



## Chinese Public's Conception of Anesthesiologist in COVID-19: A Text Analysis Based on WeChat

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### ABSTRACT

With the continuous evolution of the medical industry's marketization and the increasingly developed new media network, the portrayal and shaping of the image of doctors by the media make the audience have a stereotype of this group to a certain extent, which is easy to cause misunderstanding of doctors and the medical industry. However, the media and the public's reports and comments on medical personnel during the novel coronavirus outbreak are different from the past, and generally present positive images and attitudes. Based on this phenomenon, this article from the perspective of qualitative research, took anesthesiologists who play an important role in critical patients rescuing in the outbreak as the research object, used content analysis method to explore network coverage and netizen comments on the image of the medical workers, and based on the grounded theory, constructed a theoretical model of the influencing factors of the doctor's social image, which provides directions for improving the media public opinion environment, accurately presenting the doctor media image and alleviating doctor-patient contradiction.

### 1. Introduction

On February 9, a medical team of more than 1,000 people from Liaoning province set off in one day to fight the epidemic in Hubei province and took over Thunder God Mountain hospital in Wuhan, which focused on receiving COVID-19 patients. The medical team consisted of 240 clinicians and 760 paramedics. Clinicians specialties include pneumology and critical care medicine, anesthesia, infectious diseases, intensive medicine, emergency department, etc. On February 20, a total of 278 national medical teams and 32,395 medical workers were organized in 29 provinces to support Hubei during the outbreak. As of February 24, according to the statistics of the joint investigation team of the World Health

Organization (WHO) in China, there were 3,387 cases of COVID-19 among medical staff in 476 medical institutions in China, and 22 medical workers died on duty.

Among doctors involved in epidemic prevention and control COVID-19, anesthesiology is a very important safeguard for all departments in critical care. Severe respiratory failure occurs in critically ill patients, and invasive respiratory support with endotracheal intubation can save many more lives. Endotracheal intubation, ECMO, hemofiltration and other operations require the participation of anesthesiologists. These are high-risk jobs, because the patient's respiratory tract can eject large amounts of viral aerosols, posing a high risk of transmission. Therefore, any major public health events are inseparable from the escort of anesthesiologists.

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With the continuous evolution of the medical industry's marketization and the increasingly developed new media network, Chinese media reported about the bad news for both doctor and doctor-patient relationship had a negative effect (Sun, Liu, Liu, Wang, Wang, Hu, & Liu, 2018). The image of doctors in the public impression has changed, from the high-tech, high-quality, high-income social image that was respected by people to the loss of public trust, even the basic personal safety can not be guaranteed, and some patients who are deeply influenced by public opinion are full of doubts, conflicts and hostility when they face the doctor group, leading to the occurrence of extreme behaviors. In recent years, medical disputes have been increasing year by year, and it is more and more difficult to deal with them. The image of doctors in media reports has been polarized and demonized. However, during the outbreak, the media and the public's reports and comments on medical personnel were quite different from those of the past, and generally presented a positive and affirmative attitude. Based on the above reasons, this article from the perspective of qualitative research, took anesthesiologists in the outbreak as the research object, used the content analysis method to explore the image of medical workers through network coverage and netizen comments during the epidemic prevention and control.

## 2. Literature Review

In recent years, the media has been exercising the duty of supervision by public opinion. While safeguarding the legitimate rights and interests of patients, they have also shown some misleading phenomena in news reports, such as one-sided reports, biased wording and gimmicks. Some scholars have studied the impact of media reports on doctors' image on the public. In August 2010, the medical journal LANCET published an editorial article, believing that Chinese media is closely related to the negative situations such as the deterioration of Chinese doctors' public image and sometimes threats to their personal safety. Whether intentionally or unintentionally, Chinese media's reports have led to public misunderstanding and hurt both the doctors and patients (Lancet, T., 2010). Xu Min (2016) analyzed the media image of doctors based on the content analysis of the full-text database of the Southern Weekend newspaper from 2009 to 2015. In the research materials, only 1.7% of the positive reports were on doctors, while 19.4% of the negative reports included medical accidents caused by doctors' greed and dereliction of duty and the dark inside of the industry, the results show that the media prefer sensationalism, like to "demonize" the image of doctors, and lack of science. Yong (2015) pointed out that some inflammatory and untrue reports in the media increased the pressure on the doctor-patient relationship, deliberately blacked the image of doctors, and led to frequent medical injuries. Sadati, Tabei, Ebrahimzade, Zohri, Argasi and lankarani (2016) conducted a qualitative study on the doctor interview records, and applied the grounded theory research method to obtain the doctor-patient relationship (DPR) model, the research results show that the current doctor-patient relationship presents the distrust and dissatisfaction of patients to doctors, and the lack of mutual understanding between the two sides, which eventually leads to the enhancement of self-protection awareness of doctors, and also damages the fundamental interests of patients, and even poses a certain threat to social stability. Wang, Chen, Liao, Sun and Yu (2018) explored the origin and influence of the "stigma" of doctors' media, analyzed the mechanism of the emergence of doctors' media image, and proposed ways to reconstruct doctors' media image from the perspectives of the government, medical field, media and the public. Zhou, Zhao, Campy, & Wang (2017) discussed the problems existing in China's health policy for a long time and the factors affecting the image of doctors in different historical periods by analyzing the influence of China's medical reform on the development of doctor-patient relationship and doctor image.

Harrison (2018) explored the reasons why the doctor-patient relationship in history gradually turned to the opposite purpose, such as patients' concerns about personal medical records data and the politicization of the medical system. Researches on paper media and interview records show that the image of doctors in the media is mostly negative, and some media intentionally "demonize" the image of doctors. Does this phenomenon still exist in such major public health events as COVID-19? This article takes the public opinion about anesthesiologists in the online platform as the object, and explores the images of medical workers in the network coverage and netizens' comments during the outbreak.

Among the medical workers involved in epidemic prevention and control, anesthesiology is a very important link in all the critical rescue, and the risk of respiratory failure is very high, so it often needs the support of intensive care unit (ICU). Wax, and Christian(2020) proposed suggestions on how to ensure the safety of the critical care team and anesthesia team in the care of critically ill patients with 2019-ncov, and detailed the possible ways of virus transmission during intubation of infected patients and its preventive measures. Caputo, Byrick, Chapman, Orser, and Orser (2006) and Peng, Wong, Bevan, and Gardam (2003), respectively, selected medical workers who participated in endotracheal intubation in Ontario, Canada as research subjects, explored the way of infection of anesthesiologists and the factors that may increase the risk of infection in severe acute respiratory syndrome (SARS) in 2003, described the high risk environment faced by anesthesiologists in such public health events, and proposed risk management strategies and operating room operating rules to provide experience for future epidemic prevention and control. Peng (2004) explored the changes in the doctor-patient relationship during the SARS outbreak in 2003, and believed that SARS made people re-understand the high risks and high costs in the medical field, and made both doctors and patients realize the importance of disease information communication, which provided a new opportunity for improving the increasingly tense doctor-patient relationship. Stackhouse (2015) discusses infection control measures to protect anesthesiologists in several devastating infectious diseases experienced worldwide since 2002 (SARS-CoV 2002, H5N1 2004, H1N1 2009, MERS 2012, Ebola 2014). Researches on anesthesia in epidemic prevention and control all shows the risks of anesthesia doctors and their importance, therefore, this study from the perspective of qualitative research, takes anesthesia on the doctor's public opinion in the network platform as the object, uses the content analysis method to explore the image of medical workers through network coverage and netizen comments during the outbreak.

## 3. Methods

Text analysis is a commonly used research method in the field of public opinion communication, and it is a research skill that objectively and systematically describes the explicit content of communication (Zhou Xiang, 2014). WeChat Official Account (WCOA), as a new type of media, has a strong power of dissemination, coverage and influence in the field of public opinion. It is one of the most popular we-media tools among users, with a large audience, instant information dissemination, user interaction and other characteristics. Based on the effective communication ability and the strong interaction of the message comments area of WCOA, this study searched the articles on the WeChat platform with the "epidemic + anesthesiologist" as the key words, selected the hot articles and comments from February 7, 2020 to March 23rd, and carried out the weight analysis and sentiment analysis of keywords through text analysis. Online public opinion refers to the collection of people's cognition, attitude, emotion and behavioral tendency after being stimulated by some events spread through the Internet (Liu Bowei & Zeng Runxi, 2017). Compared with the traditional social public opinion, the content and media of online public opinion are more

diversified, with the characteristics of real-time interaction and freedom of speech, and can reflect the social hot spots more truly and objectively. The key to the research and application of online public opinion is to quickly locate hot issues from a large number of information, track and analyze netizens' emotional tendency towards hot issues, and more accurately understand the views and attitudes of netizens towards public opinion. WCOA, as a new media in the field of public opinion is a powerful transmission power, covering power and influence, is currently one of the most popular we-media tools, has the characteristics of large audience, instant information dissemination and convenient user interaction, and therefore is widely used in academic research (Xiang Anling & Shenyang, 2019). Therefore, firstly, in this study, an open source crawler framework based on Python was selected to climb articles containing the key words "epidemic + anesthesiologist" on the WeChat platform from February 7 to March 23, and 129 original articles were obtained. Secondly, the collected original data was converted into formatted text for data cleaning, including deduplication, noise elimination, invalid characters and blank lines removal, and then after machine cleaning and manual recognition, 47 documents related to the subject were finally obtained.

In this study, 47 WeChat articles were selected, including 218,942 bytes of articles and 14,336 bytes of comments. The NLPPIR big data semantic intelligent analysis system produced by Zhang Huaping team of Beijing University of technology was used for text analysis, ROST EA software was used to rate the text data filtered out of garbage. According to the score of "positive emotion result" and "negative emotion result", the positive emotion and negative emotion were subdivided into average, moderate and high, which was used to describe the emotional attitude. The research process was divided into three stages. In the first stage, keyword weight of the text of the news reported by WCOA was calculated to carry out for feature analysis and emotion analysis, to clarify the propagation characteristics and diffusion status of the main body of the WCOA in the new media network. In the second stage, keyword weight of the text of the public comments of the report text was calculated to carry out for feature analysis and emotion analysis, so as to clarify the communication characteristics and emotional response of the public to the anesthesiologist group. In the third stage, grounded theory analysis was carried out to construct the theoretical framework of influencing factors of doctors' social image. This study aimed to solve the following three problems:

1. What were the concerns in the hot WeChat articles about anesthesiologists?
2. What were the concerns of online comments on anesthesiologists and what is the public's attitude?
3. What were the factors that affect the social image of doctors?

#### 4. Results

Firstly, text mining and emotion analysis were carried out on the text contents of anesthesiologists in the epidemic. Application NLPPIR big data semantic intelligent analysis system for text analysis, identification and statistical analysis of the key words in the article, based on the characteristics of word frequency, word length, part of speech, position and Internet high-frequency words, the importance of text was automatically weighted by computer (Table.1). Moreover, the feature weight of keywords was calculated, and a stop word list containing 336 words was selected, including nonsense terms such as "possible", "and" and "for", etc., to output the selected feature words in descending order. The top 20 weighted keywords in the text were shown in the following table. Visible, "anesthesiologist", "doctor", "anesthesiology" and "anesthesia" are respectively ranked 4th, 7th, 8th and 15th respectively. Anesthesiologist is the main body of public opinion, anesthesiology is a branch of clinical medicine, modern anesthesia techniques and sophisticated monitoring systems ensure that patients can perform operations painlessly and safely. In the treatment of severe covid-19 patients, anesthesiologist generally participate in endotracheal intubation and extubation, airway management, respiratory treatment, circulation support, and arteriovenous catheterization, etc., which is a very important guarantee link in the treatment of severe cases. "Intubation", "endotracheal intubation" in the table are ranked 2nd and 3rd, which is the main work of anesthesia in treating COVID-19 patients, endotracheal intubation technique is one of the important rescue techniques commonly used in emergency work, also is one of the most widely used and efficient methods in respiratory tract management. When the patient suffers cardiac arrest or respiratory failure, it can timely aspirate the secretions or foreign bodies in the air duct, keep the respiratory tract open, carry out effective artificial or mechanical ventilation, and prevent the patient from hypoxia and carbon dioxide retention, which is generally undertaken by the anesthesiologist in clinical practice. When the airway is opened during intubation, the positive pressure of the lower respiratory tract may contain billions of viruses that spray with the aerosol and shoot directly into the operator's face, which is a very dangerous clinical operation. "Patients", "sick people" and "critically ill patients" are ranked 1st, 5th and 13th respectively. Patients are another subject of this public opinion. Anesthesiologist must participate in the treatment of almost every critically ill patient in clinic, and their task is very heavy. "Protective suit" was ranked 18th. In the text, it was mentioned many times that the lack of protective equipment such as protective suit, masks and goggles for frontline medical staff that made the working environment of doctors more dangerous.

**Table. 1.** Top 20 keywords of article text based on weight sorting

	KEY WORD	PART OF SPEECH	WEIG HT	WORD FREQUENCY		KEY WORD	PART OF SPEECH	WEIG HT	WORD FREQUENCY
1	patients	n	153.50	682	11	inpatient area	n	62.81	112
2	intubation	n	128.69	719	12	epidemic	n	62.65	170
3	endotracheal intubation	n	102.60	213	13	critically ill patients	n	61.47	45
4	anesthesiologist	n	98.49	219	14	medical workers	n	61.01	110
5	sick people	n	96.07	342	15	anesthesia	vn	60.12	526
6	hospital	n	79.84	434	16	protect	vn	58.60	270
7	doctor	n	77.02	506	17	treatment	v	55.62	131
8	anesthesiology	n	73.29	141	18	protective suit	n	55.31	73
9	Wuhan	ns	65.44	167	19	breathe	v	50.66	113
10	work	vn	65.05	234	20	operation	n	50.56	170

The content of network public opinion has the characteristics of complexity, mutation and antagonism, while the emotion shows the characteristics of diversity, richness and interaction. To understand the emotional tendency of doctors' image reported by media, the text data after filtering useless information was rated by ROST EA software (Fig.1). According to the rating in the "positive emotion result" and "negative emotion result", the positive emotion and negative emotion were again subdivided into "average", "moderate" and "high", which were used to describe the emotional intensity. As can be seen from figure 1, most of the reports (71.66%) have a positive attitude towards this event, mostly advocating the deeds of excellent doctors. For example, the article published on March 11 by the public account "Chinese People's Political Consultative Conference (CPPCC) Education Weekly Online" interviewed an anesthesiologist from Ningxia province who supported Wuhan. The article recorded the real work experience of anesthesiologists in the epidemic and the self-motivation of doctors in their work. The emotional score of such positive stories of doctors was mostly "positive emotions". The number of articles with negative emotions accounted for 29.34%. For example, the article of the public account "anesthesia vision" on March 21 reminded the doctors that they still could not be careless when the confirmed cases in many provinces had been cleared. The sentiment score for such articles was negative. In general, the emotional tendency of most public media's articles related to social workers in the epidemic was rational and positive.

Secondly, text mining and emotion analysis of public comments. NLPIR big data semantic intelligent analysis system was applied for text analysis and identifying key words in the

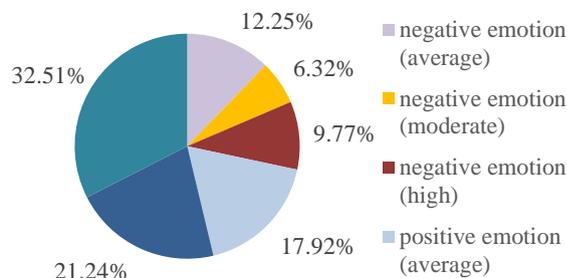


Fig. 1. Emotion analysis of the contents of WeChat text of anesthesiologist during epidemic

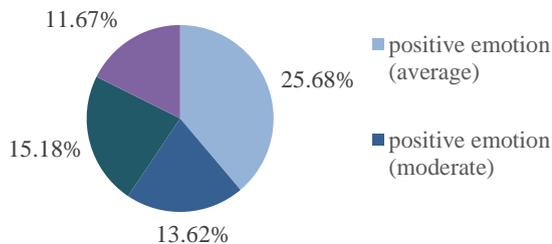
comments and statistical analysis. Based on the characteristics of word frequency, word length, part of speech, position and Internet high-frequency words, the importance of the text was automatically weighted by the computer, the feature weight of the keywords was calculated, and the selected feature words were output in descending order (Table.2). The top 20 weighted keywords in the comment text are shown in the following table. Among them, "physician", "medical workers", "doctors and nurses" and "doctors" ranked the 1st, 9th, 11th and 18th respectively. They are the main body of public opinion and the group that attracts much attention in the epidemic. "Healing heart" and "angels in white" ranked 5th and 17th, which are very positive comments on medical workers. "Safe return" and "early success" ranked 10th and 13th, indicating the netizens' blessing for the medical workers who went to the front. "Saluting" and "refueling" ranked 12th and 14th, indicating the positive attitude of netizens towards medical workers.

Table. 2. Top 20 keywords of comment text sorted by weight

RANK	KEY WORD	PART OF SPEECH	WEIGHT	WORD FREQUENCY	RANK	KEY WORD	PART OF SPEECH	WEIGHT	WORD FREQUENCY
1	physician	n	26.59	46	11	doctors and nurses	n	10.36	3
2	cannula	n	17.34	21	12	saluting	v	10.36	30
3	epidemic	n	16.09	17	13	early success	n	10.24	6
4	hero	n	15.19	31	14	refueling	v	10.07	17
5	healing heart	n	14.26	4	15	get together	n	9.65	2
6	anesthesia	vn	13.10	24	16	technology	n	9.63	9
7	anti-epidemic	n	12.63	4	17	angels in white	n	9.17	11
8	unblocked	n	12.48	5	18	doctors	n	8.91	10
9	medical workers	n	11.40	9	19	hope	v	8.65	10
10	safe return	n	10.99	8	20	protection	vn	8.56	7

To understand the emotional tendency of netizens' comments towards the image of doctors, the text data after filtering useless information was rated by ROST EA software (Fig.2). According to the rating in the "positive emotion result" and "negative emotion result", the positive emotion and negative emotion were again subdivided into "average", "moderate" and "high", which were used to describe the emotional intensity. The attitude of majority comments (88.33%) was positive, which is mainly

because the netizens' emotions towards the doctor's deeds were expressed as gratitude, affection and salute, etc. However, the comments with negative emotions were only 11.67% and were all with a low degree (ignoring the module with a proportion of less than 1%). Overall, most netizens had a positive emotional tendency towards the articles related to social workers in the epidemic.



**Fig. 2.** Emotion analysis of WeChat comments towards anesthesiologist during epidemic

Finally, the research results are based on the grounded theory. Based on data collection, the author adopted the grounded theory research method and used NVivo12 qualitative analysis software to encode and analyze the 436 comments corresponding to the 63 articles collected. Grounded theory is a systematic method and criterion for data collection and analysis put forward by Glaser and Strauss. It emphasizes the induction of concepts from the original data, the step-by-step logging of data, the continuous comparison of data and concepts, the systematic inquiry of generative theoretical problems related to concepts, and the establishment of the relationship between concepts, coding data and building theory (Strauss, & Corbin, 1994). NVivo is a computer-aided qualitative data analysis software developed by QSR company. Its biggest advantage lies in its powerful coding function, which can integrate a wide range of research topics, enabling researchers to quickly capture information points in the literature. NVivo software is compatible with the coding program of grounded theory, which

can provide support for the coding, conceptualization, and theorization of comment text, help to simplify the workflow, and comb the internal level of network public opinion content. To carry out research by using grounded theory, the first step is to conduct data collection. Typical and diverse cases are the important data sources and concept extraction objects of grounded theory research, and the premise and foundation of inductive logical thinking (Mom, Van Den Bosch, & Volberda, 2009). This study took the social image of doctors as the dependent variable, used grounded theory, from a qualitative perspective to determine the influence factor hypothesis model, and finally determined the factors that affect the satisfaction of rural doctors' incentive measures. Collecting the netizen comments corresponding to the media articles as data, this article carried out three-level coding, including open coding, spindle coding and selective coding, and finally used the formed core categories to construct the theoretical model, and repeatedly corrected and compared the existing categories, and then tested the theoretical saturation.

According to the research steps of grounded theory, the coding process followed the order of open coding - spindle coding - selective coding. Open coding is close to the data text with an open mind, and is to analyze, test, compare, conceptualize and categorize the time, place, character, behavior, attitude and position reflected by the words, phrases and sentences in the existing data, and then describe the text with concepts, and classify the concepts with similar attributes into basic categories.

**Table. 3.** Example of open coding based on grounded theory

Source material (initial concept)	basic category
This is the cutting edge, the most dangerous job, salute to my peers!!	Professional attitudes
The skill of Director Zhou Luyang is exquisite, who is worthy of being the hospital's signboard	Professional quality
Thumb up, skilled, strong sense of social responsibility, where there is a need, where there is him.	Work enthusiasm
A person's nature doesn't change, and ignorant people don't change just because of an epidemic.	Scientific knowledge
My sister is working in the first line of the third people's hospital in Hubei province. She has been busy since before the Spring Festival. The doctors around me have been doing this all the time. I hope we can always give them the respect they deserve.	Self-experience
People who fight and even stab doctors and nurses are those who have no sympathy and are not grateful.	Sympathy
Medical workers do not profit from this disease, patients do not worry about the disease arbitrary charges, in order to form such a harmonious relationship!	Social security
Agree to add points to the college entrance examination for the children of medical workers participating in the anti-epidemic campaign, which they deserve.	Doctor incentive system
Medical system reform is the fundamental guarantee of harmonious patient relationship! If the problem of medical marketization is not solved, the harmonious doctor-patient relationship will not last forever.	Public health policy
Very popular science, more of this kind of release. Very warm, full of positive energy of the article, mutual respect is the best thing, after suffering people will be more cherish.	Network we-media
Hope the media will not "wear a hat" to the medical staff, as ordinary people, so that they may be able to enjoy the basic personal safety of ordinary people	Paper media coverage

Spindle coding aims to further condense, focus, refine and distinguish the categories or topics between codes in open coding, find and establish the relationship between concepts, cluster and analyze the independent categories, and form the relationship category in the process of target text analysis. Spindle coding belongs to the transitional stage from experience description to concept analysis, which is to recover the data again as a coherent strategy (Corbin & Strauss, 2014). Selective coding and model construction are the core categories that have

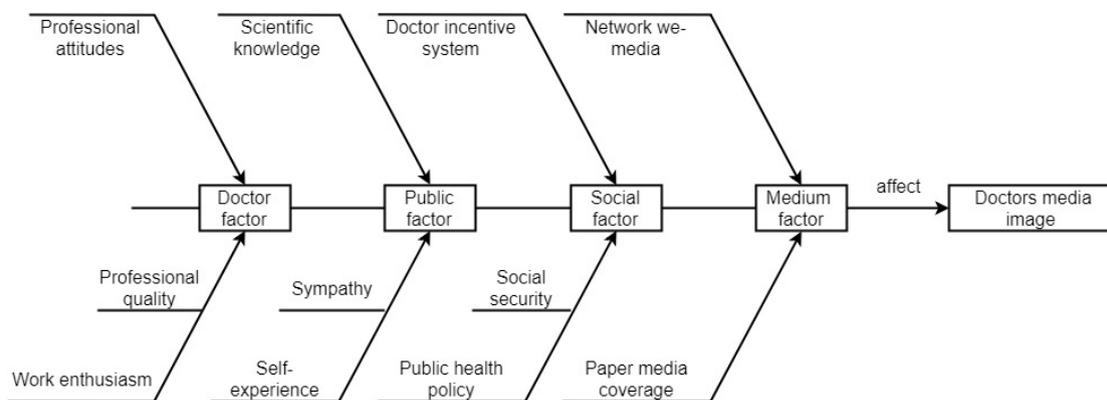
been systematically analyzed and selected. They can concentrate many related categories in a relatively wide range of theories and realize the continuous analysis and concentration of categories. The core category determined in this paper was the influencing factors of the doctor's social image. Based on this, a theoretical model of the influencing factors of the doctor's image was constructed, which included four factors and 11 subcategories (Table. 4).

**Table 4.** Examples of spindle coding of grounded theory

Relationship Category	Relationship Connotation	Relationship Category
Doctor factors	The influence of professional attitude and professional quality of doctors	Professional attitude, professional quality, and work enthusiasm
Public factors	The influence of netizens' life experience, scientific knowledge, empathy and other personal characteristics on the image of doctors.	Scientific knowledge, empathy and personal experience
Social factor	The influence of social and government policies and measures on the image of doctors.	Doctor incentive system, social security and public health policy
Medium information	Comments on the event from network we-media and paper media.	Reports from network we-media and paper media

Theoretical saturation in theoretical saturation testing does not see the same pattern repeatedly. However, it is the conceptualization after the comparison of the research object, which produces different attributes of the pattern, and no new attributes appear in this pattern, that is, the "concept density" has reached saturation (Glaser,2001). This requires constantly searching for new data and new materials, repeatedly comparing existing genera, until no new concepts or genera can be found. The reserved 1/3 of the research data is used for theoretical saturation verification. The test results show that no new

category has been found, and no new initial concepts have been found within the category. Therefore, the "theoretical model of influencing factors of doctor image" based on grounded theory has been theoretically verified by saturation. Through these four categories, we constructed the theoretical model of influencing factors of doctors' social image. The social image of doctors was influenced by the four dimensions of doctors, netizens, society and media, and finally formed the cognition of doctors' image on the Internet (Fig.3).



**Fig. 3.** Theoretical model generation of influencing factors of doctor image

First, in the doctor dimension, this occupation is directly related to people's health and even life. If the treatment effect provided by doctors are not ideal, resulting in the deterioration of the patient's condition or even the death of the patient, the patient will lose control of his or her emotions and sharp conflicts are inevitable. In addition, doctors' attitude in communicating with patients and their enthusiasm in work will also cause the influence of patients on doctors' social image. The stories of doctors presented by the media during the epidemic are all positive and praised. Although it is only the "individual positive behavior" of a small number of doctors, multiplying by such a large base of Chinese medical staff can also cause a considerable social impact. Therefore, the comments of netizens are also positive. Doctors should think about how to improve their comprehensive professional level and work attitude, to win people's respect and respect.

Secondly, in the netizens dimension, when people talk about the doctor-patient relationship in the past, they often think that doctors and patients are opposed to each other and do not trust each other. During the epidemic, when the life and health are seriously threatened, doctors and patients stand in a united front to fight against the disease. The experience of the public in the epidemic has a direct impact on the social image of doctors. In addition, netizens with high empathy and basic scientific knowledge will have more feelings.

Thirdly, in the society dimension, on January 23, Chinese

Health Committee general office issued "notification on medical security of pneumonia epidemic caused by novel coronavirus", which indicate that comprehensive insurance is implemented for the medical expenses of COVID-19 diagnosed patients, that is, the financial subsidy is provided for the part of the individual burden after the payment is made by the basic medical insurance, serious illness insurance and medical assistance according to regulations. The social security system and the doctor incentive system provided by the state in special periods ensure that patients will not be affected by the problem of cost, and ease the relationship between doctors and patients. In addition, the reform of medical market will cause some doctors to lose themselves in the face of economic interests, blindly pursue interests and lose the heart of treating patients. Therefore, public health policy will also affect the social image of doctors.

Finally, in the media dimension, news media provide a large amount of rich information to the audience, thus affecting the audience's cognition. As a way for the audience to know the world, the media plays a direct role in the generation of the media image of doctors. In such major public events, doctors are bound to become the focus of social attention due to their occupational particularity. The reports of medical workers by paper media and online we-media generally present a positive image, which directly affects the netizens' tendency towards the social image of doctors.

## 5. Discussion

Anesthesiologists of the 21st century have assumed increasing responsibility for preventing health care-associated infections (HAIs) (Jaichenco, & Lim, 2019). This study took the public opinion about anesthesiologists in the online platform as the object, adopted the method of qualitative text analysis, selected the WeChat platform containing the key words "epidemic + anesthesiologist", fromed the two dimensions of media and netizens, through the research process of open coding, spindle coding and selective coding, constructed a theoretical model of influencing factors of doctors' social image, which would play an important role in correcting the doctor-patient relationship and be conducive to maintaining the stable positive social image of doctors. According to this theoretical model, actions should be taken from doctors, netizens, society and media.

Compared with the previous research, this study has some innovative points. Firstly, in terms of research methods, Peng (2004) explored the changes in the doctor-patient relationship during the SARS outbreak in 2003, and believed that SARS made people re-understand the high risks and high costs in the medical field, and made both doctors and patients realize the importance of disease information communication, which provided a new opportunity for improving the increasingly tense doctor-patient relationship. The conclusion of this study was mainly based on the author's perceptual cognition. This paper collected subject-related texts, and then excavated and retrieved the texts. This method is less affected by artificial sensory factors, and the conclusion is more scientific. Secondly, in terms of research object, this article selected the WCOA articles and reviews as the research object, whereas in previous studies, paper media and interview materials were generally selected, such as Colombia (2016), selected the Southern Weekend newspaper, and Sadati, Tabei, Ebrahimzade, Zohri, Argasi and Lankarani (2016), selected the doctor interview study. WeChat public platform, by contrast, has the advantages of big user group, wide range of dissemination and relative freedom of speech and so on, and can better express views. And WCOA can form the corresponding article and comment, the conclusion is more real. Therefore, WeChat public platform is an important platform for the generation and fermentation of public opinions, as well as a good platform for academic research. Thirdly, in terms of research background, the background of domestic and foreign researches on the image of doctors, doctor-patient relationship and other topics are mostly based on medical disputes, negative image of doctors, and violent medical incidents, such as He, and Qian. (2016), explored the image of doctors and doctor-patient relationship in various medical disputes and violent incidents in China, as well as the inappropriate measures that cause these phenomena. However, the background of this study is positive, and a positive research paradigm has been established, which can think about this problem from the opposite direction, which is quite different from previous studies. However, the background of this study is positive, and a positive research paradigm has been established, which can think about this problem from the opposite direction, which is quite different from previous studies.

## 6. Conclusions

This article from the perspective of qualitative research, took anesthesiologists who play an important role in critical patients rescuing in the outbreak as the research object, used content analysis method to explore network coverage and netizen comments on the image of the medical workers, and based on the

grounded theory, constructed a theoretical model of the influencing factors of the doctor's social image, which would provide directions for improving the media public opinion environment, accurately present the doctor media image and alleviate doctor-patient contradiction. This study investigated the image of doctors in the network media during the epidemic and put forward the influencing factors of the social image of doctors. For most audiences, the media is the main channel for them to learn about medical policies, medical accidents and other medical-related information. In a subtle way, the image of doctors created by the media will solidify into the image of doctors in the minds of the audience, thus affecting the public's cognition and attitude towards doctors. Therefore, in order to accurately present the media image of doctors, correctly guide the public opinion, ease the contradiction between doctors and patients, and construct a healthy and harmonious medical environment, this paper proposed the above several theoretical models, which would provide directions for improving the public opinion environment. The limitations of this study lie in the small sample size and weak pertinence. The main reason for this problem is that the research object of this paper is anesthesiologists during epidemic prevention and control. Due to the short duration of the event, the sample size is small, the analysis is not in-depth, and it is less targeted than the interview records, questionnaires and other materials, so that there may be some insufficiently rigorous situations in the qualitative research process.

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