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3 **FACTORS CONTRIBUTING TO EMOTIONAL DISTRESS IN SIERRA LEONE: A SOCIO-ECOLOGICAL ANALYSIS**

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16 **Keywords**:

17 Psychosocial; mental health; Sierra Leone; socio-ecological; freelisting; qualitative

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19 **FACTORS CONTRIBUTING TO EMOTIONAL DISTRESS IN SIERRA LEONE: A SOCIO-ECOLOGICAL ANALYSIS**

20 **Abstract**

21 Background

22 There is increasing global evidence that mental health is strongly determined by social, economic and
23 environmental factors, and that strategic action in these areas has considerable potential for improving
24 mental health and preventing and alleviating mental disorders. Prevention and promotion activities in
25 mental health must address the needs prioritised by local actors. The aim of this study was to identify
26 stressors with the potential to influence emotional wellbeing and distress within the general population of
27 Sierra Leone, in order to contribute to an inter-sectoral public mental health approach to improving mental
28 health within the country.

29 Methodology

30 Respondents were a convenience sample of 153 respondents (60 women, 93 men) from five districts of
31 Sierra Leone. Using freelisting methodology, respondents were asked to respond to the open question
32 'What kind of problems do women/men have in your community?'. Data analysis involved consolidation of
33 elicited problems into a single list. These were then organised thematically using an adaptation of the
34 socio-ecological model, facilitating exploration of the interactions between problems at individual, family,
35 community and societal levels

36 Results

37 Overall, respondents located problems predominantly at community and societal levels. Although few
38 respondents identified individual-level issues, they frequently described how problems at other levels
39 contributed to physical health difficulties and emotional distress. Women identified significantly more
40 problems at the family level than men, particularly related to relationships with an intimate partner. Men
41 identified significantly more problems at the societal level than women, primarily related to lack of
42 infrastructure. Men and women were equally focused on problems related to poverty and lack of income
43 generating opportunities.

44 Conclusion

45 Poverty and inability to earn an income underpinned many of the problems described at individual, family

46 and community level. Actions to address livelihoods, together with improving infrastructure and

47 addressing gender norms which are harmful to both men and women, are likely key to improving the

48 wellbeing of the Sierra Leone population.

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FACTORS CONTRIBUTING TO EMOTIONAL DISTRESS IN SIERRA LEONE: A SOCIO-ECOLOGICAL ANALYSIS

INTRODUCTION

A holistic understanding of mental health (e.g. World Health Organization, 2004) goes beyond the absence of symptoms of mental health problems to include optimal psychological and social functioning. This indicates that mental health systems should direct resources not only towards responding to diagnosable mental disorders but on promoting and sustaining good mental health, preventing mental health problems and identifying and addressing low-level and early signs of psychological distress (Petersen et al., 2014). In recognition of this, the recent *Lancet Commission on Global Mental Health and Sustainable Development* (Patel et al, 2018) advocates for an expanded agenda for mental health that addresses promotion and prevention as well as treatment and rehabilitation, noting that the greatest population benefit is gained from promoting factors that facilitate good mental health and avoiding causes of ill-health. There is now a growing consensus that 'it is time for promotion and prevention efforts to take center stage in the field of global mental health' (Tol, 2015: 1).

There is increasing evidence that mental health is strongly determined by social, economic and environmental factors (Allen et al, 2014; Lund et al, 2018; Patel et al, 2018), and that strategic action in these areas has considerable potential for improving mental health and in preventing and alleviating mental disorders, particularly for the underprivileged and marginalised (Thangadurai & Jacob, 2014). This requires a comprehensive public mental health approach (De Jong, 2002), with multi-layered approaches targeting various areas of need (IASC, 2007).

Such an approach needs to be grounded in local cultural contexts and social realities, and local perceptions of the needs that are most critical to address (Petersen et al., 2014; Tol, 2015). Studies of community perceptions of the causes of psychological suffering (e.g. Eggerman and Panter-Brick, 2010; Lee et al, 2018; Noubani et al, 2020; Ventevogel, 2015) typically identify a set of inter-related social and economic problems. Daily stressors have been found to have at least as much impact on mental health as extreme events such as war experiences (Efevbera & Betancourt, 2016; Miller et al, 2008; Jordans et al, 2012; Kohrt et al, 2012; Newnham et al, 2015; Trani & Bakhshi, 2013).

77 In non-conflict-affected populations, numerous studies have found that the cumulative effect of 'daily
78 hassles' (defined as the lower level stressors of everyday life) is more strongly predictive of psychological
79 distress than exposure to major life events (Miller & Rasmussen, 2010). Daily stressors commonly
80 identified as predicting poor mental health outcomes include family violence, unemployment, perceived
81 discrimination, food insecurity and poverty, together with broader factors such as unequal access to basic
82 resources and opportunities to partake in occupational and recreational activities (Logie et al, 2020;
83 Purgato et al, 2017).

84 Socio-ecological framework

85 Tol (2015) identifies the socio-ecological perspective as a key principle of prevention and promotion in
86 mental health in low- and middle-income countries (LMICs). Widely adopted in the public health sphere
87 (Petersen et al, 2014; Purgato et al, 2017) this framework has been helpful in disentangling the reciprocal
88 influences between the individual and the environment, providing insight into which social variables may
89 be targeted to promote mental health and prevent mental disorders (Tol, 2015). Socio-ecological framing
90 illustrates how influences on mental health can exist at the individual level (e.g. coping styles and self-
91 esteem); family level (e.g. parenting styles); peer, school or workplace levels (e.g. social support);
92 community level (e.g. social capital and communal violence); and societal level (e.g. political systems;
93 gender norms). One of the implications of a socio-ecological perspective on mental health is that a
94 collaborative, inter-sectoral approach is required to address the inter-related factors which impact on a
95 population's psychological wellbeing (Petersen et al., 2014; Patel et al, 2018; Tol, 2015).

96 Sierra Leone

97 The West African country of Sierra Leone experienced a brutal civil war between 1991 and 2002, during
98 which an estimated 70,000 people were killed and more than 2 million (more than one-third of the
99 population) were displaced (Kaldor & Vincent, 2006). Following the war, efforts were made to rebuild
100 systems and infrastructure within Sierra Leone, but these efforts were disrupted by the outbreak in 2014 of
101 Ebola Virus Disease (EVD) which continued for almost two years, and had a devastating effect on an already
102 fragile population. Since March 2020, Sierra Leone, along with the rest of the world, has been dealing with
103 the effects of the COVID-19 pandemic.

104 People in Sierra Leone have experienced multiple adverse events in the past, combined with current
105 struggles to maintain well-being in one of the poorest countries in the world in terms of economic
106 development, health, and education. Sierra Leone was ranked 181 out of 189 on the Human Development
107 Index in 2019 (United Nations Development Programme, 2019).
108 Formal mental health service provision in Sierra Leone is limited to one psychiatric hospital in the capital
109 city, Freetown, which receives referrals from provincial and district hospitals, NGO services and recent
110 attempts to strengthen capacity at primary care level through the training of mental health nurses (Harris
111 et al., 2019). A public health approach to mental health (Tol, 2015) is particularly relevant to Sierra Leone
112 because:

113 1. There are limitations to what a strategy focused on treatment alone can offer given the extremely
114 limited capacity in terms of mental health professionals in the country.
115 2. There is now a considerable body of evidence globally around the role played by social conditions
116 in mental health. Therefore, the burden of mental health problems in Sierra Leone is unlikely to be
117 relieved by improved access to mental health treatments alone (Lund et al, 2018).
118 3. Prevention of mental health problems is more cost-effective than treatment. This is important
119 given the very limited budget for mental healthcare in Sierra Leone.

120 Aims

121 It is widely acknowledged that in planning mental health prevention and promotion activities in LMICs it is
122 important to address needs which are prioritised by local actors (Petersen et al., 2014; Tol, 2015;
123 Ventevogel, 2015). This study sought to explore what adult men and women in Sierra Leone identify as the
124 problems affecting their wellbeing to suggest potential targets of an inter-sectoral public mental health
125 approach focusing on promoting mental wellbeing in the country.

126 **METHOD**

127 The study is part of a larger programme of research addressing mental health and well-being in Sierra
128 Leone (see Horn et al, 2020). The design of the component reported here reflects the approach of Bolton
129 and colleagues (e.g. Betancourt et al, 2009; Bolton et al, 2013; Lee et al, 2018) in using a freelisting
130 methodology (World Health Organization & United Nations High Commissioner for Refugees, 2012).

131 Freelisting is an exploratory research methodology which has been widely used to identify the priority
132 issues affecting a population (e.g. Efevbera & Betancourt, 2016). It involves defining a broad question and
133 briefly interviewing participants to rapidly gather information, with the frequency of the reported items
134 used to determine salience. In-depth exploration of problems is not possible with freelisting, but it does
135 allow for rapid exploration of local understandings which can inform future research and interventions.

136 Research team

137 The training and supervision of the research team was carried out by a Queen Margaret University
138 researcher and coordination of logistical issues was conducted by a member of staff from the College of
139 Medicine and Allied Health Sciences (COMAHS), University of Sierra Leone. The field researchers were all
140 Sierra Leoneans, aged between 20 and 30 years old, and were either recent university graduates or in the
141 final phase of their studies. They were from a number of ethnic groups, and spoke languages including
142 Mende, Temne, Fullah and Limba as well as being fluent in Krio and English.

143 A team of 11 field researchers (four female, seven male) participated in a three-day training, which
144 consisted of sessions on research ethics and qualitative methods, plus intensive practical training in the
145 methods to be used. This included pilot testing and revision of the methodology.

146 Selection of participants

147 Respondents were a convenience sample selected from five districts (Bo, Kailahun, Kambia, Kono and
148 Western Area). The locations within each district were selected in collaboration with the District Health
149 Education Officer at the District Health Management Team to reflect diversity in terms of factors such as
150 religion, ethnicity, socio-economic status and main form of livelihood. Initial meetings were held with local
151 chiefs or tribal authorities to ensure access into the selected communities. Field researchers purposively
152 sampled to ensure gender balance and a representative age range.

153 Freelisting interviews were conducted with a total of 153 respondents. The locations, gender and age
154 breakdown of respondents are shown in Table 1.

155 Table 1. Respondents' locations and ages

District	**Female**	**Male**

	N	Age range (mean)	N	Age range (mean)
Bo	12	20-68 (38.2)	20	18-77 (39.8)
Kailahun	12	20-77 (40.3)	19	18-90 (48.6)
Kambia	12	21-66 (39.8)	18	19-80 (36.3)
Kono	12	21-82 (56.8)	18	19-82 (50.1)
Western area	12	20-60 (37.3)	18	20-78 (41.5)
TOTAL	*60*	*20-82 (42.5)*	*93*	*18-90 (43.2)*

156 Process

157 Free list interviews involved asking individual respondents to provide lists of items, and brief descriptions of
158 each item, in response to the question 'What kind of problems do women/men have in your community?'
159 (female respondents were asked about problems affecting women; male respondents about problems
160 affecting men). When the respondent had listed all the problems which came to mind, interviewers read
161 back the list and used non-specific prompting to encourage them to think of further problems (Brewer,
162 2002). This continued until no more could be identified. Interviewers then went back through the list and
163 asked respondents to give a brief description of each problem.

164 Interviewers worked in teams of two (interviewer and note-taker) to carry out the data collection
165 (Betancourt et al., 2009). Each team was allocated to a particular location, where they approached
166 potential respondents and explained the nature and purpose of the study, including issues such as
167 confidentiality of the information obtained and that respondents would receive no incentive or
168 compensation for participating. Any questions were answered, and verbal consent was sought to proceed.
169 Interviews were conducted in a location convenient to the respondent, which could be a public space (e.g.
170 marketplace) or private home or compound, and in the respondent's preferred language, which was
171 primarily (91) Krio. Non-Krio interviews were mainly conducted through a translator hired by the field
172 researchers in the local area.

173 Handwritten notes were taken during the interview, and reviewed afterwards by the interviewer and the
174 note-taker to ensure that they accurately and comprehensively represented what was said by the

175 respondent. The data were entered into an Excel spreadsheet by the lead researcher at the end of each
176 day.
177 Data Analysis
178 Data analysis was conducted following the process described by Bolton et al (2013). Each respondent was
179 assigned a numeric code. All the problems identified were consolidated into a single list, with the code and
180 gender of respondents attached to each problem they identified. At this stage, two or more respondents
181 were recorded as having mentioned the same problem if they referred to it using the same language. The
182 resulting list was then reviewed by the research team to identify problems that were similar in meaning but
183 had different wording. Where this occurred, the most clearly worded version (based on a consensus among
184 the research team) was retained to represent all the versions. The respondent code numbers for the
185 deleted response were then added to those of the retained version so that all the respondents who
186 reported the problem were accounted for.
187 The reported problems were collapsed into themes and organised into ecological levels using an adaptation
188 of the socio-ecological framework (Bronfenbrenner, 1977). The first author developed criteria to determine
189 how problems would be assigned to each level of the socio-ecological framework. These criteria were
190 reviewed by the second author, and were revised through discussion between the two authors. The
191 problems were then assigned to each level of the framework by the first author, then reviewed by the
192 second author. Discrepancies were discussed and a solution arrived at through consensus. The use of the
193 socio-ecological model facilitated (a) an exploration of the interactions between the problems at individual,
194 family, community and societal levels, and (b) a comparison of frequency distributions for identified
195 problems at each ecological level by gender. For the latter, the Fisher's exact test of independence was
196 used given the sample size and that expected values in some of the cells of the contingency table were
197 below 5 (Frey, 2018).
198
199 **RESULTS**
200 A total number of 1124 problems were identified. Individual respondents identified between 1 and 12
201 problems, with the mean number of problems identified being 7.4. Problems identified by fewer than three

202 respondents were excluded. The remaining problems were collapsed into 43 themes and organised into the

203 socio-ecological levels shown in Figure 1.

204 Figure 1. Socio-ecological model illustrating range of problems identified

205 INSERT FIGURE 1 HERE

206 Figure 2. Number of problems identified at different levels

207 INSERT FIGURE 2 HERE

208 Overall, there was a clear trend for more problems to be located at more distal socio-ecological levels (see

209 Figure 2). Table 2 shows the distribution of problems identified at each level disaggregated by gender.

210 Although the overall number of individual problems identified was small, men were marginally more likely

211 to identify issues at this level than women (p=0.05). Otherwise, women were significantly more likely to

212 locate problems at the level of the family (p<.001) than men, while men located more problems at the

213 societal level than women (p=0.01). There were no gender differences observed in attributing problems at

214 community level (Table 2).

215 Table 2. Frequency distributions of problems within socio-ecological levels by gender

Socio-ecological levels		**Men (n=93)**	**Women (n=60)**	**Fisher's exact test**
Level	Number of problems	Frequency (%)	Frequency (%)	Exact Sig. (2-sided)
Individual	0	82 (88.2%)	59 (98.3%)	P=.051
	1	10 (10.8%)	1 (1.7%)	
	2	1 (1.1%)	0 (0%)	
Family	0	81(87.1%)	3 (5.0%)	P<.001
	1	11 (11.8%)	13 (21.7%)	
	2	1 (1.1%)	12 (20.0%)	

	3	0 (0%)	10 (16.7%)	
	4	0 (0%)	12 (20%)	
	5	0 (0%)	4 (6.7%)	
	6	0 (0%)	2(3.3%)	
Community	0	3 (3.2%)	3 (5.0%)	P=.775
	1	17 (18.3%)	13 (21.7%)	
	2	25 (26.9%)	12 (20.0%)	
	3	21 (22.6%)	10 (16.7%)	
	4	11 (11.8%)	12 (20.0%)	
	5	11 (11.8%)	6 (10.0%)	
	6	3 (3.2%)	3 (5.0%)	
	7	2 (2.2%)	1 (1.7%)	
Society	0	6 (6.5%)	9 (15.0%)	P=.014
	1	7 (7.5%)	12 (20.0%)	
	2	16 (17.2%)	13 (21.7%)	
	3	15 (16.1%)	14 (23.3%)	
	4	21 (22.6%)	6 (10.0%)	
	5	14 (15.1%)	3 (5.0%)	
	6	8 (8.6%)	2 (3.3%)	
	7	4 (4.3%)	1 (1.7%)	
	8	2 (2.2%)	0 (0%)	

216

217 Individual factors

218 As noted, few problems were identified at the individual level by either women or men. Those mentioned
219 were either physical health problems (identified ten times by men) or emotional problems (identified once
220 by women and twice by men), such as the pain of losing a loved one (identified by the female respondent)

221 and distress caused by poverty and the inability of taking care of basic needs (identified by the two male
222 respondents).

223 Family factors

224 The majority of problems at family level related to conflict within intimate relationships, including physical
225 violence, with 17% of all the problems said to affect women falling into this category. These issues were
226 highlighted by women across all districts, and across the whole age range of female respondents.
227 All four men who said that relationship problems affected men in their community, and three women,
228 referred to the effects of lack of income-generating opportunities and poverty on relationships, when men
229 are unable to provide for the needs of their family in the way expected.

230 'When men cannot take care of their family this leads to unrest in the home and disrespect from
231 their wife' (38-year old man, Kambia district)

232 'When women know they are the breadwinner of the home they no longer respect their husband
233 and husband cannot take it so they fight' (82-year old woman, Kono district).

234 Most women who identified relationship conflict as a problem in their community related it to men having
235 more than one wife or being unfaithful.

236 'Marital problems are too much, our men cheat, they disrespect us and they don't treat us as
237 equals' (65-year old woman, Kono district)

238 Physical violence within intimate relationships was identified by 28 women and no men as a problem.
239 Some of the women said that the violence occurred due to conflict over financial issues or infidelity, as
240 described above, but the majority attributed the violence to prevailing gender norms in the society (at the
241 'societal' level of the socio-economic model).

242 'Men like bullying women, they think we don't have freedom, they feel like they are the boss and
243 have power over us' (35-year old woman, Kambia).

244 'Women are beaten and maltreated at home and all they will advise is to stay and obey your
245 husband if you want to be married' (23-year old woman, Kono district).

246 Some female respondents specifically related women's mistreatment by men to economic issues, stating
247 that because women were unable or unwilling to earn their own money they were more vulnerable.

248 Women who talked about conflict in relationships and intimate partner violence described the effects on
249 their emotional and physical wellbeing (individual level).

250 'Violence against women makes women to be so insecure, low self-esteem and ashamed. Some
251 men beat their women to death' (20-year old woman, Bo district).

252 Women also referred to problems due to the lack of support from a male partner (over 5% of all problems
253 affecting women), including men not taking responsibility for their families, women being abandoned by
254 their partners, being widowed or unmarried. Respondents described how women in this situation were left
255 to shoulder the burden of caring for the family alone.

256 'The men just abandon us here. We the women labour for ourselves to feed and clothe our
257 children' (52-year old woman, Kailahun).

258 'Our children depend on us and the men are not helping us in taking care of them' (35-year old
259 woman, Kono)

260 A woman being unmarried was said to have consequences on women's wellbeing both economically and
261 socially. The stress of having to provide financially for one's children without any support was mentioned
262 by several women, and those who were without partners through abandonment, divorce or never having
263 married were said to be particularly socially marginalised.

264 'Women who have lost their husband are lonely. They are most times bullied and marginalised by
265 society' (54-year old woman, Bo district)

266 Problems experienced by younger women, particularly teenage pregnancy and early marriage were
267 mentioned primarily by female respondents, and were identified more often in rural areas than in the two
268 more urbanised districts (Western Area and Bo).

269 Young women and girls were said to be sometimes forced into early marriages primarily because their
270 families could not afford to keep them. Lack of income was also related by some respondents to teenage
271 pregnancy, in that children were unwilling to listen to or abide by the rules of parents who were unable to
272 provide for their needs.

273 'Majority of our children and grandchildren get pregnant in school because they don't listen to us
274 because we cannot take care of them' (62-year old woman, Kono district)

275 Some women and a small number of men expressed concerns about the relationship between children and
276 their families, with some describing children being abused, neglected and/ or exploited, and others
277 concerned that children and youth lacked respect for their parents and families. Six of the eight occasions
278 where child mistreatment was identified as a problem were from respondents in Western Area, which is
279 more urban than the other districts.

280 'No care for children and women give birth to more children and leave them in the street' (27-year
281 old woman, Western Rural)

282 As noted above, relationships between children and their families were said to be influenced by poverty,
283 with children not respecting parents who were unable to provide for their needs. However, a few
284 respondents also said that parents who had financial problems mistreated their children by sending them
285 out to work (or forcing them into early marriages, as described above) or not making efforts to support
286 them.

287 Community factors

288 Poverty and the inability to meet basic needs was referred to very frequently by men (it accounted for
289 more than one-fifth of all problems said to affect men) and a considerable proportion of women. The
290 numbers referring to this issue was roughly equivalent across all five locations.

291 'The children depend on us and we don't have any access to money' (35-year old woman, Kono
292 district)

293 The most commonly-cited reason for this, especially outside Western area, was a lack of jobs even for those
294 who had skills and qualifications. In Kono district, employment was affected by the closure of the mining
295 operations during the Ebola outbreak, many of which did not re-open afterwards. In other districts,
296 participants said their area was under-developed (e.g. poor road network) which restricted businesses from
297 operating in that location.

298 'Men find it really difficult to get a job after graduating from college or after learning a skilled job'
299 (23-year old man, Kambia district)

300 'No company or factory operate here to provide job for people and most of the NGOs have also left
301 the city' (55-year old man, Kailahun district)

302 A related challenge in earning a basic income was that even if somebody did manage to start a business, or
303 to sell products they had grown or made, business was slow because the general level of poverty meant
304 that there were few customers or markets.

305 'The materials are expensive and it takes long for people to buy our furnitures' (19-year old man,
306 Kono district)

307 In many cases, though, people were unable to start businesses because they did not have the capital to do
308 so, did not have the skills and/ or were unable to produce crops for sale because of challenges they faced in
309 farming (e.g. poor soil, lack of tools or seeds). Some noted the lack of support from government or non-
310 governmental agencies which may have helped them to overcome some of these barriers.

311 'There is no money, no help from government. For us the women, women's organisations are not
312 focusing here' (56-year old woman, Kambia district)

313 The solution chosen by many was to take up some form of casual work; this was often motorbike riding
314 (motorbike taxis or *okadas*) for the young men, or in some locations farming, sand mining, stone mining or
315 informal diamond mining. Women also undertook casual work where possible. Only female respondents
316 (14 women, mainly in Kailahun and Western Area) identified commercial sex work as a problem affecting
317 their communities, and this was almost always said to be related to a lack of alternative sources of income
318 for young women.

319 'Women want money so they sleep with all men, even married men and destroy the relationships
320 around' (27-year old woman, Western Rural)

321 In addition to lack of money to buy food and other essentials, in some areas there were also inadequate
322 food supplies even for those who did have money. This was mentioned in all areas, but especially Kailahun
323 and Kambia districts. In some cases this was because farming was poor in that area, and others referred to
324 food shortages at particular times of year (the dry season).

325 As well as being unable to eat regularly or well, the lack of income-generating opportunities was said to
326 have consequences for the social wellbeing of individuals and communities. The impact of lack of income
327 on family relationships was discussed earlier, and parents were in some cases unable to meet the costs of

328 sending their children to school. Idleness, especially of youth, was said to lead to emotional distress
329 (frustration) and in some cases criminal behaviour and lawlessness.

330 'Because there are no jobs, these young boys are idle and it leads to many problems' (51-year old
331 male, Bo district)

332 Men were highly affected, and women to a lesser extent, by a cluster of problems related to anti-social and
333 criminal behaviour. This included general insecurity and theft, as well as violence within the community.
334 There was some reference to *kliks* or gangs, which were said to contribute to general lawlessness in
335 communities and well as conflict between different *kliks*.

336 'The young boys join *kliks* and fight with each other in rival *kliks*' (51-year old man, Bo district)

337 These *kliks* were sometimes held responsible for thefts within the community, but such behaviour was also
338 said to be due to a lack of job or business opportunities for young men, as described above. High crime
339 rates were said to cause stress, anxiety and feelings of insecurity for those affected or at risk.

340 'The youth are in the habit of doing that. They sit on the bikes taking peoples bags, purses, breaking
341 into houses and shops' (45-year old woman, Western Area)

342 In addition to criminal behaviour, respondents expressed concern about a general feeling of lawlessness in
343 their communities, and violence amongst the youths themselves. This was sometimes related to conflict
344 between the *kliks*, or in relation to football or politics. Fighting between young girls and between families
345 was also referred to. Violence in general within communities was a concern for these respondents.

346 'There is too much violence in this community, especially among the youth' (28-year old man, Bo
347 district)

348 Sexual violence against women was referred to by nine women and two men, who were located across all
349 five districts. This included exploitation of women and girls by men in more powerful positions.

350 'Women are harassed on a daily basis. Men want sex for every little favour women ask from them.
351 Women are not happy about this' (54-year old woman, Bo district).

352 'Not good enough caring from parents so they leave their children to go out on the street wearing
353 attractive things, so because of that some men cannot control themselves so they rape them' (25-
354 year old woman, Western Rural).

355 Substance use was often mentioned alongside these issues. For some, there was a general concern about
356 the level of substance use, particularly alcohol, cigarette smoking, marijuana smoking and drugs (tramadol),
357 which was seen as a general sign of disrespect for the community, as well as contributing to other forms of
358 disruptive behaviour. For others, they expressed particular concern about the levels of alcohol or tramadol
359 being taken and the relationship with violence.

360 'Alcohol abuse is very common here, and this causes the men to be involved in violent acts' (28-
361 year old man, Bo district)

362 'Boy and girl now involved in drinking and smoking around, which is not good and after drinking
363 they involve in bad habit' (62-year old woman, Kono district).

364 Women, much more than men, identified problems relating to poor relationships within the community.
365 These related primarily to women discussing the behaviour, circumstances and appearance of other
366 women, including telling lies about other women, which created tensions and conflict. Some saw this
367 behaviour as being related to idleness, when women did not have jobs or businesses, whilst others related
368 it to jealousy.

369 'Women are engaged in gossip, they sit talking about people's business, family or if something bad
370 happen to someone, if there is a little argument they spill everything out that they were gossiping
371 about' (38-year old woman, Kailahun district)

372 'Because there is nothing to do, they tend to become idle, no job, talk around, which causes
373 quarrelling and argument' (27-year old woman, Western Rural)

374 Societal factors

375 More than half the problems identified by male respondents were at this level of the socio-ecological
376 model, compared to just over one-quarter of the problems identified by women. The majority of the
377 challenges described at this level related to a lack of services and infrastructure.

378 Problems related to access to water were identified across all districts. In these communities there was
379 either no pipe-borne water taps (so people had to use river water or walk long distances) or insufficient
380 water for the population. The situation was especially difficult during the dry season, when water sources

381 might dry up. This resulted in people drinking unclean water, going long distances to fetch water and/ or
382 paying for water.

383 'Most of the pumps in this community need repair. We even pay for drinking water, because we
384 only have one pump now' (25-year old woman, Kambia district)

385 Respondents from all five areas of the country identified a lack of toilets as a problem affecting their
386 community. Households did not tend to have their own toilets, they shared and there was a lack of public
387 toilets. Many respondents said that the toilets in their community were broken or full because of the
388 number of people using them. The consequence of this was that people went to the bush to defaecate,
389 contributing to sickness within the surrounding communities.

390 'We have only one government toilet in the community, which is not enough for us. We most of
391 the time use the bushes' (37-year old man, Kambia district)

392 A lack of electricity was an issue identified across all districts, with some respondents concerned about the
393 effect of this on business and the development of their community. Problems related to housing were also
394 identified across all areas, with a higher proportion from Bo district and Western Area (the more urban
395 districts). Some highlighted the high cost of rent, connecting to the lack of income-generating
396 opportunities but the issue mentioned most often was the poor condition of housing which led to health
397 problems.

398 'The houses in this community are not properly built, which leads to mosquitos and cockroaches
399 gaining easy access inside our homes' (28-year old man, Kono district)

400 Respondents across all five areas identified a lack of community facilities as being a problem. Respondents
401 particularly in Bo, but also in Kailahun and Kono, said there was a lack of a space for community members
402 to gather for meetings and to host visitors, including a place for youth to gather. The other main
403 community facility said to be lacking was a market. This was highlighted by as many women as men, in
404 contrast to other issues at the societal level.

405 'our market is not built, we try to build it with sticks but when it's rainy season it's really not easy'
406 (24-year old woman, Kailahun district)

407 A lack of access to good healthcare was of concern to men and women across all five areas. For some cost
408 was said to be the main barrier to accessing healthcare, even for services which should be free. However,
409 more commonly mentioned (especially in Bo and Kailahun) was the lack of health facilities within the local
410 area where respondents lived, meaning that they had to travel some distance to access the care they
411 needed. This had implications in terms of the cost of transport, and the time taken to reach a healthcare
412 facility in case of emergencies.

413 'This is a big community but we don't have clinics or health facilities here, which is a serious
414 problem' (27-year old man, Bo district)

415 For some of those who did have access to healthcare facilities, they felt that it was not adequate in terms of
416 the staff availability and competencies, and/ or the medication and equipment available.

417 A lack of access to educational services was identified as a problem affecting men in all five areas, and, to a
418 lesser extent, women. In a number of cases, the barrier to accessing education was cost, despite the fact
419 that education should be freely provided, as with healthcare. In some areas, there was a lack of local
420 government schools meaning that those that were available were very overcrowded, or that children had
421 to walk a considerable distance to attend school.

422 'We lack schools because we only have one structure and it can't accommodate all our children'
423 (24-year old woman, Kailahun district)

424 Men also identified a lack of vocational training or adult education services as a problem, perhaps related
425 to their concern at the lack of income-generating opportunities.

426 Poor road networks were identified as a problem affecting men in all five areas, and, to a lesser extent,
427 women.

428 'The roads are very bad, especially in the raining season. Most cars or public transport don't come
429 here during that time' (55-year old woman, Kambia district).

430 The poor road networks contributed to poverty since the cost of food which had to be transported into the
431 area was higher, and public transport costs were also higher. In some areas, there were limited public
432 transport vehicles, which was attributed in part to the poor state of the roads. Poorly maintained roads

433 were said to contribute to health problems, as the risk of accidents increased and the dust from the roads
434 caused respiratory problems.
435 High costs in general, and of food in particular, were also identified as a problem at this level. This was
436 evident in all areas, but particularly in Kailahun, Kambia and Kono. Where respondents identified a reason
437 for this problem, it was most commonly inflation.
438 The cost of non-food commodities, including fuel and building materials, was said to be increasing and this
439 limited the amount of food families were able to buy with their limited income. The increased cost of fuel
440 also had an impact on the availability and cost of public transport. The cost of farm equipment (tools and
441 fertiliser) was said to hinder crop production, which again had an impact on the availability and cost of
442 food.
443 'The food stuffs are not plenty in the market, so they are expensive' (33-year old man, Kailahun
444 district)
445 **DISCUSSION**
446 The problems which men and women in Sierra Leone identified as affecting their communities were
447 predominantly situated at the family and community and societal levels of their worlds, and were highly
448 interrelated and often fuelled by harmful societal and gender norms. Although few respondents identified
449 individual-level factors specifically, they often described how problems at other levels contributed to
450 physical health and wellbeing problems and emotional distress.
451 The focus on problems at the family, community and societal levels is in line with findings from a study
452 conducted involving young people in Sierra Leone (Efevbera & Betancourt, 2016) and from other contexts
453 (Ventevogel, 2015; Lee et al, 2018). Typically, people are more concerned with social and economic
454 problems than with explicitly psychosocial or mental health issues, but recognise the inter-related nature of
455 these issues.
456 The gendered nature of the responses was apparent, with women reporting to a much greater extent than
457 men that they were affected by problems at the family level. Whilst both men and women reported being
458 affected by problems at the community and societal levels, a greater proportion of the problems reported
459 by men related to poverty or lack of income-generating opportunities and poor infrastructure. There is a

460 clear link with gender norms at societal level, with expectations of both men and women impacting on their
461 wellbeing. For men, the pressure to provide for their families in the absence of income-generating
462 opportunities was an important problem, and contributed in some cases to tensions and conflict within the
463 family, so affecting the wellbeing of all household members. In other contexts, employment has been
464 found to be an important protective factor against mental disorders, especially for men (Lund et al, 2018).
465 Some female respondents explicitly referred to gender norms as a problem for women, and others did so
466 implicitly when they explained how dependence on men, both financially and socially, caused problems for
467 those who were abandoned by their partners, widowed or unmarried. Households headed by women
468 caring for children in the absence of a male partner were reported as being marginalised within their
469 communities; a situation likely to also have negative impacts on the emotional and physical wellbeing of
470 their children. Research on intimate partner violence in Sierra Leone (Horn et al, 2015) links women's
471 financial dependence on men to their inability to leave abusive relationships. Patel et al (2018) refer to
472 studies in various settings which have shown that 'gender disempowerment interacts with other adversities
473 such as poverty, gender-based violence, sexual harassment and food insecurity to increase the prevalence
474 of common mental disorders in women' (p14).
475 The position of women in Sierra Leone has been a cause for concern for some time, leading to a number of
476 initiatives designed to uphold women's rights. Sexual violence against women and girls is widespread in
477 the country. The high levels of illiteracy, economic insecurity and poverty amongst Sierra Leonean women
478 collectively has disempowered women, deterring them from understanding and upholding many of their
479 rights. Recent political initiatives to address this include the "Hands off our Girls" campaign, launched by
480 the current First Lady of Sierra Leone together with First Ladies of other African countries and local girls'
481 rights champions. In February 2019, "a State of Public Emergency over rape and sexual violence" was
482 declared but was revoked by Parliament in June 2019. In September 2019, the Parliament passed the
483 Sexual Offences Amendment Act, which enables more stringent penalties for sexual offence cases to be
484 imposed by the courts. The Gender Equality and Women's Empowerment policy, launched by the Minister
485 of Gender and Children's Affairs in December 2020, seeks to address gender inequalities, minimise poverty
486 levels and incidences of social injustices, and enhance public and private investment to create a society in

487 which all citizens have equal access to basic services and enjoy the same rights and opportunities in
488 enabling environments. The embedded nature of harmful gendered norms creates challenges in achieving
489 the aims of these initiatives; a multi-sectoral approach including both bottom-up and top-down elements is
490 necessary for their success.
491 Infrastructure and the physical environment are often overlooked as factors that impact on psychological
492 wellbeing, but our findings suggest that, especially for men, they are perceived to be important. This is in
493 line with Allen et al's (2014) review of the social determinants of mental health, which concludes that
494 access to basic amenities such as water, sanitation and waste management improvements, interventions
495 such as energy infrastructure upgrades, new transport infrastructure, mitigation of environmental hazards,
496 and improved housing can improve mental health and functioning. Similar findings have been obtained in
497 very different settings. For example, Panter-Brick and Eggerman (2017) conclude that in the Afghan
498 context, a culturally relevant mental health intervention would focus on providing structural, social and
499 economic resources to families who struggle with everyday stressors.
500 Our socio-ecological framing highlights the inter-related nature of problems. In terms of strengthening
501 mental health systems, this indicates that identifying and addressing priority problems at one level of the
502 model is likely to have positive consequences not only on other factors within that level, but also across
503 levels. For example, strengthening income-generating opportunities for both men and women is likely to
504 have positive consequences within the community level as youths involved in anti-social behaviours will be
505 engaged in constructive activity and able to earn an income, but also in terms of family relationships,
506 including the wellbeing and development of children, and on individual physical and psychological health.
507 Miller & Rasmussen (2010) suggest that those daily stressors that are particularly salient and can be
508 affected through targeted interventions should be addressed as a priority, since this will reduce the
509 proportion of the population which will require specialised clinical services (Bolton & Betancourt, 2004). By
510 promoting good psychological wellbeing through improving the quality of the social and material
511 environment, it will be easier to identify those whose distress remains high and who require more focused
512 interventions (whether from mental health specialists or others).

513 Although this study did not aim to investigate the relationship between individual experience of problems
514 and levels of distress, there is considerable evidence from other contexts that this relationship does exist
515 (e.g. Allen et al., 2014; Miller et al, 2008; Lund et al, 2018). In a country such as Sierra Leone, where the
516 capacity for specialised mental health supports is extremely limited, there is a strong argument for focusing
517 resources on improving the economic situation and infrastructure, and strengthening relationships within
518 families and communities, in order to promote good mental health and prevent the development of the
519 more severe forms of distress. It is also important that measures should be put in place to challenge some
520 of these harmful gender and societal norms as a gradual but steady process, for example through the work
521 of Community Health Workers who are active throughout the country.
522 This would also reduce the low-level chronic distress that often results from the type of ongoing non-
523 traumatic daily stressors (Miller & Rasmussen, 2010) described by respondents in this study, and which has
524 been found to be associated with more total disability at a population level than diagnostically defined
525 mental disorders (Das-Munshi et al, 2008). Identifying the key problems affecting people in Sierra Leone,
526 and ways in which inter-sectoral initiatives within the country could address these issues, has the potential
527 to prevent more severe psychological problems and contribute to productivity within the country. This
528 requires professionals in different sectors - including governmental agencies, nongovernmental
529 organisations, private sector organisations, social institutions, community and voluntary groups - to
530 coordinate their efforts and integrate mental health into a broad range of related policy areas (Purgato et
531 al, 2017). This is in line with the World Health Organization (WHO) 'intersectoral action for health' that calls
532 for collaboration by highlighting the importance of a relationship between different health sectors and
533 other sectors for improving health outcomes in a more effective, efficient and sustainable way (World
534 Health Organization, 1997). The involvement of community actors in this process is crucial. Tol (2015)
535 notes that effective prevention and promotion interventions build on the resources that exist within
536 communities; prevention and promotion 'needs national policies, but local actions' (Allen et al, 2014).
537 Mental health practitioners in some parts of the world (Latin America, Palestine) have long argued for
538 political advocacy to achieve structural changes linked to better mental health, and Miller & Rasmussen

539 (2014) suggest that a more central role for advocacy is essential to achieve lasting improvements in mental
540 health and psychosocial wellbeing.
541 In Sierra Leone, the findings of this study contribute to advocacy in two significant areas: addressing gender
542 norms and inequities which have a negative impact on wellbeing; and establishing a coordinated, multi-
543 sectoral effort to promote good mental health and psychosocial wellbeing.
544 As noted previously, there are concerns regarding the position of women in Sierra Leone. However, the
545 findings of this study indicate that the current entrenched gender norms create problems not only for
546 women but also for men, who are often unable to fulfil societal expectations, particularly in relation to
547 providing for the material needs of their families. This contributes to tensions in the home and family
548 conflict and violence, which in turn leads to emotional and physical health problems. The inter-related
549 effects of gender expectations and norms in Sierra Leone have a clear connection to mental health issues,
550 and any public health strategy must take these into account.

551 In order to address this and other issues contributing to the mental health and psychosocial wellbeing of
552 the Sierra Leonean population, a multi-sectoral, multi-level coordinated effort is essential. The findings of
553 this study indicate that actors with responsibility for transport networks, water and sanitation, education,
554 social welfare and gender issues all have a role to play in addressing mental health issues, in addition to
555 that of the health sector. Collaborative, multi-sectoral policy implementation in Sierra Leone would
556 promote the effectiveness of policies relating to cross-cutting issues such as mental health, psychosocial
557 wellbeing and gender issues. Historically, there has been a disconnect between implementation at national,
558 regional and local levels, leading to fragmented efforts with little sustainable impact. One of the factors
559 contributing to this is short-term support from partners on specific projects, implemented at local level and
560 not embedded in systems which will continue after projects are completed. During the Ebola outbreak in
561 Sierra Leone, lessons were learned about the importance of Ministries and other bodies working
562 collaboratively towards a common goal, and similar approaches will be required in order to strengthen the
563 mental health and psychosocial wellbeing of the population.

564 Limitations

565 The freelisting method has limitations, primarily relating to the fact that it does not permit in-depth
566 exploration. Whilst the methodology had great utility in an exploratory study designed to learn about local
567 perspectives in a relatively short period of time, it did not enable systematic study of the relationships
568 between the different problems identified (or the levels of the socio-ecological model).

569 Tol (2015) and others (e.g. Patel et al, 2018) have emphasised the importance of taking a developmental
570 perspective on prevention and promotion in mental health in LMICs. We did not address age-related
571 diversity within the data. Further research in this area should explore not only age differences within the
572 adult population of Sierra Leone, but also problems experienced by young people and children, building on
573 the work conducted by Efevbera and Betancourt in 2008 and 2010 (2016).

574 The small number of respondents in each location make it difficult to draw conclusions about within-
575 country differences in priority issues, and these should also be explored more fully in future studies.

576 Conclusions

577 Poverty and inability to earn an income underpinned many of the problems described at individual, family
578 and community level. Actions to address this issue, together with improving infrastructure and addressing
579 gender norms which are harmful to both men and women, will contribute substantively to the wellbeing of
580 the Sierra Leone population, and in turn contribute to the development of the country.

581 The next phase of our work will investigate the relationship between social determinants and levels of
582 distress in Sierra Leone. This will enable the identification of the aspects of people's lives which
583 (individually and in combination) contribute most significantly to levels of distress, and so should be
584 prioritised by bodies aiming to strengthen mental health systems in Sierra Leone.

585

586 **DECLARATIONS**

587 **Ethics approval and consent to participate**

588 This study was given ethical approval by Queen Margaret University Edinburgh Research Ethics Committee
589 and by the Office of the Sierra Leone Ethics and Scientific Review Committee, Ministry of Health and
590 Sanitation.

591 **Consent for publication**

592 Not applicable

593 **Availability of data and materials**

594 The datasets generated and analysed during the current study are available from the corresponding author

595 on reasonable request.

596 **Competing interests**

597 The authors declare that they have no competing interests.

598 **Funding**

599 This research was funded by the National Institute for Health Research (NIHR) Global Health Research

600 programme 16/136/100. The views expressed are those of the authors and not necessarily those of the

601 National Health Service, the NIHR or the UK Department of Health and Social Care.

602 **Authors' contributions**

603 RH conceived of and designed the study, and led on the data collection and analysis, and the drafting of the

604 manuscript. SA contributed to the data analysis and interpretation. HW supported local arrangements,

605 including ethical review and clearance, and contributed contextual and policy-related input to the

606 manuscript. AA contributed to the data analysis and was a major contributor in writing the manuscript. All

607 authors read and approved the final manuscript.

608 **Acknowledgements**

609 We acknowledge the commitment and contribution of the local researcher team supporting data collection

610 for this study: Joan B. Lavally, Angella S. Sumaila, Jonathan Nyuma, Emmanuel Alpha, Hassan Milton

611 Conteh, Simeon S. Sesay, Mamadu Jalloh, Amjata Bayoh, Sylvanus Aitkins, Tenneh Millicent Conteh and

612 Isatu A. Conteh. Elizabeth Lemor at the College of Medicine and Allied Health Sciences (COMAHS)

613 supported field logistics.

614

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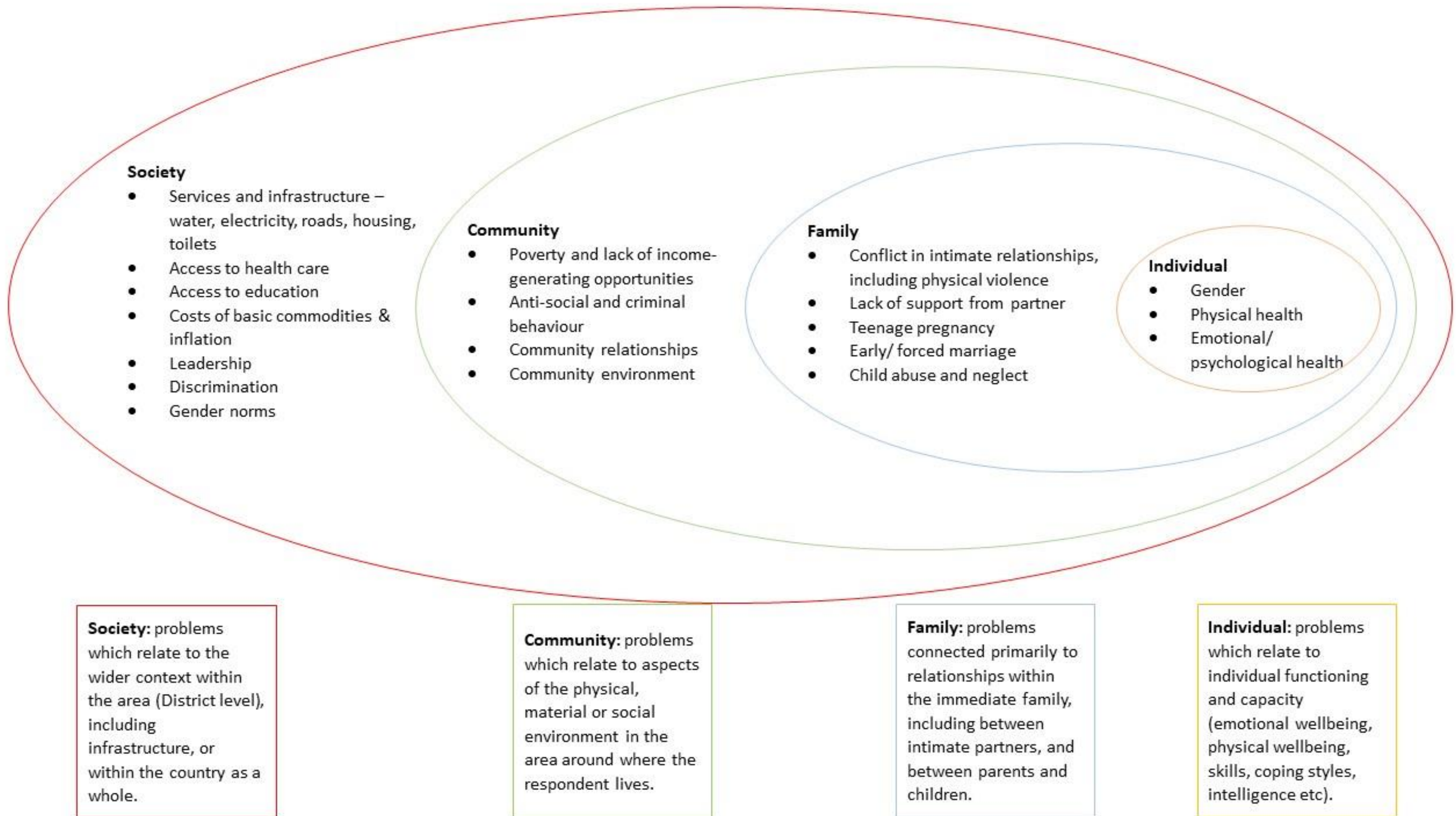
715

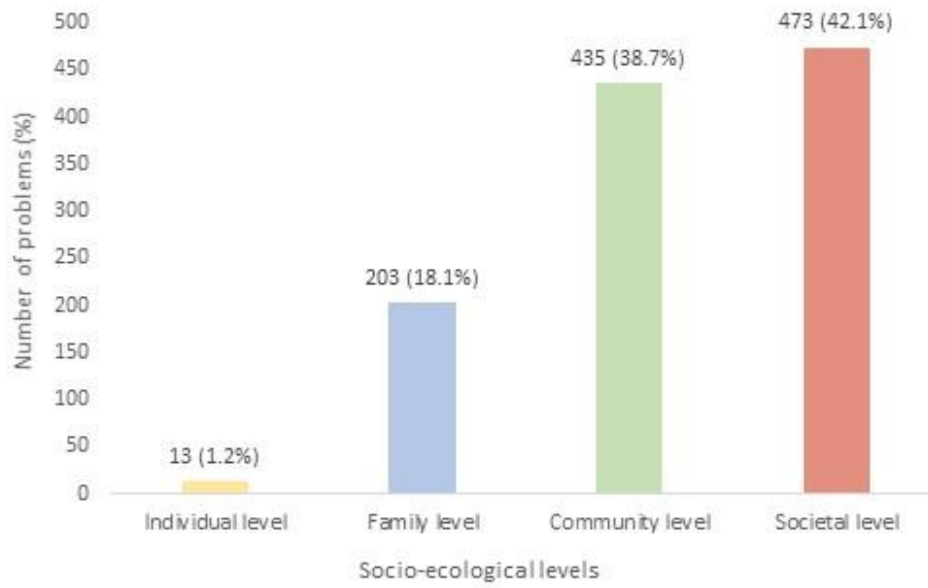
716 Figure 1. Socio-ecological model illustrating range of problems identified

717



718

719 Figure 2. Number of problems identified at different levels



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