COVID-19, una sindemia ancor prima che una pandemia! Il ruolo del fumo di tabacco

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u Merrill Singer, un antropologo medico statunitense, a coniare e a introdurre per la prima volta in ambito biomedico, negli anni Novanta del secolo scorso, il termine sindemia, successivamente esplicitato in veste più compiuta e articolata in un editoriale a firma del medesimo studioso e collaboratori, pubblicato nel 2017 sulla prestigiosa rivista The Lancet [1].

Come molte altre espressioni comunemente utilizzate nelle scienze e nelle discipline biomediche, la parola sindemia deriva anch’essa dal greco e starebbe a indicare tutta una serie di condizioni morbose concomitanti, con particolare riferimento alle malattie non trasmissibili, quali in primis affezioni cardiocircolatorie, respiratorie croniche, dismetaboliche come diabete, obesità e tumori, nonché un insieme di situazioni e variabili socio-economiche (densità demografica, livello igienico-sanitario e d’istruzione, indice di povertà, etc.), climatologico-ambientali (cambiamenti climatici, riscaldamento globale, deforestazione, desertificazione, etc.) ed errati stili di vita (fumo di tabacco, sedentarità, costumi e abitudini alimentari, come per esempio la diffusa frequentazione dei c.d. wet market da parte della popolazione cinese), che andrebbero tenuti nella massima considerazione ai fini di una corretta lettura e interpretazione dei dati relativi all’andamento e all’evoluzione di qualsivoglia malattia infettiva, a maggior ragione ove la stessa assumesse una diffusione globale, come nel caso della pandemia da SARS-CoV-2.

COVID-19, a syndemic well before a pandemic disease! The role of tobacco smoking

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The term syndemics, another word derived from the ancient Greek language, was introduced for the first time during the ‘90s in the biomedical language by Dr Merrill Singer, an American medical anthropologist, who several years later signed, along with others, a popular editorial on this topic [1]. Indeed, the expression syndemics applies to a number of preexisting or concurrent disease conditions - with special emphasis on chronic, non-communicable illnesses like cardio-circulatory, hypertensive and neoplastic disorders - as well as to a variety of socio-economic (demographic density and distribution, educational, poverty and hygiene levels, social promiscuity, etc.), climatological-environmental (climate change, global warming, desertification, deforestation, use of land for agricultural purposes, etc.) and lifestyle (cigarette smoking/tobacco consumption, sedentary lifestyle, alimentary habits like eating foods of animal origin from wet markets as it commonly occurs among Chinese people, etc.) parameters/variables, which should be taken into adequate account when analyzing and evaluating the data, numbers and trends of any infectious disease condition. This is particularly true when dealing with globally distributed infections like the SARS-CoV-2/COVID-19 pandemic, the numbers of which at the end of 2020 have exceeded 80 million cases, with 1,800,000 deaths worldwide. Such an “holistic” vision of pandemics by Merrill Singer, which is well summarized by the term syndemics, has been also the focus of a recent article by Dr Richard Horton, the Chief Editor of The Lancet, in an editorial titled COVID-19 is not a pandemic [2]. This paper was
This vision of “holistic” pandemics of Merrill Singer, mirabilmente riassunta nell’espressione *sindrome*, is recently interpreted by the Director of *The Lancet*, Richard Horton, in an editorial from the eloquent title *COVID-19 is not a pandemic* [2], to the precipitate fine of nature the coincidence of global, in the sense interattive, of ciascun essere vivente - and not the exclusively of those pertaining to the species *Homo sapiens sapiens* - is the life of our planet, so to the genealogia and in the diffusion of the pandemic from SARS-CoV-2. Parting from the 19th century, Horton points out to “not reduce this crisis monodice a a mere malattia infettiva” in the sense that COVID-19 “is not the death of a cycle, not a cycle, not a cycle, but rather a cycle that cuts” (soprattutto) people more fragile and more fragile by tanti punti di vista”. And, conclude, “to recognize and to recognize to intervene on the causes leading to the same viral which diventa letale, nessuna misura sarà efficace. Neppure un vaccino”.

In fact, a diagnosis that is not sufficiently the bench minimum dubbio rispetto al fatto che la COVID-19 rappresenta un’emergenza planetaria, tristemente denotata dagli oltre 80 milioni di casi e da circa 1.800.000 vittime (73.000 più delle quali nel nostro Paese, alla data del 31 dicembre 2020) che SARS-CoV-2 - the second wave of pneumonia - has oramai mietuto, sarebbe “riduttivo” considerare la COVID-19 “semplicemente” alla strengua di una pandemia. Pertanto, in a vision of syndemic of the pandemic, there would it opportun to our patients, of tali of letalità e/o morbilità considering the interrelations among events of infettivi, patologie e situationi ambientali, sociali and comportamentali, which would aggregate rafforzando and aggravando, come in a circle vicious, the diffusion and the letalità of the virus. The comportamenti and the stili of life can conditionare lo stato di salute causando, come è ben noto, a serie of affezioni morbose quali diabete, ipertensione, Broncopneumopatia Cronica Ostruttiva (BPCO), cardiopatie and tumors, polmonari and non, which would develop per tanto un *pabulum* ideale and a sort of *locus minoris resistentiae* quanto a esalazione of the patogenicity of SARS-CoV-2 [3]. A tal proposito, the large part of the comorbidities associate to the infezione da SARS-CoV-2, with particular reference to the ones that are characterized da prognosi severa quando non infausta [4], sarebbero presenti soprattutto in soggetti maschi della terza and quarta età [5], a segmento of populazione particolarmente rappresentato nel nostro Paese, which is the index of longevity and aspettativa of life detiene un autentico primato a livello globale [3]. Tutte queste patologie that accrescono the rischio of complications to seguito d’infezione da SARS-CoV-2, quali la maggior parte of the affezioni cardiorespiratorie croniche, dismetabolyche and neoplastiche [3], sarebbero determinate in lar-mainly aimed at underlying the mutual interactions occurring, at a global level, among each living creature and not just within mankind, with this additionally representing the explanatory key for life on Earth as well as for the origin and spread of the SARS-CoV-2 pandemic. Based upon the above, Dr Horton invites us to look at this global crisis “not merely as an infectious disease”, since “COVID-19 is not Black Death” but, instead, “a disease killing (mostly) disadvantaged and fragile people”. And, Richard Horton concludes, “without identifying and without intervening on the cofactors making SARS-CoV-2 a lethal virus, no measure will be truly effective. Not even vaccines”.

In this respect, and just to make some examples aimed at providing a clear-cut perception of the COVID-19-associated/related syndemic dimension, we could mention the many and serious hurdles frequently met by patients affected by preexisting illnesses, such as cardiovascular and tumor disease conditions, in getting proper access to health care and assistance as well as to their respective therapeutic regimes. Beside ranking among the most common causes of death in the Western world, cardiovascular and neoplastic disorders show a much higher prevalence in older people, who also represent the population segment more commonly affected by the most severe COVID-19 clinico-pathological disease phenotypes. And, as it is also well known, cardiopathic, hypertensive and neoplastic patients, with special reference to male subjects, are more prone to developing particularly impacting COVID-19 forms, with the heaviest death toll regarding just these individuals [3]. Said in other words, these patients appear to be the victims of a paradox, provided their preexisting disease conditions, which render them more “fragile” towards the most severe clinico-pathological forms of COVID-19, will not benefit in many cases from a level of health care and assistance comparable to the one the same individuals received in the pre-COVID-19 era!

Therefore, in view of a *syndemic* perspective of the current COVID-19 pandemic, it would be more appropriate to deal with lethality and/or morbidity rates taking into adequate account the relationships existing between SARS-CoV-2 infection and concurrent disease, environmental, social and behavioural conditions. Indeed, the latter ones would generate a sort of vicious circle, thereby enhancing viral spread and pathogenicity. More in detail, individual behaviours and lifestyles may affect the health status, thus promoting the development of disease conditions like diabetes, Chronic Obstructive Pulmonary Disease (COPD), cardiovascular disorders and tumours, both pulmonary and extra-pulmonary, with all the aforementioned - as well as other simultaneously occurring – illnesses serving as an ideal *pabulum* increasing SARS-CoV-2 infection’s virulence and pathogenicity [3]. In this respect, most of COVID-19-associated comorbidities, with special emphasis on those characterized by a more severe prognosis [4],
would mainly affect male and elderly patients [5], a population segment particularly represented in Italy, which ranks among the first Countries worldwide for longevity- and life expectancy-related parameters [3]. All of these pathologic affections and, especially, chronic cardio-respiratory, dysmetabolic and neoplastic disorders, which are known to increase the risk of developing severe COVID-19 forms [3], mostly result from incorrect lifestyles and habits. Within this framework, a relevant common denominator is represented by smoking, with an estimated over 1,300,000,000 smokers living on Earth [6] and with smoke-related deaths exceeding 7 millions each year [7,8].

The syndemic perspective of COVID-19 is clearly shown also by a number of socio-economic and climatological-environmental variables. As a matter of fact, clusters of severe SARS-CoV-2 infection cases have been reported in geographical areas characterized by a high population density and by low economic income and educational level, as well as by social promiscuity and/or lack of hygiene and respect of viral spread mitigation measures (as it happens, for example, among the Afro-Americans living in USA, who are also very used to smoking).

Furthermore, the progressive increase in the mean temperatures throughout the last 140 years (especially for the 6 years period 2015-2020, with 2020 being the hottest year ever recorded on Earth), accompanied by enhanced desertification and deforestation - the latter originating also from the dramatic fires occurred in many geographical areas of the Planet in the recent past -, together with the alarming land loss due to intensive agriculture, would act synergistically in multiplying the chances of mutual interaction(s) between us and domestic animals, on one side, and wild animal species, on the other. As in the well-documented cases of bats and rodents, wild animals may serve, in fact, as reservoirs for a large number of infectious pathogens, thereby making possible - under the influence of the conditions cited above - the spillover of these agents from wildlife to humans. We should firmly keep in mind, within such context, that no less than 70% of the pathogens - both viral and non-viral - responsible for the so-called emerging infectious diseases have either a documented or suspect origin from a primary wild animal host [9]. This seems to apply also to SARS-CoV-2, as well as, with certainty, to its two betacoronavirus predecessors, namely SARS-CoV and MERS-CoV. Based upon the above, an “holistic” approach efficiently summarized by the One Health concept, reciprocally and tightly linking human, animal and environmental health, would represent the winning solution and formula to be adopted in order to adequately tackle and foresee - with the strategic aid of “artificial intelligence, most hopefully - all the future epidemics and pandemics.

As a consequence, this would also render the use of the term and adjective syndemic more appropriate than pandemic when dealing with similar global emergencies.
po rispetto all’agente di malattia, prevedendone e di-
segnandone anticipatamente l’origine, la comparsa e
le relative traiettorie diffuse ed evolutive, in una sa-
nna visione strategica d’insieme (altro che la fallace di-
mensione ospedalocentrica che ha tenuto banco nel-
là gestione dell’emergenza COVID-19!), concetto
mirabilmente riassunto dall’espressione One Health,
secondo cui salute umana, animale e ambientale co-
stituir ebbero, ancor prima di una triade, un unicum
reciprocamente e indissolubilmente interconnesso.
In una sana prospettiva di approccio a 360 gradi, ri-
sulterebbe pertanto più che giustificato e corretto il
ricorso alla parola sindemia, da preferirsi decisamen-
te rispetto al termine pandemia.

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