International Conference on Geographies of Health and Living in Cities: Making Cities Healthy for All, Healthy Cities 2016

Living environment and psychological distress in the general population of Hong Kong

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Abstract

Hong Kong is well known for its high-rise and high-density housing where living conditions are inevitably linked to psychological distress. Understanding environmental factors at household- and neighbourhood-level is essential for future urban planning. The present study examines the association between built environment, housing and neighbourhood quality and psychological distress in a sample of 702 participants recruited from the longitudinal study of Hong Kong Mental Morbidity Survey (HKMMS). Participants with significant psychological distress perceived poorer quality of household and neighbourhood environments in various domains. Smaller household size and older property were also associated with increased risk of psychological distress, after controlling for other potential confounders. The data shed light on the importance of urban environment in the ecological model of mental health.

Keywords: Living environment; Housing; Neighbourhood; Psychological distress; Mental health

1. Introduction

Population living in urban areas, especially in the more developed countries, has been growing tremendously in the recent centuries[1]. Living environment has been considered as one of the key determinant of population health,

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both physical and mental[2-4]. Previous evidences showed that living environment built with better-qualified or destination-driven facilities were associated with better general health, increased physical activity level, lower obesity, less reported of depression and alcohol abuse[5-7]. Not only does living environment has a significant impact on adults, it also affects physical and cognitive development in children[8], as well as the quality of life, functioning and longevity in older people[9, 10]. While majority of past studies examining the relationship between living environment and health have focused predominantly on physical health, there is an increasing emphasis on its effects on mental health[11, 12].

In Hong Kong, environmental studies regarding mental health have been mainly focused on children[13], adolescents[14], and older people[15, 16]. There is insufficient evidence to address the impact of living environment on mental health among the general population. The present study, therefore, aims to examine the links between built environment, housing and neighbourhood quality and psychological distress using general population data, while controlling for socio-demographic and economic factors. We hypothesized that significant psychological distress would be associated with poorer perceptions of environmental characteristics. Also, satisfaction with the quality of household and neighbourhood environments would be negatively associated with the level of psychological distress.

2. Methods

2.1. Study design and participants

Hong Kong Mental Morbidity Survey (HKMMS) is the first territory-wide psychiatric epidemiological study in Hong Kong. At baseline interview, community data were collected through face-to-face interviews of 5,719 non-institutionalized individuals aged 16-75 from November 2010 to May 2013. Eligible participants were interviewed by trained research assistants using rater-administered instruments. The overall participation rate was 68%. Detailed methods of recruitment have been described elsewhere[17]. Three years after the baseline assessment, 1,040 participants were randomly selected and invited to participate the follow-up study. To examine living environment, the interviews were carried out in participants' homes and each assessment lasts for about 60-90 minutes. The present paper reported the preliminary results of the first 702 participants recruited. The study was approved by the Clinical Research Ethics Committees of the University of Hong Kong and the Chinese University of Hong Kong. Written informed consent was obtained from all participants.

2.2. Assessments

Sociodemographic information including age, gender, education attainment, marital and employment status, personal and household income, financial subsidy and difficulty were collected. Information about the living environment, such as property age, housing type, floor level, household size, and housing tenure status, were collected using standardized structured inventory. Perceived environmental quality of the household and neighbourhood was measured. Items were rated on a 5-point Likert scale ranging from 1 (strongly dissatisfied) to 5 (strongly satisfied). Total score (on household and neighbourhood separately) were summed to yield an overall satisfaction score of 10-50, which higher score indicating higher level of satisfaction on the living environment.

Level of psychological distress in past one week was measured by the Chinese version of Revised Clinical Interview Schedule (CIS-R)[18]. The scale consists of 14 sections covering various psychological symptoms. The Chinese version has been validated with satisfactory psychometric properties, and a cut-off point of 12 was considered to have significant psychological distress[19].

2.3. Statistical analyses

Statistical analyses were performed using STATA version 12.0 (StataCorp, College Station, TX)[20]. Independent sample t-tests and chi-square tests, adjusted for potential confounding factors, were used to compare group difference between the healthy individuals and those with significant psychological distress. Logistics regression models were used to examine the association of built environment, perceived environmental quality and the psychological distress.