



Research fatigue in COVID-19 pandemic and post-disaster research: causes, consequences and recommendations

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1 **Research fatigue in COVID-19 pandemic and post-disaster research:**

2 **Causes, consequences and recommendations**

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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

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

71 **What is research fatigue?**

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

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

89

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

97

98 Over-research is reportedly most prevalent in poorer communities and those with high proportions of
99 people from ethnic minority groups or who are otherwise marginalised (Sukarieh and Tannock, 2013).

100 Several groups, including refugees (Sukarieh and Tannock, 2013), individuals with HIV (Pagano-
101 Therrien, 2013) and individuals with a disability (Kitchin, 2000) have complained about being over-
102 researched. Even entire towns have been subject to over-research after becoming a ‘symbolic
103 location’ for researchers studying socially differentiated populations (Neal et al., 2015).

104

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

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

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

117

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

133

134

Factors affecting research fatigue

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

138 **Factors relating to individual research studies**

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

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

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

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

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

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

205 **Factors related to study coordination**

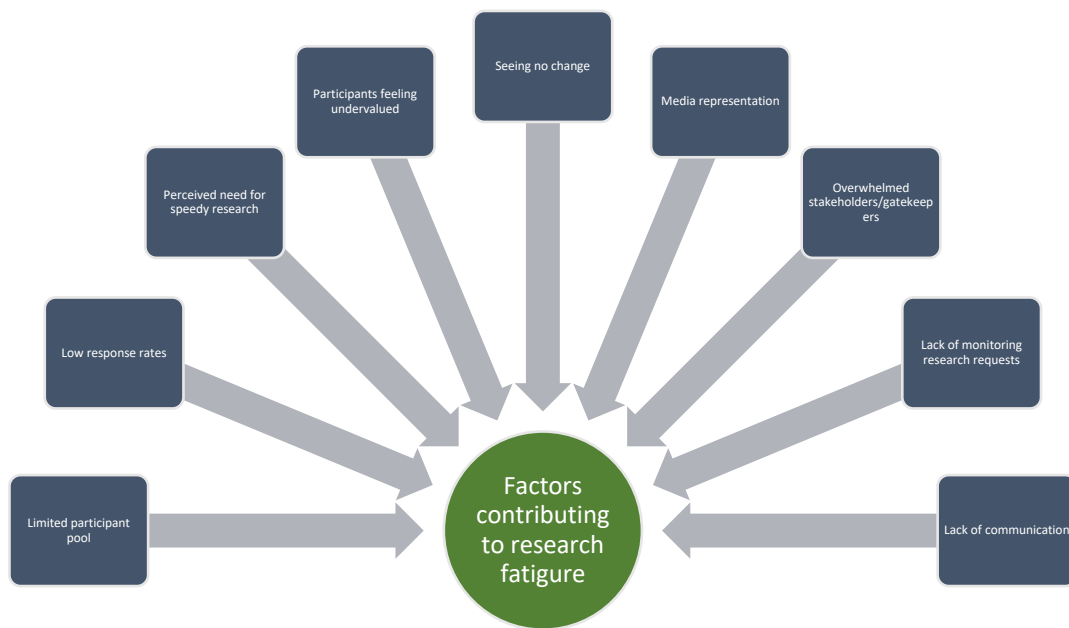
206 1. **Overwhelmed stakeholders / gatekeepers.** Following a disaster, a ‘gatekeeper’ (e.g., local
207 councils, human resources departments) is often available to facilitate researchers in
208 accessing those affected. Understandably, such organisations can find themselves
209 overwhelmed by the necessity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

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

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

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

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



238

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

240

241

Recommendations to limit research fatigue

242

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

243

244

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.

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

255

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

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

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

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

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

296 **Future research**

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

310

Conclusions

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

321

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