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"I had to leave. I had to leave my clinic, my city, leave everything behind in Syria"
Qualitative research of Syrian health care workers migrating from the war-torn country

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3 1 *I had to leave. I had to leave my clinic, my city, leave everything behind in Syria*

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5 2 Qualitative research of Syrian health care workers migrating from the war-torn country

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13 **ABSTRACT**

14 **Objectives** To explore the experiences of Syrian health care workers of violence since 2011 and
15 reasons behind migration from the conflict-affected country

16 **Design** A qualitative study using semi-structured interviews and inductive content analysis.
17 Interviews were conducted in Turkey and Europe in 2016 - 2017.

18 **Setting** Interviewees were Syrian health care workers who had been working in the country after the
19 conflict started in 2011, but at some point, migrated from Syria to Turkey or Europe.

20 **Participants** We studied data from 20 semi-structured in-depth interviews collected with a snowball
21 sampling method.

22 **Results** Our findings show that health care workers migrated from Syria only because of security
23 concerns. In most cases, the decision to leave was a result of the generalised violence by different
24 warring parties. Targeted attacks against health care was one of the main reasons for leaving. Some
25 participants had a specific notable trigger event before they left; such as a colleague being detained
26 or killed. Many just grew tired of living under constant threat and fear, with their families also at risk.

27 **Conclusions** This research adds to the body of literature on violence in Syria. It helps to understand
28 the reasons why health care workers, even though realising that it will leave their population without
29 proper health care provision, nevertheless decide to flee the country. Understanding the motives of
30 the health care workers will help to find new ways to protect them.

31 **Keywords:** Syria, ISIS, health care worker, conflict, violence, migration, reasons, qualitative

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33 STRENGTHS AND LIMITATIONS OF THIS STUDY

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- 35 • This qualitative semi-structured study gives a voice to Syrian health care workers. This
36 research gives them an opportunity to share their experiences of the conflict and the reasons
37 why health care workers migrate from Syria.
- 38 • Violence-related information is difficult to obtain. Victims are potentially traumatized and
39 unwilling to talk. The interviews were conducted with assistance of Syrian health care
40 professionals using snowball sampling method. These approaches provided us with unique
41 access to information.
- 42 • Through understanding the motivations of health care workers leaving their country,
43 productive interference in future conflicts may become possible. If the health care workers
44 can be better protected, the impact on local health care system and public health could
45 potentially be diminished.
- 46 • Although interviews consisted of a relatively small sample in numbers of interviews, the data
47 reached the saturation point.
- 48 • Most of the participant were residing in Turkey and were mainly limited to male physicians.
49 No participants working on the Government of Syrian were reached. Their insights would
50 most likely have been significantly different thus greatly adding to the totality of this study.

51

52

53 INTRODUCTION

54 Armed conflicts challenge normal health care provision. Health care workers (HCWs), one of the
55 most crucial factors of health care services, often migrate away from conflict-affected areas.[1–3] In
56 2019, at least 151 HCWs in 17 countries were killed and 502 injured.[4] Notably, attacks against
57 health care took place during the events known as the Arab Spring, a revolutionary wave of
58 demonstrations and protests starting in 2010 from Tunisia. Anti-government demonstrations
59 escalated into violence in several states around the Middle East. In Syria, the events turned into an
60 armed conflict that is still ongoing. Especially in Syria, Bahrain, Yemen and Iraq, the HCWs has been
61 targeted since the start of the Arab Spring.[5–7]

62 During the decade of war, hospital bombings have become a trademark in the Syrian conflict.
63 Violence against health care and thus denying the provision of health care to the population has been
64 used as a strategy of war[7] even though the International Humanitarian Law (IHL) stipulates that the
65 health care system is protected in time of war. The government must protect health care workers'
66 medical neutrality, which means freedom for the HCWs to take care of patients regardless of their
67 political affiliations[8]. From the beginning of the conflict, the Government of Syria (GoS) is reported
68 to punish HCWs for treating injured protestors[9,10] regardless of the IHL statute that *under no*
69 *circumstances shall any person be punished for carrying out medical activities compatible with*
70 *medical ethics, regardless of the person benefiting from them.*[11] In 2012 the GoS effectively
71 criminalised health care provision to people belonging to the opposition.[10,12]

72 At least 923 HCWs have been killed in Syria from 2011 through March 2020. All warring parties
73 have attacked health care; however, the GoS with Russia has been held responsible for 91 per cent of
74 deaths of HCWs. Non-state armed groups (NSAGs), Islamic State in Iraq and Syria (ISIS), Kurdish
75 or unidentified forces are responsible for 9 per cent. The primary cause of death (55%) is aerial or
76 ground bombardment. HCWs have also died when detained and tortured, or just executed.[4,13,14]
77 More than 70 % of qualified HCWs have left the country, in some areas, specific specialities are
78 totally absent.[15,16] Also, medical students have had to leave their basic and specialisation
79 studies.[17] The absence of professionals will add to the challenges of both current and future
80 treatment of the population.

81 HCWs, especially physicians, tend to migrate at the early stage of the conflict because they have
82 resources to leave.[18] The financial issues and training concerns predict HCWs migration. Also,
83 generalised insecurity, targeted violence and protecting family is a known reason to go.[19,20] In

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3 84 Iraq, a country that has experienced perpetual violence for decades, male physicians over 30 years of
4
5 85 age face a significantly increased risk of being kidnapped or assassinated. However, factors
6
7 86 demoralising the HCWs are complex, and the decision to leave is made based on a sum of reasons.
8
9 87 [1,21]

10 88
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12 89 Most analyses of violence against health care in Syria have focused on damage to health care
13
14 90 infrastructures, such as hospitals and ambulances.[22–24] Few studies have looked at HCWs
15
16 91 personal experiences in conflicts[15,25], and none of them examines the reasons for professionals
17
18 92 leaving Syria. Also, current reviews do not take into account how the violence by different warring
19
20 93 parties, such as arrests, detention and kidnappings, affect the decision to leave to protect their own
21
22 94 life and family members. Mainly missing is data on secondary trauma, such as witnessing killings of
23
24 95 civilians and colleagues, as well as how the constant fear of the conflict itself affects the outward
25
26 96 mobility of health care professionals.

27 97 Many studies focus on the staff departing less developed countries for economic reasons, or due to
28
29 98 inadequate quality health care.[21,26] Still, there is a relative lack of studies on healthcare-related
30
31 99 migration in conflict settings.

32 100 Doocy et al. [27] showed that fleeing from Iraq was associated with a violent event in 61 per cent of
33
34 101 cases. The physicians who left the country, a total of 75 per cent had experienced violence against
35
36 102 their household before the decision to leave. In another study by Al-Khalisi [28], 60 per cent of
37
38 103 participants had left Iraq for security reasons.

39 104 Violence in Iraq has differed from that in Syria with almost no airstrikes against health care facilities
40
41 105 there. On the contrary, Fouad et al. [7] have argued that the bombing of hospitals is part of the
42
43 106 weaponisation of health care, a strategy of war, by the Government of Syria (GoS).

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48 108 **METHODS**

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51 109 In this research, we studied HCWs who have migrated from Syria and reside abroad. We aimed to
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53 110 explore their experiences of the ongoing conflict. We wanted to understand the reasons for them to
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55 111 leave their home country after the conflict started in 2011.

57 112 **Study population**

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3 113 The qualitative study is based on semi-structured interviews ($n=20$) of Syrian HCWs who have left
4
5 114 the country since 2011. Interviews ($n=17$) were conducted in Gaziantep, a Turkish municipality
6
7 115 adjacent to the Syrian border where participants resided at the time of interviews in June – July 2016
8
9 116 and early 2017. Additional interviews ($n=3$) were conducted in Europe from late 2016 to early 2017.
10 117 Altogether, participants consisted of 18 males and two females.
11

12
13 118 The age of participants ranged from 26 to 47 years. Mean age was 36 years. Most of the participants
14
15 119 were born in Aleppo governorate ($n = 12$). The other participants represented a variety of other Syrian
16
17 120 provinces. Most of the participants were married and had at least one child.
18

19 121 Majority of interviewed ($n = 14$) were physicians with post-graduate speciality $n = 9$, surgery and
20
21 122 paediatrics were most typical). Also, other health care professionals, such as nurse (1), pharmacists
22
23 123 (3) health service manager (1) and dentist (1) were interviewed. All interviewed had worked in Syria
24
25 124 during the conflict at some point. The working experience varied from almost none to over 20 years.
26

27 125 One of the participants was a medical student, and few general practitioners were residents in
28
29 126 speciality training. They all had to suspend their studies because of the violence and leaving Syria.
30

31 32 127 **Study design and sampling**

33
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35 128 The participants were identified using a snowball sampling method (SSM), and they had to represent
36
37 129 the category of health care workers in the International Labor Organization's International Standards
38
39 130 Classification of The Occupations (ISCO-08).[29] SSM was chosen to increase trust in the research
40
41 131 that could be very sensitive. [30] The first participant of the chain was contacted via email. He was
42
43 132 a Syrian health care professional living in Turkey, Gaziantep. One female (AK) and two male (MH,
44
45 133 OA) researchers conducted the interviews in English or Arabic. The participants selected a suitable
46
47 134 place for the interviews and only the researchers and the participant were present at the time. The
48
49 135 participants were explained the aim and goals of the study. They named another 1-3 candidates that
50
51 136 might be interested to participate the research. Volunteers among them contacted our research team.
52

53 137
54 138 The duration of the interviews varied from 45 minutes to nearly 90 minutes. Each interview was
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56 139 terminated, when further inquiry provided no significant new themes.
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58 140 **Measurement and analysis**

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141 A semi-structured interview guided the discussion with the participants. The study was focused on
142 HCWs experiences of violence in Syria and reasons for migration from the country after 2011. The
143 violence was defined in the study as "*the intentional use of physical force or power, threatened or*
144 *actual, against oneself, another person, or against a group or community, that either results in or*
145 *has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or*
146 *deprivation.*[31] We focused in this study health care workers' experiences of violence. The attacks
147 against health care were understood here as *an attack on health care as any act of verbal or physical*
148 *violence or obstruction or threat of violence that interferes with the availability, access and delivery*
149 *of curative and/or preventive health services during emergencies.*[32]

151 After the interviews were transcribed verbatim and triangulated with hand-written notes, the
152 transcripts were read through. Using inductive content data analysis, answers were coded (AK and
153 OA) into categories using the Excel program. The categories based on experiences which indicated
154 motivational factors for leaving the country. These factors were sought both from the direct answers
155 to structured questions, but also from all of the free form replies. These were then classified into
156 thematically unified sub-groups, no previously set system for such division was used, but the
157 classification emerged organically from the population of factors introduced by the interviewees.

159 The quotations were used to illustrate the themes and findings, but also to provide an authentic voice
160 to the participants.

161 **Ethical approval**

162 The interviews were recorded with permission of the participants, and consent was obtained verbally.
163 Anonymity and confidentiality were bestowed. Participants were informed about the aim and
164 purpose of the research and background of the researchers. Participants had an opportunity to ask
165 questions concerning the research. They were noticed that they are allowed to interrupt or abandon
166 the interview if wanted.

167 An ethical permit for the study was applied for and obtained from the University of Eastern Finland
168 Committee on Research Ethics. The principles in the Declaration of Helsinki were observed in all
169 stages of the study.

170 **Patient and public involvement**

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3 171 No patients or members of the general public were involved in the conduct of this research.
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8 173 **RESULTS**
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11 174 Reasons for leaving Syria were all related to violence that started after the demonstrations against the
12 regime in 2011. The HCWs suffered either from general strain under the violent environment, be
13 175 targeted by several specific violations or both. All participants expressed that their profession was the
14 176 reason for targeting. The relative impact of these different forms of insults is further discussed in the
15 177 conclusions part of the study.
16 178

17 179 The participants have gradually migrated during the conflict. Some left early when the violence
18 180 started in 2011- 2012, some later as the war escalated. While some moved to opposition controlled
19 181 Eastern Aleppo, some moved directly to Turkey. Then many of those who remained initially in
20 182 Eastern Aleppo followed. Some migrated to Lebanon due for geographical reasons. Once outside
21 183 Syria, some HCWs continued to Europe to seek asylum.
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31 184 **Generalised violence**
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33 185 When demonstrations escalated, and violence spread after 2011, the participants considered this as
34 186 one of the turning points in their life. They described their experiences and feelings widely about
35 187 what they had witnessed. They had seen atrocities against civilians, including their family and friends.
36 188 People had been arbitrarily arrested and disappeared.
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41 189 *My friends were arrested in front of me. They were beaten, tortured in the streets. I saw these*
42 190 *incidents. Everyone in Syria saw this. [The GoS was] killing people and shooting. Using tear gas,*
43 191 *live bullets. (general practitioner, male)*
44

45 192 Before the territorial division between different warring factions, especially parting of NSAGs-
46 193 controlled Eastern and GoS controlled Western side of Aleppo, had properly formed, the participants
47 194 had regularly commuted through GoS checkpoints. The atmosphere had become oppressive. Constant
48 195 check-ups, arbitrary decisions, such as detaining, by the GoS and increasing threat of violence caused
49 196 widespread psychological stress among the participants.
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53 197 *This fear of daily violence caused stress and anxious feelings. I could not sleep. I was very afraid. I*
54 198 *decided to stop working. The reason for this was that I was stopped and bullied at the military*
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3 199 *checkpoint. I was asked ID card. All kinds of questions: "what you are doing in this city that is not*
4 *your hometown and where does your family live". They just wanted to bully me. Fear of being*
5 200 *detained was the reason I left Syria. (pharmacists, female)*
6
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9 202 A participant told that the situation became impossible for GoS to control. This resulting power
10 vacuum gave NSAGs room to operate. Some participants expressed their mistrust of these
11 203 organisations and couldn't expect any help from the dwindling GoS force.
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15 205 As the conflict evolved, participants witnessed barrel bombs, chemical attacks and airstrikes against
16 civilians. They were not spared from these attacks.
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19
20 207 *I saw more than fifteen burnt Kurds, not far from the health care [centre]. Russian airstrike. Their*
21 *relatives came. They didn't [recognised them] because the bodies were burned. Disgusting.*
22 208
23 209 (speciality doctor, male)

24

25
26 210 Other warring parties, mostly ISIS and NSAGs, conducted violence against civilians according to
27 participants. While GoS was considered the main perpetrator, ISIS and other NSAGs, such as Free
28 211 Syrian Army (FSA) and Jabhat al-Nusra threatened, mistreated, abducted and killed people.
29 212

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32 213 *FSA took one nurse, tortured him for five hours. Then he died. Just because his name was the same*
33 *as some else's. (speciality doctor, male)*
34 214

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36
37 215 ISIS-inspired both fear and animosity against its ideology and values in the participants. The
38 participant told unnerving anecdotes of the organisation that were circulating and creating an
39 216 oppressive atmosphere of insecurity. Participants described their friends had severe problems with
40 217 the organisation. Some of the participants decided to go to Turkey when they noticed ISIS advancing
41 toward the city of Kobane, Aleppo governorate in northern east Syria. They believed fleeing from the
42 218 organisation was their only option.
43 219
44 220

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47
48 221 *One of my friends was kidnapped. The siege became more intensive. I knew that something is going*
49 *to happen. When Kobane was besieged [by ISIS], I left for Turkey. I had to. (nurse, male)*
50 222

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52 223 Some interviewees didn't indicate a single reason for them leaving, but instead said they succumbed
53 under the constant stress, fear and harassment because of the escalating situation.
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57 225 **Violence related to personal issues**

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226 While participants were concerned about the generalised violence, their own and their families' safety
227 played an important role when they decided to leave Syria. When violence spread, many participants
228 wanted to take their families into Turkey before fighting would reach their homes. Many noted that
229 they wanted to keep their children safe, and in Syria, it was impossible.

230 *I cannot live with my children under these circumstances. I saw what happened in Homs. I saw what*
231 *happened in Deraa...using guns and aeroplanes... I felt this will happen in my area. This happened*
232 *for 2-3 days [after leaving] my home. (health service manager, male)*

233 If a family member was arrested, all were investigated. Any suspected anti-government views or
234 actions could lead to family-wide punishments, according to participants.

235 *After the second time detention [by GoS] my family said: "Leave the country now". I left. My family*
236 *was afraid that I will go to jail again. Four days after I had left, they took my brother and told him*
237 *"Tell your brother that if we catch him"...* (speciality doctor, male)

238 In many cases, the interviewed man was the breadwinner of the family. They were concerned about
239 the financial well-being of their family, should they die. One participant mentioned that without a
240 wife and children, he would most likely live and work in Syria.

241 *Family is depended on me. Their existence is depending on me and my surviving. I don't want to*
242 *cause them danger or die as a martyr, and they lost me. It would be my family that would pay the*
243 *high price. (speciality doctor, male)*

244 Some male participants expressed the fear of being conscripted in the Syrian forces. Many
245 participants had witnessed atrocities performed by the GoS, and some had even been detained and
246 tortured. They wanted to avoid becoming part of the military forces, and the only option was to leave.

247 *We had to go. I knew that they [the GoS] were after me. I had to leave my studies and leave. I should*
248 *have gone to the army. That's why the regime was after me. (speciality doctor, male)*

249 Becoming remarked by ISIS for expressing opposing sentiments or antagonising them in any way
250 was highly dangerous. Those who had fallen in their disfavour had little option. They had to leave
251 because of being arrested or even executed.

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3 252 *We were talking about ISIS; that they are not from Syria and we are not accepting their presence*
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5 253 *here etc. Later my friends told me that ISIS is observing my home. I moved to another area. After this*
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7 254 *incidence, one of them [friends] was arrested by ISIS. (specialist doctor, male)*

8

9 255 Although the participants were not explicitly asked for their ethnic background because of the
10
11 256 sensitivity, several them brought up their Kurdish roots, the minority in Syria. These Kurdish
12
13 257 participants felt that the conflict had caused them to become targeted explicitly by radical Sunni
14
15 258 Muslim NSAGs because of their background.

16

17 259 **Violence related to being a health care worker**

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19

20 260 Most of the participants had personally experienced violence that they considered to be connected
21
22 261 with their profession. All thought that their profession made them as a target. Participants described
23
24 262 their experiences widely since 2011. The violence included verbal assaults, beatings, detaining and
25
26 263 torturing. They had been shot at or been in an ambulance when assaulted. Some described the situation
27
28 264 when they had been in a health care facility in the time of the aerial bombardments by GoS, and later
29
30 265 by Russia.

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31

32 266 *This [name retracted] hospital was targeted by a Russian airstrike. One of my friends died in this*
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34 267 *airstrike, the doctor [name retracted]. I'm very sad about him. (speciality doctor, male)*

35

36 268 All participants described the violence that their colleagues had experienced, and those were similar
37
38 269 to their own. Some colleagues and co-workers were arrested, had gone missing and never seen later,
39
40 270 some found dead with marks with severe abuse. Participants had also lost their colleagues in
41
42 271 airstrikes.

42

43

44 272 *I have seen colleagues killed in front of my eyes. In [place retracted] was a doctor, and she was taken.*
45
46 273 *They [the unknown perpetrator] took her. Later she was found raped and dead. (speciality doctor,*
47
48 274 *male)*

48

49

50 275 Participants saw and experienced their colleagues being humiliated and occasionally arrested in the
51
52 276 hospitals, sometimes in the middle of medical operations.

53

54

55 277 *[Name retracted] was like a brother. He got arrested in a real, humiliating way. He was changing*
56
57 278 *the bandages to the patient. They [GoS] took him from the room. [They] covered his face in front of*
58
59 279 *the staff of the hospital. They didn't let anyone talk to him or ask where [GoS] were taking him.*
60
60 280 *(speciality doctor, male)*

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2
3 281 Some participants made their decision to leave once their colleagues had been arrested, gone missing
4
5 282 or found dead. The fear of being caught by the GoS was a significant reason to escape. Many were
6
7 283 afraid about their captured colleagues giving up their name under torture. However, a
8
9 284 relationship marked by solidarity existed among the professionals.

10
11 285 *One of my colleagues was arrested. Under a lot of pressure, they have their methods that you talk.*
12
13 286 *He mentioned my name. I had to pay to get out of Syria and out of Aleppo. I left everything behind.*
14
15 287 (general practitioner, male)

16
17 288 Also, as a HCW, participants were concerned the roadblocks. This was considered stressful when
18
19 289 travelling for work. Participants described the incidences on the checkpoints. Sometimes they were
20
21 290 stopped for more extended periods and inspections, sometimes detained. They considered that this
22
23 291 was due to their profession.

24 292
25
26 293 *At the [GoS] checkpoints, many doctors were arrested. One orthopaedic and his wife. This doctor*
27
28 294 *had no problems [with GoS], and he had done nothing. He was taken from the roadblock. He was in*
29
30 295 *prison for five months. His wife had to pay 800 000 Syrian pounds to get him away. This was in 2013.*
31 296 (general practitioner, male)

32
33
34 297 Hospitals became threatening due to constant military and GoS presence. Armed soldiers were
35
36 298 experienced as intimidating and reduced the willingness of HCWs to show up at work. One of the
37 299 interviewees described having seen sharpshooters on hospital roofs aiming at people and even
38
39 300 shooting them.

40
41
42 301 *In the hospital where worked, the situation changed. It started to look like a military base. The*
43
44 302 *soldiers were going in and out with their weapons. Most of the doctors and other health care workers*
45 303 *did not come to work because they were afraid of the soldiers with guns. They could cause you*
46
47 304 *troubles for no reason.* (speciality doctor, male)

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49
50 305 In many cases, when the governmental forces arrived to investigate the hospital, HCWs warned their
51
52 306 colleagues in danger of being arrested. The warning allowed them to avoid being captured. This was
53 307 very dangerous, and in several cases, the interviewees reported GoS had arrested their colleagues.

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55
56 308 *I heard that my name was asked in the hospital I am working. I felt that I was in danger. I fled out of*
57
58 309 *the country. When someone is asking about you in Syria, that is the mukhabarat [security service].*
59 310 *My friend was arrested in front of the hospital. One week before his arrest, they start to ask about*
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311 *him. One nurse in the hospital called me and [said] "There is someone from the military department*
312 *and asked about you". (general practitioner, male)*

313 The opposite was also true. A fraction of the workers sided with the GoS according to participants.
314 They could spy on their colleagues, record their conversations and then turn them in. Due to strict
315 internal monitoring anti-government discussions, even in private settings, could be carried to
316 government officials.

317 *They [security forces] opened the phone, and there were conversations between doctors. Some doctor*
318 *or nurse have recorded conversations and then give them to the security service. We were arrested*
319 *for 24- 28 hours. (speciality doctor, male)*

320 While many left Syria under indirect threat, some of the professionals were persuaded to abandon
321 their country only after having been personally threatened or imprisoned – some for extended periods.

322 *After [released from the prison after six months], another intelligence department [officer] came to*
323 *my house. They were looking for me. They were asking for my house - again. I left Aleppo to*
324 *Turkey. (speciality doctor, male)*

325 A few years after the beginning of the conflict, other warring parties started causing problems for
326 HCWs. ISIS was considered the most significant threat among the GoS.

327 *ISIS arrested me. It was scary. In 2014 in Tel Abyad. For seven hours, then they let me leave. This*
328 *was the main reason I decided to leave Syria. After being interrogated by ISIS, I decided that even I*
329 *have studied for 12 years, I am not ready for this getting 1000 to 2000 USD per month [salary].*
330 *Those seven hours they interrogated me was a changing moment in my life. It was the first time when*
331 *something like that happened to me. Those seven hours felt like seven years... (speciality doctor,*
332 *male)*

333 HCWs are more likely to encounter events and victims of mistreatment due to the very nature of their
334 profession. They witnessed the abuse of civilians while practising their profession. The interviewees
335 describe having seen people subjected to violence and taken by GoS. Many of those persons
336 imprisoned had been tortured before they were brought to hospitals.

337 *We have seven patients taken by intelligence. We were receiving patients from the intelligence, after*
338 *torturing in prison to cure them. Sometimes they bring dead bodies and throw them in front of us.*
339 *Sometimes they took patients from the hospitals. Somebody who went to protest was shot or stabbed*

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3 340 *by Shabbiha [pro-government militia]. He [patient] came with his family or ambulance or by himself*
4
5 341 *to the hospital to take treatment. They knew [GoS] that he was there, and they would come. Even*
6
7 342 *before treating him. Or while treating him. I know many cases. (speciality doctor, male)*
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12 344 **DISCUSSION**
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15 345 To our knowledge, this is the first research to examine the reasons why Syrian health care workers
16
17 346 migrate from the conflict-affected country. This qualitative study presents the perspectives of the 20
18
19 347 Syrian HCWs who left the country at some point of the conflict. All participants left Syria because
20
21 348 of security reasons. HCWs considered their profession as the reason for getting targeted. They
22 349 migrated because of this, but also due to other personal issues and for the generalised violence.
23

24 350 While among the warring parties ISIS and NSAGs were mostly responsible for generalised violence
25
26 351 and sometimes acted against the participants for personal reasons, the GoS seemed to target HCWs
27
28 352 specifically because of their profession. This is in accordance with multiple reports and
29
30 353 studies.[7,14,22,23,25] Many HCWs had to weigh the lack of prospects and accumulating stress
31 354 against the equally intimidating challenge of actually trying to leave the country. While some
32
33 355 participants had a specific notable trigger event, such as a colleague being detained or killed, many
34
35 356 just grew tired of trying to manage under the constant threat and fear.
36

37 357 Financial issues and concerns regarding training were mentioned as reasons for leaving.[19] In this
38
39 358 study, however, we found no HCWs indicating either factor as the primary cause for leaving. Doocy
40
41 359 et al.[27] state that the choice to go is practically always a sum of many different factors. Our study
42 360 suggested that all reasons were related to security issues. It appears the ever-present violence and
43
44 361 complexity of the war in Syria supersedes all other concerns.
45

46 362 The average participant attending this study was a 36-year old male with a family and a medical
47
48 363 doctor with a speciality. This profile is in accordance with other studies[20,21,27] that have shown
49
50 364 male gender and similar age structure to associate with the risk of targeted violence and migration,
51
52 365 and on the other hand, the will of protecting the family as an important reason to leave. As one of our
53 366 participants said, he would be working in Syria if he did not have a family. When experienced HCWs
54
55 367 leave the country, the remaining personnel are left without sufficient professional expertise as has
56
57 368 happened in Iraq.[1] This reduces the quality of health care services and adds to the workload of those
58 369 staying.[15,25]
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3 370 The emotional distress of violence on HCWs is enormous. Participants have lost colleagues, friends
4
5 371 and family members. In addition to their experienced traumas, they are most likely to have secondary
6
7 372 traumas through witnessing atrocities against civilians while working as HCWs near the front-line of
8
9 373 war. Despite this, some of our participants were visiting monthly in Syria as a humanitarian worker.
10 374 The motivations for this should be studied more closely because it might help find solutions on how
11
12 375 to get senior HCWs back permanently to Syria now, as the violence starts to show signs of decreasing.
13
14 376 The availability of health care personnel is one of the central issues of rebuilding civil society.
15 377 However, finding qualified HCWs is challenging when the majority of them have left the country.[15]
16
17 378 Also, medical students had to leave their undergraduate studies and postgraduation specialisation
18
19 379 training as they fled the violence.[17] These amount to a significant loss of human capital for the
20
21 380 Syrian health care system. Restoring both current and future provision of services to an acceptable
22 381 level will be extremely demanding.
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25 382 **Strengths and limitations**

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28 383 The present research is subjected to several limitations. Firstly, while we reached participants from
29
30 384 several different Syrian governorates (Homs, Daraa, Deir Ez-Zour, Raqqa, Hama, Rif Damascus),
31
32 385 most of were originally from Aleppo. On the other hand, they had worked in different locations and
33 386 had experienced violence in areas under all warring parties. More studies should be obtained from all
34
35 387 these areas, especially from those that had been controlled by ISIS. Many interviewees considered
36
37 388 ISIS as one of the main factors for leaving. Secondly, the snowball sampling method is conducive to
38 389 selection bias.[30] We used three different parallel SSM networks to reduce this. Thirdly, the
39
40 390 perspectives of female HCWs are partly missing. Future research should concentrate not only on
41
42 391 gender-based violence but also on the experiences of female HCWs and their reasons for leaving
43 392 Syria.
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46

47 394 Obtaining data in a conflict-setting, especially first-hand accounts of personal experiences, is
48
49 395 challenging. One of the authors is a Syrian HCW who has lived and worked mostly in NSAG and
50 396 Kurdish forces-controlled areas. His first-hand knowledge made this study carry more weights this
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52 397 study and gives us a better understanding of the situation in such areas of Syria which researchers
53
54 398 generally have not been able to visit due to the presence of severe security risks.
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60 400 **CONCLUSION**

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3 401 This research adds detailed information on how HCWs have experienced violence in conflict-torn
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5 402 Syria. This study gives a voice to Syrian health care workers who have witnessed horrors of conflict
6
7 403 with extensive destruction and subsequently had no alternative but to leave their homes and work to
8
9 404 protect themselves and their families. A better understanding of this type of forced migration is
10 405 needed to develop approaches to support HCWs psychologically and practically in a time of war.
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13 406 Our interviewees described such violence and attacks against health care that may constitute
14
15 407 violations against Geneva Conventions. Thus, these actions might be considered war crimes and
16
17 408 would then require perpetrators to be held accountable.
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26
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29

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31
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33
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45
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48

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50
51

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53
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55

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58 426 **Data sharing statement** Data can be obtained from the corresponding author.
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COREQ (CONsolidated criteria for REporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Topic	Item No.	Guide Questions/Description	Reported on Page No.
Domain 1: Research team and reflexivity			
<i>Personal characteristics</i>			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	
Occupation	3	What was their occupation at the time of the study?	
Gender	4	Was the researcher male or female?	
Experience and training	5	What experience or training did the researcher have?	
<i>Relationship with participants</i>			
Relationship established	6	Was a relationship established prior to study commencement?	
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	
Interviewer characteristics	8	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	
Domain 2: Study design			
<i>Theoretical framework</i>			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	
<i>Participant selection</i>			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	
Sample size	12	How many participants were in the study?	
Non-participation	13	How many people refused to participate or dropped out? Reasons?	
<i>Setting</i>			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	
<i>Data collection</i>			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	
Repeat interviews	18	Were repeat interviews carried out? If yes, how many?	
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	
Field notes	20	Were field notes made during and/or after the interview or focus group?	
Duration	21	What was the duration of the interviews or focus group?	
Data saturation	22	Was data saturation discussed?	
Transcripts returned	23	Were transcripts returned to participants for comment and/or	

Topic	Item No.	Guide Questions/Description	Reported on Page No.
		correction?	
Domain 3: analysis and findings			
<i>Data analysis</i>			
Number of data coders	24	How many data coders coded the data?	
Description of the coding tree	25	Did authors provide a description of the coding tree?	
Derivation of themes	26	Were themes identified in advance or derived from the data?	
Software	27	What software, if applicable, was used to manage the data?	
Participant checking	28	Did participants provide feedback on the findings?	
<i>Reporting</i>			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	
Data and findings consistent	30	Was there consistency between the data presented and the findings?	
Clarity of major themes	31	Were major themes clearly presented in the findings?	
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

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BMJ Open

I had to leave. I had to leave my clinic, my city, leave everything behind in Syria
Qualitative research of Syrian healthcare workers migrating from the war-torn country

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Qualitative research of Syrian healthcare workers migrating from the war-torn country

ABSTRACT

Objectives: To explore the reasons why healthcare workers migrate from Syria, a country where conflict has been raging for over a decade.

Design: A qualitative study was performed using semi-structured interviews. Semi-structured questions guided in-depth interviews. Content analysis was used.

Setting: Participants were Syrian healthcare workers who had worked in the country after the conflict started in 2011, but at some point, left Syria and settled abroad. The interviews took place in Turkey and in Europe in 2016 and 2017.

Participants: We collected data from 20 participants (18 males and 2 females) through snowball sampling method.

Results: Healthcare workers migrated from Syria only because of security reasons. In most cases, the decision to leave resulted from the generalised violence against civilians by different warring parties, mainly the Government of Syria and the Islamic State. Intentional attacks against healthcare workers were also one of the main reasons for leaving. Some participants had a specific notable trigger event before leaving, such as colleagues being detained or killed. Many participants simply grew tired of living under constant fear, with their families also at risk.

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3 57 **Conclusions:** This research adds to the body of literature on violence against healthcare workers in
4
5 58 Syria. It helps to understand the reasons why healthcare workers leave the country. The study also
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7 59 indicates that the international community has failed to protect Syrian healthcare workers. The
8
9 60 intensity of the conflict has left many healthcare workers with no other option than to leave.
10 61 Understanding this migration will enable the discovery of new solutions for protecting healthcare
11
12 62 workers in current and future conflicts.
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14 63 **Keywords:** Syria, healthcare worker, conflict, violence, migration, ISIS, qualitative, snowball
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16 64 method
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3 66 **STRENGTHS AND LIMITATIONS OF THIS STUDY**
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- 6 67 • This qualitative, semi-structured interview study, employing snowball sampling method,
7 explored the reasons behind high numbers of Syrian healthcare workers' migration.
8 68
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10 69 • Previous empirical research, especially qualitative explorations of the migration of Syrian
11 healthcare workers is almost non-existent.
12 70
13 71 • A multi-disciplinary research team conducted the interviews, including experienced local
14 front-line healthcare workers, allowing unique access to sensitive information.
15 72
16 73 • Although the interviews were conducted with a relatively small sample of participants, the
17 saturation point for the data was reached.
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20 75 • Most of the participants were male physicians with a speciality, were born in Aleppo
21 governorate, and resided in Turkey during the study.
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Peer review only

78 INTRODUCTION

79 Armed conflicts challenge normal healthcare provision. Healthcare workers (HCWs), one of the most
80 crucial factors of healthcare services, often migrate away from conflict-affected areas.[1–3] In 2020,
81 at least 162 HCWs in 20 countries were killed and 152 injured.[4] Notably, attacks against HCWs
82 took place during the events known as the Arab Spring, a revolutionary wave of demonstrations and
83 protests starting in 2010 from Tunisia. Anti-government demonstrations escalated into violence in
84 several states around the Middle East. In Syria, the events turned into an armed conflict that is still
85 ongoing. Especially in Syria, Bahrain, Yemen, and Iraq, HCWs have been targeted since the Arab
86 Spring.[5–7]

87 During the decade of war, hospital bombings have become a trademark in the Syrian conflict.
88 Violence against HCWs and thus the denial of healthcare services to the population has been used as
89 a war strategy [7] even though the International Humanitarian Law (IHL) stipulates that the healthcare
90 system is protected in a time of war. The government must protect HCWs' medical neutrality, which
91 means freedom for the HCWs to take care of patients regardless of their political affiliations [8]. From
92 the beginning of the conflict, the Government of Syria (GoS) is reported to have punished HCWs for
93 treating injured protestors [9,10] regardless of the IHL statute that *under no circumstances shall any*
94 *person be punished for carrying out medical activities compatible with medical ethics, regardless of*
95 *the person benefiting from them.*[11] In 2012, the GoS effectively criminalised healthcare provision
96 to people belonging to the opposition.[10,12]

97 At least 930 HCWs have been killed in Syria from 2011 through March 2021. All warring parties
98 have attacked HCWs; however, the GoS with Russia, has been held responsible for these 91%. Non-
99 state armed groups (NSAGs), Islamic State in Iraq and Syria (ISIS), and Kurdish or unidentified
100 forces are responsible for 9%. The primary cause of death (55%) is aerial or ground bombardment.
101 HCWs have also died when detained and tortured or just executed.[13–16] More than 70% of
102 qualified HCWs have left the country. In some areas, specific specialities are absent.[17,18] Further,
103 medical students have had to leave their basic and specialisation studies.[19] The absence of
104 professionals will add to the challenges of both current and future treatment of the population.

105 HCWs, especially physicians, tend to migrate at the early stage of the conflict because they have the
106 resources to leave.[20] The financial issues, desire for further education, and a better lifestyle are
107 some key reasons for migration.[21] Further, generalised insecurity, targeted violence, and the desire
108 to protect ones family are also known reasons.[22,23] In Iraq, a country that has experienced perpetual

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3 109 violence for decades, male physicians over 30 years of age face a significantly increased risk of being
4 kidnapped or assassinated.[1,24]

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8 112 In the study by Doocy et al. [25], leaving Iraq were associated with a violent event for nearly 61%
9 HCWs. Of the physicians who left the country, 75% had experienced violence against their household
10 113 members before reaching the decision to leave. In another study by Al-Khalisi [26], 60% of
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12 114 participants had left Iraq for security reasons. However, factors demoralising the HCWs are complex,
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14 115 and the decision to leave is made based on a multiple reasons. [1,27]

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19 118 Although research on violence against HCWs has increased in recent years, the number of studies is
20
21 119 still limited. Violence in Iraq has been studied somewhat more extensively than that of other conflict-
22 120 afflicted countries. However, the violence against HCWs in Iraq differs from that in Syria, with
23
24 121 almost no airstrikes against healthcare facilities. In Syria, Fouad et al. [7] have argued that the
25
26 122 bombing of hospitals is part of the weaponisation of healthcare, a strategy of war, by the Government
27 123 of Syria (GoS).

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30 124 Most analyses of violence against the healthcare system in Syria have focused on damage to
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32 125 healthcare infrastructures, such as hospitals and ambulances.[28–30] Few studies have explored
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34 126 HCWs' personal experiences through the conflicts[17,31], and none of them examine the reasons for
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36 127 professionals leaving Syria. Furthermore, existing reviews do not consider how violence by different
37 128 warring parties, such as arrests, detention, and kidnappings, affects the decision to leave. There is
38
39 129 significant missing data on secondary trauma, such as witnessing killings of civilians and colleagues
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41 130 and how the constant fear of the conflict itself affects the outward mobility of healthcare
42 131 professionals.

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45 132 Initially we aimed to study HCWs' experiences of violence in the ongoing conflict. From that data, a
46
47 133 repeating pattern behind migration emerged organically. Consequently, this study focuses on the
48
49 134 reasons why HCWs leave Syria. Such loss of resources in a crisis setting is detrimental to the
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51 135 functioning of healthcare and public health. Understanding this behaviour is highly beneficial in order
52 136 to limit its effects.

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55 137 **METHODS**

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58 138 **Study design and sampling**

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3 139 The participants were identified using a snowball sampling method (SSM). They had to represent
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5 140 the category of HCWs according to the International Labour Organization's International Standards
6
7 141 Classification of The Occupations (ISCO-08).[32] SSM was chosen to increase trust in the research,
8
9 142 given the sensitivity of the topic. [33] The first participant in the chain was a Syrian healthcare
10 143 professional living in Gaziantep, Turkey. He had contacted the University of Eastern Finland earlier
11
12 144 and was asked to participate (as he was well suited for this study). One female (AK) and two male
13
14 145 (MH, OA) researchers conducted the interviews in English or Arabic. The participants selected a
15 146 suitable place for the interviews, and only the researchers and the participants were present at the
16
17 147 time. Participants were informed of the researchers' previous researches and backgrounds. They
18
19 148 were also given a written handout with relevant study description and contact information. They
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21 149 were given information about the aim and goals of the study. In practice, the interviews started with
22 150 background questions and then moved onto the semi-structured main part. After the interview was
23
24 151 concluded, the participants were asked to name a few other potential candidates interested in
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26 152 participating in the research. Volunteers among them contacted our research team.

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29 153 The duration of the interviews varied from 45 minutes to 90 minutes. We terminated interviews when
30 154 further inquiry provided no significant new themes.

33 155 **Measurement and analysis**

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36 156 A semi-structured in-depth interview guided the discussion with the participants. The study was
37
38 157 focused on HCWs' reasons for migration from the country after 2011. This approach was based on
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40 158 a constant dialogue between the researcher and the interviewee. While there was a common base list
41 159 of structured questions to guide the general direction of the interview, open-ended elaboration was
42
43 160 encouraged. Additional personalised questions were asked *ad hoc* to explore any further relevant
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45 161 themes each interviewee knew and was willing to talk about. Such flexible technique enabled the
46 162 interviewer to explore the values and feelings of the participants more thoroughly than any strictly
47
48 163 structured interview format would allow. [34]

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51 165 We defined violence as "*the intentional use of physical force or power, threatened or actual, against*
52 166 *oneself, another person, or against a group or community, that either results in or has a high*
53 167 *likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation*".[35].
54
55 167 The attacks against HCWs were understood here as *any act of verbal or physical violence or*
56 168 *obstruction or threat of violence that interferes with the availability, access, and delivery of curative*
57 169 *and/or preventive health services during emergencies*.[36]

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5 172 After the interviews were transcribed verbatim and triangulated with hand-written notes, the
6 173 transcripts were examined. In order to identify the relevant themes, we used inductive content data
7 174 analysis. The most significant repeating theme in the overall data turned out to be an emphasis on
8 175 migration i.e. the reasons why the HCWs left the country. Answers were coded into categories using
9 176 the Excel program. The classifications were based on experiences that indicated motivational factors
10 177 for leaving the country. These factors were sought both from the direct answers to structured
11 178 questions and from the free-form replies. These were then classified into thematically unified sub-
12 179 groups. No previously set system for such division was used, but the classification emerged
13 180 organically from the population of factors introduced by the interviewees.

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Quotations have been used to illustrate the themes and findings and provide an authentic voice to the participants.

Ethical approval

The interviews were recorded with the permission of the participants, and consent was obtained verbally. Anonymity and confidentiality were ensured. Participants had an opportunity to ask questions concerning the study. Participants were informed that that they could interrupt or abandon the interview if wanted.

An ethical permit for the study was applied for and obtained from the University of Eastern Finland Committee on Research Ethics. The principles in the Declaration of Helsinki were observed in all stages of the study.

Patient and public involvement

No patients or members of the general public were involved in the conduct of this research.

RESULTS

Study population

The qualitative study is based on semi-structured interviews ($n=20$) of Syrian HCWs who have left the country since 2011. Interviews ($n=17$) were conducted in Gaziantep, a Turkish municipality

Interviews	20
Gender	
male	18
female	2
Age range	from 26 to 47 y
Mean age	36 y

199 adjacent to the Syrian border where participants resided at the time of interviews in June 2016 – July
 200 2016 and early 2017. Additional interviews ($n=3$) were conducted in Europe from late 2016 to early
 201 2017. Altogether, participants consisted of 18 males and 2 females.

202 The age of participants ranged from 26 to 47 years. The mean age was 36 years. Most of the
 203 participants were born in the Aleppo governorate ($n=12$). The other participants represented a variety
 204 of other Syrian provinces. Most of the participants were married ($n=16$) and had at least one child
 205 ($n=14$). (Table 1)

206 The majority of people interviewed ($n=14$) were physicians with post-graduate speciality; surgery
 207 and paediatrics were most common ($n=9$). Other healthcare professionals, such as nurse (1),
 208 pharmacists (3), health service manager (1), and dentist (1), were also interviewed. All those
 209 interviewed had worked in Syria during the conflict at some point. The working experience varied
 210 from almost none to over 20 years.

211 One of the participants was a medical student and few general practitioners were residents in
 212 speciality training. They all had to suspend their studies because of the ongoing violence and leave
 213 Syria.

214 Table 1: Interviewees' demographic information

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	Place of birth (governorate)	
215	Aleppo	12
216	Deir Ez-Zour	2
217	Raqqa	2
218	Hama	1
	Homs	1
	Idlib	1
	Abroad	1
	Family status	
	married	16
	children	14
	Professions	
	physicians, total	14
	physician with speciality	9
	general practitioner	5
	pharmacist	3
	nurse	1
	dentist	1
	healthcare manager	1

219 reasons for leaving Syria were related to violence that started after the demonstrations against the
220 regime in 2011. The HCWs suffered either from general strain under the violent environment, or were
221 targeted by several specific violations or both. All participants expressed that their profession was the
222 reason for targeting. The relative impact of these different forms of insults is further discussed in the
223 study's conclusions.

224 The participants gradually migrated during the conflict. Some left early when the violence started in
225 2011–2012, while others left later as the war escalated. Some of them moved to opposition-controlled

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3 226 Eastern Aleppo, some other moved directly to Turkey. Many of those who initially remained in
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5 227 Eastern Aleppo followed. Some migrated to Lebanon due to geographical reasons. Once outside
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7 228 Syria, some HCWs continued to Europe to seek asylum.

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10 229 **Generalised violence**

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12 230 When demonstrations escalated and violence spread after 2011, the participants considered this as
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14 231 one of the turning points in their life. They described their experiences and feelings about what they
15
16 232 had witnessed. They had seen atrocities against civilians, including their family and friends. People
17
18 233 had been arbitrarily arrested and others randomly disappeared.

19

20 234 *My friends were arrested in front of me. They were beaten, tortured in the streets. I saw these*
21
22 235 *incidents. Everyone in Syria saw this. [The GoS was] killing people and shooting. Using tear gas,*
23
24 236 *live bullets. (general practitioner, male)*

25

26 237 Before the territorial division between different warring factions, especially the parting of NSAGs-
27
28 238 controlled Eastern and GoS controlled Western side of Aleppo, the participants had regularly
29
30 239 commuted through GoS checkpoints. They described that the atmosphere had become oppressive.
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32 240 Constant check-ups, arbitrary decisions, such as detainment by the GoS, and increased violence
33
34 241 caused widespread psychological stress among the participants.

35

36 242 *This fear of daily violence caused stress and anxious feelings. I could not sleep. I was very afraid. I*
37
38 243 *decided to stop working. The reason for this was that I was stopped and bullied at the military*
39
40 244 *checkpoint. I was asked ID card. All kinds of questions: "what you are doing in this city that is not*
41
42 245 *your hometown, and where does your family live". They just wanted to bully me. Fear of being*
43
44 246 *detained was the reason I left Syria. (pharmacists, female)*

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46 247 A participant said that the situation became impossible for GoS to control, and this resulting power
47
48 248 vacuum gave NSAGs room to operate. Some participants expressed their mistrust of these
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50 249 organisations and could not expect any help from the dwindling GoS force.

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52 250 As the conflict evolved, participants witnessed barrel bombs, chemical attacks, and airstrikes against
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54 251 civilians.

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56 252 *I saw more than fifteen burnt Kurds, not far from the health care [centre]. Russian airstrike. Their*
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58 253 *relatives came. They didn't [recognised them] because the bodies were burned. Disgusting.'*
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60 254 (speciality doctor, male)

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255 Other warring parties, mainly ISIS and NSAGs, conducted acts of violence against civilians,
256 according to participants. While GoS was considered the main perpetrator, ISIS and other NSAGs,
257 such as Free Syrian Army (FSA) and Jabhat al-Nusra, threatened, mistreated, abducted, and killed
258 people as participants described.

259 *FSA took one nurse, tortured him for five hours. Then he died. Just because his name was the same*
260 *as some else's. (speciality doctor, male)*

261 ISIS inspired both fear and animosity against its ideology and values in the participants. The
262 participants shared unnerving anecdotes of the organisation that were circulating and creating an
263 oppressive atmosphere of insecurity. Participants described their friends having severe problems with
264 the organisation. Some of the participants decided to go to Turkey when they noticed ISIS advancing
265 toward the city of Kobane, Aleppo governorate in northern east Syria. They believed fleeing from the
266 organisation was their only option.

267 *One of my friends was kidnapped. The siege became more intensive. I knew that something is going*
268 *to happen. When Kobane was besieged [by ISIS], I left for Turkey. I had to. (nurse, male)*

269 Some participants did not indicate a single reason for leaving but instead said they succumbed to the
270 constant stress, fear, and harassment because of the escalating situation.

271 **Violence related to personal issues**

272 While participants were concerned about the generalised violence, their own and their families' safety
273 played an important role in the decision to leave Syria. When violence spread, many participants
274 wanted to take their families to Turkey for safety. Many noted that they wanted to keep their children
275 safe, and in Syria, it was impossible.

276 *I cannot live with my children under these circumstances. I saw what happened in Homs. I saw what*
277 *happened in Deraa...using guns and aeroplanes... I felt this will happen in my area. This happened*
278 *for 2-3 days [after leaving] my home. (health service manager, male)*

279 Participants were told that if a family member was arrested, the entire family would be investigated,
280 and any suspected anti-government views or actions could lead to family-wide punishments.

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3 281 *After the second time detention [by GoS] my family said: "Leave the country now". I left. My family*
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5 282 *was afraid that I will go to jail again. Four days after I had left, they took my brother and told him,*
6
7 283 *"Tell your brother that if we catch him"... (speciality doctor, male)*
8

9 284 In many cases, the participant was the breadwinner of the family. Therefore, they were concerned
10
11 285 about the financial well-being of their family, should they die. One participant mentioned that he
12
13 286 would most likely live and work in Syria without a wife and children.

14
15 287 *My family is dependent on me. Their existence is depending on me and my survival. I don't want to*
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17 288 *cause them danger or die as a martyr, and they lost me. It would be my family that would pay the*
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19 289 *high price. (speciality doctor, male)*
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22 290 Some male participants expressed the fear of being conscripted in the Syrian forces. Many
23
24 291 participants had witnessed atrocities performed by the GoS, and some had even been detained and
25
26 292 tortured. They wanted to avoid becoming part of the military forces, and the only option was to leave.

27
28 293 *We had to go. I knew that they [the GoS] were after me. I had to leave my studies and leave. I should*
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30 294 *have gone to the army. That's why the regime was after me. (speciality doctor, male)*
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32 295 Becoming remarked by ISIS for expressing opposing sentiments or oppressing them in any way was
33
34 296 highly dangerous, as many participants noted. Those participants who had fallen in disfavour of the
35
36 297 organisation had little option. They had to leave because of the risk of being arrested or even executed.

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38 298 *We talked about ISIS that they are not from Syria and we are not accepting their presence here etc.*
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40 299 *Later, my friends told me that ISIS is observing my home. I moved to another area. After this incident,*
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42 300 *one of them [friends] was arrested by ISIS. (specialist doctor, male)*
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45 301 Although the participants were not explicitly asked for their ethnic background because of the
46
47 302 sensitivity, several of them mentioned their Kurdish roots, the minority in Syria. The Kurdish
48
49 303 participants felt that they were targeted explicitly by radical Sunni Muslim NSAGs because of their
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51 304 background.

52 53 305 **Violence related to being a HCW**

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55 306 Most of the participants had personally experienced violence that they considered to be connected
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57 307 with their profession. All thought that their profession made them a target. Participants described their
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59 308 experiences since 2011 in detail. The violence included verbal assaults, beatings, detainment, and
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3 309 torture. They had been shot at or been in an ambulance when assaulted. Some participants described
4
5 310 the situation when they had been in a healthcare facility at the time of the aerial bombardments by
6
7 311 GoS and later by Russia.

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9 312 *This [name retracted] hospital was targeted by a Russian airstrike. One of my friends died in this*
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11 313 *airstrike, the doctor [name retracted]. I'm very sad about him. (speciality doctor, male)*

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14 314 All participants described the violence that their colleagues had experienced, and those were similar
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16 315 to their own. Some colleagues and co-workers were arrested, had gone missing, and were never seen
17
18 316 again. Some were later found dead with marks of severe abuse. Participants had also lost their
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20 317 colleagues in airstrikes.

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21

22 318 *I have seen colleagues killed in front of my eyes. In [place retracted] was a doctor, and she was taken.*

23

24 319 *They [the unknown perpetrator] took her. Later she was found raped and dead. (speciality doctor,*
25
26 320 *male)*

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28 321 Participants saw and experienced their colleagues being humiliated and occasionally arrested in the
29
30 322 hospitals, sometimes in the middle of medical operations.

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33 323 *[Name retracted] was like a brother. He got arrested in a real, humiliating way. He was changing*
34
35 324 *the bandages to the patient. They [GoS] took him from the room. [They] covered his face in front of*
36
37 325 *the staff of the hospital. They didn't let anyone talk to him or ask where [GoS] were taking him.*

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38 326 (speciality doctor, male)

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40 327 Some participants decided to leave once their colleagues had been arrested, gone missing, or found
41
42 328 dead. The fear of being caught by the GoS was a significant reason to escape. In addition, many
43
44 329 participants were afraid that their captured colleagues were giving up their name under torture.

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46 330 However, a relationship marked by solidarity existed amongst the professionals.

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48 331 *One of my colleagues was arrested. Under a lot of pressure, they have the methods that you talk. He*
49
50 332 *mentioned my name. I had to pay to get out of Syria and out of Aleppo. I left everything behind.*

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52 333 (general practitioner, male)

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54 334 Additionally, as HCWs, participants were concerned about the roadblocks. Crossing them was
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56 335 considered stressful when travelling for work. Participants described the incidents on the checkpoints.

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58 336 Sometimes they were stopped for extended periods and inspections, sometimes detained. Participants
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60 337 considered that this was due to their profession.

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5 339 *At the [GoS] checkpoints, many doctors were arrested. One orthopaedic and his wife. This doctor*
6 *had no problems [with GoS], and he had done nothing. He was taken from the roadblock. He was in*
7 340 *prison for five months. His wife had to pay 800 000 Syrian pounds to get him away. This was in 2013.*

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10 342 (general practitioner, male)

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13 343 Hospitals became threatening due to constant military and GoS presence, according to participants.
14 344 Armed soldiers were seen as intimidating and reduced the willingness of HCWs to show up at work,
15 345 as many participants depicted. In addition, one of the participants described having seen sharpshooters
16 346 on hospital roofs aiming at people and even shooting them.

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21 347 *In the hospital where I worked, the situation changed. It started to look like a military base. The*
22 348 *soldiers were going in and out with their weapons. Most doctors and other healthcare workers did*
23 349 *not come to work because they were afraid of the soldiers with guns. They could cause you*
24 350 *troubles for no reason.* (speciality doctor, male)

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29 351 Many participants described that in many cases, when the governmental forces arrived to investigate
30 352 the hospital, HCWs warned their colleagues in danger of being arrested. The warnings allowed them
31 353 to avoid capture. However, this was very dangerous, and in several cases, the participants reported
32 354 that GoS had arrested their colleagues.

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36 355 *I heard that my name was asked in the hospital I am working. I felt that I was in danger. I fled out of*
37 356 *the country. When someone is asking about you in Syria, that is the mukhabarat [security service].*
38 357 *My friend was arrested in front of the hospital. One week before his arrest, they start to ask about*
39 358 *him. One nurse in the hospital called me and [said] "There is someone from the military department*
40 359 *and asked about you".* (general practitioner, male)

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46 360 The opposite was also confirmed, as some participants remembered. A fraction of the workers sided
47 361 with the GoS. They could spy on their colleagues, record their conversations, and then turn them in.
48 362 Due to strict internal monitoring, anti-government discussions, even in private settings, could be
49 363 carried to government officials according to participants.

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54 364 *They [security forces] opened the phone, and there were conversations between doctors. Some doctor*
55 365 *or nurse have recorded conversations and then give them to the security service. We were arrested*
56 366 *for 24- 28 hours.* (speciality doctor, male)

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3 367 Some participants said that they were persuaded to abandon their country only after being personally
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5 368 threatened or imprisoned – some for extended periods.

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8 369 *After [released from the prison after six months], another intelligence department [officer] came to*
9
10 370 *my house. They were looking for me. They were asking for my house - again. I left Aleppo for*
11 371 *Turkey. (speciality doctor, male)*

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13

14 372 A few years after the beginning of the conflict, other warring parties started causing problems for
15
16 373 HCWs. The participants considered ISIS as the most significant threat after the GoS.

17

18 374 *ISIS arrested me. It was scary in 2014 in Tel Abyad. For seven hours, then they let me leave. This*
19
20 375 *was the main reason I decided to leave Syria. After being interrogated by ISIS, I decided that even I*
21
22 376 *have studied for 12 years, I am not ready for this, getting 1000 to 2000 USD per month [salary].*
23
24 377 *Those seven hours they interrogated me was a changing moment in my life. It was the first time when*
25 378 *something like that happened to me. Those seven hours felt like seven years. (speciality doctor, male)*

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28 379 HCWs are more likely to encounter events and become victims of mistreatment due to the very nature
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30 380 of their profession. Many participants were forced to witness the abuse of civilians while practising
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32 381 their work. The participants describe having seen people subjected to violence and taken by GoS.
33 382 Many of those persons imprisoned had been tortured before they were brought to hospitals.

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36 383 *We have seven patients taken by intelligence. We were receiving patients from the intelligence after*
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38 384 *torturing in prison to cure them. Sometimes they bring dead bodies and throw them in front of us.*
39 385 *Sometimes they took patients from the hospitals. Somebody who went to protest was shot or stabbed*
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41 386 *by Shabbiha [pro-government militia]. He [patient] came with his family or ambulance or himself to*
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43 387 *the hospital to take treatment. They knew [GoS] that he was there, and they would come. Even before*
44 388 *treating him. Or while treating him. I know many cases. (speciality doctor, male)*

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DISCUSSION

To our knowledge, this is the first research to examine the reasons why Syrian HCWs migrate from the conflict-affected country. This qualitative study is based on semi-structured interviews of the 20 Syrian HCWs who left the country after 2011. In previous studies from on conflict settings, avoiding the violence of war has not been the HCWs' sole reason to leave; financial issues and concerns regarding education were also mentioned as reasons for leaving. [21,22] However, we found no

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3 396 HCWs indicating either factor as the primary cause for leaving. Doocy et al.[25] state that the choice
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5 397 to go is a sum of many different factors. Our study suggested that all reasons to leave Syria were
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7 398 related to security issues. It appears that the ever-present violence and complexity of the war in Syria
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9 399 superseded all other concerns.

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11 400 HCWs considered their profession to be a reason for the violence they experienced. The GoS seemed
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13 401 to target HCWs specifically because of their profession. This intentional targeting is in accordance
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15 402 with multiple reports and studies.[7,14,28,29,31,37] The GoS was also responsible for generalised
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17 403 violence and violence related to personal issues. ISIS was primarily accountable for generalised
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19 404 violence and sometimes attacked the participants for their individual actions such as expressing their
20 405 political opinions.

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23 406 Many HCWs had to weigh the lack of prospects and accumulating stress against the equally
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25 407 intimidating challenge of actually trying to leave the country. While some participants had a specific
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27 408 notable trigger event, such as a colleague being detained or killed, many just grew tired of living
28 409 under constant threat and fear.

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30 410 The average participant in this study was a 36-year-old male doctor with a speciality. He was married
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32 411 and a had a family and at least one child. This profile is in accordance with other studies[23–25] that
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34 412 have shown male gender and similar age structure associate with the risk of targeted violence and
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36 413 migration. On the other hand, the need to protect ones family is an important reason to leave. As one
37 414 of our participants said, he would be working in Syria if he did not have a family. When experienced
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39 415 HCWs leave the country, the remaining personnel are left without sufficient professional expertise,
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41 416 as has happened in Iraq.[1] This reduces the quality of healthcare services and adds to the workload
42 417 of those staying.[17,31]

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45 418 The emotional distress of violence on HCWs is enormous, as noted in the study by Hamid et al. [38].
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47 419 Participants have lost colleagues, friends, and family members. In addition to their experienced
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49 420 traumas, they are most likely to have secondary traumas through witnessing atrocities against
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51 421 civilians while working as HCWs near the front line of war. Despite this, some of our participants
52 422 were visiting Syria every month for humanitarian work. The motivations for this should be studied
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54 423 more closely because it might help find solutions to get senior HCWs back permanently to Syria now,
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56 424 as the violence starts to show signs of decreasing. The availability of healthcare personnel is one of
57 425 the central issues in rebuilding civil society. However, finding qualified HCWs is challenging when
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59 426 the majority of them have left the country.[17] Additionally, medical students had to leave their
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427 undergraduate studies and postgraduation training to flee the violence.[19] These amount to a
428 significant loss of human capital for the Syrian healthcare system. Restoring both current and future
429 provision of services to an acceptable level will be highly demanding.

430 **Strengths and limitations**

431 The present research is subjected to several limitations. First, while we reached participants from
432 several different Syrian governorates (Homs, Daraa, Deir Ez-Zour, Raqqa, Hama, Rif Damascus),
433 most were originally from Aleppo. On the other hand, they had worked in different locations and had
434 experienced violence in areas under all warring parties. More studies should focus on recruiting
435 participants from all these areas, especially from those that ISIS had controlled. Many interviewees
436 considered ISIS as one of the main factors for leaving. Second, the SSM is conducive to selection
437 bias.[33] We used three different parallel SSM networks to reduce this. Third, the perspectives of
438 female HCWs are partly missing. Future research should concentrate not only on sex-based violence
439 but also on the experiences of female HCWs and their reasons for leaving Syria.

441 Obtaining data in a conflict setting, especially first-hand accounts of personal experiences, is
442 challenging. However, one of the authors is a Syrian HCW who has lived and worked mainly in
443 NSAG and Kurdish forces-controlled areas. His first-hand knowledge made this study more valuable
444 and provided a better understanding of the situation in such regions of Syria that researchers generally
445 have not been able to visit due to severe security risks.

447 **CONCLUSION**

448 This research explores in detail why HCWs have left conflict-torn Syria. Our study explains that local
449 HCWs had no other alternative but to leave their homes and work to protect themselves and their
450 families. In addition, this study gives a voice to Syrian HCWs who have witnessed horrors of conflict
451 with extensive destruction.

452 Our interviewees described such acts of violence and attacks against healthcare that may constitute
453 violations against Geneva Conventions. Thus, these actions might be considered war crimes and
454 would then require perpetrators to be held accountable.

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3 455 A better understanding of this type of forced migration is needed to develop approaches to support
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5 456 HCWs psychologically and practically in a time of war. This study enables creation of actionable
6
7 457 protocols of intervention diminishing or prevent similar future events.
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13
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19

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24
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28 466 **DISCLAIMER** the Foundation of the Finnish Institute in the Middle East or The Alfred Kordelin
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30 467 Foundation was not involved in any step of this research. The notions and views are those of the
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32 468 authors.
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35 469 **AUTHORS' CONTRIBUTIONS**

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38 470 AK, MH, HJ, and JK designed and conceptualised the study. AK, MH and OA, coordinated and
39
40 471 carried out data collection. AK and JP coded the data. AK, OA, and JP analysed and interpreted the
41
42 472 data. AK led manuscript writing with contributions from OA, JP, MH, HJ and JK. All authors
43
44 473 reviewed and accepted the final manuscript.
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46 474 **Competing interests** No competing interests.
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49 475 **Patient consent** No patients or members of the public were involved in the conduct of this research
50

51 476 **Ethics approval** An ethical permit for the study was applied for and obtained from the University of
52
53 477 Eastern Finland Committee on Research Ethics in 2016.
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55 478 **Provenance and peer review** Not commissioned; externally peer-reviewed.
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57 479 **Data sharing statement** Data can be obtained from the corresponding author.
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For peer review only

COREQ (COnsolidated criteria for REporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Topic	Item No.	Guide Questions/Description	Reported on Page No.
Domain 1: Research team and reflexivity			
<i>Personal characteristics</i>			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	
Occupation	3	What was their occupation at the time of the study?	
Gender	4	Was the researcher male or female?	
Experience and training	5	What experience or training did the researcher have?	
<i>Relationship with participants</i>			
Relationship established	6	Was a relationship established prior to study commencement?	
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	
Interviewer characteristics	8	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	
Domain 2: Study design			
<i>Theoretical framework</i>			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	
<i>Participant selection</i>			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	
Sample size	12	How many participants were in the study?	
Non-participation	13	How many people refused to participate or dropped out? Reasons?	
<i>Setting</i>			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	
<i>Data collection</i>			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	
Repeat interviews	18	Were repeat interviews carried out? If yes, how many?	
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	
Field notes	20	Were field notes made during and/or after the interview or focus group?	
Duration	21	What was the duration of the interviews or focus group?	
Data saturation	22	Was data saturation discussed?	
Transcripts returned	23	Were transcripts returned to participants for comment and/or	

Topic	Item No.	Guide Questions/Description	Reported on Page No.
		correction?	
Domain 3: analysis and findings			
<i>Data analysis</i>			
Number of data coders	24	How many data coders coded the data?	
Description of the coding tree	25	Did authors provide a description of the coding tree?	
Derivation of themes	26	Were themes identified in advance or derived from the data?	
Software	27	What software, if applicable, was used to manage the data?	
Participant checking	28	Did participants provide feedback on the findings?	
<i>Reporting</i>			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	
Data and findings consistent	30	Was there consistency between the data presented and the findings?	
Clarity of major themes	31	Were major themes clearly presented in the findings?	
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

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