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Short communication

Street vendors in Patna, India: Understanding the socio-economic profile, livelihood and hygiene practices



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ABSTRACT

Street food vending is fundamental to daily life in many low and middle income countries where much of the urban population rely on food provided by street vendors. While street vendors are known to be important providers of food; limited research has investigated vendor's hygiene practices and their socioeconomic circumstances in India. The aims of this study were to investigate the hygienic practices of food vendors and the context of their socioeconomic and living circumstances. Structured interviews were conducted with 31 street food vendors in Patna, India. The interviews explored issues around vending, hygiene practices, planning, and financial stability. Findings from this study indicate that food vendors are aware of good basic hygiene practices despite having low levels of literacy, low incomes, and limited job security.

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1. Introduction

Over the last two decades, India has experienced significant economic growth and change, including a substantial increase in Gross Domestic Product (GDP) and per capita income. These changes have meant that that over 60 million Indians have benefited from improved living conditions (Planning Commission, 2013). Despite these changes, many public health improvements have failed to keep pace with the increased prosperity. Life expectancy at birth remains low (India, 68; world average, 71), infant mortality rates (48 per 1000) are higher than the global average (32 per 1000), and the average for the South East Asian region (34 per 1000), and over one quarter of India's population live below the poverty line, or on less than US\$1.25 per day (Horton & Das, 2011; WHO., 2016).

Past decades have seen an increase in the number of people moving from rural to urban areas in search of work (Coffey, Papp, & Spears, 2015). Around one third of India's population now lives in

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urban centres and, on average, benefit from higher incomes and better living conditions than rural residents (Agarwal, 2011; Butsch, Sakdapolak, & Saravanan, 2012). However, with the increase in the urban population, the number of people living on low incomes in urban slums has also increased as the population outpaces the available infrastructure (Goli, Doshi, & Perianayagam, 2013). Those living on low or no incomes and those living in informal settlements and slums face the most hardship and experience difficulty accessing health care, housing, and water and sanitation services (Agarwal, 2011). Many urban residents also experience negative effects related to air and water pollution, a lack of piped water and sewage, and infrequent access to food of sufficient quantity and quality, resulting in stunting and wasting in children, high infant mortality rates, and overall poor health (Agarwal, 2011; Tacoli, Bukhari, & Fisher, 2013).

For many urban residents of developing countries, including South Africa, Haiti, Lagos, and India, access to food depends on the supply of street food from vendors (Mosupye & von Holy, 1999; Pikuda & Ilelaboye, 2009; Samapundo, Climat, Xhaferi, & Devlieghere, 2015; Suneetha, Manjula, & Depur, 2011). Street foods are defined by the Food and Agricultural Organisation (FAO) as foods or beverages that are prepared and/or sold by vendors typically on streets or similar, and can be consumed immediately or

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at a later stage, but require no further processing or preparation (FAO., 2013). Food sold in this way is both an important source of nutrition and access to food for the population, but also provides the opportunity for self-employment for urban residents (Choudhury, Mahanta, Goswami, Mazumder & Pegoo., 2011), and contributes to household incomes (Biswas, Parvez, Shafiquzzaman, Nahar, & Rahman, 2010; Jensen & Peppard, 2003). Many people are attracted to this work as they lack the skills or education required to obtain a position in the formal workforce. The low skill needed for most vending, coupled with the low financial investment required, and the comparative ease at which one can begin vending, make it an attractive prospect for those who are struggling to find employment, particularly those who have migrated to a city from a rural area.

While street foods are important for access to foods for many Indians, they are also a source of poor health. Across the world, up to 2 million people per year die as a result of diseases caused by the consumption of contamination of food and water (FAO., 2014). The safety of street foods is dependent on a number of factors including the quality of the raw materials, the food preparation area, the supply of water and the handling and storage conditions (Asiegbu, Lebelo, & Tabit, 2016; Choudhury, Mahanta, Goswami, Mazumder et al., 2011). Studies investigating foods from street vendors in Brazil have found food vendors insufficiently engaging in good hygiene practices such as hand washing, wearing hair covering, or maintaining cold storage (Cortese, Veiros, Feldman, & Cavalli, 2016; Kothe, Schild, Tondo, & da Silva Malheiros, 2016). While studies of food vendors in India have found contamination to be largely the result of poor water quality, and poor hygiene during food preparation, unclean utensils, poor personal hygiene, peeling or cutting fruits and vegetables long before consumption, and crowded and dusty shopping areas located alongside busy roads (Tambekar, Jaiswal, Dhanorkar, Gulhane, & Dudhane, 2008). Patna is the main city in the state of Bihar, one of the most disadvantaged states in India. While the World Bank (2014) puts the average monthly income in India at around Rs. 8000 (\$US1 = Rs. 65), the average monthly income in Patna, according to the Bihari government, is closer to Rs. 5000 (The Economic Times, 2014). Like many cities in India, Patna has a large number of street vendors who have migrated to the city seeking employment. The National Association of Street Vendors of India (NASVI), the peak body working with street vendors in India, is active in Patna around issues of hygiene and safe food handling and vendor's rights.

This paper investigates the informal food vendor sector in Patna. While there have been a number of studies investigating the nature of street food vending in several African (Adjrah et al., 2013; Annor & Baiden, 2011), and South East Asian countries (Jensen & Peppard, 2003), previous studies that have focused on India have investigated the microbiological and hygiene practices of food vendors (Gadi, Bala, & Kumar, 2013). As such, the two main aims of this study are to, firstly, investigate the hygienic practices of food vendors, and secondly, investigate the socio-economic and living circumstances of street vendors.

2. Method

Using a structured interview, comprised of 60 items, this study explored street food vendor's understanding and knowledge of food safety and hygiene, and their experiences of hunger and financial vulnerability. Observations, as well as multiple response questions, and closed ended questions were included in the interview. Vendors were asked how long their business been operating, the hours, days and location that the vendor usually works, if the weather or other events are a factor in sales, how they manage their livelihoods, their level of education, and domestic situation. The

interviews took approximately 20-30 min to complete. All interviews were conducted in Hindi and were translated into English by a member of NASVI at the time of the interview, this allowed for any required explanation or probing. The sample included mobile food vendors (using handcarts) and small restaurants (fixed in a place). The structured interviews were administered over three days in July 2015, to a convenience sample of food vendors in Patna. Bihar. Consistent with previous research (Adjrah et al., 2013: Cortese et al., 2016), this study sought to interview at least 30 vendors. A convenience sampling strategy was designed so that a number of sites around the city could be represented in the study. The interviews were completed at the vendor's cart or stall by the first author with the assistance of a member of NASVI who aided with recruitment and translation. To build report between vendors and the researcher, vendors were made aware of the study by their Area Leaders. These Leaders are the day to day point of contact between NASVI and the vendors. The first author also met many of the vendors at an award ceremony for those vendors who had recently completed a hygiene training course. Both owners and staff were eligible for interview. An observational checklist developed for this study, modelled on that of Lucan et al. (2013), was also used to gather information on the food service unit including the type of food prepared/served in the unit, and the general hygiene around the stall (the presence of rubbish, water or rodents). Detailed field notes were taken, and all interviews were recorded for any later clarification. Approval from the study was obtained from the Deakin University Ethics Committee.

The descriptive data were analysed using basic descriptive statistics to characterise the sample. Categorical data were reported using simple frequencies and percentages, while continuous data were presented as means, medians and standard deviations.

3. Results

3.1. Environmental characteristics

In total 31 vendors across three sites were interviewed. The demographic characteristics are presented in Table 1. The average age of vendors was 34 years (SD = 10.4, range 17-61). Most of the participants were male (n = 28), and most were married (n = 28) with at least one child (n = 24). While most of the participants had completed some schooling (n = 20), over one third were illiterate (n = 11). Only two of the participants owned the house in which they were living in Patna, with most participants (n = 25) renting their current home at an average of Rs. 2137 per month (SD 745, range 1000-4000). Of those renting in Patna, eight owned a home located in their family village. One participant was living on his cart, while three others were living in homes that were provided by the government or as in one case, on church land in exchange for a small amount of gardening maintenance. Vendors reported an average monthly income of Rs. 10,629 (SD 4912, range 4000-25,000), and while most were the sole provider for their families, with an average household size of seven, the average monthly household income was slightly higher at Rs. 12,177 (SD 6157, range 6000-30,000), as some participants received a small amount of income from farm land or the work of other family members.

Most of the vendors owned the cart that they worked at (n=28), with several also employing staff to assist them with day-to-day tasks. Vendors were typically located in visible clusters of between 7 and 22 vendors, often with several vendors in each cluster selling the same food. Only one vendor was isolated from any cluster. This vendor had recently moved to Patna from his village to increase his income potential; he and three others were the only vendors who had been vending for less than one year. Most

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