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1 **Research fatigue in COVID-19 pandemic and post-disaster research: Causes, consequences and**
2 **recommendations**

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14
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Abstract

Purpose: Research fatigue occurs when an individual or population of interest tires of engaging with research, consequently avoiding further participation. This paper considers research fatigue in the context of the current COVID-19 pandemic, to identify contributory factors and possible solutions for future post-disaster research.

Methodology: We draw on examples from the literature and our own observations from the recruitment and data collection phases of qualitative and quantitative studies, to provide an overview of possible research fatigue in the current COVID-19 pandemic, with implications for future post-disaster research.

Findings: People affected by disasters sometimes receive multiple requests for study participation by separate teams who may not necessarily be coordinating their work. Not keeping participants informed of the research process or outcomes can lead to disillusionment. Being overburdened with too many research requests and failing to see any subsequent changes following participation may cause individuals to experience research fatigue.

Originality: Guidelines for researchers wishing to reduce the occurrence of research fatigue include ensuring greater transparency within research; sharing of results; and using oversight or gatekeeper bodies to aid coordination. Failure to restrict the number of times that people are asked to participate in studies risks poor participation rates. This can subsequently affect the quality of information with which to inform policy-makers and protect the health of the public during the COVID-19 pandemic or other public health disasters/emergencies.

Keywords: Research fatigue, Disaster research, COVID-19, research methods, Pandemic, Flooding, disaster policy, Willingness to participate

56 The COVID-19 pandemic has seen members of the scientific community conducting research
57 to improve our understanding of the virus and its wider impacts, providing insights into how to bring
58 the virus under control. The overarching goal, as with all research, is to contribute high-quality
59 scientific insight which improves knowledge, and this often utilises the strengths and expertise of
60 individuals to form collective teams. However, COVID-19 related research is under pressure to be
61 conducted as rapidly as possible in order to provide the evidence-base for decision makers. From
62 rapid reviews on the psychological impact of quarantine (Brooks et al., 2020) to short letters on public
63 health response for vulnerable population (Patel and Clark-Ginsberg, 2020), and understanding the
64 antibody response in patients (Zhao et al., 2020), there have been 6,659 papers on COVID-19
65 published between 1st January and 3rd April 2020, of which 83% were in peer reviewed journals, and
66 17% came out as unreviewed pre-prints (Baker, 2020); only a small percentage of these papers do not
67 containing primary data (COVID-19 Primer, 2020). As such, not only does the speed and amount of
68 research have the potential to lead to a huge amount of waste from poor-quality research (Glasziou et
69 al., 2020), they can also contribute to ‘research fatigue,’ as seen in post-disaster research (Clark, 2008,
70 Neal et al., 2015, Pagano-Therrien, 2013) negatively impacting participants and potentially
71 confounding the results of future COVID-19-related papers.

72 **What is research fatigue?**

73 Low response rates in research are well-documented. Between 1975 and 1999 the average response
74 rate to questionnaire-based studies fell from 64.4% to 48.4% (Baruch, 1999), and response rates have
75 continued to decline over the last 30 years (Council, 2013). Whilst response rates have declined, the
76 global scientific output of research studies roughly doubles every nine years (Bornmann and Mutz,
77 2015). Researchers are thus chasing a dwindling pool of willing participants. Unsurprisingly there are
78 numerous publications exploring methodologies to increase response rates (Bower et al., 2009,
79 Edwards et al., 2002, Mapstone et al., 2007, Millar and Dillman, 2011). However, the cumulative
80 impact of participants being approached for multiple studies on response rates is often overlooked.
81 Multiple participation requests can lead to people feeling exploited (Goodman et al., 2018, Koen et
82 al., 2017): in other fields, for example, cases of people feeling pursued for help by multiple
83 organisations (Morris, 2016) have drawn media scrutiny and the imposition of official guidelines (UK

84 Cabinet Office, 2015). Furthermore, poor research quality (including poorly designed, small-scale
85 studies) can impair efforts to mount an effective, evidence-based response to a public health
86 emergency such as the COVID-19 pandemic (Glasziou et al., 2020). Although research ethics
87 certification exists to ensure that individual researchers treat potential participants with respect and
88 protect them from harm (British Psychological Society, 2018), such procedures do not mitigate
89 against multiple requests to participate in research within a short time period.

90

91 This issue has been referred to as ‘research fatigue’ also known as participation fatigue, which occurs
92 when an individual or population of interest tires of engaging with research (Clark, 2008). This may
93 manifest through reluctance to continue with an existing project, or refusal to engage with further
94 research regardless of its importance. Clark (2008) suggests three main factors driving research
95 fatigue among highly researched populations: perceived lack of positive change following previous
96 research participation; disinterest in some or all elements of the research project; and practical barriers
97 such as financial cost, time, and lack of organisation on behalf of the researchers.

98

99 Over-research is reportedly most prevalent in poorer communities and those with high proportions of
100 people from ethnic minority groups or who are otherwise marginalised (Sukarieh and Tannock, 2013).
101 Several groups, including refugees (Sukarieh and Tannock, 2013), individuals with HIV (Pagano-
102 Therrien, 2013) and individuals with a disability (Kitchin, 2000) have complained about being over-
103 researched. Even entire towns have been subject to over-research after becoming a ‘symbolic
104 location’ for researchers studying socially differentiated populations (Neal et al., 2015).

105

106 **Why is research fatigue an issue for disaster researchers?**

107 Globally, communities are increasingly affected by traumatic events, from disasters to terrorist attacks
108 (CRED, 2015, Kitchin, 2000). Although each event is unique, well thought-out studies can identify
109 needs or evaluate interventions that may be beneficial for the community in question or for future,
110 disaster-affected communities. The current pandemic is no exception to this with numerous studies
111 currently underway to evaluate the impact of COVID-19 on the mental health of the UK general

112 population and specific groups such as healthcare workers or people who are of a Black, Asian, or
113 minority ethnicity background (Health Europa, 2020, NIHR Policy Research Programme Reviews
114 Facility, 2020). Indeed, research fatigue may even be more of an issue for COVID-19 given the
115 proliferation of potentially repetitive research investigating how people are coping. Furthermore, as
116 COVID-19 is a universal disaster, its far-reaching impact may have led more researchers to refocus on
117 COVID than would usually be the case with single disaster events.

118

119 Quite frequently there is a short-lived rush to identify and understand the immediate effects after high
120 profile disasters; this has been termed a ‘research gold rush’ (Gaillard and Gomez, 2015, Gomez and
121 Hart, 2013, O’Mathúna, 2012). Unfortunately, coordination between research teams is often lacking.
122 Any community, or specific occupational grouping, affected by a traumatic event or situation may be
123 approached by multiple researchers simultaneously; survivors, their relatives, and responders may
124 therefore potentially receive multiple requests to participate. For example, in Shatila, a Palestinian
125 Refugee camp, researchers were a constant presence in the lives of the residents, many of whom
126 reported they had lost count of the number of interviews undertaken; over 223 academic articles and
127 128 books have been published about the camp (Sukarieh and Tannock, 2013). It is quite possible that
128 the overabundance of rapidly and potentially poorly designed research (e.g., researchers with no prior
129 background or track record in designed research topic and/or research lacks novelty and replicates
130 what is already known) may not only reduce the impact of high quality research (Glasziou et al.,
131 2020), but may even negatively affect willingness to participate. This could limit the possibility of
132 conducting the high-quality research needed to properly understand the impacts of the disaster in the
133 first place. Thus whilst the ‘research gold rush’ is understandable, it can be highly counterproductive.

134

135 **Factors affecting research fatigue**

136 In considering research fatigue, it can help to divide contributory factors into those relating to
137 individual studies and those related to the coordination of multiple studies. These factors are based on
138 a combination of existing research and our own experiences in conducting such studies (Figure 1).

139 **Factors relating to individual research studies**

- 140 1. **Limited participant pool.** Post-disaster, there is usually a finite number of participants who
141 are able to participate in a given study (Collogan et al., 2004). This is typically defined by a
142 combination of geography (e.g. distance from the disaster centre, city, or region) and
143 exposure (e.g. direct victim, first responder or resident of affected city). Limited numbers
144 increases the potential for individuals to be invited participate in multiple or repetitive studies
145 (Newman and Kaloupek, 2004). During the current pandemic this is less problematic for
146 members of a general population but still relevant for potential participants whose numbers
147 are limited (e.g. those who have lost a close relative to COVID-19).
- 148 2. **Individual reticence to participate.** Communities responding to the disaster, or recovery
149 activities, may be especially reticent to participate in research (Huizink et al., 2006, Logue et
150 al., 1981) such as may be the case for current studies of essential workers. Low response rates
151 may also be a consequence of individuals' reluctance to 'relive' the traumatic event (Galea et
152 al., 2005). Individual reticence can thus require researchers to approach substantial numbers
153 of affected people to achieve their desired sample size, which can be costly. This can,
154 therefore, result in smaller, underpowered studies.
- 155 3. **Perceived need for rapid research.** Researchers often perceive that post-disaster research
156 needs to be carried out whilst disaster response operations are ongoing (as in the COVID-19
157 pandemic) or as soon as possible after the incident, in order to investigate the immediate
158 effects and what this means for the community (Council, 2006). This rapid-response tradition
159 in disaster research developed for two main reasons. The first (illegitimate) reason is the
160 desire to be among the first to publish on the event, which represents an unhealthy
161 predilection for novelty over substance. The other (legitimate) reason is the recognition that
162 data on the aftermath of disasters are perishable and information collected after a delay may
163 be distorted and incomplete (Quarantelli, 1987). Furthermore, delayed information acquisition
164 prevents it from being useful to alter the outcome of an ongoing disaster. The desire for speed
165 (whether through good intentions or not) may lead to disaster studies being fast-tracked

166 through funding bodies and ethical review boards, or avoiding formal ethical review
167 processes altogether. This sort of response can lead to oversights or mistakes, including
168 insufficient piloting questionnaires or a lack of community feedback on recruitment
169 approaches. Both can result in mistakes that appear at best unprofessional or at worst
170 insulting to those affected, as well as being detrimental to the ultimate quality of the research.

171 4. **Participants feeling undervalued.** Failing to communicate study results to a community, or
172 even to say thank you to participants, can lead to feelings of dissatisfaction (Clark, 2008).
173 Unfortunately, this situation is not uncommon. One participant in our own research reported
174 that she did not receive any ‘thank you’ messages from researchers and that she also had to
175 search online for the final reports, despite being told she would receive them once they were
176 published (Patel, 2015). Seemingly small gestures such as these can make a big difference to
177 participants, one study of participants during a pandemic found that they wanted to receive
178 feedback about research but felt this was a neglected aspect which reduced the chance of
179 them taking part in future (Gobat et al., 2018). Feeling undervalued may lead to mistrust in
180 researchers in general, and reluctance to participate in other studies.

181 5. **Seeing no change.** Participants are often informed as to the general benefits that could be
182 derived from their participation but often see no change nor improvement in their lives
183 afterwards. Seeing no change can lead over-researched participants to not being able to trust
184 researchers on the benefits and scope of their studies (Omata, 2019). Participants from our
185 previous research have indicated that this may be a contributing factor to any decision to
186 refuse to participate in future research. For example, one participant in our flooding study
187 reported feeling that the outputs from three research studies she took part in were the same:
188 published reports with nothing directly helping her and her community. She stated that “if no
189 impact or change for the best will happen to us locally, then there is no point to join even if
190 there’s a financial incentive” (Patel, 2015). Another participant told us that “I can’t be
191 bothered to join a study because I know that no change will happen” (Patel, 2015). Even
192 though participants often understood the need for research, there was a sense of a “lack of
193 trust” or a “break in trust” in how their information would actually aid their community

194 (Patel, 2015). It may be too soon to know if this is occurring with ongoing COVID-19
195 research but it is important for researchers to be aware of, plan accordingly, and further
196 capture such information if it occurs.

197 6. **Media representation.** Incidents of considerable media interest are also likely to draw
198 attention from researchers. For example, research on terrorism and terrorism-related issues
199 has increased dramatically since the 9/11 attacks (Young and Findley, 2011). The media
200 coverage of 9/11 has been labelled as the “largest, most compelling global media event in
201 human history” (Grusin, 2010). In 2008, Silke (2008) noted that by 2010 over 90% of the
202 entire terrorism literature will have been written since 9/11. Given the media coverage of the
203 COVID-19 pandemic, it is likely that a similar bump in publications of pandemic literature
204 will occur afterwards; along with, new found research interests in this area prompted by the
205 media interests adding to the studies in circulation.

206 **Factors related to study coordination**

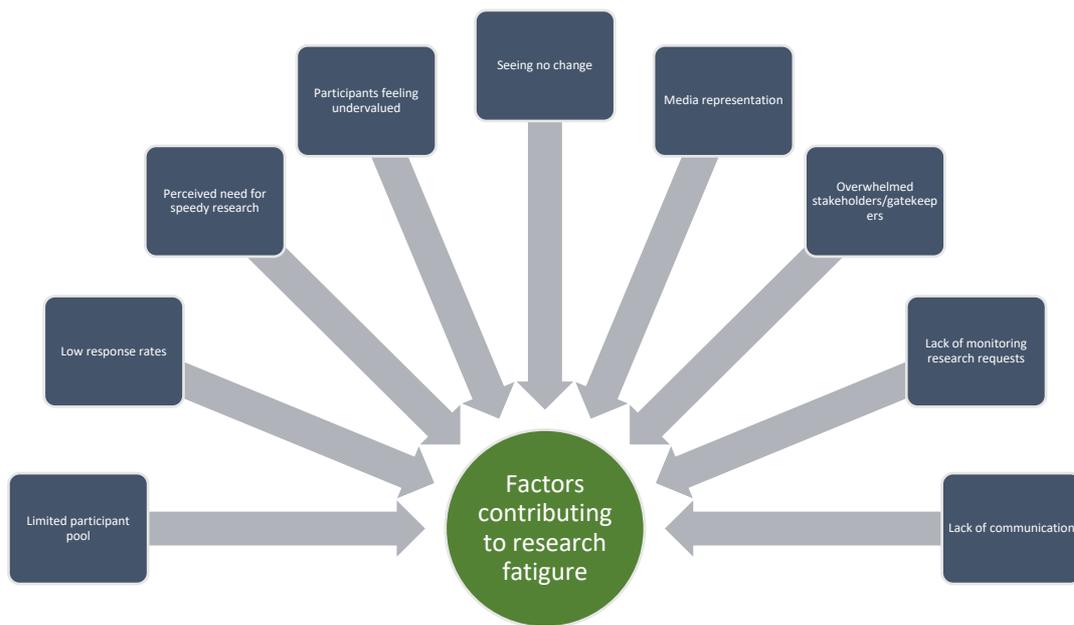
207 1. **Overwhelmed stakeholders / gatekeepers.** Following a disaster, a ‘gatekeeper’ (e.g., local
208 councils, human resources departments) is often available to facilitate researchers in
209 accessing those affected. Understandably, such organisations can find themselves
210 overwhelmed by the necessity of dealing with the aftermath of the disaster itself and it is
211 possible that the relevant staff may themselves have been personally affected.

212 Understandably, gatekeepers may have insufficient time, experience or inclination to assess
213 quality or differentiate between multiple research proposals. Additionally, recruitment could
214 bypass gatekeepers or committees completely through online requests on websites and social
215 media outlets.

216 2. **Lack of monitoring of research requests.** There are two usual points of monitoring
217 research: the gatekeeper and the ethics committee. However, despite disasters often leading
218 governments creating registries of affected people, the confidential nature of research means
219 it is not always easy for gatekeepers to monitor how many recruitment requests these
220 individuals receive. Similarly, post-disaster researchers are likely to have different ethical

221 procedures or requirements in place. For example, ethics approval may differ depending on
222 an researcher's employer (e.g. universities or non-government organisations (NGOs)) or
223 particularities of the research question or population of interest (e.g. the need to apply to a
224 specific ethical board for some occupational groups such as the military). This lack of
225 consistency in how ethical approval is obtained makes study coordination difficult as
226 individual review boards will not be aware of other similar studies being put forward for
227 review at other institutions. In addition, current ethical approval boards assess the ethics of
228 individual studies in isolation and do not usually consider the ethical issues of potential
229 competing research programmes.

230 3. **Lack of communication.** Researchers may be unwilling to communicate with each other for
231 various reasons such as to time constraints, not knowing who to contact, or fears of losing
232 control over their research. One participant in our studies after the UK 2013-2014 floods
233 informed us that she had participated in discussions organised by local officials, local non-
234 government organisations, and academic research groups and although all three groups, as a
235 whole, asked similar questions, none of the groups were aware of each other (Patel, 2015).
236 She gave her contact information to each lead contact of the group to help them connect with
237 each other, but little came of it, as she recalls: "none can bother to talk to each other" (Patel,
238 2015).



239

240 Figure 1. Summary of factors contributing to research fatigue in post-disaster research

241

242

Recommendations to limit research fatigue

243

Based on the above factors, we next provide recommendations to help researchers limit research fatigue in post-disaster studies.

245

1. **Increase transparency.** Researchers should ensure that the potential benefits of study participation are clearly emphasised in all communication, verbal or written, with potential participants and the organisations they work for. These might include direct benefits to individuals (such as directly improving their wellbeing), organisations (in terms of improving disaster-related policies and procedures), or wider society. Researchers should also always be transparent about their motivations; organisations and individuals are otherwise less likely to participate in studies, especially if they are concerned that responses will be misconstrued to fit a certain agenda (Crowley, 2013, Horn et al., 2011). Being upfront about study aims can ease participants’ potential fears by emphasising their ethical guidelines, reflexivity, and the importance of unbiased research.

255

2. **Sensitivity regarding past negative experiences.** Researchers should remain cognisant that disaster affected individuals, or organisations, may have previously had poor dealings with

256

257 researchers, or with journalists, the media or politicians who may have misrepresented their
258 communities, or the attitudes of individuals within those communities (Crowley, 2013). As
259 well as being transparent, it is important for researchers to acknowledge any past negative
260 experiences potential participants may have had and explain why the proposed research will
261 be different. Researchers should be very careful to only promise to deliver what they can
262 deliver. For instance, they should not promise that someone will be able to access timely and
263 effective care if they answer a survey in a particular way if the research team cannot arrange
264 that.

265 3. **Sharing results.** Researchers can help build trust by involving participants in different stages
266 of the research cycle (Involve, 2020a). At the very least, researchers should ensure that
267 participants are kept informed about any publications or reports that arise, for example by
268 maintaining a study website, updated at various stages of the project, for participants to look
269 at as researchers studying the recent Zika virus outbreak have committed to do (Jorge and
270 Albagli, 2020, Kmietowicz, 2016). Researchers may consider dissemination meetings at the
271 end of the study where findings can be presented and recommendations discussed.
272 Participants may even be given opportunities to help with revisions to manuscripts or the
273 development of subsequent research or interventions. This can be part of ensuring public
274 involvement in disaster research, whereby research is carried out ‘with’ or ‘by’ those that are
275 affected rather than ‘to’, ‘about’ or ‘for’ them (Involve, 2020b).

276 4. **Plan studies ahead of time.** Carrying out ‘speedy research’ after disasters may be helped by
277 researchers planning studies ahead of time and having approved study protocols/measures in
278 place for different types of disasters. Planning ahead may help improve study quality since
279 potential difficulties can be mitigated against ahead of time. One example of this is the
280 programme of ‘sleeper studies’ commissioned by the National Institute for Health Research
281 (NIHR) in preparation for the next influenza pandemic (NIHR, 2016). These involve pre-
282 approved study protocols, ready to be activated in the event of a pandemic. Additionally,
283 these pre-approved study protocols lower the barrier of poorly designed research, which is

284 generally determined in a late-stage adjudication if the research is written for a peer-review
285 journal.

286 5. **Communication.** Finally, it is imperative that there is good communication between
287 researchers and their potential participants and between different research groups to reduce
288 the chance of multiple studies examining the same topic. This should avoid duplication,
289 increase synergy, and help to prevent the same individuals receiving multiple research
290 requests from different organisations. To facilitate this, some societies, journals and funding
291 boards have put together repositories and data sharing for post-disasters such as for Zika
292 outbreaks (BMC, 2020b, Jorge and Albagli, 2020, Kmietowicz, 2016, Lancet, 2020b) and
293 COVID-19 related research (BMC, 2020a, Glasziou et al., 2020, Lancet, 2020a, NIHR,
294 2020). Researchers should consult these repositories and also discuss new studies with those
295 who are likely to be aware of potential overlaps or synergies, such as professional
296 organisations, research funders, and government agencies.

297 **Future research**

298 Notwithstanding this review, it remains that the research community still does not fully understand
299 the precise consequences of research fatigue, although it is clear that they are negative. Future studies
300 should therefore aim to highlight better methodologies to reduce the likelihood of research fatigue
301 affecting study quality. Given the complexities inherent in recruiting participants to study research
302 fatigue, a compromise may be to incorporate this into post-disaster research. For example, qualitative
303 studies involving disaster-affected communities could consider asking all participants whether they
304 have been aware of other community members being annoyed or tired with research requests, and
305 asking for participants' suggestions for how the problem could be reduced. Research could also be
306 conducted with academics to explore their attitudes towards research fatigue and recommendations
307 for addressing this. Such research, considered alongside the factors and recommendations identified
308 herein, may represent the building blocks of a framework of post-disaster recruitment and research
309 coordination. Such a framework may help ensure that future studies can be proactive in reducing
310 research fatigue.

311

Conclusions

312 While the benefits of rapid publication of evidence during or after a disaster or emergency – such as
313 the current COVID-19 pandemic - cannot be disputed, researchers should remember that the speed
314 and quantity of research studies carried out may create research fatigue which could negatively impact
315 on both participation and research quality. This paper highlights the importance of transparency and
316 communication with both participants and other researchers, as well as demonstrating sensitivity
317 towards research participants, particularly given that many will have had traumatic experiences.
318 Research fatigue is rarely discussed in the literature but is particularly pertinent for researchers in
319 disaster preparedness and response. This review, which also draws on our own experience of disaster
320 research in the UK, aims to foster stronger research in disaster preparedness and response both during
321 the COVID-19 pandemic and beyond.

322

323

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Figure 1. Summary of factors contributing to research fatigue in post-disaster research

