

## Le dossier – Coronavirus : quels enseignements tirer...

# Coronavirus : quels enseignements tirer de l'épidémie mondiale ? Conclusion

→ C. WEIL-OLIVIER

**L**'histoire de cette pandémie s'écrit au jour le jour. La vérité de demain ne sera pas exactement celle d'aujourd'hui. Nous demandons au lecteur d'accepter l'idée que certains faits cités ici lors de l'écriture de ce document seront déjà dépassés au moment de leur lecture.

Il faut aussi être conscient des inconnues concernant "demain", sans aller vers des attitudes fondées sur les peurs. L'anticipation est un exercice difficile et périlleux notamment pour les "décideurs" (autorités de santé, politiques). Certains pays sont pour l'instant arrivés à endiguer l'épidémie de manière stable avec des mesures strictes (mais parfois dans une atmosphère autocratique). Nos démocraties, cherchant à préserver les libertés individuelles, ont néanmoins besoin de faire preuve de (plus de) discipline car nous devons préserver notre avenir et celui des générations suivantes dans tous les registres de la vie. Appliquons avec plus de régularité les mesures barrières, disponibles et efficaces, qui sont le meilleur moyen actuel de conserver les éléments fondamentaux de notre société : scolarité et vie sociale des enfants, maintien de la vie professionnelle et de la vie familiale ou personnelle de chacun, prise en compte de tous et respect de toutes les générations, vieillissantes notamment.

### BIBLIOGRAPHIE

Pendant les 8 derniers mois, plus de 50000 références mondiales ont concerné les différents aspects du SARS-CoV-2. N'en citer que

quelques-unes (moins de 1/1000) par nécessité éditoriale ne doit pas être considéré comme une "injure" faite aux autres.

Les sites web de référence concernant le sujet sont cités dans le texte pour faciliter l'accès selon l'intérêt éventuel du lecteur dans un domaine ou un autre.

1. SCUDELLARI M. Coronavirus piece by piece. *Nature*, 2020;581:252-225.
2. KORBER B, FISCHER WM, GNANAKARAN S *et al.* Tracking changes in SARS-CoV-2 spike: evidence that D614G increases infectivity of the COVID19 virus. *Cell*, 2020;182:812-827.
3. QUICK J. Real-time gene sequencing can help control – and may someday prevent – pandemics STAT, September 11, 2020: www.statnews.com/2020/09/11/real-time-gene-sequencing-can-help-control-and-may-someday-prevent-pandemics/
4. WRAPP P, WANG N, CORBETT KS *et al.* Cryo-EM structure of the 2019-nCoV spike in the prefusion conformation. *Science*, 2020;367:1260-1263.
5. SUNGNAK W, HUANG N, BÉCAVIN C *et al.* SARS-CoV-2 entry factors are highly expressed in nasal epithelial cells together with innate immune genes. *Nature Medicine*, 2020;26:681-687.
6. PYBUS O, RAMBAUT A, DU PLESSIS L *et al.* Preliminary analysis of SARS-CoV-2 importation & establishment of UK transmission lineages. *Virological*, 2020: not yet peer reviewed. virological.org/t/preliminary-analysis-of-sars-cov-2-importation-establishment-of-uk-transmission-lineages/507?utm\_source=Nature+Briefing&utm\_campaign=f3c1b-9ca3d-briefing-dy-20200611&utm\_medium=email&utm\_term=0\_c9dfd39373-f3c1b9ca3d-45477642 )
7. STADNYTSKYI V, BAX CE, BAX A *et al.* The airborne lifetime of small speech droplets and their potential importance in SARS-CoV-2 transmission. *Proc Natl Acad Sci USA*, 2020;117:11875-11877.
8. ZOU L, RUAN F, HUANG M *et al.* SARS-CoV-2 viral load in upper respiratory specimens of infected patients. *N Engl J Med*, 2020;382:1177-1179.
9. BULLARD J, DUST K, FUNK D *et al.* Predicting infectious SARS-CoV-2 from diagnostic samples. *Clin Infect Dis*, 2020;ciaa638.
10. ADAM DC. and COWLING BJ. Just Stop the Superspreading, June 2, 2020 https://nyti.ms/2MnY6be
11. VAN VINH CHAU N, THANH LAM V, THANH DUNG N *et al.* The natural history and transmission potential of asymptomatic severe acute respiratory syndrome coronavirus 2 infection. *Clin Infect Dis*, 2020;ciaa711.
12. BUONSENDO D, SALI M, PATA D *et al.* Children and COVID-19: microbiological and clinical insights. *Pediatr Pulmonol*, 2020;doi.org/10.1002/ppul.24978.
13. LANARI M, CHIAREGHIN A, BISERNI GB *et al.* Children and SARS-CoV-2 infection: innocent bystanders... until proven otherwise. *Clin Microbiol Infect*, 2020;26:1130-1132.
14. WÖLFEL R, CORMAN VM, GUGGEMOS W *et al.* Virological assessment of patients hospitalized with COVID-2019. *Nature*, 2020;581:465-469.
15. JONES TC, MÜHLEMANN B, VEITH T *et al.* An analysis of SARS-CoV-2 viral load by patient age. *MedRxiv*, 2020. doi.org/10.1101/2020.06.08.20125484.
16. LEVY C, BASMACI R, BENSAID P *et al.* Changes in RT-PCR-positive SARS-CoV-2 rates in adults and children according to the epidemic stages. *medRxiv*, 2020. doi: 10.1097.
17. DANIS K, EPAULARD O, BÉNET T *et al.* Cluster of coronavirus disease 2019 (COVID-19) in the French Alps, february 2020. *Clin Infect Dis*, 2020;71:825-832.
18. GOLDSTEIN E, LIPSITCH M, CEVIK M. On the effect of age on the transmission of SARS-CoV-2 in households, schools and the community. *medRxiv*,

## Le dossier – Coronavirus : quels enseignements tirer...

- 2020 (preprint). doi.org/10.1101/2020.07.19.20157362.
19. ESPOSITO S, PRINCIPI N. School closure during the coronavirus disease 2019 (COVID-19) pandemic: an effective intervention at the global level? *JAMA Pediatr*, 2020. doi:10.1001/jamapediatrics.2020.1892.
  20. DAVIES NG, KLEPAC P, LIU Y *et al.*; CMMID COVID-19 working group. Age-dependent effects in the transmission and control of COVID-19 epidemics. *Nat Med*, 2020;26:1205-1211.
  21. COVID-19 in children and the role of school settings in COVID-19 transmission. ECDC; report 6 August 2020.
  22. ELMORE JG, WANG PC, KERR KF *et al.*. Excess patient visits for cough and pulmonary disease at a large US health system in the months prior to the COVID-19 pandemic: time-series analysis. *J Med Internet Res*, 2020;22:e21562.
  23. RIOU J, ALTHAUS CL. Pattern of early human-to-human transmission of Wuhan 2019 novel coronavirus (2019-nCoV), December 2019 to January 2020. *Euro Surveill*, 2020;25:2000058.
  24. SALJE H, TRAN KIEM C, LEFRANCQ N *et al.*. Estimating the burden of SARS-CoV-2 in France. *Science*, 2020;369:208-211.
  25. FONTANET A, CAUCHEMEZ S. COVID-19 herd immunity: where are we? *Nat Rev Immunol*, 2020;20:583-584.
  26. CHEN N, ZHOU M, DONG X *et al.*. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. *Lancet*, 2020;395:507-513.
  27. ALLOTEY J, STALLINGS E, BONET M *et al.*. Clinical manifestations, risk factors, and maternal and perinatal outcomes of coronavirus disease 2019 in pregnancy: living systematic review and meta-analysis. *BMJ*, 2020;370:m3320.
  28. ANGOULANT F, OULDALI N, DAEWEI YANG D *et al.*. COVID-19 pandemic: Impact caused by school closure and national lockdown on pediatric visits and admissions for viral and non-viral infections, a time series analysis. *Clin Inf Dis*, 2020;ciaa710.
  29. DONG Y, MO X, HU Y *et al.* Epidemiological characteristics of 2143 pediatric patients with 2019 coronavirus disease in China. *Pediatrics*, 2020;doi:10.1542/peds.2020-0702.
  30. WEI M, YUAN J, LIU Y *et al.*. Novel coronavirus infection in hospitalized infants under 1 year of age in China. *JAMA*, 2020;323:1313-1314.
  31. ONG JSM, TOSONI A, KIM YJ *et al.*. Coronavirus disease 2019 in critically ill children: a narrative review of the literature. *Pediatr Crit Care Med*, 2020;21:662-666.
  32. SHEKERDEMIAN LS, MAHMOOD NR, WOLFE KK *et al.*; International COVID-19 PICU Collaborative. Characteristics and outcomes of children with coronavirus disease 2019 (COVID-19) infection admitted to US and Canadian pediatric intensive care units. *JAMA Pediatr*, 2020;174:1-6.
  33. VERDONI L, MAZZA A, GERVASONI A *et al.*. An outbreak of severe Kawasaki-like disease at the Italian epicentre of the SARS-CoV-2 epidemic: an observational cohort study. *Lancet*, 2020;395:1771-1778.
  34. TOUBIANA J, POIRAUT C, CORSIA A *et al.*. Kawasaki-like multisystem inflammatory syndrome in children during the COVID-19 pandemic in Paris, France: prospective observational study. *BMJ*, 2020;369:m2094.
  35. KAUSHIK A, GUPTA S, SOOD M, SHARMA S *et al.*. A systematic review of multi-system inflammatory syndrome in children associated with SARS-CoV-2 infection. *Pediatr Infect Dis J*, 2020; doi: 10.1097/INF.0000000000002888.
  36. SETTE A, CROTTY S. Pre-existing immunity to SARS-CoV-2: the knowns and unknowns. *Nat Rev Immunol*, 2020;20:457-458.
  37. HOFFMANN M, KLEINE-WEBER H, SCHROEDERS S *et al.*. SARS-CoV-2 cell entry depends on ACE2 and TMPRSS2 and is blocked by a clinically proven protease inhibitor. *Cell*, 2020;181:271-280.
  38. SHASHI KANT DHIR S, KUMAR J, MEENA J *et al.*. Clinical features and outcome of SARS-CoV-2 infection in neonates: a systematic review. *J Trop Pediatr*, 2020;fmaa059.
  39. FLAXMAN S, MISHRA S, GANDY A *et al.*. Estimating the effects of non-pharmaceutical interventions on COVID-19 in Europe. *Nature*, 2020;584:257-261.
  40. VIGLIONE G. How many people has the coronavirus killed? *Nature*, 2020;585:22-24.
  41. KIANG MV, IRIZARRY RA, BUCKEE CO *et al.*. Every body counts: measuring mortality from the COVID-19 pandemic. *Ann Internal Med*, 2020;M20-3100.
  42. GOZALBO-ROVIRA R, GIMENEZ E, LATORRE V *et al.*. SARS-CoV-2 antibodies, serum inflammatory biomarkers and clinical severity of hospitalized COVID-19 patients. *J Clin Virol*, 2020;131:104611.
  43. SETHURAMAN N, JEREMIAH SS, RYO A. Interpreting diagnostic tests for SARS-CoV-2. *JAMA*, 2020;323:2249-2251.
  44. CORMAN VM, LANDT O, KAISER M *et al.*. Detection of 2019 novel coronavirus (2019-nCoV) by real-time RT-PCR. *Euro Surveill*, 2020;25:1-8.
  45. LISBOA BASTOS M, TAVAZIVA G, KUNAL ABIDI S *et al.*. Diagnostic accuracy of serological tests for COVID-19: systematic review and meta-analysis. *BMJ*, 2020;370:m2516.
  46. DEEKES JJ, DINNES J, TAKWOINGI Y *et al.*. Antibody tests for identification of current and past infection with SARS-CoV-2. *Cochrane Database Syst Rev*, 2020;6:CD013652.
  47. FAIFI-KREMER S, BRUEL T, MADEC Y *et al.*. Serologic responses to SARS-CoV-2 infection among healthcare workers with mild disease in eastern France. *EBioMedicine*, 2020;59:102915.
  48. GUDBJARTSSON DF, HELGASON A, JONSSON H *et al.*. Spread of SARS-CoV-2 in the Icelandic Population. *N Engl J Med*, 2020; 382:2302-2315.
  49. STRINGHINI S, WISNIAK A, PIUMATTI G *et al.*. Seroprevalence of anti-SARS-CoV-2 IgG antibodies in Geneva, Switzerland (SEROCoV-POP): a population-based study. *Lancet*, 2020;396:313-319.
  50. SHIELDS A, FAUSTINI SE, PEREZ-TOLEDO M *et al.*. SARS-CoV-2 seroprevalence and asymptomatic viral carriage in healthcare workers: a cross-sectional study. *Thorax*, 2020;thoraxjnl-2020-215414.

L'auteure a déclaré ne pas avoir de conflits d'intérêts concernant les données publiées dans cet article.