PUBLIC HEALTH

DOI 10.35630/2022/12/psy.ro.3

Received 14 December 2022;
Published 6 January 2023

SARS COV 2 PANDEMIC - BETWEEN CAUTION AND PRUDENCE

Vasile Valeriu Lupu[1], Ingrith Miron[1],
Anamaria Ciubara[2] ✉, Valeriu Lupu[3],
Iuliana Magdalena Starcea[1] ✉,
Anca Adam Raileanu[1], Stefan Lucian Burlea[4],
Alexandru Bogdan Ciubara[2] ✉, Ancuta Lupu[1]

[1] Pediatrics, "Grigore T. Popa" University of Medicine and Pharmacy, Iasi, Romania;
[2] Faculty of Medicine and Pharmacy, "Dunarea de Jos" University of Galati, Galati, Romania;
[3] Pediatrics, Emergency County Hospital, Vaslui, Romania;
[4] Faculty of Dental Medicine, "Grigore T. Popa" University of Medicine and Pharmacy, Iasi, Romania;

✉ magdabirm@yahoo.com, bogdan.ciubara@ugal.ro

ABSTRACT

There is no doubt that a natural phenomenon of the magnitude of a pandemic requires a series of tough precautionary measures in order to limit the spread of the disease, to combat the manifestations of the disease by appropriate therapeutic means and to increase the resistance of the population through prophylactic immunisation, namely vaccination. At the same time, caution points out that not all precautionary measures achieve their aim, for at least two reasons: first, it is an extremely versatile micro-organism (like any virus) which can change its genetic configuration through mutations, thus retaining its main characteristics; contagiousness and pathogenicity; second, the preventive measures initially used: quarantine, mask and physical distancing, have proved to be totally outdated and ineffective in today's conditions (economic interdependence, population movement, overpopulation of the planet). The very vaccination on which so much hope was pinned has failed to stem the new pandemic waves (3 and 4), even in countries where the vaccine immunisation rate has exceeded 70%. The three major means of prevention are reviewed which, beyond the immense frustration they have produced in the population, have had a devastating socio-economic impact, and the results of forcible imposition have produced insignificant results. It has been demonstrated once again that the global approach to the pandemic is doomed to failure (witness the successive waves) and that precautionary measures are illusory. Thus, between precaution and prudence, prudence must prevail in order not to replace an existing evil with a greater evil. The only effective measures remain outbreak control with specific means (which epidemiologists know very well) and immunisation by vaccine.

Keywords: virus; SARS CoV 2; pandemic; prudence; caution.

A 20th century medical celebrity said; *the chief danger in life is that you may take too many precautions*. It is none other than Alfred Adler, disciple of the no less famous Sigmund Freud (father of psychoanalysis and

the historical relationship between Id, Ego and super Ego) thus warning man and human communities when they had to deal with natural factors causing natural catastrophes or pandemics (Adler, 2009).

We agree that precaution means a series of (sometimes draconian) measures to prevent or mitigate the consequences of a natural phenomenon, such as the coronavirus pandemic in the present case, but let us not forget that prudence draws our attention to the fact that not every precautionary measure is justified, because, not infrequently, the consequences of such measures exceed even those of the phenomenon in question, which seems to be the case here too, according to the first assessments of the economic and social impact (Barry, 2005).

To discern between the two (precaution or caution), however, wisdom is required, because in the life of a community, as in the life of an individual, "there's a time for daring and there's a time for caution, and a wise man understands which is called for at any given time" (Weir, 1989).

Now that the coronavirus pandemic seems to be coming to an end, it is time for human wisdom to distinguish between caution and prudence, between truth and lies, between exaggeration and reality, between nature and technology, and finally between science and humanism. If we fail to make these distinctions, we will end up with what Omar Bradley rightly said; *if we continue to develop our technology without wisdom or prudence, our servant (technology n.n.) may prove to be our executioner* (Bradley & Black, 1983) or perhaps just as evocatively, the words of C. Maximilian in reference to man's relationship with his science when he defined bioethics: "*bioethics is the meeting point of all those who pursue human destiny under the pressures of science*" (Maximilian, 1979).

Seen in this light, it can be said that there is a major difference between precaution and prudence, both in terms of their definition as terms and, above all, in terms of their content and consequences. The preventive nature of precaution is vitiated by the fact that the measures are not always effective, and can even have serious consequences for the life of a community, as this pandemic has shown to an excessive extent. This is where prudence comes in, which requires you to avoid words, actions or gestures that could cause as much harm, or even more than the disease itself (Cipolla, 2021).

It can be rightfully said that if precaution is the mother of foresight (or the eldest son of wisdom as Victor Hugo said), prudence is the mother of wisdom, which means that precaution and prudence must be found in any critical situation, but especially when the situation is life-threatening.

A NECESSARY ASSESSMENT

Now that the pandemic is ending and the shock of the deliberately created and maintained "spiritual pandemic" (Ignatie, 2020) seems to have passed, a number of facts, approaches and attitudes can be evaluated rationally and logically, without passion or incrimination, but only in the spirit of truth, because only from this can we draw lessons and attitudes that we can acquire in order to overcome them, not so much in a spirit of caution as of prudence, which is all the more necessary when it comes to individual and especially collective health.

The late declaration of the pandemic, the medical botches regarding the measures needed to prevent the spread of SARS CoV 2, the attempt to cover up the events in Wuhan, have raised numerous suspicions which have led to speculation and catastrophic approaches. All of this has caused concern, fear, fright and even panic, based on the media assault on all media channels with the support and participation of both national and supranational authorities.

We will not make any kind of judgement on the political, social, administrative or economic approach, but we will say that from the medical point of view the approach has been exaggerated and the medical professionals have proved to be an extremely inconsistent segment by effectively participating in manipulation and misinformation, to the extent that they undermined the principles of medical ethics and deontology, thus dishonouring their profession. How ludicrous today appears the use of isolators to transport cases detected (by tests the accuracy of which has been questioned ever since) to designated hospital units, even if they had no symptoms, or the demonstrative taking of the army out into the streets, not to mention military ordinances and the mobilization of law enforcement bodies to impose measures that do not even have the historical stamp of their usefulness.

It is perhaps also time to take a look at the restrictions imposed, their effectiveness in today's world and their impact on the individual and the community of which he or she is a part. We will briefly refer to the three ways used in epidemiological control, namely; quarantine, the wearing of protective masks and physical distancing.

HISTORY OF QUARANTINE AND ITS AVATARS

One of the oldest ways of stopping the spread of epidemics, known since ancient times, is quarantine. From

the outset, it proved to be the most difficult restrictive measure to bear and to put into practice. This has become even more obvious in our time, because it affects freedom of movement, of travel, of manifestation, of work, of supply, of education and socialisation. All of this will lead to economic, professional, educational, cultural, spiritual and social frustrations, with major repercussions on everything that is normal in the life of an individual or a community.

The history of quarantine begins with the dawn of humanity, with varying results depending on the type of disease for which it was instituted. It appears at the beginning (700-600 BC) as an isolation of those with certain diseases; of the skin, of infected bones, genital evacuations, cited in Leviticus (Metzra 14 - 15). It would take shape a thousand years later (706-707 AD) (Grabe, 1998) when the hospital built in Damascus by Caliph Al Walid in his Omniad caliphate included special rooms (separate from the rest of the sick) for leprosy patients. 724 years later, the Ottomans built the first hospital for leprosy patients in Edine, also with the idea of isolating them (Pliny the Elder, 1989).

The term quarantine (quaranta giorni - 40 days) appears for the first time in the plague (black death) epidemic in Ragoza (today, Dubrovnik, on the Adriatic coast of Croatia) between 1348 and 1351, when ships were kept at sea for 40 days to make sure that no sailor or passenger had a contagious (sticky - in the terms of the time) disease that could infect the locals. The duration of quarantine is apparently biblically inspired; 40 days Moses wandered through the Sinai desert or 40 days Jesus Christ resisted all temptations on Mount Sinai (Traușanu, 2020).

Two models of quarantine are known: the British (maritime) model inspired by the quarantine days and based on the theory of miasmas through which contagious diseases are transmitted (Sandu 2021a; 2021b). The disease was eradicated (or kept at bay) with herbal essences, disinfection with rose water and vinegar, also by limiting movement and avoiding crowded places. The same theory also involved the alignment of the planets which would influence the occurrence of influenza epidemics, which is why the disease was known then (as it is today in the Anglo-Saxon world) as influenza or sweating sickness (suddor anglicus). The second model was the Habsburg (land) model, also applied in the Romanian Principalities, which meant quarantining at the border for three to five days under normal conditions and 14 to 30 days under epidemic conditions, with disinfection by fumigation, all under sanitary and military supervision. Failure to comply with these rules could have meant life imprisonment or shooting by watchmen (Traușanu, 2020).

The measures inside were no less drastic. These measures were directly supervised by the ruler of the time and implemented by the police station (a kind of home office). In fact, they consisted of the closure of vegetable and animal fairs, the avoidance of public activities in enclosed spaces, the prohibition of religious services, individual and communal preventive measures, all stemming from previous experiences and common sense. In the case of the Romanian countries, these restrictions were introduced with the occurrence of the Organic Regulation (1829), which officially imposed the Habsburg model as the model of quarantine. In addition to the above provisions, they had a series of "care instructions" concerning individual and household hygiene; "without discrimination, keep clean the shelter and the body", and in addition to the general cleanliness of "alleys, vacant lands and properties" to "equip the hospitals of the time (bolnițele) with what is necessary", to "send doctors at all suspicious places", and "the infirmaries to be open at all hours" (from the royal circular issued in the spring of 1848) (Traușanu, 2020).

However, quarantine has not proved its effectiveness in any era. Because beyond the extremely high costs that the quarantine system has always entailed, it was the abuses on the part of public officials (they had increased and discretionary powers) that vitiated and even thwarted the results of anti-epidemic actions through quarantine. So, in 1859 quarantine in the principalities was temporarily discontinued mainly because of its inefficiency, but also because of the high costs and abuses that were committed in its name.

If the primary role of quarantine was to prevent the spread of epidemics, the history of this administrative measure systematically shows its ineffectiveness in the great epidemics and pandemics through which mankind has passed throughout the ages. Thus, the historian M. Barry, who studied the evolution of the Spanish flu (1919-1920), concluded with scepticism that "*under pandemic conditions any approach has its limits, and their application to the masses (population n.n.) in an epidemiological situation already in progress cannot interrupt the evolution of the disease*" (Barry, 2005). This has been demonstrated to an extent by the evolution of this pandemic (the Suceava and Timisoara cases where the spread of the virus became more extensive as quarantine restrictions became more severe).

It should also be noted that imposing a quarantine in the true sense of the word is absolutely impossible nowadays, because we are talking about huge human communities in the current demographic context (over seven billion people, compared with 1.3 billion in the First World War and seven to eight hundred million in the 18th century), when the mobility of people and goods by land, sea and air has become overwhelming and indispensable, when cohabitation with animals has become fashionable, without taking account of the fact that this cohabitation favours species hopping of microorganisms specific to each, with some species of virus becoming pathogenic for humans.

Quarantine in today's conditions is therefore totally ineffective, and on the contrary, can have undesirable consequences for individuals and communities. Richard Mead states that "a public quarantine regime maintained at a drastic level over the long term has a negative effect on both the collective mentality and the epidemiological control effort" and indeed no positive effect on epidemiological disease control has been observed in our case (Zuckerman, 2014). The spread of the virus has continued unchecked, moreover it has created a collective neurosis translated into popular uprisings all over the world, due to the negative effects on the individual level; irritability to the point of irascibility and rebellion, asthenia, concentration disorders, headaches, impaired understanding and communication.

A historical comparison could be made with the Hong Kong flu pandemic (1968-1971), in which Romania was only affected by the third wave (due to the isolation of the country by the "communist quarantine"), which reached us via Switzerland-Finland-Hungary, and which in its course around the world produced a comparable number of victims to the current coronavirus. The quarantine was not instituted anywhere, so stock markets did not collapse, the economy functioned, social and cultural life continued, schools did not close, there were no media assaults or political manipulation, so the pandemic passed without economic and social consequences.

Only hospitals were quarantined, while the rest of the country acted according to the principles of "outbreak control", namely isolation of the sick at home or in hospital (not compulsory hospitalisation on the basis of a relative test), surveillance of contacts and specific control measures through hygiene and disinfection, and in 1969 mass vaccination was introduced, because the flu vaccine had been discovered in the meantime.

It is very true that the medical-sanitary system of the time made it possible to keep the territory under epidemiological control through the structure of primary medical units (medical-sanitary districts) which had territorial delimitation and a team of hygienists (hygiene assistant, sanitary officer and disinfector), to which a zonal and regional surveillance through specialised structures was added (SANEPID, hygiene institutes, laboratories and its own vaccine institute - the Ion Cantacuzino Institute) (Lupu, 2021). As a result, the Hong Kong flu in our country ended in 11 weeks, without any major economic or social impact, and the end of the epidemic was felt in the autumn and winter of 1971-1972 with the British variant of the same virus, A/England/42/72 (Vâță et al., 1973).

No less objectionable are the other two compulsory measures imposed by the authorities; protective masks and physical distancing.

BRIEF HISTORY OF THE MASK

Like the quarantine, the mask has a history that is as old as it is interesting, a proof that the ancient world had a grasp of epidemiology even if they could not fit it into the confines of a science that did not exist at the time. The first record of the mask being worn is at the court of the Mongol Khan Kublai. At his court, courtiers and servants who came into contact with the master, in order to avoid spreading smells (miasmas), droplets of saliva or food fragments, were obliged to wear a silk napkin sewn with gold thread around their mouths. Protection, therefore, was not for the wearer of the mask, but for the person with whom he came into contact (Pliny the Elder,1989).

Then, for a long time, the mask was used to protect the wearer. Thus, in ancient Rome the mask was worn to avoid inhaling lead oxide particles for those working in mining (Pliny the Elder,1989). During the great plague epidemics of the Middle Ages, the mask was used for purely medical purposes, being made of fabric in the form of a beak with two compartments (for perfumes - against odours and aromatic herbs - against disease-carrying miasmas), to which was also associated a bizarre costume worn by those who could afford it (Defoe, 2003).

In the Renaissance era, Leonardo da Vinci designed a mask for construction workers (particularly stonecutters), made of fabric which, when periodically moistened, trapped dust particles. At the beginning of the 18th century firemen used a special mask to reduce smoke and reduce inhalation during fire-fighting operations. In the modern era Alexander Humboldt (1799) designed a face mask with eye holes, later developed by Lewis Horeal who introduced the valve system, a principle that would be used in the First World War as a gas mask by adding activated charcoal.

Its introduction into medical practice belongs to the Polish physician Jan Radeki (1850-1905) in the form of a surgical mask (Mikulicz mask) to protect the surgical wound from contamination by micro-organisms from the one who performs the operation. Its protective role for bacterial dissemination was demonstrated in 1905 in an experiment on doctors and nurses, in which the number of streptococcal colonies eliminated by coughing and sneezing was reduced by half for those wearing the mask.

The surgical mask will be continually refined, but will not go beyond limiting the spread of bacteria, small particles and impurities in the atmosphere by being totally ineffective for nanometre or ultramicroscopic infrastructures such as viruses. Attempts to demonstrate their usefulness in preventing the spread of

viruses have been unsuccessful, both in research and in the practice of wearing the mask, so much so that even WHO experts have had to admit its ineffectiveness in viral transmission "there is limited and inconsistent evidence that the mask would protect the spread of SARS CoV219 infection" (WHO, 2021). With goodwill one could accept the idea that the mask used and changed properly could reduce the infectious dose of viral particles, especially when embedded in secretions, cellular debris, desquamated epithelial cells, etc.

In contrast to the hypothetical benefits outlined above, however, there are risks that are far from negligible (Dragnea, 2021). First of all, there is the mechanical barrier that the mask places in the way of physiological (normal) breathing, which will require greater respiratory effort on the part of those who have direct or indirect chronic respiratory pathology, those who do physical work, children and the elderly, whose ability to adapt is incomparably more limited.

Secondly, it increases the dead space by adding space between the mask and the nasal cavities, which will increase the dilution of the inhaled air. The consequence will be a reduction in the concentration of oxygen in the alveoli to values below 16% (which is normal) which will affect gas exchange at the level of the pulmonary alveolar-capillary membrane. As a result, a degree of cellular hypoxia will set in, affecting cellular metabolism. As the brain is the most sensitive to hypoxia, it will suffer, the most common being nervous asthenia, headache, irritability, insomnia, concentration and behavioural disorders. Thirdly, whatever the season, but especially in cold seasons, the mask quickly becomes a polluted and polluting environment at the same time. After a few minutes, and especially due to coughing, sneezing and wet breathing, the mask becomes contaminated with its own respiratory flora or that of the environment, thus becoming a breeding ground for this flora. In this context, the use of the mask becomes inappropriate, if not dangerous, the more so when the wearer's behaviour is added, through repeated and careless use; without washing, sterilisation or sanitary processing. In addition to the shortcomings described above, there are therefore biological risks, as the mask becomes a veritable breeding ground for bacteria and viruses, especially when used improperly (Dragnea, 2021).

PHYSICAL DISTANCING AND ITS AVATARS.

Physical distancing is nothing new either. It has been practised since ancient times, because it was known even then that being around a sick person can cause a "sticky" disease and that by staying away from the sick person it is possible to prevent "the sticky disease from spreading" (Traușanu, 2020). Even lepers in antiquity and the Middle Ages were obliged to wear a bell to signal their presence nearby, thus being avoided by the healthy.

With overpopulation, economic interdependence, freedom and opportunities for movement and physical distance, this proved difficult to implement and manage. The impact of this measure on the individual and collective mind is not unimportant, because its imposition by the police induces a feeling of frustration, which leads to anxiety and panic and can degenerate into behavioural disorders ranging from depression to aggression.

Contributing to this situation is the tendentious use of the term "social distancing", which is in flagrant contradiction with the instinctive tendency towards closeness and interpersonal communion, especially in times of hardship when people instinctively group together in search of help and protection (Ignatie, 2020). Bazant and Bush have shown that 2 m distance is of no value in an open environment - the risk being the same as at 20 m - and that for enclosed spaces, more important than physical distancing is the number of people in the space, the type of activity and the presence and intensity of ventilation (Bazant et al., 2021). More important than anything else, however, seems to be the time spent in the vicinity of a coronavirus carrier rather than the distance from it, which should be less than 15 minutes (Bazant et al., 2021). The empiricism of this measure is also demonstrated by the human agglomerations on the occasion of Orthodox Easter celebrations and religious processions in Eastern Europe (with the exception of Romania - it could not be otherwise), the summer agglomerations of 2020 and the current festivals which have not produced any disaster that the media and the authorities would have expected with satisfaction and would have exploited to their gain.

Unfortunately, despite the authorities' unjustified satisfaction in relation to the management of the pandemic, we have to admit the failure of all these measures, which are totally out of step with the realities of our times, because the pandemic has followed its natural course, unfolding according to its own laws. Without denying the fatality of the pandemic's evolution, we must recognise that the only way of effectively combating the disease epidemiologically remains the outbreak control, with its punctual rigours, especially since, as we speak, we have vaccination at our fingertips, a procedure by which the disease is reproduced at minimal parameters with the idea of inducing specific immunity through anti-coronavirus antibodies.

CONCLUSIONS

In the meantime, we note that the pandemic is following its natural course, reaching the fifth wave, in fact the tail of the pandemic, little influenced by the vaccine. This is also the reason why the third vaccine is being demanded without convincing argumentation, which raises the suspicion of commercial if not other interests.

We must not lose sight of the fact that over-emphasising vaccination can become a danger to the body, because we are talking about the most sensitive system in the structure of the human body. As the national vaccination campaign against COVID 19 has lost momentum, predicting a resounding failure, I think the wisest thing would be to stop it and apply it only punctually where outbreaks occur, but at reasonable percentages, which would justify the application of anti-epidemic measures and not arbitrary figures justifying administrative measures with a negative impact on social life.

And then we come back to prudence, which requires wisdom and discernment, balance and logic in taking and implementing measures which, if once somewhat effective, are now totally outdated, as we have seen above. Vaccination itself, the only acquisition of modernity, requires the same discernment and logic in its application on a national scale and not its untimely application in the logic of precaution, which involves drastic, if not draconian, measures on an administrative level, starting with a medical recommendation and ending with real abuses with a significant social impact. The medical act itself is about recommendations and interventions in full agreement with the patient and not about imposing attitudes beyond the patient's control.

Because the imposition of restrictions goes beyond medical principles, and the subordination of the individual to the collective interest has always generated discontent and revolt. Therefore, prudence must prevail over precaution, and the arguments in its favour are historical experience, which those managing the pandemic are unaware of (or knowingly evade), and scientific knowledge, which has been filtered through the filter of conscience. Although the means of fighting the epidemic are much the same as they have been since ancient times (with the exception of vaccination and outbreak control), the social approach differs substantially. Whereas in the past the public health approach was hampered by the "selfishness, ignorance, carelessness and stupidity of the individual" (Cipolla, 2021), nowadays; misinformation, mistrust, manipulation and abuse by the authorities are disturbing any conscience, however responsible.

In conclusion, I would like to make a further comment on the fact that contemporary man has a heightened sensitivity to illness and death. Compared to other eras, illness and death are hardly accepted as a reality and especially in a spirit of solidarity. Sigmund Freud himself rightly said of those times that "if you want to acquire the power to endure life, be ready to accept death" (Freud, 2017), which nowadays, when the whole process of shaping the individual is geared towards creating the impression that man is all-powerful, master of his own destiny and that of the planet (Homo Deus) and can control and decide on everything that is life on earth, seems a curiosity, although in itself it conceals a sad reality.

We must also accept that the population of today is at a different level of education, not to mention the unlimited possibilities of information and communication. For those called upon to manage a crisis situation, be it medical or health-related, I would remind them of the words of Omar Bradley: " *Education makes a people easy to lead, but difficult to drive; easy to govern, but impossible to enslave*" (Bradley et al., 1983).

ACKNOWLEDGEMENTS

All authors contributed equally to this article.

Paper presented at the 16-th National Conference on Bioethics, Iasi, Romania, 9-11 December 2021

REFERENCES

1. Adler, A. (2009). *Înțelegerea vieții* [Understanding life]. Trei.
2. Barry, M. J. (2005). *The Influenza*. Penguin Books.
3. Bazant, M, & Bush, J. (2021). *Studiu MIT. Distanțarea social la 2 m nu are efect împotriva Covid 19*. Digi24. https://www.digi24.ro/stiri/externe/mapamond/studiu-mit-distantarea-sociala-la-2-metri-nu-are-efect-impotriva-imbolnavirii-de-covid-1509291;
4. Bradley, N. J., & Black, C. (1983). *A General Story*. Simon & Schuster.
5. Cipolla, C. (2021). *Legile fundamentale ale imbecilității umane* [The fundamental laws of human imbecility]. Humanitas.
6. Defoe, D. (2003). *Jurnal din anul ciumei*. [Diary from the year of the plague]. Penguin Books.
7. Dragnea, G. (2021). *Studii privind nocivitatea măștilor*[Studies on the harmfulness of masks]. Activenews.ro.
8. Freud, S. (2017). *Introducere în psihanaliză* [Introduction to psychoanalysis]. Trei.

9. Grabe, L. (1998). *Leviticus in John Borton Oxford Bible commentary*. Oxford University Press.
10. Ignatie, P. S. (2020). *Maladia ideologiei și terapia adevărului* [Ideology disease and truth therapy]. Horeb.
11. Lupu, V. (2021). Dr. Ioan Buzdugan și epidemiologia vremurilor sale [Dr. Ioan Buzdugan and the epidemiology of his times]. *Însemnări ieșene*, *2*, 33-37.
12. Maximilian, C. (1979). *Timp și destin biologic-incursiune în evoluționismul modern* [Biological time and destiny-foray into modern evolutionism]. Romanian Encyclopedic Publishing House
13. Pliny the Elder. (1989). *Historia naturalis*. Harvard University Press.
14. Sandu, A. (2021a). Anxiety and frustration during the covid-19 pandemic. *Archiv Euromedica, 11*(6), 10-15. http://dx.doi.org/10.35630/2199-885X/2021/11/6.2
15. Sandu, A. (2021b). Identity changes in crisis situations. Anxiety, frustration and anguish due to the COVID-19 pandemic. *Analele Ştiinţifice ale Universităţii »Alexandru Ioan Cuza« din Iaşi. Sociologie şi Asistenţă Socială, 14*(2), 17-27. https://doi.org/10.47743/asas-2021-2-653
16. Weir, P. (Director), (1989). *Dead poets' society* [Film]. Touchstone Pictures.
17. Traușanu, ML. (2020). *Foarte scurtă istorie a carantinei* [Very brief history of quarantine]. Scena9. https://www.scena9.ro/article/istorie-carantina-epidemii
18. Vâță, A, Beșleagă, E, Scurtu, C, Vântu, C, Cuciureanu, G, Călin, M, & Lupu, V. (1973). *Considerații privind complicațiile pulmonare ale gripei* [Considerations for pulmonary complications of influenza]. USSM, Iasi.
19. World Health Organisation (WHO). (2021). *Official coronavirus updates*, 3 September. World Health Organisation. https://www.who.int/emergencies/diseases/novel-coronavirus-2019?adgroupsurvey={adgroupsurvey}&gclid=Cj0KCQiA1sucBhDgARIsAFoytUuEOuGarJwf2M-sipubq5FsXRn5F-SZHXxLLG1Kl8NeulFV2eDgTGIaAkeAEALw_wcB
20. Zuckerman, A. (2014). Plague and contagion in Eighteenth Century-England The role of Richard Mead. *Bulletin of History of Medicine*, *78*(2), 273-308. DOI: 10.1353/bhm.2004.0105

back