Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Comment on "Increased in-hospital mortality from COVID-19 in patients with schizophrenia". Considering the prevalence and protective factors of COVID-19 in patients with schizophrenia

Commentaire sur « Augmentation de la mortalité intra-hospitalière liée au COVID-19 chez les patients avec schizophrénie ». Prise en compte de la prévalence et des facteurs de protection du COVID-19 chez les patients atteints de schizophrénie

To the Editor,

We read with great interest the paper by Fond et al. [1] which reports that schizophrenia is not overrepresented among COVID-19 hospitalized patients compared to the prevalence of schizophrenia in the general population. The authors also report that their findings fail to suggest that patients with schizophrenia are more at risk of COVID-19 than the general population, contrary to what could have been expected. We think that this study is clinically important to understand the relationship between schizophrenia and COVID-19 and may contribute to the studies on the pathogenesis of COVID-19 [1]. Therefore, we wish to reveal the possible explanations for the finding of a lower prevalence of COVID-19 in patients with schizophrenia than expected.

Firstly, a higher level of human coronavirus anti-strain antibodies were found in patients with schizophrenia spectrum when compared with non-psychiatric controls [2]. This finding suggests that patients with schizophrenia may have a strong serological response to the coronavirus family including severe acute respiratory syndrome coronavirus 2 (SARS- CoV-2). In prenatal and postnatal periods, exposure to several pathogens rather than a single microorganism has been suggested as an aetiological factor for schizophrenia [3,4]. Hence, acquired serological immunity for several viruses may play a protective role against COVID-19 in patients with schizophrenia.

Schizophrenia susceptibility genes were reported to be implicated in virulence and life cycles of viral pathogens. These genes and their interactions with the immune system and viral pathogens might make patients more resistant to COVID-19. More recently, it has been found a 117-base pair SARS-CoV-2 sequence in the human genome with 94.6% identity. The sequence was in chromosome 1p within the netrin G1 (*NTNG1*) gene. The sequence matched a sequence in the SARS-CoV-2 Orf1b gene. Human *NTNG1* encodes a pre-pro-protein which acts to guide axon growth during neuronal development. Polymorphism in this gene has been suggested as a contributing factor to genetic risk for schizophrenia [5,6].

Another possibility is that increased angiotensin-converting enzyme (ACE) activity reported in patients with schizophrenia may be a protective factor against COVID-19 [7]. ACE converts angiotensin I to angiotensin II. SARS-CoV-2 attaches to ACE II receptor, especially in low pH conditions. Subsequently, it enters the human cell and causes infection. Angiotensin II can produce a high pH even after strong acid loading [8]. Therefore, high angiotensin II levels produced by high ACE activity in patients with schizophrenia may reduce virulence and viral load of SARS-CoV-2 via alkalising effect.

According to the National Institute on Drug Abuse, smoking rate in patients with schizophrenia ranges from 70% to 80%, while it is 19–20% in the general population. Recently, smoking was suggested as a protective factor against COVID-19 in a French study [9]. However, this interesting finding should be replicated and its causality should be confirmed with studies involving larger sample sizes.

In conclusion, patients with schizophrenia should still be considered at high risk for transmission, poor prognosis, and infectivity despite the possibility of COVID-19 being less frequent in these patients. However, the prevalence, protective and predisposing factors of COVID-19 need to be studied in a larger population included hospitalized and non-hospitalized patients to understand true relationship between schizophrenia and COVID-19 and to contribute to the studies on the pathogenesis of COVID-19.

Disclosure of interest

The authors declare that they have no competing interest.

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Traduction française de la DIPA (Diagnostic Infant and Preschool Assessment, DSM-5)

French translation of DIPA (Diagnostic Infant and Preschool Assessment, DSM-5)

Cher éditeur,

L'utilisation d'entretiens diagnostiques structurés et semi-structurés permet une évaluation objective par les cliniciens des troubles psychiatriques que présentent leurs patients. L'usage d'entretien semi-dirigé permet, sur le plan diagnostique, une évaluation systématisée de ces troubles et offre également la possibilité de cibler et justifier au mieux certains choix thérapeutiques, en particuliers chez l'enfant.

Ces outils, largement utilisées dans le cadre de la recherche, le sont également dans la pratique clinique. Dans ce contexte, il nous a paru nécessaire de proposer une traduction française d'un entretien diagnostic semi-dirigé pour les jeunes enfants. Le *Diagnostic Infant and Preschool Assessment* (DIPA) est un entretien semi-dirigé développé par l'équipe de Scheeringa *et al.* (2010), permettant d'évaluer la symptomatologie des jeunes enfants, âgés de moins de 7 ans et s'adresse aux personnes prenant soins de l'enfant (*caregivers*) [1]. L'outil a été développé en partant des troubles post-traumatiques et a été mis à jour selon le DSM-5 en 2015 avec des changements significatifs concernant la classification des troubles psychiatriques de l'enfant [2]. Par exemple, le trouble disruptif de dysrégulation émotionnelle a été ajouté. Le trouble réactionnel de l'attachement a été divisé en deux, avec l'ajout du trouble de l'engagement social désinhibé et les critères diagnostiques du Trouble de Stress Post Traumatique (TSPT) ont été modifiés : quatre symptômes au lieu de trois (ajout de l'altération de la cognition et de l'humeur) et critères spécifiques pour les moins de 6 ans.

Afin de faciliter l'avancement de l'évaluation clinique standardisée et des recherches en psychiatrie de l'enfant et de l'adolescent (PEA) en langue française, nous avons coordonné la traduction française [3] après accord de l'auteur principal Michaël S. Scheeringa de l'Université Tulane de Nouvelle-Orléans aux Etats-Unis [1]. La DIPA Version française a été ainsi traduit par les Services de Psychiatrie de l'Enfant et de l'Adolescent de l'hôpital d'Avicennes du Pr. Thierry Baubet (Assistance Publique–Hôpitaux de Paris) d'une part et des Hôpitaux Pédiatrique de Nice CHU-Lenval de Nice du Pr Askenazy (Centre d'Évaluation Pédiatrique du Psychotraumatisme CE2P) d'autre part [3]. Une première traduction de l'ensemble du document a été réalisée par un traducteur médical officiel Anglais/Français. Ensuite, plusieurs relectures ont été effectuées de manière pluriprofessionnelle (pédopsychiatres et psychologues) par les deux centres. Une étude de validation est en cours de réalisation.

La disponibilité en langue française des outils psychométriques et de leurs mises à jour régulières constitue une étape nécessaire pour la progression et la généralisation de leur utilisation aussi bien en recherche clinique qu'en pratique courante en population pédiatrique incluant les nourrissons, jeunes enfants, enfants et adolescents.

S'adressant aux jeunes enfants, la version française de la DIPA DSM-5 accessible en ligne [3] complète ainsi les évaluations diagnostiques en PEA, et notamment la version française de la K-SADS-PL DSM-5 dédié au grands enfants et adolescents [4]. Ces outils sont ainsi utilisés dans le cadre du Programme 14-7 et le suivi longitudinal de la population pédiatrique impliquée dans l'attentat terroriste du 14 Juillet 2016 [5].

Déclaration de liens d'intérêts

Les auteurs déclarent ne pas avoir de liens d'intérêts.

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