The psychological toll of slum living in Mumbai, India: A mixed methods study

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ABSTRACT

In India, "non-notified" slums are not officially recognized by city governments; they suffer from insecure tenure and poorer access to basic services than "notified" (government-recognized) slums. We conducted a study in a non-notified slum of about 12,000 people in Mumbai to determine the prevalence of individuals at high risk for having a common mental disorder (i.e., depression and anxiety), to ascertain the impact of mental health on the burden of functional impairment, and to assess the influence of the slum environment on mental health. We gathered qualitative data (six focus group discussions and 40 individual interviews in July–November 2011), with purposively sampled participants, and quantitative data (521 structured surveys in February 2012), with respondents selected using community-level random sampling. For the surveys, we administered the General Health Questionnaire-12 (GHQ) to screen for common mental disorders (CMDs), the WHO Disability Assessment Schedule 2.0 (WHO DAS) to screen for functional impairment, and a slum adversity questionnaire, which we used to create a composite Slum Adversity Index (SAI) score. Twenty-three percent of individuals have a GHQ score $\geq$5, suggesting they are at high risk for having a CMD. Psychological distress is a major contributor to the slum's overall burden of functional impairment. In a multivariable logistic regression model, household income, poverty-related factors, and the SAI score all have strong independent associations with CMD risk. The qualitative findings suggest that non-notified status plays a central role in creating psychological distress—by creating and exacerbating deprivations that serve as sources of stress, by placing slum residents in an inherently antagonistic relationship with the government through the criminalization of basic needs, and by shaping a community identity built on a feeling of social exclusion from the rest of the city.

1. Introduction

In India, an estimated 44 to 105 million people live in urban slums (Millennium Development Goals database, 2009; Ministry of Statistics and Programme Implementation, 2013). While both the United Nations (UN) and the Government of India have official slum definitions (Appendix A), these definitions conceal substantial differences in deprivation both between settlements (inter-slum variation) and within settlements (intra-slum variation). One of the major causes of inter-slum variation is a legal divide between notified (government-recognized) slums and non-notified (unrecognized) slums. Thirty-seven percent of slum households in India and 39% of slum households in Maharashtra, the state in which Mumbai is located, are non-notified (Ministry of Statistics and Programme Implementation, 2013). Across India, non-notified slums suffer from substantially poorer access than notified slums to latrines, piped water, electricity, and housing materials; they also

receive much less assistance from government slum improvement schemes (Ministry of Statistics and Programme Implementation, 2013).

In this paper, we investigate mental health in Kaula Bandar (KB), a non-notified slum with a population of about 12,000 people situated on a wharf on Mumbai's eastern waterfront. Originally settled decades ago by migrants from Tamil Nadu, KB has recently witnessed a wave of migrants from the poorer north Indian states of Uttar Pradesh and Bihar. KB is located on land held by the Mumbai Port Trust (MbPT), a central (federal) government agency that has no official slum policy. As a result, KB residents live in a state of *legal exclusion*. Although the slum is located only six kilometers from the country's stock exchange, its occupation of a legal "no man's land" offers no clear possibility for securing land and housing tenure or formal access to municipal water and sanitation infrastructure (Subbaraman et al., 2013). We have previously shown that the disparity in access to resources between KB and other Mumbai slums results in dramatically poorer health and educational outcomes in KB (Subbaraman et al., 2012). This study of mental health in KB is therefore partly an investigation of the psychological consequences of legal exclusion; it is also undertaken in the context of a paucity of studies globally on the impact of the slum environment on mental health, despite the fact that an estimated one billion people worldwide live in slums (UN-Habitat, 2006).

We first estimate the burden of common mental disorders (i.e., major depression and generalized anxiety) in KB using quantitative data and also examine the adverse impact of psychological distress by assessing its relative contribution to the overall burden of functional impairment in the slum. We then investigate the impact of the slum environment on the risk of having a common mental disorder (CMD) in multiple multivariable analyses, using a "Slum Adversity Index" to capture meaningful intra-slum variation in cumulative exposure to slum-related stressors.

We subsequently use findings from in-depth qualitative interviews and focus group discussions (FGDs) with KB residents to understand *how* each slum adversity causes psychological distress. The qualitative findings suggest that KB's condition of legal exclusion plays a central role in creating psychological distress—by creating or exacerbating deprivations that serve as sources of stress, by placing residents in an inherently antagonistic relationship with the government through the criminalization of activities required for basic survival, and by shaping a community identity built on a feeling of social exclusion from the rest of the city.

2. Methods

2.1. The qualitative interview phase

We collected the qualitative data with three purposes: to provide an empirical basis for creating a "slum adversity" survey questionnaire for the quantitative phase, to collect narrative data that illuminate *how* specific adversities lead to psychological distress, and to situate these adversities in KB's larger context of non-notified status. The interviews were collected by four PUKAR researchers who had three years of prior field research experience in KB. The qualitative questionnaire was translated into Hindi, Marathi, and Tamil and began with an open-ended free-listing exercise to allow respondents to identify important life adversities without influence from the interviewer. Since some adversities may not be freely volunteered, interviewees were then read a list of possible slum adversities and asked whether and how these had negatively impacted them. After obtaining informed consent, interviews were audio-recorded in Hindi, Tamil, or Marathi. Each interview or FGD took 40—60 min and was transcribed and translated into English for analysis.
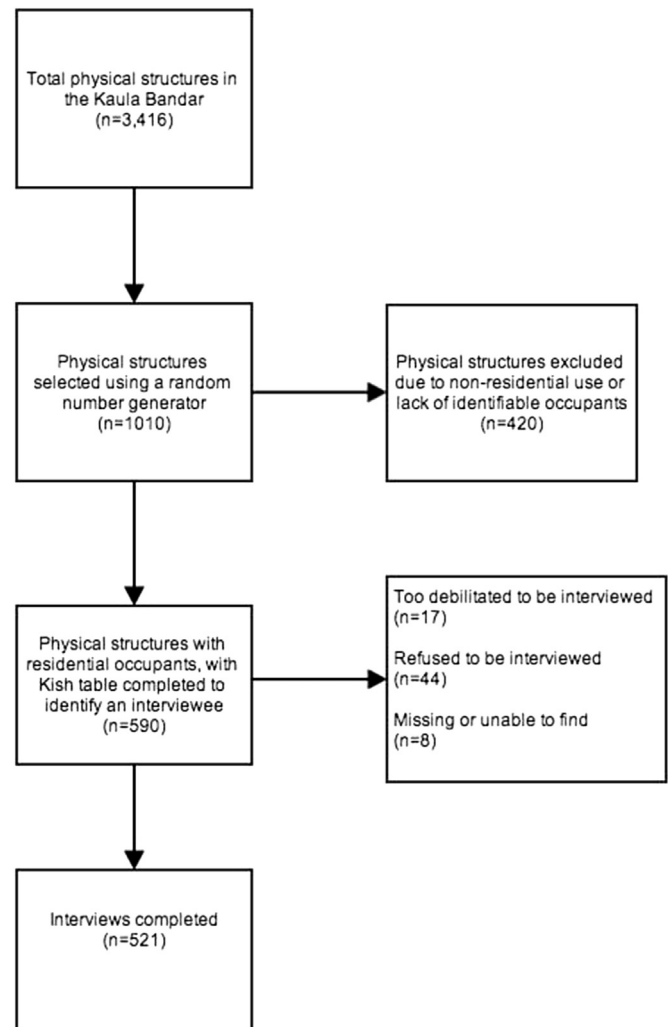

Fig. 1. Sample selection flow chart for the quantitative survey.

In July 2011, six focus group discussions (FGDs) were performed in Hindi (three male-only and three female-only groups), with approximately six to nine individuals in each group. All FGD participants, including those of Tamil origin, were fluent in Hindi. The FGDs included 21 men with ages ranging from 19 to 70 (median 30) years and 25 women with ages ranging from 22 to 65 (median 35) years. In November 2011, individual interviews were collected with one transgender person, 19 men, and 20 women. We purposively sampled individuals using a framework that ensured representation of major ethnic and religious groups in KB. The ethnic composition of the 40 individual interviewees included 17 (43%) North Indians, 17 (43%) South Indians, and 6 (15%) Maharashtrians. With regard to religious composition, the interviewees included 20 (50%) Muslims, 15 (38%) Hindus, 3 (8%) Christians, and 2 (5%) Buddhists. Fourteen (35%) report being illiterate or having never enrolled in school. The men had ages ranging from 25 to 72 (median 38) years; the women had ages ranging from 21 to 55 (median 33.5) years.

2.2. The quantitative survey phase

In January 2012, we performed a census in which we enumerated a total of 3416 potential living spaces in KB (Thomson et al., 2014). We then used a random number generator to select 1010 potential living structures from this comprehensive database, of which 420