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Psychological Distress During the First Lockdown linked to the Covid-19 pandemic: Vulnerability Factors Specific to Persons living with a Chronic Disorder or Disability

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The impact of the health crisis and the first lockdown linked to the Covid-19 pandemic in France has been objectified by representative surveys in the general population that have highlighted an increased risk of onset of psychological distress amongst persons living with a chronic disorder or disability. However, the data collected from these surveys do not provide a precise idea of the situation of these specific populations, due to their low numbers amongst the respondents. To make up for this lack of information and gain a better understanding of the mechanisms involved, we resorted to an Internet survey diffused via a social network of persons living with a chronic disorder and associations of persons living with disability.

Despite vulnerability factors which were also identified in the general population, the onset of psychological distress during the first lockdown amongst these individuals also seems to be linked with issues related to their specific situations: difficulties in applying protective health measures, belief that they would not be treated on an equal footing with other people in the event of an infection by Covid-19, and the cessation or lessening of their usual medical or health and social care follow-up during the lockdown. Hence, our results underline the importance of taking into account the specific needs of persons living with a chronic disorder or disability in the context of the repeated implementation of lockdown policies, given that the impact of most of the vulnerability factors identified appear to be modifiable by tailor-made policies.

Since the first quarter of 2020, France has been exposed to an unprecedented Covid-19 pandemic. This viral infection is characterised by rapid interhuman transmission via droplets from respiratory secretions, and this has caused a large number of

contaminations and significant morbidity and mortality amongst infected persons. Given the exponential increase in the number of infected individuals requiring hospital care, the health system has encountered difficulties in coping with this situation, particularly

in resuscitation units. Like many other countries impacted by this pandemic, France has implemented unprecedented measures to limit the propagation of the virus, avoid saturation in hospitals, and protect the most vulnerable populations. Hence, a national public health

SOURCE AND METHOD

Sampling approach

There is currently no source of information that can be used to establish a representative sampling of persons living with a chronic disorder or disability in France. In order to attain this population and obtain a sufficient number of respondents, an Internet survey was conducted via a social network of persons with a chronic disorder –the online community of patients, Carenity¹–, which brings together on its French platform around 100,000 persons living with a chronic disorder and 14,000 helpers, of whom just over 10% were connected on the platform over the period during which the survey was conducted. The access to this network is free and reserved for adults. The members of Carenity are able to share their experiences in more than 900 specific communities by disease, discuss the diseases, inform one another, and take part in online surveys about their health state and treatments; this is done on a voluntary basis, after explicitly collecting their consent. It was hypothesized that health services users would be particularly present on the network during the lockdown period. Two successive newsletters aimed at more

than 80,000 francophone members of Carenity provided the link to the survey. In order to reach persons living with a disability, associations or federations passed on the survey to their members, in particular APF France Disability², France Parkinson³, Handidactique⁴, Promesses⁵, Santé Mentale France⁶, and the Collectif National interGEM⁷ (mutual self-help groups). The survey was accessible between 21 April and 11 May 2020, the date of the end of the first national lockdown. The respondents were informed of the survey's aims and participation was solely voluntary via an agreement to continue answering the questionnaire in a confidential framework, without gathering directly identifiable data.

¹ <https://www.carenity.com/>

² <https://www.apf-francehandicap.org/>

³ <https://www.franceparkinson.fr/>

⁴ <https://www.handidactique.org/>

⁵ <https://www.promesses-sz.fr/>

⁶ <https://santementalefrance.fr/>

⁷ <https://www.cnigem.fr/>

Scope

Only persons living in France during the lockdown were included because the lockdown policies and the medical and health and social care follow-up of individuals living with a chronic disorder or disability varied greatly according to national contexts. However, no restriction was applied to the type of place of residence (a standard household or collective establishment, such as an accommodation facility for persons with disabilities or for dependent elderly persons). The respondents could be assisted by relatives; nevertheless, the latter, who were the

subject of separate studies conducted by other research teams (for example, UNAFAM, *Centre hospitalier Le Vinatier*, 2020), were not invited to respond to the survey themselves. 1,195 individuals completed a survey that assessed the onset of psychological distress. Sixty-eight percent (68%) found out about the survey via the social network Carenity, and 14% via another social network or the Internet, 13% via an association, and 2% via a relative. Only 1% of the individuals were living in group accommodation facilities before the lockdown.

The general content of the survey

The content of the survey, designed to take 20 minutes to complete, was developed in collaboration with representatives of persons living with a chronic disorder or disability, using a co-construction approach. A filter, based on two preliminary questions that set out a list of pathologies and functional limitations, confirmed the presence of a chronic disorder or disability amongst the respondents before continuing the survey. Variables based on standardised measurement tools, in particular to assess the onset of psychological distress and social support provided during the lockdown, were collected in a way that was strictly similar to a previous survey aimed at the general population (Gandré et al., 2020).

Hence, the onset of psychological distress was measured using a highly specific tool that was sensitive to short-term changes, the General Health Questionnaire comprising 12 items (GHQ-12) [Lundin et al., 2016]. It assessed the respondent's feelings over the previous seven days leading up to the point when he or she completed the questionnaire, 'compared with his/her usual state' before the lockdown, based on 12 questions that identified recent functional difficulties and the development of alarming signs (ability to concentrate, losing sleep, feeling like playing a useful part, capable of making decisions, constantly under strain, unable to overcome difficulties, able to enjoy normal day-to-day activities, able to face up to problems, unhappy or depressed, losing confidence in oneself, thinking of oneself as a worthless

person, reasonably happy all things considered). This tool was selected because it is able to assess the changes resulting from the lockdown by specifically identifying a deterioration in mental health during this period, independently of the possible psychological distress that might affect individuals living with a chronic disorder or disability before the lockdown. Four kinds of answer –reflecting more or less significant developments (not at all; no more than usual; rather more than usual; and much more than usual, or more than usual; same as usual; rather less than usual; and much less than usual)– were suggested for each question and assessed in a binary way according to the order of the suggested answers, depending on whether the items were formulated negatively or positively (0-0-1-1). The global score was obtained by adding up the score obtained for each question: a global score of 0 to 3 indicates an absence of onset of psychological distress, a score of 4 or more indicates the onset of psychological distress, and a score higher than 8 reflects the onset of severe psychological distress.

Ad hoc questions were also used to document the issues specific to persons living with a chronic disorder or disability during the first lockdown. The content of the questionnaire is accessible online (in French):

<https://www.irdes.fr/recherche/enquetes/coclico-enquete-sante-mentale-coronavirus/coclico-questionnaire-personnes-vivant-avec-une-maladie-chronique-ou-un-handicap.pdf> *Next page 3*

emergency was proclaimed along with a lockdown (mandatory stay-at home order) for the entire French population from 17 March to 11 May 2020. This resulted in the closure of schools and any businesses considered non-essential, and a limitation in travels to those considered indispensable for professional activities (when they continued and could not be carried out via work at home), the purchase of vital goods, healthcare, urgent family matters, or limited individual physical activities. After the emergence of a second wave of significant contaminations by Covid-19, a general national lockdown was proclaimed again –this time it was less restrictive, to enable more economic activity– during the months of November and December 2020. These unprecedented measures, that were intended to protect the health of the general population, can have other consequences and their repeated implementation underline the need to precisely document their potential collateral impacts, in particular on other aspects of health, such as on mental health or on the follow-up of chronic disorders and disabilities, whose prevention, monitoring, and treatment have been significantly affected by lockdowns.

During previous epidemic episodes (Ebola and SARS), a clear link was documented between the onset of psychological distress and imposed isolation, with the latter situation concerning only infected individuals or those in contact with sick persons (Brooks et al., 2020). In the specific context of the Covid-19 pandemic and the first lockdown, characterised by reduced economic activity on a national scale, we also identified an impact on the mental health of the French general population. The results of this initial study highlighted the fact that persons living with a chronic disorder are in the segments of the population that are particularly at risk of onset of psychological distress during the lockdown (Gandré et al., 2020). Complementary studies also suggest that persons living with a disability, who experience similar problems, face the same risk (Haesebaert et al., 2020).

Several hypotheses may explain this vulnerability to the onset of psychological distress amongst persons living with a chronic disorder or disability. Certain chronic conditions expose individuals to the risk of a more severe infection by Covid-19 (The French High Council for Public Health, HCSP, 2020). Persons living with these diseases or a disability have also been worried about not being treated similarly to others in the event of contamination, while their usual medical and health and social care follow-up has been negatively affected by the lockdown measures (Dufeu-Schubert and Biémouret, 2020). They have also found it more difficult to apply precautionary measures, as a result of reduced mobility or cognitive difficulties (Chevance et al., 2020). Lastly, social distancing measures have limited the conduction of certain activities that are beneficial for mental health, particularly collective meetings held by associations or self-help groups.

It is not possible to use the data collected from recent national representative general population surveys to spe-

cifically study the situation of persons living with a chronic disorder or disability, due to their low numbers amongst the respondents. To compensate for this lack of information and in order to collect in real time –in the context of a health crisis– the data required to study the risk factors of the onset of psychological distress amongst these persons, it was decided to use an Internet survey aimed directly at this population, and it was made available on a social network of persons living with a chronic disorder and in associations of persons living with a disability. Given the possible biases in the survey's representativity, it is not possible to directly compare the descriptive results with those obtained in the general population. The specific objective of this study was to identify the factors of vulnerability to the onset of psychological distress amongst individuals living with a chronic disorder or disability during the first lockdown that was implemented as a consequence of the Covid-19 pandemic, by taking into account the specific characteristics of the respondents to the survey.

Women and individuals with multiple limitations or disorders were substantially represented amongst the respondents

Amongst the respondents, a very large majority of women (68%) and a high proportion of persons who had pursued further education (47%) were represented. This is generally observed in health surveys, which depend on voluntary participation, including in online surveys (Lallukka et al., 2020).

The average age of the respondents was 57 (and the median age 58). Seventy-four percent of them suffered from chronic motor or sensory limitations or disorder; 60% suffered from chronic visceral or metabolic limitations or disorder, and 27% suffered from chronic psychological, intellectual, or cognitive limitations or disorder (see "Source and Method" inset, pp. 2 and 3 for an explanation of these different cate-

SOURCE AND METHOD (NEXT)

Analysis plan

Given the potential representativity bias in the survey, the descriptive results are presented without interpretation and direct comparison with those obtained in the general population. Nevertheless, multivariable analysis methods, with an adjustment on the specific characteristics of the respondents to the survey (demographic and socio-economic characteristics, and health state), helped to limit this bias (Davezies and D'Haultfoeuille, 2009) to study the factors of vulnerability to the onset of psychological distress amongst individuals living with a chronic disorder or disability during the first lockdown. A series of logistical regressions was implemented. The onset or lack of onset of psychological distress during the lockdown was introduced as a dependent variable, while the role of each potential factor of vulnerability to this onset was explored separately after making adjustments on the demographic, socio-economic characteristics, and health state of the respondents before the lockdown (which were tested conjointly beforehand in an empty model after verifying their correlations). These adjustment variables included the age, gender, level of studies, family situation, employment situation, and difficulties in carrying out activities of daily life before the lockdown on a scale of 1 to 10,

the existence of psychological, intellectual, cognitive limitations, or chronic disorders (persons living with a psychological disorder, an addiction disorder, autism spectrum disorders, or reporting intellectual, cognitive, relational, or social limitations), the presence of motor or sensory limitations or chronic disorders (persons living with a respiratory, cardiac, rheumatic, renal, neuro-degenerative, or neuro-muscular disorder, or who reported motor, auditory, or visual limitations), and the existence of visceral or metabolic limitations or chronic disorders (persons living with high blood pressure, diabetes, AIDS, a liver or digestive disease, obesity, or overweight, a cancer, or who declared that they had visceral or metabolic limitations). The latter variable was highly correlated with living with a chronic disorder exposing the individual to a greater risk of suffering from a more severe form of infection by Covid-19, based on the list established by the French High Council for Public Health (*Haut Conseil de la Santé Publique*, HCSP, 2020), variable which was therefore not included in the modelling. Given the long period over which the survey was conducted (three weeks), the length of time (in weeks) between the beginning of the lockdown and the date of the response to the survey was

also included as an adjustment variable in the analyses. The potential factors of vulnerability to the onset of psychological distress amongst individuals living with a chronic disorder or disability during the lockdown explored in this study included factors for which a significant link with the onset of psychological distress was highlighted in the French general population (exposure to the virus, social connectedness, changes in the time spent on social networks and leisure activities, number of square metres available per resident of the lockdown household, and changes in the household's financial resources) [Gandré et al., 2020] and factors linked to their specificities (possible difficulties in respecting lockdown-related protective health measures, the belief that they would be treated differently from the general population in the event of an infection by Covid-19, changes in their medical and health and social care follow-up, and changes in their participation in group activities (as part of an association or a self-help group). The strength of the association remaining after adjustment was expressed by the adjusted odds ratio (AOR) and its confidence interval at 95% (CI95%). The statistical significance of the association was confirmed by a p-value lower than 0.05.

gories). Comorbidities were frequent, and consequently more than half of the respondents (51%) suffered from limitations or a chronic disorder in at least two of these categories. Only 14% had experienced no difficulty in performing daily activities before the lockdown (see Table).

The onset of psychological distress was observed in 57% of the respondents, 24% of whom experienced severe distress.

The onset of psychological distress is associated with most of the vulnerability factors highlighted in the general population

After making adjustments that take into account demographic and socio-economic characteristics, and the state of health of the respondents, it was observed amongst the persons living with a chronic disorder or disability that the onset of psychological distress during the lockdown was linked

CONTEXT

This study is part of the Coronavirus Containment Policies and Impact on the Population's Mental Health^a (COCLICO) project, which aims at assessing the effects of the lockdown measures implemented as a result of the Covid-19 pandemic on the onset of psychological distress, their evolution over time, and their determinants. It complements an initial study conducted amongst a representative sample of the general population in France in order to better document the problems that specifically affect individuals who have vulnerabilities linked to their health state (chronic disorders and/or limitations in activities) and who have been identified as particularly at risk of onset of psychological distress during the first lockdown (Gandré *et al.*, 2020). This study was developed in conjunction with a social network of persons living with a chronic disorder and associations of persons living with a disability.

^a <https://www.irdes.fr/recherche/enquetes/coclico-enquete-sante-mentale-coronavirus/actualites.html>

Principal characteristics of the respondents			
		All of the respondents	
		Number	% of the total number
Demographic characteristics			
Gender			
Male		381	31.9
Female		812	68.0
Age category			
Under 24 yrs		41	3.4
25–34 yrs		57	4.8
35–44 yrs		105	8.8
45–54 yrs		266	22.3
55–64 yrs		366	30.6
65 yrs and older		360	30.1
Socio-economic characteristics			
Level of studies			
Primary ¹		40	3.4
Secondary ²		551	46.1
Higher ³		563	47.1
Family situation			
Single without children		243	20.3
Couple without children		157	13.1
Single-parent family		241	20.2
Couple with children		507	42.4
Employment situation before the lockdown			
Paid activity in standard employment ⁴ or in a protected environment ⁵		335	28.0
No professional activity ⁶		239	20.0
Retired		458	38.3
Other ⁷		99	8.3
Health characteristics			
Presence of a chronic disorder exposing the individual to a more severe risk of infection by Covid-19			
Yes		797	66.7
No		393	32.9
Difficulties in carrying out everyday activities before the lockdown⁸			
No difficulties (score = null)		168	14.1
[1–3]		247	20.6
[3–7]		498	41.7
[7–10]		282	23.6
Persons living with limitations and/or a chronic disorder...			
• psychological, intellectual, or cognitive	Yes	320	26.8
	No	859	71.9
• motor or sensory	Yes	883	73.9
	No	302	25.3
• visceral or metabolic	Yes	716	59.9
	No	464	38.8

¹ Up to Year 6 (CM2) classes in Primary School, including a secondary school diploma; ² Secondary School, Professional Aptitude Certificate (CAP), Diploma of Professional Studies (BEP), those who completed the last year of secondary school, including holders of a baccalaureate; ³ Post-baccalaureate studies; ⁴ Including interim work; ⁵ French establishments and organisations that help disabled people back into work (ESAT); ⁶ In particular, due to their health state or disability; ⁷ Minor jobs, undeclared work, jobseekers, and students; ⁸ on a scale of 1 to 10.

Note: The respondents were given the possibility to refuse to answer certain questions, and this explains why the total number of respondents to the questions presented in this article does not always match the total number of respondents.

Scope: Respondents living in France who completed the survey (n = 1,195).

Source: COCLICO survey focused on persons living with a chronic disorder or disability, conducted between 21 April to 11 May 2020.

[Download the data](#)

to vulnerability factors similar to those observed in a representative sample of the French general population (Gandré et al., 2020). Hence, a significant link between a lack of social interaction during the lockdown (perceived social support and a sense of loneliness) and an increased risk of onset of psychological distress (see Graph 1) was also observed in this specific population.

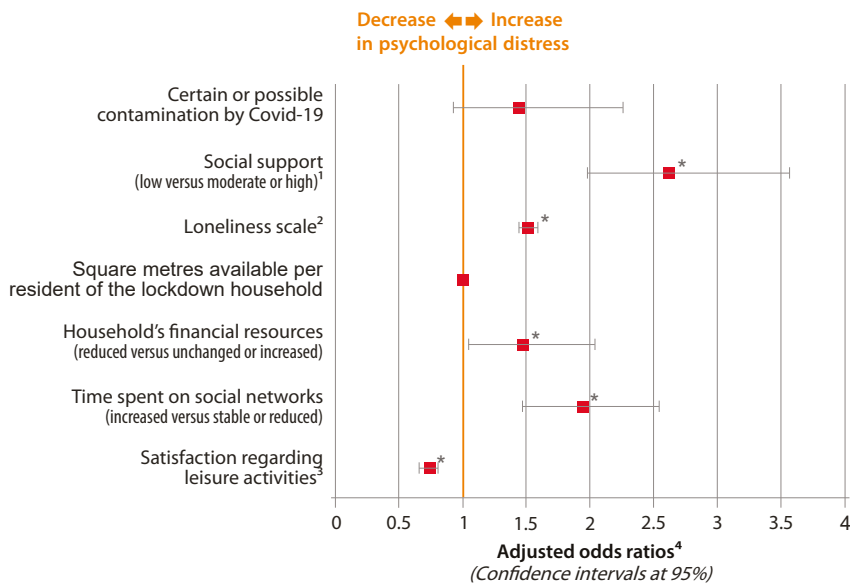
This also applied to the deterioration of the household's financial resources, but the link with the onset of psychological distress was less evident than in the general population (Gandré et al., 2020). In the survey that focused on persons living with a chronic disorder or disability, maintenance of the usual financial resources was observed in most of the respondents; this may be linked to their

relatively advanced age (continuation of the payment of retirement pensions during the pandemic), their specificities in terms of activity limitations (continuation of specific social assistance during the pandemic), or to the fact that they were less represented, due to their state of health or disability, in professional activities in which the income has been most affected by the lockdown, such as self-employed workers. Changes in leisure activities, in terms of less satisfaction with regard to these activities following the lockdown and an increase in time spent on general social networks (not specifically devoted to a population of health service users), were significantly linked to an increased risk of onset of psychological distress (see Graph 1), as it was in the general population (Gandré et al., 2020). Hence, the protective nature of the continuation of usual leisure activities during the lockdown was also confirmed for the most vulnerable populations.

The fact of having had proven or possible Covid-19 contamination (confirmed via a test or medical diagnosis) was not significantly linked with an increased risk of onset of psychological distress during the lockdown amongst individuals living with a chronic disorder or disability (see Graph 1), but few of them declared this contamination. Likewise, the significant link observed in the general population between the number of square metres available per resident of the household during lockdown and an increased risk of onset of psychological distress (Gandré et al., 2020) was not demonstrated (see Graph 1).

G1

Factors of vulnerability to the onset of psychological distress during the lockdown shared with the general population



¹ Categories based on the Oslo Social Support Scale (OSSS-3) that takes into account the number of persons close to them and on who they can count in case of great personal problems, the interest people close to them show in what they are doing, and the easiness to get practical help from neighbours when needed during the lockdown (Gandré et al., 2020).

² Continuous score based on the frequency of the feeling of lacking companionship, feeling left out and feeling isolated from others during the lockdown (Gandré et al., 2020). The higher the score, the greater the sense of loneliness.

³ Satisfaction with regard to leisure activities before and during the lockdown was assessed by using the items from the Dialog scale relating to these activities, comprising seven possibilities of response, graded from 1 to 7: totally dissatisfied, very dissatisfied, fairly dissatisfied, in the middle, fairly satisfied, very satisfied, and totally satisfied (Pribe et al., 2015). The score relating to changes in leisure activities was then calculated by the difference between the score during the lockdown and the pre-lockdown score. Hence, a negative score reflected reduced satisfaction with regard to leisure activities.

⁴ See inset below.

* P-value lower than 0.05.

Reading: Low social support increases the risk of onset of psychological distress. A deterioration in the satisfaction that arises from leisure activities, which occurs frequently during the lockdown due to the social constraints, increases the risk of onset of psychological distress.

Scope: Respondents living in France who completed the survey (n = 1,195).

Source: COCLICO survey focused on persons living with a chronic disorder or disability, conducted between 21 April to 11 May 2020.

[Download the data](#)

The onset of psychological distress was linked with vulnerabilities specific to individuals living with a chronic disorder or disability

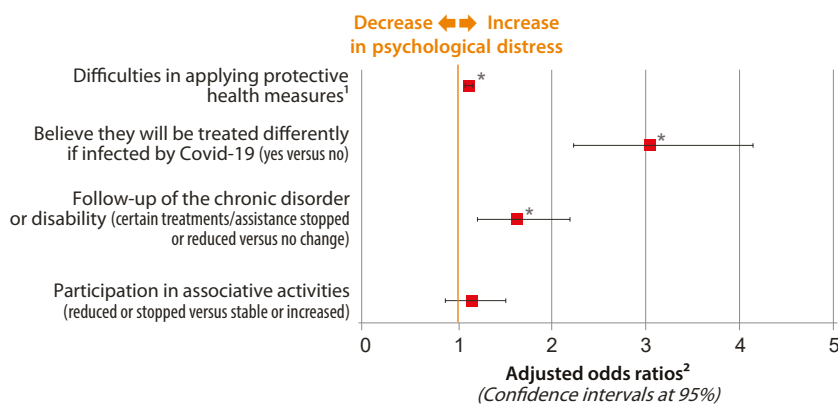
The adjusted odds ratio (AOR) reflects the significance of the connection between the onset of psychological distress and each factor considered individually after adjustments on demographic and socio-economic characteristics, and the health state of the respondents (see "Source and Method" insets). An AOR equal to 1 (or whose 95%CI includes 1) reflects an absence of association between the factor considered and the onset of

psychological distress, an AOR higher than 1 (and whose 95%CI does not include 1) indicates a link between the factor considered and an increased risk of onset of psychological distress, and an AOR lower than 1 (and whose 95%CI does not include 1) indicates an association between the factor considered and a lower risk of onset of psychological distress. The more the AOR is removed from 1, the higher the strength of the link.

Aside from the factors of vulnerability to the onset of psychological distress shared with the general population, it was observed that having greater difficulty in applying lockdown-related protective health measures (respecting the times permitted to leave one's

G2

Factors of vulnerability to the onset of psychological distress during the lockdown, specific to persons living with a chronic disorder or disability



¹ The difficulty in applying lockdown-related protective health measures was calculated by an ad hoc scale by adding up the estimated level of difficulty between 0 and 5 for the application of each of the following measures by the respondent: having access to the necessary information to monitor his/her health state or disability during the lockdown, respecting the times permitted to leave the house during the lockdown, respecting the minimum distance of one metre between individuals and respecting hygiene recommendations, such as washing one's hands or coughing in one's elbow. Hence, the higher the score, the more difficult it was for the respondent to apply lockdown-related health measures.

² See inset on page 5.

* P-value lower than 0.05.

Reading: Individuals who believed they would be treated differently from the general population if they were infected by Covid-19 had an increased risk of onset of psychological distress.

Scope: Respondents living in France who completed the survey (n = 1,195).

Source: COCLICO survey focused on persons living with a chronic disorder or disability, conducted between 21 April to 11 May 2020.

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contacts with health or health and social care services, even if the way they operate has to be adapted to the context of an unprecedented health crisis, to take into account the ongoing needs of persons living with a chronic disorder or disability. The reduction (cessation or lessening) of the person's participation in group activities in an association or a self-help group was not significantly linked with a risk of onset of psychological distress during the lockdown (see Graph 2). Nevertheless, it is important to remember that our respondents were members of social networks of persons living with a chronic disorder or of associations of people living with a disability that may have provided a protective substitute by enabling communications to continue between persons who have the same concerns.

The onset of psychological distress is associated with pre-existing mental vulnerabilities

home, respecting the correct distance between persons, regularly washing one's hands, etc.) was significantly linked with an increased risk of onset of psychological distress amongst persons living with a chronic disorder or disability, although this effect was limited (see Graph 2). The belief that they would not be treated in the same way as the general population if they had symptoms of Covid-19, which was observed amongst more than a third of the respondents, was strongly associated with an increased risk of onset of psychological distress during the lockdown (see Graph 2). During the health crisis, the Human Rights Defender ("*Défenseur des Droits*") underlined the necessity of maintaining the principle of equal access to healthcare for persons living with a disability and ensuring that their healthcare was solely based on medical criteria and individual assessments on a case-by-case basis (Human Rights Defender, *Défenseur des Droits*, 2020). The results of our study show that this is a real concern of individuals living with a chronic disorder or disability,

confirming the conclusions of other studies (*Observatoire Covid-19 Éthique et Société*, 2020). In addition, preliminary research, in which the cases of persons living with schizophrenic disorders were studied, objectified their less frequent admission to intensive care units following an infection by Covid-19, even after adjustments that took into account their general health state and risk factors (Fond et al., 2020).

Changes to an individual's usual medical and health and social care follow-up, including external care and care in the place of residence, and assistance with everyday activities, was significantly linked with an increased risk of onset of psychological distress when a change in at least one of these types of follow-up occurred during the lockdown period (see Graph 2). The reduction in follow-up concerned more than half of all of the respondents and almost 80% of the persons who had specifically indicated they had regular needs before the lockdown. This result underlines the need to guarantee the continuation of

Amongst the demographic and socio-economic factors, and health state characteristics considered in the different models implemented, living with chronic psychological, intellectual, cognitive limitations or disorder was systematically associated with an increased risk of onset of psychological distress during the lockdown. Recent international publications have highlighted similar results relating specifically to individuals living with a psychological disorder in other national contexts (Hao et al., 2020). One of the hypotheses put forward to explain them is a greater vulnerability of these individuals to major events that generate uncertainty –requiring great resilience and adaptation mechanisms –, such as the Covid-19 pandemic and the associated lockdown measures. These events have led to relapses and a deterioration in the mental health of already fragile persons (Yahya et al., 2020; Yao et al., 2020). The important role played by pre-existing mental vulnerabilities in the onset of psychological distress during the lockdown was also confirmed by the frequently observed association in the

implemented models between being a woman and having an increased risk of onset of psychological distress during the lockdown, as women were particularly affected by anxiety and depressive disorders outside health crisis contexts (Pisarik et al., 2017). Other elements, such as experiencing difficulties in carrying out activities of daily living before the lockdown or having children (particularly in the case of single-parent families), were also associated with an increased risk of onset of psychological distress during the lockdown, but the corresponding confidence intervals were too high for the values to be realistically interpretable.

* * *

This study complements an initial analysis relating to inequalities with regard to the risk of onset of psychological distress during the first lockdown linked to the Covid-19 pandemic, carried out in a representative sample of the French general population, which highlighted the increased risk for persons living with a chronic disorder (Gandré et al., 2020). This risk, considered conjointly with that of individuals living with a disability facing similar problems, had not been studied until that point –aside from that of the users of mental health services (Hao et al., 2020; Yahya et al., 2020; Yao et al., 2020)– in the available literature, which, on the contrary, deals extensively with the psychological consequences of the lockdown in France and around the world. Despite factors of vulnerability shared with the general population, our results show that the onset of psychological distress during the lockdown amongst individuals living with a chronic disorder or disability was also linked to specific issues: difficulties in applying protective health measures, belief that they would not be treated similarly to other people in the event of an infection by Covid-19, and the cessation or reduction of the usual medical or health and social care follow-up during the lockdown.

This study, which was based on the use of reactive data collection techniques, enabled information to be collected

from the individuals directly concerned, and at a time when face-to-face contacts were impossible. However, in contrast to the survey previously conducted in the general population, the study did not adopt an approach that was representative of the targeted individuals, and the psychological processes involved cannot be assumed to be independent of the respondents' demographic, socio-economic, and clinical characteristics. Hence, although we adjusted our analyses to take into account these characteristics, it is likely that individuals living with a chronic disorder or disability who were not involved in social networks or associations of persons living with a chronic disorder or disability were even more exposed to the onset of psychological distress as a consequence of the lockdown than the respondents of this study. Inversely, it can be hypothesized that persons who found the lockdown particularly difficult sought out assistance by playing a more active role in these networks and in the survey. In addition, given the limited number of individuals living in an institution, it was not possible to attain these persons in sufficient numbers by an Internet survey and they will need to be targeted by a specific study. Qualitative studies would also be a useful complement to the initial evidence highlighted here about the factors specifically involved in the onset of psychological distress amongst individuals living with a chronic disorder or disability during the lockdown measures implemented as a consequence of the Covid-19 pandemic. Lastly, this study underlines the need to think about the creation of a representative sampling on a national scale of persons living with a chronic disorder or disability, which could also be implemented reactively when it is imperative to have access to real time data about this specific population.

Despite limitations relating to the representativity of the survey's respondents, our results highlight the importance of taking into account the specific needs of persons living with a chronic disorder or disability as part of the reimplementation of the lockdown measures, especially as the impact of most of the factors

of vulnerability that are specific to them could be attenuated by suitable policies. Our results highlight in particular the need to encourage and facilitate the early treatment of any psychological distress amongst these individuals, to enable them to adapt the health measures to their specific requirements, to continue with their usual medical and health and social care follow-up, and reinforce communication about the guarantee of and need for fair treatment in the event of an infection by Covid-19. Certain protective elements already seem to have been taken into account in the second lockdown, implemented in November and December 2020, with, in particular, more flexible rules for individuals with specific needs and particular attention paid to the continuation of the medical and health and social care monitoring of these persons. Nevertheless, there will probably be more long-term consequences of the health crisis on their psychological and general health state, which were not yet observable at the time of this study. Future studies, based on the National Health Data System ("*Système National des Données de Santé*", SNDS), aim to document the long-term impacts of the restrictions of access to healthcare and health and social care services provided to persons living with a psychological or motor disability during the health crisis via a range of complementary indicators (life expectancy, lack of continuity of care, avoidable hospitalisations, etc.). ♦

FOR FURTHER INFORMATION

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