Refugee Health and Wellbeing: Differences between Urban and Camp-Based Environments in Sub-Saharan Africa

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Refugees are increasingly migrating to urban areas, but little research has been conducted to compare health and wellbeing outcomes of urban refugees with those based in camps. This analytic cross-sectional study investigated differences in health-related quality of life (QoL) for urban and camp-based refugees in sub-Saharan Africa, and assessed the influences of both the environment and the perceived environment on refugees’ health-related QoL using the World Health Organization’s Quality of Life scale (WHOQOL-BREF.) Data for urban refugees were drawn from an administrative database used by an international agency that serves refugee populations in South Africa. Data for camp-based refugees were collected via surveys conducted at two refugee camps in sub-Saharan Africa. Refugees in urban environments reported significantly higher satisfaction with overall health, physical health and environmental wellbeing than refugees placed in camps. In multivariate analyses, urban environments were associated with better physical health for refugees, compared to camp environments. In addition, refugees’ perceptions of their environment, particularly feeling safe in daily life and in the home environment, as well as being satisfied with living conditions, were more strongly associated with physical health than the environment itself, whether urban or camp-based.

Keywords: Self-reported health, quality of life, urban refugees, camp-based refugees, sub-Saharan Africa, WHOQOL-BREF
Introduction

Worldwide, refugees increasingly are settling into urban areas, with over half of the world’s 11.7 million refugees now living in cities. In sub-Saharan Africa, however, nearly two-thirds of refugees still live in camps (UNHCR 2013). Whether in refugee camps or urban areas, refugees face unique challenges accessing health care and being exposed to environmental hazards with negative consequences for their health and wellbeing (Pavlish et al. 2012). The purpose of this study is to compare the perceived quality of life (QoL) among refugees living in urban and camp-based environments in sub-Saharan Africa, and to assess the influences of both the environment and the perceived environment on refugees’ reported physical health.

By itself, forcible displacement places refugees at high risk of poor health and social outcomes (Davies et al. 2006) given the violence that usually precipitates such displacement (Kalipeni and Oppong 1998; Zimmerman et al. 2011). Compared with non-refugee populations, refugees experience poorer mental health outcomes (Hollander 2013) linked with prior exposure to violence (Fazel et al. 2012), reduced employment opportunities and satisfaction with accommodations (Campbell 2012). Similarly, refugees also experience poor physical health outcomes (Hollander 2013) often related to environmental factors such as overcrowding and poverty (Roberts et al. 2009).

The social and environmental determinants of health for refugees are complex and multifaceted. Coker’s (2004) metaphor of the ‘refugee body’ suggests that, for refugees, self-reported physical pain encompasses both individual and social trauma. Culturally, physical health itself can be an embodied metaphor for the violence and societal dislocation experienced by refugees (Singer and Adams 2011). Moreover, the effects of the environment on health outcomes are well documented (Diez Roux and Mair 2010), and researchers are becoming increasingly aware that individuals’ perceptions of their environment are significant predictors of health (Wen et al. 2006; Wilson-Genderson and Pruchno 2013) and health-related QoL (Hill et al. 2012). Given refugees’ complex determinants and interpretations of health, as well as research showing that perceptions of the environment are strong predictors of health (Mmari et al. 2014), it is important to include both refugees’ self-reported health and perceptions of their environments as contributors to health outcomes.

Much of the existing research on the health and wellbeing of currently displaced refugees has focused on those living in camps. Refugees placed in camps are at heightened risk for poor health outcomes, as security and protection issues are compounded by poor sanitation, shelter, hygiene and lack of medical services (Steel et al. 2011). Additionally, camp-based refugees also experience a significant amount of mental distress and disorders as they wait in camps for protracted and indefinite periods (Araya et al. 2007; Lacroix and Al-Qdah 2012).
Although there is a global shift towards urban destinations for refugees—
and a concomitant shift away from camps as a long-term humanitarian
solution (Kagan 2013; Seeley 2013)—relatively little is known about the
health and wellbeing of those forcibly migrating to urban areas (Steel et al.
2011; Crisp et al. 2012). Existing evidence suggests that urban refugees lack
documentation to allow access to employment or public services, and
particularly in South Africa, these refugees have been repeatedly subject to
xenophobic attacks from local populations (Misago and Monson 2010).
Refugees in urban Uganda face similar challenges in accessing basic health
care and education services (Refugee Law Project 2005) and building sustain-
able livelihoods (Krause-Vilmer 2011). Research suggests that urban refugees
may be prone to developing non-communicable diseases, although no
research has been conducted specific to sub-Saharan Africa (Amara and
Aljunid 2014). Urban refugees are also vulnerable to a number of risk factors,
such as crowded living conditions and risky sexual behaviours, which place
them at increased risk for communicable diseases such as tuberculosis and
HIV (IOM 2011). These risk factors may suggest that, in spite of increased
freedom of movement, urban refugees may be little better off in terms of
health and QoL outcomes when compared with camp-based refugees.

The ‘highest attainable standard of health’ is a fundamental human right
according to the World Health Organization (WHO 2002: 11), and the pri-
mary goal of the Office of the United Nations High Commissioner for
Refugees (UNHCR) is the safeguarding and protection of refugee rights
(UNHCR 2014). UNHCR (2009) has focused on promoting durable solu-
tions to improve refugee wellbeing in the urban areas which increasingly serve
as destination centres for forced migrants. Yet, little is known about whether
QoL for urban refugees is better than for refugees in camps, or about the role
that both the environment itself and the perceived environment play in refu-
gees’ health-related QoL.

This study addresses this gap. We investigated differences in health-related
QoL for urban and camp-based refugees and assessed the associations of
both the environment and the perceived environment on refugees’ health-
related QoL. Specific research questions are: (i) Are there differences in
self-reported QoL between refugees in urban and camp-based environments
and (ii) how do refugees’ urban or camp-based environments, and their
assessments of their environments, each predict self-reported physical health?

Methods

Sample

Participants in this analytic cross-sectional study (N = 430) were drawn from
two sources, depending on whether they were urban or camp-based refugees.
Data for urban refugees (N = 334) were drawn from an administrative data-
base collected between June 2012 and August 2013 by an international agency
that provides emergency assistance and livelihoods support in Johannesburg ($N=205$) and Pretoria ($N=129$), South Africa. Data for camp-based refugees ($N=96$) were collected in August 2013 as part of a larger evaluation of a pilot program of higher education being implemented at two camps in Eastern Africa ($N=29$ in Camp 1, and $N=67$ in Camp 2). For urban refugees, agency staff administered the survey; for camp-based refugees, the principal investigator administered the survey. The study protocol was approved by the Institutional Review Board (IRB) at Boston College.

**Measures**

Our primary measures derive from an adapted version of the World Health Organization’s (WHO) brief version of the Quality of Life scale (WHOQOL-BREF) (Murphy *et al.* 2000). The original WHOQOL-BREF contained 26 items clustered within four domains (physical health, psychological health, social relationships and the environment) and two stand-alone questions related to overall QoL and satisfaction with health (higher scores represent better ratings). The raw scores of each domain are transformed to scale variables ranging from 0.00 to 1.00. The measure has good internal consistency, ranging from $\alpha=0.60–0.90$, and test–retest reliability of above $r=0.80$ for each domain (Murphy *et al.* 2000). The WHOQOL-BREF is commonly and increasingly used in international settings (e.g. Cruz *et al.* 2011; Zhang *et al.* 2012) and shows promise as a valid cross-cultural measurement of QoL (Saxena *et al.* 2001; Skevington *et al.* 2004b; Rocha *et al.* 2012). Additionally, an increasing body of research relies upon self-reported QoL (Hammoudeh *et al.* 2013) as a means of assessing the social and environmental correlates of health. Self-reported data on QoL have been shown to be highly correlated with mortality and morbidity, and is particularly useful when surveying populations living under duress, such as refugees (Skevington *et al.* 2004a; Hammoudeh *et al.* 2013).

However, it is also known that perceptions of QoL are culturally conditioned and may be influenced to circumstances that are unique to each population (Giacaman *et al.* 2007). Therefore, researchers of this study conducted a focus group with local non-governmental organization (NGO) staff in South Africa to determine whether the WHOQOL-BREF would be appropriate for use prior to data collection with these populations. Concerns were noted about several *Psychological Health* domain indicators (i.e. spirituality, thinking/concentration, body image/appearance and self-esteem) believed to be foreign to sub-Saharan African understanding of this domain. In addition, items in the *Social Relationships* domain (i.e. personal relationships, sexual activity) were also a source of concern and thought to be violations of privacy. Based on these results from the focus groups, the researchers removed these domains from the measure to be sensitive to local cultural norms.

Internal consistency for the remaining *Physical Health* and *Environmental Wellbeing* domains were acceptable in the sample, with $\alpha=0.74$ and $\alpha=0.75$.
for each, respectively. Additional variables included gender (male = 1), urban setting versus camp-based setting and regional origin (Central Africa versus Eastern/Northern/Western Africa).

**Analysis**

Bivariate analyses were conducted to examine differences between urban \( (N = 334) \) and camp-based \( (N = 96) \) refugees. Chi-square tests were used to explore differences in gender and region of origin. Independent samples \( t \)-tests were used to explore differences in overall self-reported QoL and satisfaction with health, as well as in the domains of Physical Health and Environmental Wellbeing. To address our second research question on how refugees’ urban or camp-based environments and their assessments of their environments each predicts physical wellbeing, we conducted a hierarchical multiple regression approach that examines changes in coefficients and \( R^2 \) with the addition of further predictors to the model (Petrocelli 2003). We used multiple imputation to account for a small amount of missing data. We examined three models. Model 1 specified only gender as predictor. Model 2 included the additional predictors of setting (urban versus camp-based) and regional origin (Central Africa versus other African regions). We also added in Model 2 the dummy variables (Johannesburg versus other) and (Camp 1 versus other) to account for within-group variance in urban and camp-based settings. Model 3 added the WHOQOL-BREF domain of Environmental Wellbeing as an additional predictor. Stata 13 was used for all analyses.

**Results**

Sample demographics are presented in Table 1. The overall sample tended to be male, with an even representation in urban settings but an overrepresentation in camp settings \( (p < 0.001) \). Countries of origin were clustered into the regions of Eastern, Central and Northern/Western Africa, and these patterns differed between urban and camp-based settings \( (p < 0.05) \). Thus, the Central region includes mostly refugees from Democratic Republic of Congo (55.3 per cent), plus a small number from Cameroon (0.7 per cent), Congo-Brazzaville (0.7 per cent) and Angola (0.5 per cent). The Northern/Western region includes refugees from Nigeria (1.4 per cent) and Sudan (1.2 per cent). The Eastern region includes refugees from Burundi (7.7 per cent), Eritrea (0.9 per cent), Ethiopia (0.9 per cent), Ghana (0.2 per cent), Kenya (1.6 per cent), Malawi (0.5 per cent), Rwanda (5.6 per cent), Somalia (6.7 per cent), Tanzania (0.2 per cent), Uganda (4.9 per cent), Zambia (0.9 per cent) and Zimbabwe (6.0 per cent).

Table 2 shows no significant differences in the single-item measure of overall QoL between urban and camp-based refugees. However, urban refugees reported significantly higher overall satisfaction with health than camp-based
refugees \((p<0.001)\). For the domain of Physical Health, urban refugees reported a mean of 58.9 (SD = 17.5) out of 100.0, compared with 49.0 (SD = 15.0) for camp-based refugees \((p<0.001)\). On average, urban refugees reported higher (i.e. better) scores on indicators of physical health, in particular physical pain \((p<0.001)\), needing medical treatment \((p<0.001)\), having enough energy \((p<0.01)\), ability to get around \((p<0.001)\), satisfaction with sleep \((p<0.01)\) and satisfaction with work \((p<0.05)\).

For the domain of Environmental Wellbeing, urban refugees reported a mean of 38.0 (SD = 14.9) compared with 26.3 (SD = 12.3) for camp-based refugees \((p<0.001)\). Urban refugees reported better environmental conditions on most indicators, particularly feeling safe in daily life \((p<0.05)\), feeling safe in the home environment \((p<0.05)\), availability of information \((p<0.01)\), satisfaction with living conditions \((p<0.001)\), satisfaction with access to health services \((p<0.001)\) and satisfaction with access to transportation \((p<0.001)\).

Results of hierarchical multiple regression models are reported in Table 3, with the Physical Health domain as the dependent variable. Model 1 included gender as a predictor, which was not statistically significant, and resulted in adjusted \(R^2\) of 0.000. In Model 2, significant additional predictors included urban setting (versus camp-based; \(p<0.001\)) and adjusted \(R^2\) for this model increased to 0.075. The dummy control variable Camp 1 (versus other) also was significant \((p<0.05)\) such that the model controls for significant variability within the camp-based group of respondents. In Model 3, all independent

### Table 1

<table>
<thead>
<tr>
<th>Sample Characteristics</th>
<th>Total ((N=430))</th>
<th>Urban ((N=334))</th>
<th>Camp ((N=96))</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Camp 1</td>
<td>6.7</td>
<td>–</td>
<td>30.2</td>
</tr>
<tr>
<td>Camp 2</td>
<td>15.6</td>
<td>–</td>
<td>69.8</td>
</tr>
<tr>
<td>Johannesburg (South Africa)</td>
<td>47.7</td>
<td>61.4</td>
<td>–</td>
</tr>
<tr>
<td>Pretoria (South Africa)</td>
<td>30.0</td>
<td>38.6</td>
<td>–</td>
</tr>
<tr>
<td><strong>Gender</strong>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>37.9</td>
<td>44.9</td>
<td>13.5</td>
</tr>
<tr>
<td>Male</td>
<td>58.1</td>
<td>50.9</td>
<td>83.3</td>
</tr>
<tr>
<td>Missing</td>
<td>4.0</td>
<td>4.2</td>
<td>3.2</td>
</tr>
<tr>
<td><strong>Region of origin</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastern Africa</td>
<td>36.7</td>
<td>36.5</td>
<td>37.5</td>
</tr>
<tr>
<td>Central Africa</td>
<td>57.2</td>
<td>60.8</td>
<td>44.8</td>
</tr>
<tr>
<td>Northern or Western Africa</td>
<td>2.5</td>
<td>1.8</td>
<td>5.2</td>
</tr>
<tr>
<td>Missing</td>
<td>3.6</td>
<td>0.9</td>
<td>12.5</td>
</tr>
</tbody>
</table>

\*\(p<0.05\); \***\(p<0.001\).
variables were included, and we obtained significant results for urban settings ($p<0.05$) and *Environmental Wellbeing* ($p<0.001$). Adjusted $R^2$ for this model increased to 0.346.

To explore further the relationship between perceptions of the environment and physical health, we conducted a series of post-hoc regression analyses replacing the *Environmental Wellbeing* domain with each individual indicator of the domain as a predictor. We then examined adjusted $R^2$ for each model to examine which indicator accounted for the most variance in the models. The highest indicator proved to be feelings of safety in daily life ($R^2=0.226$), followed by feeling safe in the home environment ($R^2=0.202$) and satisfaction with living conditions ($R^2=0.193$).

### Discussion

This study investigated differences in health-related QoL for urban and camp-based refugees and assessed the influences of both the environment and the perceived environment on refugees’ health-related QoL. We found...
significant differences between urban and camp-based refugees. Refugees living in camps reported lower satisfaction with health, and fared worse on nearly every indicator of physical health and environmental wellbeing than their urban counterparts. These results confirm earlier research on camp-based refugees (Araya et al. 2007; Steel et al. 2011) and suggest that those in urban areas may be doing better, although refugees’ perceptions of their environment also proved to be a significant predictor of health.

The relationship between refugees’ physical and environmental scores sheds light on these differences. Being in an urban setting predicted an average 17 per cent unit increase in self-reported physical health, after adjusting for gender and region of origin. However, in the final model, a unit increase in perceived environment predicted a 65 per cent unit increase in self-reported physical health both in urban and camp-based settings (and resulted in much improved model fit). This finding suggests that, for this sample, subjective assessments of environmental wellbeing are as important in predicting physical health as the environment itself. While refugees living in urban areas are more likely to report better physical health, refugees’ perceptions of the quality of their environments are more strongly associated with physical health than the urban location itself. Notably, in our post-hoc analyses, the strongest environmental indicators were related to feeling safe in living conditions. This finding is consistent with research that shows community-level violence,

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$b$ (SE)</td>
<td>$p$</td>
<td>$b$ (SE)</td>
</tr>
<tr>
<td><strong>Constant</strong></td>
<td>0.59 (0.03)</td>
<td>0.000</td>
<td>0.45 (0.04)</td>
</tr>
<tr>
<td>Gender (male versus female)</td>
<td>–0.02 (0.02)</td>
<td>0.313</td>
<td>0.01 (0.02)</td>
</tr>
<tr>
<td>Urban setting (versus camp-based) [controls]</td>
<td>0.17 (0.03)</td>
<td>0.000</td>
<td>0.06 (0.03)</td>
</tr>
<tr>
<td>Johannesburg (versus other)</td>
<td>–0.04 (0.02)</td>
<td>0.071</td>
<td>–0.03 (0.02)</td>
</tr>
<tr>
<td>Camp 1 (versus other)</td>
<td>0.09 (0.04)</td>
<td>0.039</td>
<td>0.05 (0.04)</td>
</tr>
<tr>
<td>Regional origin (Central Africa versus Eastern/Northern/Western)</td>
<td>–0.03 (0.02)</td>
<td>0.161</td>
<td>–0.01 (0.02)</td>
</tr>
<tr>
<td>Environmental wellbeing</td>
<td>0.65 (0.05)</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td><strong>Adj. $R^2$</strong></td>
<td>0.000</td>
<td>0.075</td>
<td>0.346</td>
</tr>
</tbody>
</table>
as well as perceptions of the violence in the community, to be significant predictors of individual health outcomes, albeit for a non-refugee population (Mmari et al. 2014).

Despite these relationships, urban and camp-based refugees did not significantly differ on the single-item indicator of overall QoL. At least two explanations account for this lack of difference. The first one is that the item used to assess overall QoL was not functionally equivalent for the populations and the context of the research and therefore did not capture differences between groups, although differences may have existed. The second explanation is that self-assessed QoL, which measures an evaluative component of one’s own wellbeing (McMahan and Estes 2011), may have captured refugees’ assessments of their life in an environment far from the original conflict area. The lack of differences between urban and camp-based refugees concerning the single-item QoL may reflect refugees’ positive assessment of a current safe environment (regardless of the setting) as compared to the horrors experienced before being forced to flee their home countries.

The results of this study also suggest that refugees in sub-Saharan Africa, regardless of their location in camps or urban areas, show some of the lowest documented QoL for the domains of physical health and environmental wellbeing (see Skevington et al. 2004a; Hammoudeh et al. 2013), and that these domains are highly correlated. More research is needed on the environmental determinants of refugee health, and to explore how cultural conceptions of physical health and environmental wellbeing also influence health outcomes for this population (Coker 2004; Singer and Adams 2011).

Limitations

This study has limitations. The data are cross-sectional and cannot account for change over time. There may be a selection bias in that those migrating to urban areas could be wealthier, or healthier, compared to those settled into camps; existing research shows that more affluent migrants (not restricted to refugees) experience fewer negative health effects related to migration (Benach et al. 2011). Yet, urban refugees may suffer disproportionately from non-communicable diseases (Amara and Aljunid 2014), such that they may not be spared from the ill effects of migration even if they are wealthier (Benach et al. 2011). We were not able to collect data on the full range of WHOQOL-BREF domains that would include social and psychological information, nor were we able to collect certain demographic information from camp-based respondents. The sample included in this study may not be generalizable to larger populations, especially to those in refugee camps where, given time and logistical constraints, we only were able to collect data on 96 respondents. It is likely, however, that camp-based respondents in our sample may experience higher QoL than the general population given their intensive involvement in NGO programming. We also recruited a disproportionately low number of females at refugee camps, because the program in which
participants were enrolled focused on higher education. Given the gender biases that exist in refugees’ countries of origin, most females did not qualify for participation in this program and, by extension, our data-collection efforts. The extent to which study participants provided socially desirable responses is unknown.

Conclusion

This study is the first empirical examination, to our knowledge, that investigated differences in health-related QoL for urban and camp-based refugees in sub-Saharan Africa, and assessed the influences of both the environment and the perceived environment on refugees’ health-related QoL. Results suggest that refugees in urban areas may be faring better than their camp-based counterparts, and that refugees’ subjective assessments of their environments are the most important predictor of physical health irrespective of location. Further research should be conducted to compare outcomes for these populations using conventional health measures as well as subjective assessments.

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