation or condition that befalls them by trying to provide another, more positive point of view. Esteem support is social support by providing positive affirmation and affirmation of one's identity and value. For example, someone tells a friend that he is an important person to him (Moore, 2018).

Based on the findings that the researchers found, there are several forms of informational support messages in the Alodokter Youtube video comments. For example, there are messages that inform about several references that can be used for disease treatment purposes as follows:

@Alodokter_id: *“Jika kamu ada pertanyaan seputar kesehatan lainnya, langsung saja tanyakan pada dokter di aplikasi Alodokter. Download aplikasinya di: <https://bit.ly/2yscf3v>”*

@Alodokter_id: *“Semoga cepat sembuh, ya! Selain konsumsi jahe, kamu juga bisa ikuti tips yang ada di video berikut ini: <https://youtu.be/KtKaxgMpWu0>”*

@Alodokter_id: *“If you have other health-related questions, just ask the doctor in the Alodokter application. Download the app at: <https://bit.ly/2yscf3v>”*

@Alodokter_id: *“Good luck with your recovery! In addition to consuming ginger, you can also follow the tips in the following video: <https://youtu.be/KtKaxgMpWu0>”*

The two comments from @Alodokter_id are part of the informational support message because they provide information in the form of including links as further references to other accounts. The first comment is a @Alodokter_id message that informs about the Alodokter application as a platform or health consultation media. The second comment is an answer message @Alodokter_id to one of the accounts that commented on the video regarding a link to another Alodokter Youtube video that reviews natural stomach acid treatment.

Other forms of informational support messages in this social network include information on how to process ginger as an herb to treat stomach acid. Some messages related to the processing of ginger are as follows:

@dewirita5467: *“In Shaa ALLAH..Bi-isnillah..bisa sembuh total .Serang2 minum sago 2 sendok makan ato secukupnya dg gula merah. Aduk dulu dg air biasa setelah tecampur, rebus gula merah dg jahe dan panda. Siramkn pd campuran tadi.minum hangat tp cenderung dingin sebelum sarapan. Atau masak sebentar banget jd bubur. Terus kontinue ..sebisanya selang seling dg kunyit sedikit aja parut trus minum dg madu..boleh jg rebus ..boleh jg campur jahe, serai, lengkuas trus agak dingin baru masukkan madu dan sedikit banget garam biasa atau garam himalaya.. agar asam lambung netral dan kuat . Jika bisa terus diatas 4 bulan, pengalanan asam lambung sembuh total. Semoga cepat sembuh..”*

@abby131: *“Pa @ m a rachman Dicuci bersih lalu dpotong/diiris tipis jg bisa, klo diparut nanti jadi endapan. Sy biasanya minum antara pagi sebelum makan, sore/malam sesudah makan. Air rebusan nya diminum saat masih hangat.”*

@dewirita5467: *“In Shaa ALLAH...Bi-isnillah... you can recover completely. Frequently drink sago 2 tablespoons or to taste with brown sugar. Mix first with plain water after mixing, boil brown sugar with ginger and panda. Pour into the mixture. Drink warm but tend to be cold before breakfast. Or cook for a while so that it becomes porridge. Drink regularly... as much as possible alternating with turmeric just a little grated then drink with*

honey... you can also boil ... you can also mix ginger, lemongrass, galangal then a little cool just put honey and a very small amount of common salt or himalayan salt.. so that stomach acid is neutral and strong. If it continues for more than 4 months, the acid reflux will be completely cured. I wish you a speedy recovery.”

@abby131: “Mr @ m a rachman Washed clean and then cut / thinly sliced can also be, if grated later so sediment. I usually drink it in the morning before meals, afternoon/evening after meals. The boiled water is drunk while still warm”

The two comments above are part of the informational support message on how to prepare and serve ginger for consumption. The first comment from @dewirita5467 details other herbal mixtures that can be combined with ginger such as turmeric, lemongrass, galangal, honey, and himalayan salt to neutralize stomach acid. While the second comment from @abby131 is a comment to @marachman that informs the alternative processing time and time to consume ginger.

In addition to social support in the form of informational support, some comments in the social network were also found to provide emotional support. Messages in the form of emotional support on this social network can be seen from the way messages are delivered by involving feelings of sympathy and empathy, such as feeling what others feel. The following are some emotional support messages provided by actors or accounts that comment on the Alodokter Youtube video entitled "Berbagai Manfaat Jahe untuk Asam Lambung".

@merinadewipristiana2065: “Asam lambung nya naik ya ka. Soalnya saya jg ngrasain Aslam naik ke tenggorokan 😊”

@FebrianAndrianto: “Sama bgt sis ama pengalaman aku jg bgitu. apalagi pas baru nikah tuh. Dari situ nyoba berbagai produk tp ga da hasil. trus direkomendasiin tmn ku yg dokter tp beaware udh beredar Palsunya”

@FebrianAndrianto: “@Daeng prakarsa Sakti masyaallah jahat banget”

@merinadewipristiana2065: “Your stomach acid is rising, sis? The problem is I also feel stomach acid goes up to the throat 😊”

@FebrianAndrianto: “It's the same sis with my experience too. especially when I just got married. From there, I tried various products but there was no result. then my doctor friend recommended it to me but I realized that it was fake, so be careful.”

@FebrianAndrianto: “@Daeng prakarsa Sakti mashaallah you are really mean”

The three comments above show emotional support messages that emphasize feeling the same way. For example, the first comment from @merinadewipristiana2065 tells that she is also experiencing stomach acid. The second comment from @FebrianAndrianto in the context of the conversation in the comments column is discussing one of the care products where he has experienced the same thing as other accounts. As for the third comment, @FebrianAndrianto was commenting on @Daengprakarsa whose words were considered hurtful to one of the

accounts commenting on the network.

Another form of emotional support found by researchers in the comments column of the Alodokter Youtube video is by asking news or conditions to fellow stomach acid sufferers. Here are some emotional support comments in the form of asking how fellow stomach acid sufferers are doing:

@audinaamiyaa8551: *“kamu sakit lambung udh brp lama?suka cemas gelisah jg ga?”*

@aakaam3732: *“@ahmadsyukri6926 Abang ada sakit Aslam? Klo iya bagaimana sekarang, saya 1 thn ini kena asam lambung hampir tiap hari begah dan was was ketakutan pikiran kemana mana”*

@merinadewipritiana2065: *“Kaka di sini Uda PD sembuh belum Aslam nya. Saya juga ngrasain hal yg sama 😊”*

@audinaamiyaa8551: *“How long have you had gastric pain? Do you also get anxious and restless?”*

@aakaam3732: *“@ahmadsyukri6926 Do you have gastric acid? If so how now, I've had stomach acid for 1 year almost every day and often had anxiety too”*

@merinadewipritiana2065: *“You guys here have recovered yet stomach acid? I also feel the same way 😊”*

The three comments above are emotional support messages shown in the form of asking each other how they are doing. For example, the first comment from @audinaamiyaa8551 asks how one of the accounts is doing regarding the time span of the illness and its symptoms. The second comment from @aakam3732 directly asked @ahmadsyukri6926 about his current condition along with the symptoms suffered when he was sick. The third comment from @merinadewipritiana2065 asked everyone on the network about the condition of their recovery from stomach acid.

The social support messages in the form of appraisal support are delivered with the aim of providing a new perspective. Appraisal support delivered in the comments can be divided into two forms, namely appraisal support in the form of affirmation of the efficacy of ginger and ginger as an alternative treatment. Some excerpts of appraisal support in the form of affirmation are as follows:

@juliafazalizakasya645: *“Saya juga Alhamdulillah mnum jahe pake madu enakan badan. Sblom tidur saya mnum jahe sama madu. Saya ada kolestrol dan asam urat juga.”*

@khusnulxhotimah6636: *“makasi dokter infonya. saya pendrta asm lmbng tp tiap hari gk lepas dr rebusan. jhe merh.badan. rsanya sehat trs tiap hri kuat dn swhat”*

@erwinjamal7049: *“BENAR sekali, saya sudah membuktikannya, yg sdh parah banget, jahe sangat membantu, apalagi sehabis makan yg tidak di bolehkan u asam lambung”*

@juliafazalizakasya645: *“I’m also thankful that ginger and honey make me feel better. When I go to bed, I drink ginger and honey. I have cholesterol and gout too.”*

@khusnulhotimah6636: *“Thank you doctor for the info. I have asthma but every day I always consume red ginger decoction, my body feels healthy and strong every day.”*

@erwinjamal7049: *“VERY TRUE, I have proven it, for those of you whose stomach acid is really severe, ginger is very helpful, consumed after meals.”*

Both comments are part of the appraisal support message because they try to provide a new opinion or perspective on the effect of ginger as an herbal plant based on personal experience. The first and second comments, for example, @juliafazakasya645 and @khusnulhotimah6636 give their personal experience that their bodies feel healthy because they consume ginger stew or ginger mixed with honey. The second comment from @erwinjamal7049 also provides a perspective on the benefits of ginger, which based on his personal experience, is proven to overcome stomach acid.

The form of appraisal support is not only to affirm the efficacy of ginger, but also to provide a new perspective that ginger can be used as an alternative treatment. The following are some of the appraisal support quotes found on Alodokter's Youtube video social network in the form of ginger's perspective as an alternative treatment:

@abby131: *“Sy tidak minum obat dokter lagi, terakhir minum obat dokter bulan Mei tahun lalu 2021, krn lambung pernah luka jadi tidak bisa minum obat”an kimia sampai skrg. Sebagai alternative sy minum air rebusan herbal dan untung cocok buat lambung sy.”*

@abby131: *“I don't take doctor's medicine anymore, the last time I took doctor's medicine was in May last year 2021, because my stomach was injured so I couldn't take chemical drugs until now. As an alternative I drink herbal boiled water and fortunately it is suitable for my stomach.”*

The comment above is part of appraisal support because it provides an opinion or perspective on ginger as an alternative treatment for stomach acid. The comment from @abby131 is also informing her personal experience who no longer consumes chemical drugs from doctors because of constraints in digestion so @abby131 consumes ginger decoction as an alternative treatment for her stomach acid.

In addition to social support in the form of appraisal support, health communication messages in the form of other social support found in the social network on the Alodokter Youtube video comment section "Berbagai Manfaat Jahe untuk Asam Lambung" are esteem support. Esteem support messages on this social network tend to provide positive affirmation to oneself and others in order to always get healing and health from the illness suffered in the form of prayer. The following are some excerpts of appraisal support in the form of prayer in the comments column of the Alodokter Youtube video:

@Alodokter_id: *“Senang berbagi informasi kesehatan! Semoga keluhan asam lambungnya segera teratasi ya :)”*

@ujd7429: *“Terimakasih dokter ,saya dapat pengetahuan tentang ,keluhan asam lambung semoga ,saya dapat sembuh.”*

@namadepan4954: *“Semoga yg sakit asam lambung dan yg lagi sakit cepat sembuh ya Allah 🙏🙏🙏”*

@Pecahan-Beling-Team: *“Bismillah.ya ALLAH sembuhkanlah kami yang lagi sakit lambung dan sakit yang lain..engkaulah sebaik baiknya penyembuh yang tidak meninggalkan rasa sakit dan tidak membuat sakit kami kambuh lagi.aamiin”*

@Alodokter_id: *“Happy to share health information! Hopefully the acid reflux complaint will be resolved soon :)”*

@ujd7429: *“Thank you doctor, I got knowledge about acid reflux, hopefully I can get better.”*

@namadepan4954: *“May those who are sick with stomach acid and those who are sick get well quickly O Allah 🙏🙏🙏”*

@Pecahan-Beling-Team: *“Bismillah.ya ALLAH heal us who are sick with stomach pain and other pains..You are the best healer who does not leave pain and does not make our pain recur.aamiin”*

The four comments above are part of esteem support because they are communication messages that aim to provide positive affirmations, both to oneself and to others. The first comment from @Alodokter_id as the owner of the Youtube video "Berbagai Manfaat Jahe untuk Asam Lambung" is an answer message from one of the accounts that commented on the video by giving positive affirmations so that the stomach acid he suffered could heal.

The second comment from @ujud7429 is a positive affirmation to yourself by hoping that the pain can heal. While the third and fourth comments from @namadepan4954 and @Pecahan-Beling-Team provide broader positive affirmations in the form of prayers so that every disease suffered by everyone can be overcome and not recur.

The health communication messages in the comments above are health communication messages in the form of social support delivered by each actor or account contained in the social network of Alodokter Youtube videos "Berbagai Manfaat Jahe untuk Asam Lambung" in the form of informational support, emotional support, appraisal support, and esteem support. When associated with the results of the centrality of actors previously presented, several actors who have high centrality values also appear as actors or accounts that convey social support to other accounts contained in the network.

For example, @Alodokter_id, @ahmadsyukri6926, @abby131, @namadepan4954, and @Pecahan-Beling-Team as the most popular actors also provide social support in the form of informational support, emotional support, appraisal support, and esteem support to other actors with stomach acid who consume ginger as an herbal medicine on the Youtube video network.

CONCLUSION

Health communication does not only occur in hospitals, but can also occur in digital spaces such as social media. Youtube as one of the communication media platforms allows interaction and communication which then forms a social network. This study found that there are central actors, both degree centrality, closeness centrality, betweenness centrality, and eigenvector centrality in the social network in the comment section of the Alodokter Youtube video entitled "Berbagai Manfaat Jahe untuk Asam Lambung", such as @Alodokter_id, @ahmadsyukri6926, @abby131, @namadepan4954, and @Pecahan-Beling-Team. In addition, this study also found a lot of social support in the form of informational support, emotional support, appraisal support, and esteem support as part of health communication delivered to fellow herbal plant users, especially Ginger which is consumed to treat stomach acid. Researchers realize that this research is limited to the centrality of actors and social support messages as part of health communication delivered to fellow actors on the Alodokter Youtube video network. Therefore, it is hoped that further research can examine more deeply the use of social network analysis in digital spaces related to health communication, especially in the context of social support.

Bibliography

- 1) Ahadian Haryanti, H., Aryati Eko Ningtyas, E., & Nurul Widyawati, M. (2024). Efektivitas Kombinasi Topikal Gel Jahe Merah Dan Kapsul Ekstrak Daun Katuk Terhadap Produksi Asi Ibu Menyusui. *Jurnal Keperawatan*, 16(1), 273–282.
<http://journal.stikeskendal.ac.id/index.php/Keperawatan>
- 2) Aryanta, I. W. R. (2019). Manfaat Jahe Untuk Kesehatan. *E-Jurnal Widya Kesehatan*, 1(2), 39–43.
- 3) Bakry, G. N., & Kusmayadi, I. M. (2021). Peran Pers Sebagai Aktor Gerakan Digital Tagar #SolidaritasUntukNTT di Twitter. *Jurnal Kajian Jurnalisme*, 5(1), 98. <https://doi.org/10.24198/jkj.v5i1.33458>
- 4) Chang, Y. H., Yang, C. T., & Hsieh, S. (2023). Social support enhances the mediating effect of psychological resilience on the relationship between life satisfaction and depressive symptom severity. *Scientific Reports*, 13(1). <https://doi.org/10.1038/s41598-023-31863-7>
- 5) Creswell, J. W. (2019). *Research Design: Pendekatan Metode Kualitatif, Kuantitatif, dan Campuran* (4th ed.). Pustaka Pelajar.
- 6) Edy, S., & Ajo, A. (2020). Pengolahan Jahe Instan Sebagai Minuman Herbal Di Masa Pandemi Covid-19. 2(3).
- 7) Elfariyanti, Maifera, Fauziah, & Hardiana. (2020). Gambaran Preferensi Masyarakat Terhadap Obat Herbal Dan Obat Kimia Di Desa Paya Seumantok Aceh Jaya. *Sinergi Hasil Penelitian Dalam Menghasilkan Inovasi Di Era Revolusi 4.0*, 1185–1195.
- 8) Gandhawangi, S. (2023, July 27). Keragaman Hayati Tinggi, Optimalikan Pemanfaatan Ekstrak Bahan Alam. *KOMPAS*.
- 9) Goldsmith, D. J. (2008). *Communicating Social Support*. Cambridge University Press.
- 10) Hadiana, A. I., & Witanti, W. (2017). Analisis Jejaring Sosial Menggunakan Social Network Analysis untuk Membantu Social CRM bagi UMKM di Cimahi. 29–36.
- 11) Hanif Joviansyah, M., Nur Alyssa, L., Syifa Rahadatul, I., Nusantara Bakry, G., Aristi, N., Katolik Soegijapranata Jl Pawiyatan Luhur, U. I., & Duwur, B. (2023). Analisis Sentimen Dan Jaringan Komentar Video Youtube Najwa Shihab "Piala Dunia U-20 Gagal Digelar Di Indonesia. Mari Lihat Dari Dua Perspektif." *Jurnal Komunikasi Dan Media*, 04(01), 1–14.

- 12) Kuckartz, U., & Radiker, S. (2023). *Qualitative Content Analysis: Methods, Practice, and Software* (J. Seaman, Ed.; 3rd ed.). SAGE Publications.
- 13) Marwati, & Amidi. (2018). Pengaruh Budaya, Persepsi, Dan Kepercayaan Terhadap Keputusan Pembelian Obat Herbal. *Jurnal Ilmu Manajemen*, 7(2), 168–180.
- 14) Meman, R. B., Aripa Lusyana, & Kartini. (2021). Pelaksanaan Pelayanan Kesehatan Peserta BPJS Penerima Bantuan Iuran di Puskesmas Mamajang. *Jurnal Promotif Preventif*, 4(1), 29–38. <http://journal.unpacti.ac.id/index.php/JPP>
- 15) Menteri Kesehatan Republik Indonesia. (2016). Peraturan Menteri Kesehatan Republik Indonesia Nomor 6 Tahun 2016 Tentang Formularium Obat Herbal Asli Indonesia.
- 16) Moore, J. (2018). Social networks, social support, and mental health: Exploring responses to behavioral cues associated with depression in an online social network. *Ohio Communication Journal*, 56, 33–46.
- 17) Navisha, A. N., Ambarwati, R., & Hariasih, M. (2023). Twitter Social Network Interaction as Customer Engagement In Competition For E-Commerce E-Health Performance In Indonesia. *Jurnal Manajerial*, 10(2), 303–324. <https://doi.org/10.30587/manajerial.v10i02.5279>
- 18) Nurhidayati, M., Basri, S., & Riau, U. (2022). Competitiveness of Indonesian ginger exports to Japan, Malaysia, and The United States. *KEYNESIA: International Journal of Economy and Business*, 72–78. <https://doi.org/10.55904/keynesia.v1i2.197>
- 19) Ozbay, F., Johnson, D. C., Dimoulas, E., Morgan, Charney, D., & Southwick, S. (2007). Social Support and Resilience to Stress: From Neurobiology to Clinical Practice. *Psichiatri*, 35–40. www.cancer.gov
- 20) Parvanta, C. F., & Bass, S. B. (2020). *Health communication: strategies and skills for a new era* (1st ed.). Jones & Bartlett Learning.
- 21) Pramudita, E., Achmadi, H., & Nurhaida, H. (2023). Determinants of behavioral intention toward telemedicine services among Indonesian Gen-Z and Millennials: a PLS–SEM study on Alodokter application. *Journal of Innovation and Entrepreneurship*, 12(1). <https://doi.org/10.1186/s13731-023-00336-6>
- 22) Pratiwi, R., Saputri, F. A., & Nuwarda, R. F. (2018). Tingkat Pengetahuan Dan Penggunaan Obat Tradisional Di Masyarakat Studi Pendahuluan Pada Masyarakat Di Desa Hegarmanah, Jatinangor, Sumedang. *Dharmakarya: Jurnal Aplikasi Ipteks Untuk Masyarakat*, 7(2), 97–100.
- 23) Putri, K. Y. S., Ambarwati, N. S. S., & Hadiyanto, A. (2021). *Komunikasi Kesehatan* (R. Mirsawati, Ed.; 1st ed., Vol. 1). PT RajaGrafindo Persada.
- 24) Ramadhan, A. D., Islamy, N., & Ricky Ramadhian, M. (2022). Manfaat Jahe (*Zingiber officinale*) Terhadap Penurunan Intensitas Nyeri Rheumatoid Arthritis: Tinjauan Pustaka. *Agromedicine*, 9(1), 37–40.
- 25) Sari, M. H. N., Hasnidar, Lakhmudien, M. P., Mahawati, E., Yosi, M. M., Ani, V. N. M., Susanty, S. D., Yanti, C. A., & Yuniyanto, A. E. (2020). *Dasar-Dasar Komunikasi Kesehatan* (J. Simarmata, Ed.; 1st ed.). Yayasan Kita Menulis.
- 26) Sari, S. M., Lestari, Y. I., & Yulianti, A. Y. (2016). Hubungan antara Social Support dan Self-Efficacy dengan Stress pada Ibu Rumah Tangga yang Berpendidikan Tinggi. *Psymphathic : Jurnal Ilmiah Psikologi*, 3(2), 171–178. <https://doi.org/10.15575/psy.v3i2.1108>
- 27) Schiavo, R. (2013). *Health Communication from Theory to Practice* (2nd ed.). Jossey-Bass.
- 28) Setiadi, A. (2016). Pemanfaatan Media Sosial Untuk Efektifitas Komunikasi. *Cakrawala: Jurnal Humaniora Universitas Bina Sarana Informatika*, 16(2).

- 29) Shahrajabian, M. H., Sun, W., & Cheng, Q. (2019). Clinical aspects and health benefits of ginger (*Zingiber officinale*) in both traditional Chinese medicine and modern industry. In *Acta Agriculturae Scandinavica Section B: Soil and Plant Science* (Vol. 69, Issue 6, pp. 546–556). Taylor and Francis Ltd. <https://doi.org/10.1080/09064710.2019.1606930>
- 30) Thompson, T. L., Parrot, R., & Nussbaum, J. F. (2011). *The Routledge Handbook Of Health Communication* (2nd ed.). Routledge.
- 31) Tsvetov, M., & Kouznetsov, A. (2011). *Social Network Analysis for Startups* (S. Wallace & M. Hendrickson, Eds.; 2nd ed.). O'Reilly Media.
- 32) Utami, S. R., Safitri, R. N., & Kuncoroyakti, Y. A. (2021). Analisis Jaringan dan Aktor #BatalkanOmnibusLaw di Media Sosial Twitter Menggunakan Social Network Analysis (SNA). 4(3), 135–148.
- 33) Visvalingam, A., Dhillon, J. S., & Gunasekaran, S. S. (2019). Role of social support in self-management of health. *Journal of Information Technology Management*, 11(1). <https://doi.org/10.22059/jitm.2019.73268>
- 34) Wenn, P., Meshoyrer, D., Barber, M., Ghaffar, A., Razka, M., Jose, S., Zeltser, R., & Makaryus, A. N. (2022). Perceived Social Support and its Effects on Treatment Compliance and Quality of Life in Cardiac Patients. *Journal of Patient Experience*, 9. <https://doi.org/10.1177/23743735221074170>
- 35) Wong, A., Ho, S., Olusanya, O., Antonini, M. V., & Lyness, D. (2021). The use of social media and online communications in times of pandemic COVID-19. In *Journal of the Intensive Care Society* (Vol. 22, Issue 3, pp. 255–260). SAGE Publications Inc. <https://doi.org/10.1177/1751143720966280>
- 36) World Health Organization. (2023). *Implementation of the WHO Traditional Medicine Strategy 2014-2023*. World Health Organization.
- 37) Zhang, J., & Luo, Y. (2017). Degree Centrality, Betweenness Centrality, and Closeness Centrality in Social Network. *Proceedings of the 2017 2nd International Conference on Modelling, Simulation and Applied Mathematics (MSAM2017)*, 300–303. <https://doi.org/10.2991/msam-17.2017.68>