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Prevalence and correlates of COVID-19-related traumatic stress symptoms among older adults: A national survey

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ABSTRACT

Coronavirus pandemics increase the incidence of posttraumatic stress disorder (PTSD), which requires intensive treatment and is related to several long-term psychiatric disorders. Older adults are particularly vulnerable to COVID-19 and hence trauma symptoms. It is not known what is the prevalence of trauma symptoms relating to COVID-19 specifically among older adults nor what may be the markers for the emergence of trauma symptoms. The aim of the present research was to estimate the prevalence, and identify correlates of, traumatic stress symptoms attributable to COVID-19 among older adults in the UK. A cross-sectional survey that assessed COVID-19-related trauma symptoms and demographics was conducted with a sample of 3012 adults aged 60 years and older who were representative of the UK population. Data were analysed descriptively and using multiple/logistic regression. 36.5% of the sample (n = 1100) reported experiencing clinically meaningful traumatic stress symptoms that could lead to as many as 27.4% of the sample going on to develop PTSD. Women and younger older adults were particularly likely to experience clinically meaningful symptoms of traumatic stress. Work is urgently required to prepare services to address what may be substantial numbers of older people presenting with PTSD in the future.

1. Introduction

Research on coronavirus outbreaks suggest they are associated with increases in the incidence of posttraumatic stress disorder due to potential exposure to a new deadly infection and mitigation measures, such as quarantine (Wu et al., 2005). For example, an outbreak of Severe Acute Respiratory Syndrome (SARS CoV) in 2003 showed that the numbers of people suffering post-traumatic stress disorder was similar to the numbers reported following natural disasters such as earthquakes and hurricanes (Hawryluck et al., 2004). Initial data suggest that SARS CoV2 is no different and is associated with heightened levels of anxiety and depression (Gao et al., 2020), as well as a high prevalence of challenges to mental and physical health caused by economic uncertainty and job insecurity (Keyworth et al., 2021) associated with adherence to government lockdown-type instructions and also observed during economic crises (e.g., Frasilho et al., 2015). Given that posttraumatic

stress symptoms are unlikely to disappear unaided and are associated with other long term psychiatric disorders (Dansky et al., 1998; Goenjian et al., 2005) it is vital for public health planners to gauge the likely demand for services. It is further notable that, in a study of vicarious traumatisation due to COVID-19, Li et al. (2020) found significantly higher levels among the general public than front-line nurses.

A recent systematic review (Salehi et al., 2021) of posttraumatic stress disorder symptoms in coronavirus pandemics estimated a prevalence of 9% for COVID-19, which was significantly lower than for SARS (18%) although the data were highly heterogenous, half of the studies were of poor quality and none used measures adapted to address COVID-19. In particular, older adults tended to be under-represented, which is an important omission because age is the biggest risk factor for COVID-19, to the extent that the roll out of the UK's vaccine programme is almost wholly governed by age (NHS, 2021) rather than other potentially relevant factors. The implication is that demand for

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treatment services might be greatest among older adults, and within that cohort it would be valuable to identify subgroups who may need particular attention such as minority group status and occupational exposure (Armitage et al., 2021). Of the studies that have examined older people's experiences of the COVID-19 pandemic, a picture is emerging of peritraumatic symptoms being experienced by older adults (e.g., Shrira et al., 2020), and significantly more so by older women than by older men (e.g., Jimenez et al., 2021), although these studies are limited by opportunity sampling. We were able to identify one prevalence study in which Egyptian adults aged 60 years and older were randomly sampled from the population: Fadila et al. (2021) estimated that 31.0% (83/185) of their sample were experiencing severe peritraumatic distress. Given that there is some debate about whether or not the COVID-19 should be considered a traumatic event (e.g., Norrholm et al., 2021) it is, nevertheless, important to collect data that assess the proportions of populations who meet (or fail to meet) key diagnostic criteria.

This is the first study to: (1) estimate the prevalence of traumatic stress symptoms among older adults, and (2) identify the sociodemographic characteristics of older adults who may need targeted early interventions to avoid post-traumatic stress disorder.

2. Methods

2.1. Design and procedure

The data on which the present analyses are based is part of a wider survey examining public attitudes to hearing stigma. The data were collected 23–29 January 2021. A sample of adults aged 60+ was invited to take part in an online questionnaire distributed by YouGov, an online survey panel company who retain a database of people who are representative of the UK population for public opinion surveying. Participants were incentivised in accordance with YouGov's points system, whereby respondents accumulate points for taking part in online surveys. Data were sent securely to the research team for analysis. Ethical approval was obtained from University of Manchester Research Ethics Committee (2020-10597-17109) and participants gave informed consent at the beginning of the survey.

3. Materials

3.1. Sociodemographic variables

Demographic variables included age, gender, ethnicity, and social grade were taken using standard UK Office for National Statistics (ONS, 2020) measures.

3.2. Traumatic stress symptoms measures

Traumatic stress symptoms were measured using the impact of event scale (Horowitz et al., 1979), a reliable and valid tool (Sundin and Horowitz, 2002) adapted by Vanaken et al. (2020) for use in assessing the impact of COVID-19. There is some debate as to the best way to assess traumatic stress symptoms, but the impact of events scale is the only one with sufficient reliability and validity to be used currently as a screening tool (e.g., Umberger, 2019). A further advantage to the impact of events scale is that it will allow future meta-analysts the opportunity to compare directly the impact of COVID-19 compared with other traumatic events. The scale comprises 15 items, all of which are rated on 4-point scales labelled *not at all*, *seldom*, *sometimes*, and *often*, which are assigned scores of 0, 1, 3 and 5, respectively. Higher scores indicate greater trauma symptoms. Four measures can be computed: Total (sum of all 15 items), intrusion subscale (sum of 7 items, e.g., "I thought about it when I didn't mean to"), avoidance (sum of 8 items, e.g., "I avoided letting myself get upset when I thought about it or was reminded of it") and a clinical cut-off, with total scores of 27 or higher considered a

cut-off with a 75% chance of a diagnosis of post-traumatic stress disorder (Horowitz et al., 1979).

3.3. Analyses

Data were weighted to ensure analyses properly reflected the UK population. Descriptive statistics were used to characterize the population. Linear multiple regression was used to assess factors associated with total scores as well as intrusion and avoidance subscales. Multiple logistic regression was used to identify factors associated with clinical cut-off.

4. Results

4.1. Participant characteristics

Consistent with the sampling frame, the sample was broadly representative of older adults in the UK (Table 1). Most participants were white (97.8%) and slightly more than half were women (53.3%). There were more people who had been in non-manual (71.2%) than manual occupations (28.8%). Mean age was 70.9 years ($SD = 6.8$; 60–93 years).

4.2. Prevalence of trauma symptoms

The majority of participants did not meet the clinical cut-off of scoring ≥ 27 on the total scale, and 122 participants reported experiencing no symptoms of intrusion or avoidance. However, a minority (36.5%) did meet the clinical cut-off, of whom 75% (825/1100) are highly likely to develop post-traumatic stress disorder (Table 1). Thus, across the sample as whole, 27.4% (825/3012) might develop post-traumatic stress disorder, which would be a significant burden if extrapolated to the population as a whole.

4.3. Factors associated with trauma symptoms

The four indices of trauma symptoms were regressed on demographic variables and revealed that, among this sample of older adults, younger people and women were more likely to experience trauma symptoms associated with COVID-19 (Table 2).

5. Discussion

5.1. Principal findings

A significant minority (36.5%) of older adults report experiencing trauma-related symptoms directly attributable to COVID-19. Worse

Table 1
Sociodemographic and behavioural characteristics of the sample.

Variable	%	<i>M</i>	<i>SD</i>
Gender			
Men, <i>n</i> = 1403	46.6	–	–
Women, <i>n</i> = 1605	53.3	–	–
Age		70.9	6.8
Social Grade			
Non-manual, <i>n</i> = 2145	71.2	–	–
Manual, <i>n</i> = 867	28.8	–	–
Ethnicity			
White, <i>n</i> = 2944	97.8	–	–
Black, Asian, Minority Ethnic/Prefer not to say, <i>n</i> = 68	2.2	–	–
Traumatic Stress Symptoms			
Total		22.0	14.2
Intrusion subscale		10.0	7.9
Avoidance subscale		11.0	7.9
Clinical Cut-Off			
≥ 27 , <i>n</i> = 1100	36.5		
< 27 , <i>n</i> = 1912	63.5		

Note. Where numbers do not total 3012, participants "preferred not to say".

Table 2
Factors associated with trauma symptoms.

Independent Variables	R ²	B	SE	95% CI
<i>Total</i>	.06			
Gender (men = 1; women = 2)		6.96	0.50	5.97, 7.95
Age		−0.10	0.04	−0.17, −0.03
Occupational Status (1 = non-manual; 2 = manual)		0.05	0.56	−1.04, 1.14
Ethnicity (0 = White; 1 = Black, Asian and Minority Ethnic/Prefer not to say)		−0.25	1.69	−3.56, 3.07
<i>Intrusion Subscale</i>	.05			
Gender (men = 1; women = 2)		3.53	0.28	2.98, 4.01
Age		−0.06	0.02	−0.11, −0.02
Occupational Status (1 = non-manual; 2 = manual)		−0.28	0.31	−0.89, 0.33
Ethnicity (0 = White; 1 = Black, Asian and Minority Ethnic/Prefer not to say)		−0.49	0.95	−2.35, 1.37
<i>Avoidance Subscale</i>	.05			
Gender (men = 1; women = 2)		3.43	0.28	2.87, 3.99
Age		−0.03	0.02	−0.08, 0.01
Occupational Status (1 = non-manual; 2 = manual)		0.33	0.31	−0.28, 0.95
Ethnicity (0 = White; 1 = Black, Asian and Minority Ethnic/Prefer not to say)		0.24	0.95	−1.63, 2.11
<i>Clinical Cut-Off</i> (1 = exceeds cut-off; 0 = below cut-off; B = Exp(B))	.06			
Gender (men = 1; women = 2)		2.46	0.08	2.10, 2.87
Age		0.99	0.01	0.98, 1.00
Occupational Status (1 = non-manual; 2 = manual)		1.03	0.09	0.87, 1.21
Ethnicity (0 = White; 1 = Black, Asian and Minority Ethnic/Prefer not to say)		1.08	0.27	0.64, 1.81

symptoms are reported by women and younger older adults.

5.2. Previous studies

Estimates of traumatic stress symptoms attributable to coronaviruses vary: one systematic review (Salehi et al., 2021) calculated 9% prevalence attributable to COVID-19, but much higher for other coronaviruses (36% for MERS and 18% for SARS). However, the literature searches were conducted mid-2020 and the relative novelty of SARS-CoV-2 may mean that the 9% figure represents an underestimate. Indeed, a more recent study conducted in Saudi Arabia (a country with a lower mortality rate than the UK) estimated a prevalence of up to 24.8% (Alshehri et al., 2020). The present estimate of 36.5% is comparable with that for MERS and for broader estimates of depression, anxiety, distress and insomnia reported during the COVID-19 pandemic (Wu et al., 2021). The present findings are also consistent with previous research showing that the largest impacts of COVID-19 are related to job insecurity and caring responsibilities, women and younger older adults were more likely to experience clinically meaningful trauma symptoms (Keyworth et al., 2021).

5.3. Implications

Older adults represent a population that is under-research in relation to coronavirus pandemics and yet are considered an especially vulnerable group. Within this group, women and younger older adults who may have multiple caring responsibilities for both younger and older relatives need particular attention. It would be valuable to explore these groups further in depth and develop services to support their needs.

5.4. Strengths and limitations

This is the first study to try and estimate the prevalence of traumatic symptoms attributable to COVID-19 within a representative sample of

the older population. However, the research is not without flaws: the cross-sectional design does not allow causal inference and the quantitative survey methodology does not allow for inferences into what it is about being a woman and/or a younger older adult that leads to worse experiences of traumatic symptoms. Further, although data were weighted to reflect the characteristics of the population as a whole, the sample was fundamentally restricted to older adults who were signed up to the market research company's database and thereby able to use online questionnaires.

5.5. Future research

It would be valuable to conduct further surveys with the same cohort to track any changes over time and to develop interventions to treat posttraumatic stress disorder for the most vulnerable women and younger older adults.

6. Conclusions

A significant minority of older adults are experiencing trauma symptoms attributable to the COVID-19 pandemic. Of those, it is plausible that as many of 27.4% of older adults nationwide may develop posttraumatic stress disorder: services need to be developed now in order to accommodate this potentially traumatised population.

Contributors

All authors contributed to the planning of the study. The analysis was conducted by CJA. The initial draft of the article was written by CJA. All authors revised the manuscript, and approved the final version for publication. CJA is the guarantor.

Transparency statement

CJA affirms that the manuscript is an honest, accurate, and transparent account of the study reported; no important aspects of the study have been omitted.

Data sharing statement

Data on reasonable request will be available one year following publication from CJA.

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Declaration of competing interest

The authors declare that there are no conflicts of interest.

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