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## **Impact on mental health of the COVID-19 outbreak among community pharmacists during the sanitary lockdown period**

### **Impact de l'épidémie de COVID-19 sur la santé mentale des pharmaciens d'officine pendant la période de confinement**

**Running head:** COVID-19 psychological impact in community pharmacists

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## **Abstract**

**Objectives:** COVID-19 outbreak can impact mental health including health care workers. The aim of this study was to assess the psychological impact of COVID-19 in French community pharmacists.

**Material and methods:** We carried out a postal-based survey to assess the psychological impact of COVID-19 in French owner community pharmacists based on three validated self-report questionnaires: Perceived Stress scale, Impact of Event Scale-revised and Maslach Burnout Inventory.

**Results:** The sample consists of 135 community pharmacists. Twenty-three pharmacists reported significant post-traumatic stress symptoms (17%). High burnout symptoms were found in 33 (25%), 46 (34.9%) and 4 (3%) participants. Females scored higher than males for all questionnaires ( $p=0.01$ ).

**Conclusions:** This study is the first study which showed the psychological impact of COVID-19 in community pharmacists. Based on validated self-report questionnaires, up to 35% of pharmacists reported psychological disturbances. Interventions to promote psychological well-being of healthcare workers need to be developing.

**Keywords:** COVID-19, mental health, pharmacists, burnout

## Résumé

**Objectif :** L'épidémie de COVID-19 a pu avoir un impact sur la santé mentale y compris celle des professionnels de santé. L'objectif de cette étude était d'évaluer l'impact psychologique du COVID-19 de pharmaciens d'officine français.

**Matériels et méthodes :** Nous avons réalisé une enquête postale pour évaluer l'impact psychologique du COVID-19 chez des pharmaciens d'officine français titulaires à partir de 3 auto-questionnaires validés : l'échelle de stress perçu, l'échelle révisée *Impact of Event* et l'inventaire de Burnout de Maslach.

**Résultats :** L'échantillon consistait en 135 pharmaciens d'officine. Ving-trois pharmaciens rapportaient des symptômes significatifs de stress post-traumatique (17%). Un burnout élevé était observé chez 33 (25%), 46 (34, 9%) et 4 (3%) participants. Les femmes avaient des scores plus élevés que les hommes à l'ensemble des questionnaires.

**Conclusion :** Cette étude est la première montrant l'impact psychologique du COVID-19 chez les pharmaciens d'officine. Basée sur des questionnaires validés, jusqu'à 35% des pharmaciens rapportent des difficultés psychologiques. Des interventions visant à promouvoir le bien-être psychologique des professionnels de santé devraient être développées.

**Mots clés :** COVID-19, santé mentale, pharmaciens, burnout

## **1. Introduction**

In December 2019, a novel coronavirus (named SARS-CoV-2, COVID-19) was identified as causing a cluster of pneumonia cases in Wuhan in China [1]. On March 2020, the COVID-19 outbreak was declared as a pandemic by the World Health Organization.

As healthcare workers, pharmacists were played a role in hindering the spread of coronavirus by increasing patient awareness, especially by advising them on precautionary measures and providing appropriate information [2,3]. Furthermore, they were sometimes the unique source to provide protection material such as surgical masks or hydroalcoholic solution. Community pharmacists appeared like one of the most accessible healthcare professionals during this public health crisis [3].

COVID-19 outbreak can impact mental health including health care workers. Several studies had been start to be published which reported psychological symptoms during COVID-19 outbreak in general population [4,5] or in health care workers [6–10], including stress, anxiety and sleep disturbances.

The main objective of this study was to assess the psychological impact of COVID-19 in French community pharmacists. Secondary objectives were to assess the relation between psychological scores and other variables such as epidemic location status, change in pharmacy organization, geographic areas and gender. This study was conducted in the French region of Normandy, an area less affected by the COVID-19 pandemic than some other regions in the country.

## **2. Material and Methods**

We carried out a postal-based survey the 15<sup>th</sup> April 2020 to assess the impact of COVID-19 on the mental health of all owner community pharmacists who worked in the French region of

Normandy (departments of Calvados, Orne and Manche), one month after COVID-19 sanitary lockdown. No recall of the sending was made. This survey was approved by Ethic Department of University of Caen Normandy (Authorization n° TG\_COMPO\_PEDAGO\_SANTE\_14-20180529-01R1, 6<sup>th</sup> April 2020).

It consisted of sociodemographic, geographic areas (rural or urban [11]), changes in work organization and three psychological validated self-report questionnaires. High epidemic location has been defined by areas where localized clusters have been identified before COVID-19 lockdown (4 clusters identified at the time of the study).

The self-report questionnaires used were: the Perceived Stress scale (PSS) [12] (higher score represents high level of stress), the Impact of Event Scale-revised (IES-R) [13] (higher score represents high level of stress and significant post-traumatic stress symptoms were defined by a score  $\geq 33$ ) and the Maslach Burnout Inventory (MBI ; emotional exhaustion (EE), depersonalisation (DP) and personal accomplishment (PA)) (Jackson et al., 1996[14]. Higher scores for EE and DP represent higher burnout symptoms. Higher score of PA represents lower burnout symptoms. High burnout symptoms were defined by scores  $\geq 30$  and  $\geq 12$ , respectively for EE and DP and  $\leq 33$  for PA.

#### Statistical analysis

Data were expressed as means and standard deviations (SD) or percentage. Comparisons between groups (gender or exposition) were done by *t* Student's test or chi-2 test, where appropriate, using NCSS version 9 (Hintze J, Kaysville, Utah, USA: [www.ncss.com](http://www.ncss.com)).

## **4. Results**

The response rate was 31.1% ( $n=135$ ; 434 questionnaires were sent). The sample consists of 135 community pharmacists (59.1% females (3 missing responses), mean age=  $47.9\pm 11.4$ ; Table 1). Forty six worked in urban areas (34.1%). The pharmacies localized in high epidemic location represents 24.4% of the sample ( $n=33$ ).

Among them 119 (88.1%) had change work organization since the epidemic situation (including dedicated waiting area, sanitized of area, hydroalcoholic solution for patients...).

The mean scores of the PSS was 15.9 (SD=7.4).

The mean scores of the IES-R was 20.6 (SD=15.1). Twenty-three pharmacists reported significant post-traumatic stress symptoms (17%).

The mean scores of the EE, DP and PA were respectively 23.0 (SD=11.4), 10.9 (SD=5.5) and 48.1 (SD=7.2). High burnout symptoms were found in 33 (25%), 46 (34.9%) and 4 (3%) participants according respectively, EE, DP and PA scores.

Epidemic location, geographic areas, change in pharmacy organization were not significantly associated with psychological scores.

Females scored higher than males for PSS, IES-R and DP ( $p=0.01$ , 0.01 and 0.001 respectively, Table 2).

## **5. Discussion**

This study is the first study which showed the psychological impact of COVID-19 in community pharmacists during the sanitary lockdown period. Based on self-report validated questionnaires,

up to 35% of pharmacists reported psychological disturbances. Females reported more stress and burnout symptoms than males.

First results on the mental health impact of the COVID-19 outbreak showed significant psychological disturbances in healthcare workers. In a sample of more than 1200 nurses and physicians who worked in China, 50% reported symptoms of depression, 45% anxiety, 34% insomnia and 71% distress [8]. In medical staff members in China, 36% had insomnia symptoms during the COVID-19 outbreak [10]. Outside China, mental health impact of COVID-19 had also showed in Oman physicians [6] and in French urologists [15]. Our findings are in line with these first results.

Beyond maintaining a stable supply of pharmaceuticals and hygiene products, community pharmacists are charged of major responsibilities including advising, informing, and educating the community [16]. They were sometimes the unique source to provide protection material to patients such as masks. Thus, the disruption in surgical mask supplies in the beginning of the sanitary lockdown period was able to induce stress to reply to the high demand of patients.

If pharmacists are including at the frontline beating the COVID-19 pandemic [17], no study focuses on psychological impact of the situation on these professionals and no study assesses burnout in healthcare workers during this epidemic crisis. We showed that 3 to 35% of community pharmacists reported psychological disturbances including high burnout symptoms and post-traumatic stress symptoms. Previous study, outside COVID-19 context, in community pharmacists in all France showed that until 37% of community pharmacists presented high burnout symptoms [18]. These results are not directly comparable because the present study was realized in the context of COVID-19 pandemic, the other not and the present one included only owner community pharmacists and was performed in only one region in France.



In our study, women reported more psychological difficulties than men. Similar effect of gender have been found in healthcare workers in China [7,8], in Oman physicians [6] and or in general population [4,5] during COVID-19 outbreak. Nevertheless, previous researches in French community pharmacies showed the surprising opposite pattern [18,19]. At the opposition of these studies, only owner pharmacists were included in our study which could be explained these differences.

Epidemic location was no significantly associated with psychological scores. A previous study also did not shown relationship between psychological scores and working with COVID-19 patients [6]. In our study, this result could be explained by the fact that Normandy region was not a high exposed COVID-19 region in France with only 4 localized clusters at the time of the study.

Others limitations of the study include small sample size and low response rate. Furthermore, we did not have reference of psychological symptoms before the sanitary lockdown period of our participants, nor control group and longitudinal data would be interesting.

## **6. Conclusion**

This study is the first study which showed the psychological impact of COVID-19 in community pharmacists during the sanitary lockdown period. Based on self-report validated questionnaires, up to 35% of pharmacists reported psychological disturbances. Interventions to promote psychological well-being of healthcare workers need to be developing.

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**Table 1:** Demographic, organization and psychological characteristics of pharmacists

	<b>All sample (n=135)</b>
Female (n, %) [missing 3]	78 (59.1)
Age (y) mean (SD)	47.9 (11.4)
Urban areas (n, %)	46 (34.1)
Change in pharmacy organization (yes; n, %)	119 (88.1)
Perceived stress scale; mean (SD)	15.9 (7.4)
Impact of Event scale; mean (SD)	20.6 (15.1)
Post-traumatic stress symptoms (n, %)	23 (17.0)
Emotional exhaustion*; mean (SD) [missing 3]	23 (11.4)
Low (n, %)	56 (42.4)
Middle (n, %) burnout symptoms	43 (32.6)
High (n, %)	33 (25.0)
Depersonalisation*; mean (SD) [missing 3]	10.9 (5.5)
Low (n, %)	18 (13.6)
Middle (n, %) burnout symptoms	68 (51.5)
High (n, %)	46 (34.9)
Personal accomplishment*; mean (SD) [missing 3]	48.1 (7.2)
Low (n, %)	117 (88.7)
Middle (n, %) burnout symptoms	11 (8.3)
High (n, %)	4 (3.0)

\* Maslach Burnout Inventory

**Table 2:** Demographic, exposition and psychological characteristics of pharmacists according to gender

	<b>Females (n=78)</b>	<b>Males (n=54)</b>	<b>p value</b>
Age (y) mean (SD)	47.1 (11.0)	49.20 (11.9)	0.31
Epidemic location Covid-19			
High (n, %)	63 (80.8)	37 (68.5)	0.26
Low (n, %)	15 (19.2)	17 (31.5)	
Perceived stress scale; mean (SD)	17.4 (7.6)	14.2 (6.6)	<b>0.01</b>
Impact of Event scale; mean (SD)	23.7 (16.2)	16.7 (12.32)	<b>0.01</b>
Emotional exhaustion*; mean (SD)	24.1 (12.2)	22.0 (10.1)	0.29
Depersonalisation*; mean (SD)	9.5 (4.3)	12.9 (6.4)	<b>0.001</b>
Personal accomplishment*; mean (SD)	48.3 (7.0)	47.5 (7.7)	0.66

\* Maslach Burnout Inventory