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Doing communication history in sanitary systems beyond a "shell game": a mirror comparison on silence and managerial delay practices in communicating epidemics

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ABSTRACT

This paper intends to explore the response to the Covid-19 spread under the lens of managerial perspective related to the communication practices and the probable delay provided as a strategy to avoid panic. Timeliness in health management is crucial and delay could be lethal. The research proposes an exploration on the epidemics' response under the news titles lens and historical view based on original correspondence provided by an institutional perspective. The authors investigate the communication practices and the probable delay provided as a strategy to avoid panic or negative image repercussions. Through a synchronic and diachronic approach (news and original documents), the authors provide a comparison on communication institutional habits in the early stages of epidemics. Similarities would be present among the ancestral case of plague in 1656 and the recent Covid-19 about institutional communication response. This paper would be useful in providing a frame about lessons from the past, according to the considerations made about the actual Covid-19 pandemic spread, relating social responsible behaviours in sanitary systems and managerial delay practice in communication of the epidemic events.

Questo lavoro intende esplorare la risposta alla diffusione del Covid-19 sotto la lente di una prospettiva manageriale legata alle pratiche di comunicazione e al probabile ritardo fornito come strategia per evitare il panico. La tempestività nella gestione della salute è fondamentale e il ritardo potrebbe essere letale. La ricerca propone un'esplorazione sulla risposta delle epidemie sotto la lente dei titoli delle notizie e la visione storica basata sulla corrispondenza originale fornita da una prospettiva istituzionale. Gli autori studiano le pratiche di comunicazione e il probabile ritardo fornito come strategia per evitare ripercussioni di panico o immagine negativa. Attraverso un approccio sincronico e diacronico (notizie e documenti originali), gli autori forniscono un confronto sulle abitudini istituzionali della comunicazione nelle prime fasi delle epidemie. Le somiglianze sarebbero presenti tra il caso ancestrale di peste nel 1656 e il recente Covid-19 per quanto riguarda la risposta alla comunicazione istituzionale. Questo documento sarebbe utile per fornire una cornice sugli insegnamenti del passato secondo le considerazioni espresse sull'effettiva diffusione della pandemia di Covid-19, mettendo in relazione i comportamenti sociali responsabili nei sistemi sanitari e le pratiche di ritardo manageriale nella comunicazione degli eventi epidemici.

Keywords: Covid-19, Comunicazione, Management sanitario, Silenzio istituzionale, Epidemia

1 – Introduction

It is now more than three hundred years since the plague in Naples 1656, one hundred years since the Spanish influenza, eighteen years since the SARS (2002-03), ten years since the H1N1 and several other diseases affected the world in the past.

The history of the influenza epidemics and pandemics in general have received considerable scholarly attention globally (Hays,2005; Coburn, Wagner & Blower,2009; Cunha,2004; Rappuoli & Dormitzer,2012; Reed et al.,2013; Monto, Comanor, Shay & Thompson,2006). While, most scholars prefer to study the demographic (Hoppensteadtand,1975) and economic repercussions (Bloom & Canning,2004) of the epidemic/pandemic events, the authors focus the attention on the communication perspective (Jensen,2016) related to the early stages of outbreak.

Management is a "social science" and it finds solution for multivariable problems in social life, but it has no a panacea of standardized solutions to the multitude of occurrences. Historical case studies could teach something to solve actual problems, due by the fact that similarities could be present as a recursive cycle of events during the centuries.

Definitions of management are oriented to the problem-solving, but managers should be researchers involving a wide range of perspectives occurred in the past to produce experience for future inconvenience. The timeliness in management and in media communication would be crucial and the competitive advantage should be otherwise valid in sanitary management, especially in case of epidemics (Jajosky & Groseclose, 2004; Swaan et al., 2018). In this sense, the time factor is decisive in decision-making processes (Colli Franzone, 2015).

Many barriers are still present among countries, but standardized and timely approaches to communicate emergencies, in a globalized society, should be empowered through cooperation (Wigand, & Klee,1994). Dahl (1994) posed a question on what kind of history could that of media be, and what contribution it can make to other disciplines. In this sense, the health system and sanitary management, could learn crucial lessons from the recent Covid-19 pandemic spread and the communication system behind it. In fact, something would be important to learn from the past, that often remains in the shadow and ignored, as the parallelism advocated by the authors. Standardized educational programs on sanitary emergency management, international health diplomacy both at institutional and individual level, according to a strict cooperation providing a multi-sectorial involvement, could provide a better emergency approach (Wigand, & Klee, 1994), avoiding expedients against panic or negative image repercussions etc. due by delayed communication practices.

In this sense, history would be a great teacher to critically interpret actual communication policies and approaches. In the specific, the communication history (considered as a vehicle for information and managerial practices), could frame better how communication tools and behaviours behind them make a well-established culture, and how they have come to play their role (Scannell, 1980), framing when confidentiality move information or concealment (Saunders, Kitzinger & Kitzinger, 2015; Banerjee & Osuri, 2000; Li, 2020; Turner & Sparrow, 1997). The epidemics and pandemics emergence caused by unknown viruses would involve countries to react to the potential pathogens agents calling sanitary systems to particular efforts.

2 – Literature review

It is not always easy to recognize an epidemic, especially in cases in which it appears simple to confuse its symptoms with those of banal flu. The history of pandemics would teach something to countries, by contrast, populations should learn a lot about communication perspectives during disaster events. For these reasons, the authors propose a rereading of original historical documents (internal correspondence) (Barton & Hall,1984) related to the plague in Naples 1656, through which is recorded the need to inform citizens after months of deaths occurred for

unknown motives. In light of the recent epidemic due to the Covid-19 virus, the authors underline the delayed communication (institutional practice to avoid panic or negative image repercussion in early stages of spread), indicating that it would have been used since the ancient time, as in the case proposed (1656) (Eisenhardt, 1989; Yin, 2013), shaping its referring lines and counterproductive repercussions in the long-run.

The comparison provided between the past and the recent news (Gottlob & Boomgaarden, 2019) about the probable delay in communicating the outbreak of the Covid-19 epidemic, would show analogies in sanitary information to manage anxiety and probable uncontrollable effects due to panic, by contrast the authors would underline the potential of multiplier in contagion spread due by the delayed information-sharing. The effectiveness and success of the timely detection approach would depend on a strong networking and cooperation between intergovernmental, not governmental organizations and specialized agencies all around the globe (Dasilva & Iaccarino, 1999).

As aforementioned, the timely and effective intervention would be crucial for reducing the effects and spread of epidemics, avoiding it to become a pandemic and an event more difficult to control in term of wide-range diffusion.

The documental analysis approach, mixed with the analytic proposition of the ongoing phenomena (news titles), would show a frame intrinsically unmodified, in terms of communication strategies to avoid frenesia or image repercussions, but extremely counterproductive in terms of disease propagation. It seems necessary to say that epidemiological emergences and the particular new influenza cases would be caused by modified viruses, remaining great challenges to predict their spread and circulation dynamics. To estimate the effects and the weight in term of costs and dead, to prevent the global emergence and to plan intervention, great efforts are required by each country; cooperation and timely actions would be the key factor of success against invisible enemies (bacteria and viruses), for which timely information-sharing and activism would be fundamental (Jajosky & Groseclose, 2004; Swaan et al., 2018). Many barriers are still present among countries, but standardized and timely approaches to communicate emergencies, in a globalized society, should be empowered through cooperation (Wigand, & Klee, 1994).

The formal structure of the paper would be shaped as follows: the first part of the work considers the introduction and proposition, the motivations and methodological approach. The next part takes into account the literature review aimed at framing perspectives on epidemics considering the ancient plague to more recent Covid-19.

The main part of the paper provides a comparison between ancestral managerial panic avoidance strategy and the ones in globalized contexts, in which it would be possible to frame the existing paradigms in literature. The original part of the paper would be the last one that considers a longitudinal comparison from past epidemics (plague in Naples 1656) to actual Covid-19 occurrences.

The authors conclude the research work with a critical analysis. The results of this research would show the emergence of new epidemics conditions also among High Income Countries (HICs), and how managerial strategies in early stages would be crucial to avoid subsequent necessary drastic and reinforced control measures in sanitary management, highlighting responsible behaviours in the ambit of communication. The attachments of this paper provide a table of content about disease outbreak news from 2019-2020 focusing the attention on the World Health Organization published announcements about the emergence of Covid-19. The attachments also show photographs, transcriptions and translations related to the original documents provided by archival research and last but not the least, a selection of news titles appeared on line during Covid-19 epidemics useful to favour readers' understanding of hermeneutical parallelism done by the authors.

3 – Methods

All countries are searching for causes related to Covid-19, but little interest has been shown in relation to the possible strategies to avoid epidemic spread in future, and little attention has been dedicated before the dramatic event on how to timely approach the emergency through adequate institutional communication, even if protocols would have been structured (Jajosky & Groseclose, 2004; Swaan et al., 2018). A promising strategy would be to learn something to guide actions for the future from the past, enhancing collaboratively the international health system through communication, integrating research in decision-making, improving experience through practice and studying solutions for human sustainable existence. This research would open a window of reflection on a recent epidemic (Covid-19) through the lens of an ancient epidemic case. The similarities among these two dramatic events (Plague 1656 and Covid-19) offer the possibility to interpret institutional habits in communication when epidemics occur and offer the opportunity to stimulate critical views on practices and malpractices of recent and ancient responses to health emergencies.

With regard to the reasons that triggered the aim to write this paper, that founds its fundamental basis in the historical research of primary documental sources (*note*: a primary source is an original document.

A secondary source in historiography is a writing in which one or more primary sources are described. On the one hand it could be considered the predominant aspect of interest around the possibility of future perspectives only and exclusively looking at the past. On the other hand, it could be considered the lucky possibility in investigating a current reality in the field of communication through the help of the contemporary mirror.

From this point of view the authors try to reconstruct the main epidemic events of recent history with the objective to favor the contextualization to the reader, appropriately considering the managerial aspects connected to the practice of initial concealment of the epidemic to avoid panic and the attempt to stem it, in addition to the repercussions of the problem through an "in-house" problem-solving approach.

From this perspective it has been possible to propose a historical critical re-reading related to the communication of epidemics, identifying the main almost unchanged practices and the main critical factors of success, introducing an important contribution involving the lessons that the globalized world must necessarily take into consideration with reference to the future. Knowing the history of is then a way to look at the culture of the past, its forms but also its contents (Amaduzzi, 2004).

The main part of the paper provides a comparison between ancestral institutional communication practice as panic and/or image repercussions avoidance strategy and globalized contexts communication approaches during epidemics, in which it would be possible to frame the existing paradigms in literature.

The original part of the paper would be the last one that considers a mirror comparison from past epidemics (plague in Naples 1656) to recent Covid-19 occurrences in communication activities.

Original documents have been proposed thanks to the archival research from Italian State Archive of Naples - "Secretary of Deputy King" "original papers"- N.205 and Archiepiscopal Archive of Naples - "Diaries of Ceremonies" of Naples Cathedral, 1651-1660 – Vol.4.

The archival research and updated critical analysis allowed the writing of this article addressed to policy-makers, decision-makers and governors in order to empower awareness linked to the good communication practices that during crises (especially epidemics such as the recent one) must necessarily need to take in place.

A longitudinal parallelism seemed the best way to address a wide audience, placing the accent of reflection not so much from the point of view of the authors, but from the interpretation of the original documents under the light of the actual global challenges.

In this regard, the authors point the interest on the connections between narrative power inherent the original documents (represented by internal correspondence by Deputy King of Naples) and communicative perspective on disaster management, through a historiographical method (document analysis), enhanced by the ongoing observation of actual phenomena, ensuring a synchronic and diachronic approach (Saussure,2000; Stables,2002).

The authors started the investigation following these two research questions:

> **RQ1:** *how much does the governance model and the managerial model change in communicating epidemics in the globalized world?*

> **RQ2:** *which communication factor could be considered as a key variable of success in containing an epidemic crisis in globalized contexts compared to the past? What are the main unchanged mainstream factors?*

The authors, try to answer these questions about the changes or unchanged strategies, pointing the interest on the early stages approaches of epidemics communication in a globalized world. If on one hand is well known that the problems related to the historical research would concern the object and method, with the aim to reduce the counterproductive influence on that study, the authors furnish a series of arrangements to the reader in terms of simplified understanding also pointing the objectives in a specific way, restricting the ambit of action to three main pillars: (A) a precise background paradigm (B) precise historical documents used to compare the actual procedures; (C) a synthetic overview necessary for time and space contextualization.

Rose & Miller (1992), Manetti, Bellucci & Bagnoli (2017), consider that registers, ledgers and the scribes labour to report events chronologically and hospital bookkeeping to take notes about events in a chronological and ordered way, added to whatever it would have been possible to use with the aim to maintain records of events related to sanitary conditions and evolution of trends during epidemiological diseases spread, could be framed as informative technologies. Also, the letters, as the ones proposed by the authors for the case study object of the study (Hamel, 1993; Bryman & Bell, 2015; Eisenhardt, 1989; Yin, 2013), should be considered as governmental and informative tools, with the power to communicate (at the time) and reproduce (nowadays) the events from the individual perspective, and in several cases from the governors' institutional view.

The authors investigate the historiographical point of view according to a managerial approach in delaying communication related to the plague 1656 outbreak, through the analysis of the internal correspondence documents (Barton & Hall,1984).

In the APPENDIX (p. 162), Table 1, provided by the authors, reports the photographs of the documents, the transcriptions of the original texts in ancient Italian and Spanish language and the related translation in contemporary English to favor a mirror parallelism to the recent news appeared online concerning Covid-19.

In that perspective the authors assume that correspondence (as a communication and managerial tool) is a precious window to look at the past, because of the true perspective of the governors, would be reported into the institutional texts. For this reason, the authors decided to investigate the RQs starting from letters (survived to the destructions during years).

The authors also provide the Table 2 (APPENDIX, p. 164) in which are reported (in bold) the updates of the emergence of Covid-19 disease (https://www.ecdc.europa.eu/en/novel-

coronavirus-china/questions-answers), from the first notification on December 31st (2019), when China first announced the outbreak of a mysterious pneumonia to WHO (https://www.who.int/csr/don/05-january-2020-pneumonia-of-unkown-cause-china/en).

4 – Background

4.1 – *Managerial practice and humans' behaviours during disasters. The role of cooperative communication*

Before introducing the topic, a preliminary explanation would be necessary on what literature recognizes as natural disasters and man-made disaster. Natural disasters would be recognizable as occurrences due by natural forces, including a wide range of events (i.e. cyclones, earthquakes, tsunamis etc.). Natural disasters would have the potential to provoke mass casualties and significant damages to several infrastructures. Natural disasters, appear quite easy to face despite man-made disasters, even if both are unpredictable, but the natural ones could be identifiable in advance, permitting preventively adoption of countermeasures and appropriate response planned to minimize risks. On the other hand, man-made disasters are those that are generated by identifiable human actions (i.e., terrorism). They appear as total unpredictable events, in several cases very dangerous for countries (i.e., 11th September 2001).

Each kind of disaster would be suitable for a specific managerial action. The discipline that focuses the efforts on this ambit would be known as disaster management, evolving considerably over the past several decades, because of the fact that in recent years, the number of natural disasters and the number of people affected have been rising (estimated 100.000 people killed in disasters globally in 2005 by these kind of occurrences) (Eldridge & Tenkate, 2006).

Disasters management, especially focused on epidemics/ pandemics events would engage multiple forces, for which a synergistic approach and cooperation in efforts would be the crucial point to face epidemics. But other enemies would be present (i.e., economic crisis, public service continuum; anxiety; violence episodes etc..). So, the globalization poses a great challenge to contain and control the worldwide epidemics, natural and/or man-made disasters, favouring a regional problem to become a distributed problem, transforming domestic forces into global ones.

This article examines the managerial perspective in the early stages of the outbreak disease cases involved for the study (Eisenhardt, 1989; Yin, 2013), through a longitudinal comparison view. The anxiety control (Tausczik, Faasse, Pennebaker & Petrie, 2012; Jain & Sidhu, 2013; Locander & Hermann, 1979) in the early stages of disasters, but especially in epidemics outbreak, would be reasonably a crucial point through which manage violence episodes or uncontrollable mass panic emergence. So, the unknown diseases outbreaks would have always been considered under the lens of psychological and physiological processes. The governors, politicians and sanitary authorities at all levels, are called to manage these borderline situations, well recognizing the potential and spread of the problem, in addition to the management of economic repercussions, people scare, generalized fear and the influencing power of communication (Bryant & Zillman, 2002; O'keefe, 2002; Ladd & Lenz, 2009; Bandura, 1965; Giles & Shaw, 2009; McQuarrie & Phillips, 2005).

Unlike several studies which approach the history of the pandemic from global and national perspectives, the authors of the paper point a precise objective, using intrinsically and functionally the overview provided on epidemics events to contextualize the research and strengthening the research design.

The history of the influenza epidemic and pandemics in general have received considerable scholarly attention globally (Hays, 2005; Coburn, Wagner & Blower, 2009; Cunha, 2004; Rappuoli & Dormitzer, 2012; Reed et al., 2013; Monto, Comanor, Shay & Thompson, 2006).

While most scholars prefer to study the demographic (Hoppensteadtand, 1975) and economic repercussions (Bloom & Canning, 2004) of the epidemic/pandemic events, the authors focus the attention on the managerial perspective related to the early stages of outbreak. According to Heaton and Falola (2006), could not be possible to consider the cultural and social characteristics related to the epidemics outbreak on global scale as single phenomenon. By contrast, these dramatic sanitary emergencies would involve several other aspects and agents all around the world.

For example the beginning of the SARS epidemic (November 2002) that took place in Guangdong Province of China, as demonstrated by Ottersen, Hoffman and Gaëlle (2016) the outbreak was not caused by any of the pathogens covered by the IHR (International Health Regulation), and months passed before the real scale of the epidemics was recognized by the global community, because the Chinese government initially, like hitting a rubber wall, decided to solve the problem without international cooperation and WHO. So the delayed informative system and notification attempt, became unfortunately a crucial point in epidemic spread.

It would be possible to say that the health sector would be characterized by various peculiarities and specificities, and an effective quality service should be provided considering the adequacy of the service provided, taking into account efficiency (Tradori, Brescia & Biancone, 2019).

From a managerial perspective, the health systems would be shaped as systems characterized by complexity. Sanitary systems could be compared using holistic and analytical views. These views and approaches would analyse and assess health systems shaping the evidence lines centred on the synergies existing and differences (Lombrano & Iacuzzi, 2020). The same approach could be used investigating historical paradigms related to sanitary systems and its management. From the archetypal vision of incessant movement, transformation and evolution, complex systems, such as health systems and health emergencies, however, provide recursive outputs capable of becoming inputs of the models themselves over time capable of structuring the possibility of decision and representation of relationships which recur in various situations and environments, increasing the ability of managers and decision makers to manage systemic problems. This is what the authors want to do through the historical contribution of the article in interpreting the control of an epidemic through its initial stages of communication in terms of system thinking and dynamics (Mella, 2016).

The lessons learned by the global community, not only from 2002 SARS but also from the 2009 H1N1 influenza, would be centered on two main factors as countries' public health capacities and networking, added to timely notification and information-sharing to cooperate with the main objective to purse health security (Bennett & Carney, 2015; Ottersen, Hoffman & Gaëlle, 2016).

On 31st December 2019, the WHO China Country Office was informed about several cases of unknown pneumonia in Wuhan (China). On the 3rd January 2020, 44 patients affected by the unknown pathogen have been reported to WHO by the national authorities in China. These patients, according to media reports, would have been in contact with the live wild animals and seafood market in Wuhan. The market was closed on 1st January 2020 for environmental sanitation and disinfection; so in Italy, a ministerial official document, was published of 5th January 2020 , about the risk of an unknown pneumonia from China.

As a fulfilling prophecy and contrarily to what expected, the global community found itself in a position to face another epidemics contagion, with potential pandemics traits. Probably, once again, the suggestions and lessons that past experiences have given to humans, would have been disregarded, at least in part.

Probably the managerial strategy adopted to avoid panic would renew its role once againg. The silence about a new disease (Belluz, 2020), characterized on one hand by the difficulty to recognize the pathogen in the early stages of emergence and/or the probable aim to solve in-house the problem, became a global problem. In this sense, in an opened world a sanitary regional crisis would become rapidly a global challenge.

On the 31st March 2021 the global situation appeared strongly difficult with 192 territories with cases, 2.804.877 deaths and 128.255.068 confirmed cases of contagion around the world (https://coronavirus.jhu.edu/map.html). Especially, the main territories affected by up to 1million cases of Covid-19 contagion appeared the following: 30.393.702 US; 12.658.109 Brazil; 12.149.335 India; 4.646.025 France; 4.494.234 Russia; 4.355.867 United Kingdom; 3.561.012 Italy; 3.277.880 Turkey; 3.275.819 Spain; 2.818.630 Germany; 2.397.731 Colombia; 2.332.765 Argentina; 2.288.826 Poland; 2.232.910 Mexico; 1.875.234 Iran; 1.724.910 Ukraine; 1.546.735 South Africa; 1.533.121 Peru; 1.532.332 Czechia; 1.505.775 Indonesia; 1.284.585 Netherlands (https://coronavirus.jhu.edu/map.html).

According to Carney and Bennett (2014), the global context and epidemic mechanism of governance, through the actual globalized society would involve more complex adaptation and preparation systems to face interconnected and faster viral arising and spread.

Hein and Kickbusch (2010) and Hein, Burris and Shearing (2009) affirm that nowadays epidemics events are looking more and more hybrid and multiple influenced challenges to solve by the help of polycentric distributed structures. In this view the responsibility should be shared at all levels (horizontal and vertical) among regional, national, international and non statal agencies side. In this context, flexible cooperation structure, as public private partnership (P.P.P.) (Ruckert & Labonté, 2014) and inter-statal and intra-statal coordination of actions, would be crucial factors to face the epidemics emergency, pursuing the well-being and avoiding the emergence of probable pandemics condition, without involving subsequent and necessary drastic and more rigorous measures.

From 1347-51 the plague killed half of Europe's population, the so called "Black Death", spread throughout Europe widely, creating generalized fear, panic and anxiety among populations.

Kohn (2007) recognizes that plague and pestilence affected populations and countries, decimating them through the historical recoded events. In this view, strong and terrifying epidemics disasters affected the world in the past and are continuing to affect it nowadays.

Several ancient epidemic events would be recognized as the plague explosion in Europe (14th and 17th century). Summarizing, the world was affected by a wide range of significant epidemics, and after time, nature remembers that it has the power to kill in a terrible manner. In this sense, a timely institutional communication and cooperation would be crucial (Wigand, & Klee, 1994). During the recent years many disasters affected countries and these kinds of emergencies would have been characterized by different origins (Kohn,2007; Van Zyl,2012; Cooper & Kirton,2009).

It is now more than three hundred years since the plague in Naples 1656, one hundred years since the Spanish influenza, eighteen years since the SARS (2002-03), ten years since the H1N1 and several other diseases affected the world in the past.

The spread contagion power affected 37 countries. It has been estimated by Widdowson, Iuliano and Dawood (2014) that the H1N1 provoked two hundred one thousand respiratory deaths. Nowadays the world is suffering another hard blow. The so called Covid-19 that is paralyzing the daily activities all around the globe.

The epidemics and pandemics emergence caused by unknown viruses would involve countries to react to the potential pathogen. Nowadays, in a globalized society and in a VUCA world (Park,2018), characterized by traits of volatility, uncertainty, complexity, ambiguity,

liquidity and discontinuity (Bauman, 2000; Drucker, 1969) would be more difficult to control epidemics spread and block disruptive outbreak.

So, the communication approach against the diseases and global health emergencies would depend on a timely and effective coordination among countries, involving more or less the same control methodologies and planning actions through the health care system, ensuring great sanitary management intervention.

The effectiveness and success of the timely detection approach would depend on a strong networking and cooperation between intergovernmental, governmental organizations and specialized agencies communication all around the globe (Dasilva & Iaccarino, 1999; Wigand, & Klee, 1994).

As aforementioned, the timely and effective intervention, especially in primary communication, would be crucial for reducing the effects and spread of epidemic, avoiding it to become a pandemic and an event more difficult to control in term of wide-range diffusion through urgent and repressive subsequent approaches.

4.2 – *From the plague to epidemics in global contexts*

Laudato (1985) considers that the so called "plague of Naples" (1656) affected the entire Southern Italy. Between the epidemic events and sanitary emergencies characterizing human life since the past (killing thousands of people in short time), the plague is certainly the cruellest. The plague epidemic is characterized by an incredible propagation, and during the XVII century scarce preventive measures, limited sanitary knowledge in medicine, with scarce means to manage the emergency, made the plague epidemics more similar to a massacre.

The historical context characterizing Italy and Europe during XVII century, would be surely different from the actual (Gleijeses,1974; Galasso,1970). Nowadays, the advances in sanitary management and medicine would be huge, starting from the 1894, when a researcher discovered the responsible pathogen of plague, due to the mice able to trigger animal to human contagion (Laudato, 1985).

Unfortunately, unglorious epidemics during the 20th century would be remembered, as reported by Dasilva and Iaccarino (1999) and World Health Organization reports (https://www.who.int/csr/don/archive/year/en/).

The 20th century would be considered as the post-antibiotic age, but also in the epoch of inventions and advances in medicine. Nevertheless, the world constantly suffers the natural attack of renewed epidemics. On the other hand, older diseases are re-emerging due to the modified genetics of microorganisms that are becoming more resistant to medical agents. While the causes of plague and older disease were due to the poor hygiene conditions, the actual epidemics would be due to the ecological changes and lifestyles. In fact, changes in human demography and human behaviours, increased and almost excessive international exchanges, pervasive technology and accelerated industrial productivity are surely affecting the actual global health system and human well-being all around the world.

The globalization poses a great challenge to contain and control the worldwide epidemics, natural and/or man-made disasters, favoring a regional problem to become a distributed problem, transforming domestic forces into global ones. This article examines the communication perspective in the early stages of the outbreak disease cases involved into the study (Eisenhardt, 1989; Yin, 2013), through an introspective view on past events.

The anxiety control (Tausczik, Faasse, Pennebaker & Petrie, 2012; Jain & Sidhu, 2013; Locander & Hermann, 1979) in the early stages of disasters, but especially in epidemic outbreaks, would be reasonably a crucial point through which manage violence episodes or uncontrollable mass panic emergence. As aforementioned, the unknown diseases outbreaks would have always been considered under the lens of psychological and physiological processes. Governors, politicians and sanitary authorities at all levels, are called to manage these

borderline situations through adequate communication, well recognizing the potential and spread of the problem, in addition to the management of economic repercussions, people scare and generalized fear and the influence power of communication (Bryant & Zillman, 2002; O'keefe, 2002; Ladd & Lenz, 2009; Bandura, 1965; Giles & Shaw, 2009; McQuarrie & Phillips, 2005). Contrarily, the order of priorities would appear different among countries and governance models. Several mistakes would occur during emergencies, and these appear no panacea solutions to control, often uncontrollable variables and balance, often non-balancing conditions. In that context the early stages of communication would be fundamental for the subsequent steps and the epidemic disruption, spread, control actions and preventive measures (if possible) of contagion evolution. That would be a stressful condition (Aaltola, 2012) and could generate anxiety among citizens. Public health has always been a question of primary interest into the authorities' agendas and the recent pandemic event would open a renewed binomial among coercion and freedom, authoritative power and security, repression and responsibility.

The authors' perspective would cover a wide historical range, selecting the one of the most crucial epidemic events of the ancient history, analyzing the ancestral institutional communication practices took in place, comparing them with the actual communicative effects on biological risk during Covid-19 epidemic globally. Several questions could be asked on what the best governance model of emergencies (draconian measures or public education) would be and what would be the perception on managerial perspectives. So, for these reasons, with the aim to pursue the principle of public health security, several countries decided to adopt quite specific International Health Regulations (IHR), for early attempting to face the unknown pathogens provoking worldwide epidemics. The global information system and the timely notification (Jajosky & Groseclose, 2004; Swaan et al., 2018) after acknowledgment of the probable potential pandemics would be extremely important to trigger the defense processes of neighbouring regions and countries.

From the view of the WHO's IHR, as actually agreed by the members, epidemics communication and management would constitute strong scientific goals and from the governance side, the model would call each member state to leave a good part of individual sovereignty on national public health in favor to the international cooperation with the aim to guarantee similar policies, concentrating the efforts on the war against diseases. Only in that way it would be possible to favor the well-being among international communities, overturning the crisis periods.

The generalized fear, panic and anxiety control would be due to the strong synergistic, organized actions and directives given in a precise way by the national information system, in accordance with the international authorities for health security. A probable permeability of informative system and governors' hesitation, specially "stop and go" directives and/or expedients to concealment, would be devasting in manage humans' behaviours during epidemics crisis (Carney & Bennett, 2014), risking on the one hand to avoid panic, but on the other hand to generate uncertainty and favor the advance of infections.

Primarily, to face these problems a great information and preventive education would be the solution to avoid or reduce the crisis impacts. During the past decades and centuries, the world experienced disasters of all types, and for example in the early stages of the epidemics the governors were used to attempt to oust citizens (Table 1 (APPENDIX, p. 162)) with the aim to avoid panic or negative repercussions for the throne. By contrast, once at the extreme conditions it would have been appeared unavoidable to share information (Table 1 (APPENDIX, p. 162)). On the other hand, actual globalized society needs to focus the actions against biological risk under a strictly coordination, timely intervention sharing of knowledge and information at all levels. In fact, "communication" emerged with the aim to making sense the development and the organization of knowledge, society and social/individual life (Simonson et al. 2013). These

conditions should be the main critical factor of success. Other variables would play important roles: the capabilities of governments to protect their citizens, infrastructures capacity and leadership approaches. By contrast, politics pressures and propaganda should be avoided, favoring cooperation and synergies for common well-being (Dietz, Ostrom & Stern, 2008; Zamagni, 2008; Wigand, & Klee, 1994).

Decision-makers are called to make rapid risky decisions attempting to minimize damages and repercussions to human life, transversal impacts on environment and ensuring security, in this sense the communicative and informative approach should be radical oriented to a precise guideline. Globally, there were 35.30 million people living with HIV by 2012 (Kar,2014), and the world suffered and is suffering strong contagious and infections every month in several countries (Table 2 (APPENDIX, p. 164)). So, the sanitary system would be globally called to pursue challenges of 21st century under the lens of Agenda 2030 (https://unric.org/it/agenda-2030/). These goals would be achievable only if emergency responders will be able to strategically operate resilient and integrated coordination of all agents to control and embank the emergency. For a timely response to the crisis, the authorities and governors play a crucial role in declaring the emergency (Ross, Olveda & Li, 2014; Dickinson, 1990) and subsequently manage the epidemics both at regional and global level, through an integrated cooperation (Rauner et al., 2018). According to the prevention pyramid, it would be crucial to adopt a primary response in emergency situations, even if the early diagnosis and early treatment of affected patients by unknown pathogens would be difficult, the timely notification to the supranational authorities would be necessary to control the epidemic (Malavade et al., 2011) through a global networking (Rhodes, 2013).

5 – Findings: a comparison between ancestral and globalized contexts managerial panic avoidance strategy

Globalization and poverty conditions would be the main factors in arising of infectious diseases. International travel and trade, tourism, population growth, high urbanization and environmental changes due to the industrialized countries. Epidemiological timely information would be required to effective planning control and activating prevention systems (Khazaei et al., 2014).

The theme of communication would be the main through which the authors dedicated attention regarding the opportunity to investigate timely and delayed communication of disease outbreak as an ancestral managerial strategy to avoid panic and anxiety.

In this way, the timely information and consequent response to the epidemic would become a delayed managerial strategy to avoid panic and image repercussions. But that would be often counterproductive. By contrast, in a new era of epidemics, the world would need the development and application of global health programme designs and criteria for diplomacy and foreign policy perspectives. Both global health and diplomacy should become intrinsically connected (Kevany, 2014).

Even if it would be visible from what has been previously expressed, infections and contagion appear prevalent in the least developed areas of the world (Table 2 (APPENDIX, p. 164)), and due to hygienic conditions and degraded health care, during several recent years even the most developed areas of the world suffer problems related to infections and new or renewed diseases. For these reasons the global community and agencies in charge are going to increase sensitivity related to the risks, probably arising from the frequent interconnections provided by a globalized world and to the link between infectious diseases and national security (Ottersen, Hoffman & Gaëlle, 2016). In this view, another debate follows the lines of essential medicines shortfalls, access to healthcare delivery services, health systems strengthening and communicable and non-communicable diseases. According to what aforementioned, the

management of sanitary emergencies should define a coordinated and timely intervention, in which a great communication would be a crucial result. In fact, epidemiological timely information would be required to effective planning control and activating prevention systems (Khazaei et al., 2014). As aforementioned the focus points of the paper would be actually to present the unsolved problems in epidemic communication practices. This paper would be a support to remember and learn something from the past, to avoid a recursive cycle of a fulfilling prophecy (Merton,1973). A rule would be true: the wide range of mobility would determine the wide spread of contagion. In the case of epidemics, the delayed communication would be counterproductive, and the probably belated measures would show that. In this sense, communication should be faster than physical displacements.

In Naples was constituted a specific entity to manage the disease: a Deputation of Health, alternatively Supreme Magistrate of Health. Galasso (1970) declares that even the sanitary measures, trades and mobility suspension, the efforts were belated.

The original documents (Table 1 (APPENDIX, p. 162)) provided by the authors, would demonstrate the delay in communicating the status quo condition, considering that as an ancient communication dynamic to avoid panic, attempting to control the epidemics during the early stages, without involving citizens.

As reported in the Table 1 (p. 162) from the original document (Year of contagion, May 1656 - source: Archiepiscopal Archive of Naples - "Diaries of Ceremonies" of Naples Cathedral, 1651-1660 – Vol.4), it would be possible to reconstruct the uncertainty sentiments, after several months from the first contagion cases, and the probable starting point of plague outbreak from rotten cod. Quoting the document:

> *"From the beginning of the month of May we heard about the city, that people died more than normal, for various reasons that caused this mortality".*

In parallel, recently, on January 9th, 2020, the Chinese center for the control of infectious diseases reported that the agent of a new coronavirus was identified: the Covid-19. By contrast, sveral sources affirmed that the virus could have been started its diffusion from Wuhan as early as October (Belluz, 2020). This probably delay would be recognizable in the original text provided in the Table 1 (APPENDIX, p. 162) (a parallelism among the cases). As with other viral pathogens, the epidemic capacity could be stemmed only by timely communications and immediate control actions. The SARS epidemic (November 2002) had also started from China, but at the time government officials did not promptly inform the WHO waiting until February 2003. These shortages of timely information were counterproductive at the time (Gulisano, 2020). To date, the situation seems to be considerably different with an explicit transparency in this regard, although even small delays remain, as expressed by the news that appeared online and shown in the Table 3 (APPENDIX, p. 168) (Gottlob & Boomgaarden, 2019).

For which concern the original documents (Nap. May 15th, 1656 – About the disease in this city by the Duke of Osuna (Juan Tellez-Girón y Enriquez de Ribera, 4th Duke of Osuna, was Viceroy of Sicily from 1655 to 1656.) – State Archive of Naples "Secretary of deputy king" "original papers"- N.205) provided by the archival research (L'Eplattenier, 2009; O'Brien, Remenyi & Keaney, 2004), it would be possible to consider the presence of the attempt to conceal the epidemics (by the authorities in charge at the time of plague 1656) until the population realized that something strange was going on. Quoting it:

> *"The people of the country have already understood and fear the contagion that it takes little to trigger the alarm, consequently you can no longer hide the truth and we must focus on prevention".*

Translating to nowadays the managerial approach in panic avoidance, resulting from the archival research about plague in Naples 1656, the delayed information would be recognizable simply putting in relation the Table 2 (APPENDIX, p. 164) (last epidemics by WHO 2019-2020)

and Table 3 (APPENDIX, p. 168) that provides a selection of several news appeared online during Covid-19 emergency (Gottlob & Boomgaarden, 2019).

Another original document would provide a parallelism with the subsequent strenghtening of authoritative and cohercive power against transgressors. Quoting the document provided by the authors from archival research (State Archive of Naples "Secretary of deputy king" "original papers"- N.205) it would be possible to consider the increased measures on the authoritative side to avoid transgression during plague in Naples 1656:

> *"Naples, May 30th, 1656, understood that in the capture and prisons of some suspects in the distribution of dusts that have run under the title of poisoners have influenced".*

The strengthening of authorities' power against transgressors would provide a great parallelism with the Covid-19 epidemics managerial strategies. For example, as reported by Nappi (1980) about the plague 1656 control practices, specific provisions were laid down for the good progress of the lazarettes, ordering the death penalty for violators.

In China, as reported in the Table 3 (APPENDIX, p. 168) (news appeared online), during Covid-19 epidemic the death penalty was established. In addition in Italy, after the Decree Of The President Of The Council Of Ministers (8th March 2020) and the Decree Of The President Of The Council Of Ministers (9th March 2020) declaring further implementing provisions of the decree-law of 23rd February 2020, n. 6, containing urgent measures regarding the containment and management of the epidemiological emergency due by Covid-19, applicable on the whole national territory (Official Gazette General Series n.59 08-03-2020 - n.62 09-03-2020 - n.64 del 11-03-2020), numbers of several news appeared on line, similar to the ones appeared about the probable delay in communicating epidemics by China.

Concurrently, other news appeared online several about the dead penalty (as Nappi declared for the plague period in 1656) and strengthening authoritative power for which concern Italian measures of epidemic control. The authors report a selection of news titles about the argument to favor understanding the similarities among the historical case and the Covid-19 epidemics management. The intrinsic connection between early attempt to prevent indiscretions on the epidemics and the necessary subsequent more restrictive containment measures would reflect the events occurred in the case study proposed (plague in Naples 1656). Under this lens, a parallelism would take place between the past epidemics managerial control action and the current Covid-19 spread also on the lines of a renewed mainstreams: the quarantine measures.

The lessons learned by SARS, H1N1 and Ebola in the past recent years, should make researchers, policy-makers and epidemiologists to reflect on epidemiological spread and approaches to contrast contagion. Unfortunately, analogies would be recognizable with ancestral plague during XVII, focusing the attention on managerial aspects (i.e., delay in information-sharing), especially in the starting phases of outbreak and subsequent draconian measures of control (i.e., death penalty and strengthened coercive power against transgressors) and nothing seems to have changed. On sanitary side, in advanced state of contagion, the quarantine would be the only solution to reduce the severity of the spread, when too much time has already been lost. In this sense, timely communication would demonstrate its preeminent role.

6 – Discussion

The theme of communication would be the main through which the authors dedicated attention regarding the opportunity to investigate timely and delayed communication of disease outbreak as an ancestral managerial strategy to avoid panic, anxiety and negative image repercussions. The virus propagation in a globalized world would be faster than in the past decades and centuries. By contrast, the information about disease would be enhanced by ICT and could run

faster than contagion spread. A paradox would be present in global health diplomacy (Kevany, 2014) the greater the possibility of communication and commercial exchanges, the greater the possibility of the spread of diseases, the lesser (or in any case still not) timely disclosure of the information relating to them. In this way, the timely information and consequent response to the epidemic would become a delayed communication strategy to avoid panic and image repercussions. Contrarily, that would be often counterproductive, especially in a new era of epidemics, in which the world would need the development and application of global health programme designs and criteria for diplomacy and foreign policy perspectives. Both global health and diplomacy should become intrinsically connected (Kevany, 2014).

Through this perspective, the authors provide an overview and historical comparisons among the early attempt to control and manage problems and diseases without informing people (probably inherent the governance perspective to "save the face", preserving the image (Goffman,1959) due to the wide range dimension of countries in term of citizens and consensus). This practice could have been transposed from XVII century to nowadays. While a kind of autarchic control and management of diseases would have been probably considered useful for ancient reigns and governors, nowadays in a world community characterized by globalization, increased links and networks between cities; Ali and Keil (2008) and Fidler (2004) announce that also the diseases would be considerable "globalized and networked".

In this contextual paradigm, the institutional practice to delay communication, attempting to autarchically solve the infection, should be substituted by the cooperation and timely activism to prepare and defense citizens against the contagion, through a great international common information system. Unfortunately, history does not seem to have taught much, or at least humans have not learned enough. In fact, the economic perspective and international image repercussions, would have been produced the same institutional communication strategy proposed as a "shell game" analyzing the original documents related to the plague in Naples 1656 (Table 1 (APPENDIX, p. 162)).

These behaviours would be recognized in literature as the ones operated by managers and other civil servants, who often have the tendency to avoid disclosing organizational data. The motives behind the aforementioned behaviour, would be a starting point for external knowledge and trigger for possible critical observations (Janssen, Charalabidis & Zuiderwijk, 2012). In emergency cases, to reverse this closing orientation would be crucial in view of value co-creation and aligning actions in a compliant manner with the help of the International Health Regulations (IHR), inherent the public interest and well-being pursuing (McDermott, 2010), thanks to a clear communication. That approach would favor the "opening of the shell", which made ancient reigns and often makes public administrations as self-referential closed systems (Janssen, Charalabidis & Zuiderwijk, 2012).

According to Carney and Bennett (2014), the global context and epidemic mechanism of governance, through the actual globalized society would involve more complex adaptation and preparation systems to face interconnected and faster viral arising and spread. Hein, Kickbusch (2010) and Hein, Burris and Shearing (2009) affirm that nowadays epidemics events are looking more and more hybrid and multiple influenced challenges to solve by the help of polycentric distributed structures. Through that view, the responsibility should be shared at all levels (horizontal and vertical) among regional, national, international and non statal agencies side. In this context, flexible cooperation structure, as Public Private Partnership (P.P.P.) (Ruckert & Labonté,2014) and inter-statal and intra-statal coordination of actions, would be crucial factors to face the epidemics emergency through an effective communication (especially in the early stages) pursuing the well-being and avoiding the emergence of probable pandemics condition, without involving subsequent and necessary drastic and more rigorous measures.

The parallelism proposed by the authors, would consider the analogies between the cases on the starting points of contagion and the consequences of delayed communication considering

necessary draconian measures, military intervention and increased penalties for violators as a behavioural control mechanism to guide the severity reduction of the epidemics (Còrdova-Villalobos et al.,2009). The situation faced in the ancestral cases as the one proposed (plague in Naples 1656) would be extremely dramatic because of the scarce knowledge in medicine and the poor hygiene conditions. By contrast, the sanitary problem managed by the governors during the historical plagues in Europe, would appear territorial limited and drastically different from the recent epidemics, especially the Covid-19 spread among the global community.

Concerning the RQS - RQ1: how much does the governance model and the managerial model change in communicating epidemics in the globalized world? And - RQ2: which communication factor could be considered as a key variable of success in containing an epidemic crisis in globalized contexts compared to the past? What are the main unchanged mainstream factors? the insights produced by the parallelism operated would verify the governance model and managerial one related to the epidemics' communication that seems to be ideally unmodified from the early concealment attempt. On the other side timely communication would be considerable as a key variable to successfully contain contagion and quarantine remains a mainstream factor.

7 – Conclusions

It was possible to hear and read during the epidemics spread, about draconian measures to contain the ongoing epidemic, probably the only salvation to stem the damage caused by non-timely notification, otherwise considered as a prudent action to avoid generalized anxiety, panic events and negative image repercussions. The discourse on the timely information-sharing would unfortunately seem to have both potentially positive and negative connotations and consequences. If on the one hand, timely non-prudential information can guarantee a timely defense action, it must necessarily be graded in terms of disclosure to avoid panic and possible episodes of uncontrolled violence (history teaches: plague case in Naples 1656). On the other hand, the late notification of the possible epidemic can cause devastating damage in terms of human lives, overload of health care system and generalized paralysis of nations. The theoretical approach of Occam's Razor for which the simplest solution is the one to be preferred, it would not potentially be applicable to the connected choice on the notification and timely information of the emergency.

Recent influenza outbreaks around the world have generated renewed interest in the study of the spread and properties of pandemic diseases with a view to mitigating their impacts (Chandra & Kassens-Noor, 2014) and the interest of the authors would be focused on the early stage of institutional communication and the role of timely information-sharing. The comparison provided by the authors among two cases, the more recent Covid-19 and the Plague in Naples (1656), have been considered as an important interpretative perspective to analyze the pandemic condition that is affecting the entire world, and how the communication strategies play a crucial role in managing these types of disasters. In a totally networked world, through which the main exchange centers reach hundreds of daily air interconnections, epidemics also travel with people at the same speed, reaching places that in the past would have probably been pardoned (Elbe, 2018; Meyer, 2000).

If on the one hand the timely action and information can be difficult for reasons related to the recognition of the disease, on the other a reasonable delay in information can be fatal. If the epidemics runs faster, in a globalized context (not only on the economic side) the determining element would be timeliness. According to what aforementioned, the timely information-sharing and notification, in case of potential epidemics, would be the main differentiation points to make effectiveness between the actual disaster communication strategy and those of the past and ICTs and media could overcome diplomacy and country boundaries "breaking the silence".

Under the lens on managerial perspective, the limitation to the research that the authors identify, would be traceable in the comparison provided between restricted number of cases. On one hand, that would favor the comprehension and the hermeneutical parallelism, but on the other one, would create boundaries to the generalization process.

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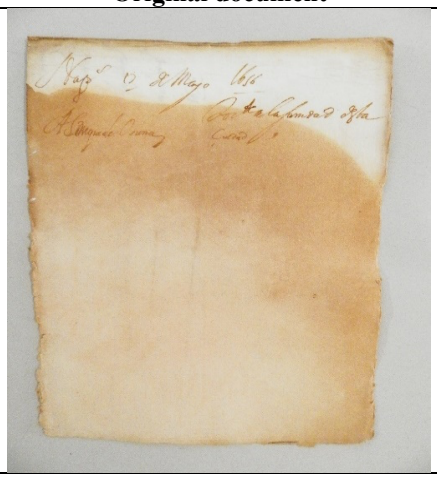
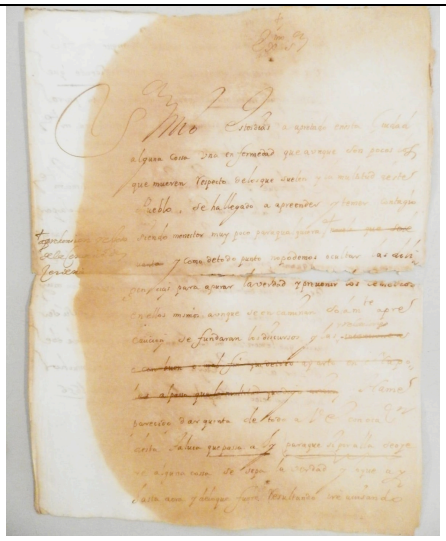
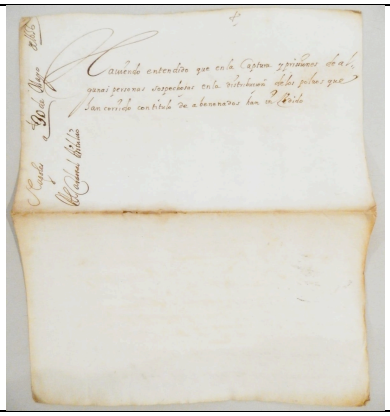
APPENDIX – Supplementary Material

Table 1 – Original documents provided by archival research (Source: Author's elaboration)

Original document	Transcription	Translation
	*Nap. 15 de Mayo 1656* *Sobre la enfermedad en esta ciudad* *Duque de Osuna*	Nap. May 15th, 1656 About the disease in this city Duke of Osuna
	*Señor mío. Estos días a apretado en esta Ciudad alguna cossa, una enfermedad que aunque son pocos que mueren respecto de los que suelen y la multitud de este Pueblo se ha llegado a aprender y temer contagio siendo menester muy poco para que quiera y como de todo punto no podemos ocultar las diligencias para apurar la verdad y prevenir los remedios. ... En ellos mismos aunque se encaminan a precaución, se fundaran los discursos y las relaciones. ... Hame parecido dar quenta de todo a V.E. con ocasión de esta tal... que passa a para que si por allí se oyere alguna cossa se sepa la verdad y lo que hay hasta ahora y de lo que fuere resultando cre acusando.*	My Lord. These days something has happened in this city, a disease that despite killing few people than usual, the people of the country have already understood and fear the contagion that it takes little to trigger the alarm, consequently you can no longer hide the truth and we must focus on prevention. For this reason, even if you take precaution, the problem affects relationships and conversations between people. It seems to me that I have told you everything so that if you were to talk about our problem in your part, you know the truth and what has happened so far and whatever news there was, I will certainly update you.
	*Napoles, a 30 de mayo de 1656* *Habiendo entendido que en la captura y prisiones de algunas personas sospechosas en la distribución de los polvos que han corrido con título de abenenados han influido.*	Naples, May 30th, 1656 Understood that in the capture and prisons of some suspects in the distribution of dusts that have run under the title of poisoners have influenced.
Source: *our photograph from State Archive of Naples "Secretary of deputy king" "original papers"- N.205*	***Ancient Spanish language***	***Contemporary English language***

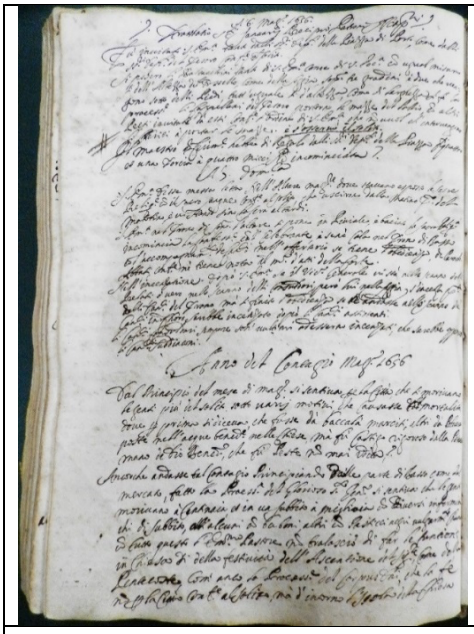
	*"Anno del Contaggio, Mag. 1656* *Dal principio del mese di mag. si sentiva per la città, che vi morivano le genti più del solito, sotto varj motiv che causasse tanta mortalità come per prima si diceva che fosse da baccaltà marciti, altri di polvere poste nell'acque delle chiese, mai fu castigo rigoroso dalla solenne mano del Dio, che fu peste non mai vista? (...)* *Si sentiva che le genti morivano a centinaia et in soffio a migliaia con diversi infermità, chi di subbito, chi alcuni a buboni, altri a punticci negri analogamente chiamati (...)"*	Year of contagion, May 1656 From the beginning of the month of May we heard about the city, that people died more than normal, for various reasons that caused this mortality. First it was said because of rotten cod, then of dust in the waters of the churches, was there never so severe punishment from the solemn hand of God, could it have been a plague ever seen? (...) It was heard that people died by hundreds and by thousands with different diseases, some immediately, some with buboni, others with black spots called in the same way (...)".
Source: *our photograph from Archiepiscopal Archive of Naples, "Diaries of Ceremonies" of Naples Cathedral, 1651-1660 – Vol.4)*	***Ancient Italian language***	***Contemporary English language***

Table 2 – Disease Outbreak news (focus:Covid-19)
(Source: https://www.who.int/csr/don/archive/year/en/ (accessed 03-03-2020)

Year	Disease news – date/name/region
2020	• 27 February 2020 Ebola virus disease – Democratic Republic of the Congo • 24 February 2020 Middle East respiratory syndrome coronavirus (MERS-CoV) – The Kingdom of Saudi Arabia • 22 February 2020 Dengue fever – Chile • 21 February 2020 Yellow fever – Uganda • 20 February 2020 Ebola virus disease – Democratic Republic of the Congo • 20 February 2020 Lassa Fever – Nigeria • 13 February 2020 Ebola virus disease – Democratic Republic of the Congo • 6 February 2020 Ebola virus disease – Democratic Republic of the Congo • 31 January 2020 Middle East respiratory syndrome coronavirus (MERS-CoV) – United Arab Emirates • 30 January 2020 Ebola virus disease – Democratic Republic of the Congo • 23 January 2020 Ebola virus disease – Democratic Republic of the Congo • **21 January 2020** **Novel Coronavirus – Republic of Korea (ex-China)** • **17 January 2020** **Novel Coronavirus – Japan (ex-China)** • **16 January 2020** **Novel Coronavirus – Japan (ex-China)** • 16 January 2020 Ebola virus disease – Democratic Republic of the Congo • 14 January 2020 Novel Coronavirus – Thailand (ex-China) • **12 January 2020** **Novel Coronavirus – China** • 10 January 2020 Measles – occupied Palestinian territory

	• 9 January 2020 Ebola virus disease – Democratic Republic of the Congo • 8 January 2020 Middle East respiratory syndrome coronavirus (MERS-CoV) – The United Arab Emirates • **5 January 2020** **Pneumonia of unknown cause – China** • 2 January 2020 Ebola virus disease – Democratic Republic of the Congo
2019	• 26 December 2019 Middle East respiratory syndrome coronavirus (MERS-CoV) – Qatar • 26 December 2019 Yellow fever – Mali • 19 December 2019 Ebola virus disease – Democratic Republic of the Congo • 18 December 2019 Middle East respiratory syndrome coronavirus (MERS-CoV) – The Kingdom of Saudi Arabia • 17 December 2019 Yellow fever – Nigeria • 15 December 2019 Measles – Pacific Island Countries and Areas • 13 December 2019 Dengue fever – Afghanistan • 12 December 2019 Ebola virus disease – Democratic Republic of the Congo • 5 December 2019 Middle East respiratory syndrome coronavirus (MERS-CoV) – The Kingdom of Saudi Arabia • 5 December 2019 Ebola virus disease – Democratic Republic of the Congo • 29 November 2019 Dengue fever –Spain • 29 November 2019 Circulating vaccine-derived poliovirus type 2 – African Region • 28 November 2019 Lassa Fever – The Netherlands (ex –Sierra Leone) • 28 November 2019 Circulating vaccine-derived poliovirus type 2 – Pakistan • 28 November 2019 Ebola virus disease – Democratic Republic of the Congo

	• 27 November 2019 Measles – Global situation • 22 November 2019 Dengue fever – Republic of the Sudan • 21 November 2019 Yellow fever – Bolivarian Republic of Venezuela • 21 November 2019 Ebola virus disease – Democratic Republic of the Congo • 19 November 2019 Dengue fever – Pakistan • 14 November 2019 Rift Valley Fever – Republic of the Sudan • 14 November 2019 Ebola virus disease – Democratic Republic of the Congo • 7 November 2019 Ebola virus disease – Democratic Republic of the Congo • 1 November 2019 Zika virus disease – France • 31 October 2019 Middle East respiratory syndrome coronavirus (MERS-CoV) – The United Arab Emirates • 31 October 2019 Ebola virus disease – Democratic Republic of the Congo • 24 October 2019 Ebola virus disease – Democratic Republic of the Congo • 23 October 2019 Circulating vaccine-derived poliovirus type 1 – The Philippines • 22 October 2019 Measles – Lebanon • 18 October 2019 Middle East respiratory syndrome coronavirus (MERS-CoV) – The Kingdom of Saudi Arabia • 17 October 2019 Ebola virus disease – Democratic Republic of the Congo • 15 October 2019 Cholera – Republic of the Sudan • 10 October 2019 Ebola virus disease – Democratic Republic of the Congo • 8 October 2019 Yellow fever – Nigeria • 3 October 2019 Ebola virus disease – Democratic Republic of the Congo

	• 26 September 2019 Yellow fever – Nigeria • 26 September 2019 Middle East respiratory syndrome coronavirus (MERS-CoV) – The Kingdom of Saudi Arabia • 26 September 2019 Ebola virus disease – Democratic Republic of the Congo • 24 September 2019 Polio outbreak– The Philippines • 21 September 2019 Cases of Undiagnosed Febrile Illness – United Republic of Tanzania • 19 September 2019 Ebola virus disease – Democratic Republic of the Congo • 16 September 2019 Listeriosis– Spain • 12 September 2019 Ebola virus disease – Democratic Republic of the Congo • 6 September 2019 Circulating vaccine-derived poliovirus type 2 – Republic of Ghana • 6 September 2019 Ebola virus disease – Democratic Republic of the Congo

Table 3 – A selection of news titles appeared online during Covid-19 epidemics (source: Author's elaboration)

News titles*	Source	Date
China detains activist who accused XI of Coronavirus cover-up	nytimes.com	17-02-2020
Three things the Chinese government tried to hide	Qz.com	13-02-2020
China hid the severity of its coronavirus outbreak	Vox.com	10-02-2020
Hiding coronavirus may be punishable by death	Dailysabah.com	15-02-2020
Chernobyl-like response by China	Cnbc.com	18-02-2020
Coronavirus. Death penalty in China for hiding symptoms	Open.online	18-02-2020
Coronavirus. Death penalty in China for hiding symptoms	Quotidiano.net	15-02-2020
Coronavirus. Death penalty in China for hiding symptoms	Adnkronos.com	15-02-2020
Coronavirus, China's extreme decision: death penalty	Liberoquotidiano.it	15-02-2020
Coronavirus. Death penalty in China for hiding symptoms	Strettoweb.com	15-02-2020
China: death penalty for those who hide the symptoms of coronavirus	Nessunotocchicaino.it	18-02-2020
Coronavirus, death penalty for symptoms hiding in China	Ilfaroonline.it	15-02-2020
Coronavirus. Death penalty in China for hiding symptoms	Urbanpost.it	15-02-2020
Death penalty for those who spread the coronavirus	Laleggepertutti.it	15-02-2020
New coronavirus, China: death penalty for those who are silent about the symptoms	Secoloditalia.it	15-02-2020
China: death penalty for those who intentionally infect	Ilmessaggero.it	04-02-2020
Coronavirus, death penalty for symptoms hiding in China	Meteoweb.eu	15-02-2020
Coronavirus, China: the death penalty expected for those who spread the infection	Rainews.it	04-02-2020
Coronavirus, death penalty for symptoms hiding in China	Virgilio.it	15-02-2020
Death penalty for those who hide the symptoms of coronavirus	Virgilio.it	15-02-2020
In China, those who spread the coronavirus risk the death penalty	Huffingtonpost.it	04-02-2020
Coronavirus, up to the death penalty in China for those who hide the symptoms	Secondopianonews.it	15-02-2020
Coronavirus, if you transgress there is the death penalty	Mag24.es	15-02-2020
Coronavirus, China: even death penalty for those who infect	Ilmattino.it	04-02-2020
Coronavirus: death penalty for those who hide the symptoms	Libero.it	15-02-2020
Coronavirus China, death penalty for plague-spreader	Ilsussidiario.net	04-02-2020
Coronavirus, Viminale: "Up to three months in prison for those who violate the quarantine"	Ilfattoquotidiano.it	08-03-2020

Coronavirus: penalties and arrests for violators	Pmi.it	09-03-2020
Coronavirus, Dr. Pignataro: "Zero tolerance for those who do not comply with the provisions	Irpinianews.it	08-03-2020
Coronavirus, sanctions: arrest for violators of the bans	Corriere.it	09-03-2020
Coronavirus Viminale: arrest of up to three months for those who violate the limitations	Adnkronos.com	08-03-2020
Coronavirus, penalties for those who do not respect the rules. There is also arrest	Quifinanza.it	09-03-2020
Source: google search - *(translated in English)		