



Determinants of households' cleaning intention for shared toilets: Case of 50 slums in Kampala, Uganda



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A B S T R A C T

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Cleaning shared toilets is important if users are to receive the significant health, social and economic benefits associated with having access to these facilities. However, achieving and maintaining hygienic toilets shared by several user households in urban slums is usually a challenge. This study assesses determinants of households' cleaning intention for shared toilets in Kampala, Uganda. Using a structured questionnaire for the household interviews and an observation checklist, data from 1019 users of shared toilets was collected in 50 randomly selected urban slums. Data analysis showed that most of the shared toilets are unhygienic. Less than a quarter of the shared toilets, for instance, were hygienically clean to users' satisfaction. The main cleaning intention determinants (p -value $< .05$) included: importance of using a clean toilet, the effort involved in cleaning the toilet, the disgust felt from using a dirty toilet, and cleaning habits. Although it is important to have access to sanitation facilities, emphasis should be placed on how to engage users to ensure that the facilities used are appropriately cleaned and maintained.

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Introduction

There has been slow progress in regard to slum dwellers having access to improved sanitation in urban developing cities (Martínez, Mboup, Sliuzas & Stein, 2008; UN, 2012; WHO/UNICEF, 2012). Some of the reasons for inadequate sanitation in urban informal settlements vary from population explosion (Omambia, 2010; UN-Habitat, 2012), the reluctance of the authorities to develop sanitation systems (Huchzermeyer, 2008; Mara, 2003), to tenure security (Scott, Cotton & Sohail Khan, 2013) and negligence of the household owners (Isunju, Schwartz, Schouten, Johnson & van Dijk, 2011). Increasing population densities in slums has contributed to diminishing space for many on-site conventional sanitation systems (Katukiza et al., 2012; Schouten & Mathenge, 2010). This explains why shared as opposed to private sanitation facilities are dominant in slum settlements (Gulyani & Talukdar, 2009; Karn, Shikura & Harada, 2003; Kulabako, Nalubega, Wozzi & Thunvik, 2010; Mukhija, 2002).

Although shared toilets are currently classified as unimproved by the United Nations Joint Monitoring Programme for Water and

Sanitation, they are the most significantly increasing excreta disposal system in most slum settlements (WHO/UNICEF, 2012). Shared toilets are facilities where each toilet room is used by different households/families (Gulyani & Talukdar, 2008; Günther et al., 2011). This fact underpins their importance and explains why some experts envision them as the most feasible excreta containment option for densely populated slum settlements (Schouten & Mathenge, 2010). Several studies indicate that improvements in water, sanitation and hygiene significantly reduce a wide range of preventable diseases, such as diarrhoea, cholera, and trachoma (Ashbolt, 2004; Bartram & Cairncross, 2010; Connolly et al., 2004; Fewtrell et al., 2005; Mara, Lane, Scott, & Trouba, 2010; Montgomery, Desai & Elimelech, 2010). Diarrhoea alone is one of the leading causes of child mortality among children less than 5 years of age in the world (UNICEF, 2012) causing approximately 2.5 million deaths per year (Kosek, Bern & Guerrant, 2003). Africa and South-East Asia have the highest diarrhoea mortality rates (Boschi-Pinto, Velebit, & Shibuya, 2008) among this demographic group. In addition to its high child mortality rate from diarrhoea, Africa also has very high adult mortality due to diarrhoea (Boschi-Pinto et al., 2008).

It has been shown that if sanitation facilities are poorly maintained or inappropriately used, it is difficult to guarantee the health of the users and the convenience of using the facilities (Buttenheim,

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2008; Kimani-Murage & Ngindu, 2007; Owusu, 2010). Studies indicate that while some populations in developing countries have access to clean toilet facilities, most in urban informal settlements are dirty (Bartlett, 2003; Rheinländer, Samuelsen, Dalsgaard & Konradsen, 2010; Tumwine et al., 2003). Using dirty toilets is often a health hazard for the users (Sijbesma, 2008). Holistically, while personal, domestic and environmental hygiene are important to prevent diseases related to poor sanitation and poor hygiene, maintaining the cleanliness of shared toilets is just as crucial.

Cleanliness is recognized as an important component of hygiene behaviour (Cairncross & Shordt, 2004; Curtis, Cairncross & Yonli, 2000; Sijbesma, 2008). There is increasing awareness among public health practitioners of hygiene's contribution to the realization of benefits from the provision of safe water and improved sanitation facilities (Bartram & Cairncross, 2010; Esrey, Potash, Roberts & Schiff, 1991; Montgomery et al., 2010). Some researchers have argued that while there is a clear and pressing need for increased levels of investments in water and sanitation facilities, they need to be accompanied by well-designed hygiene programmes or the environmental health benefits produced by these investments could be lost (Tumwine et al., 2002). Nevertheless, hygiene is still given little consideration in the public health field (Curtis et al., 2011). Research on hygienic shared toilet usage and the cleaning of shared toilets by users is also limited among public health practitioners and researchers. Despite these research deficits, the appropriate use and maintenance of shared toilets in a clean way is prioritized by health practitioners.

This article provides insight into the determinants of households' cleaning intention for shared toilets in urban slums. It is based on a primary study conducted in randomly selected slums in Kampala, the capital city of Uganda. While encouraging behaviour change, such as hygiene improvement is often complex (Curtis et al., 2000), critical understanding and assessment of the factors that influence the promotion or performance of specific behaviours is always crucial (Mosler, 2012). The role of intention as a determinant factor in individuals' performance of desired behaviours is based on the theories of reasoned action and planned behaviour (Fishbein & Ajzen, 2010). Individual intention to perform hygiene-related behaviours, such as regular cleaning of the shared toilet or hand washing with soap at critical times, may be influenced by both psychological and non-psychological factors (Clayton & Griffith, 2008; Curtis, Danquah & Aunger, 2009; Jenkins & Scott, 2007). The application and relevance of these theories is further expounded in the RANAS model [R(isk), A(ttitudes), N(orms), A(bilities) and S(elf-regulation)] of behaviour change (Mosler, 2012) that was developed from a pool of social cognitive theories. Psychological belief factors, such as attitudes, norms, abilities, risks, habits and expressed demand are discussed in this paper.

Material and methods

Research area

Field research was carried out in randomly selected slums of Kampala, the capital city of Uganda. Like most cities in developing countries, over 60% of the population in Kampala resides in slums (UBOS, 2005; UN-Habitat, 2007). Kampala district is divided into 5 areas that are presently referred to as municipal councils by the Kampala Capital City Authority (KCCA). These are: Central, Makindye, Kawempe, Nakawa and Rubaga. The municipal councils are divided into parishes, and there are a total of 64 parishes. The last administrative units in the parishes are villages or zones. Out of 307 villages in Kampala City, 188 are recognised as slums by the city authorities. Approximately 61.2% of the people, more than half of the population in Kampala, live in slums (Tumwebaze et al., 2012).

Research for this study took place in all 5 municipal councils, in 39 parishes and 50 slums.

Procedure

Data was obtained using structured household questions and an interviewer checklist. The interviewees were slum household residents and only those persons aged 18 or over who consented to be interviewed were enrolled in the study. The household was the unit of analysis in this study and interviews were done at only one household per housing unit. Each housing unit often contains a number of households. In addition, because of the close nature of the households and dense housing units in most of the slums, interviewees were enrolled from every third housing unit. Preference was given to the respondents of the first household of each unit. However, in cases where no one was home at the first household, or only persons under 18 years of age were present, or the eligible person in the household did not consent to be interviewed, the interviewers then approached the next household.

Household interviews were conducted in the local native language (Luganda), which is the language most spoken in the slums. A team of 15 interviewers were recruited and trained on the data collection process and the interviewers were mainly university graduates. Each household interview lasted approximately 45 min. A team of 3 interviewers normally did 30 household interviews in 2 days, with each interviewer interviewing respondents of 5 households per day. Five local leaders from the 5 municipal councils were also recruited as field supervisors to guide and introduce the interviewers in the zones.

Sample

A total of 1500 household respondents participated in this research. Of the 50 randomly chosen slums (random sampling with STATA) in Kampala, 390 respondents were from the municipal councils of Kawempe and Makindye, 330 from Rubaga, 210 from Nakawa and 180 from Central. The reason why there were more respondents in Kawempe and Makindye may be due to the fact that these areas have the highest number of slums in Kampala district (Tumwebaze et al., 2012). Data from 1019 respondents that shared toilets with different households (families) was analysed.

Questionnaire

The variable items and questions were structured by socio-demographic variables, the sanitation situation and intention variables.

Socio-demographic factors

The socio-demographic questions items aimed at capturing information about: the respondents' sex (male/female), education level, household ownership status (tenant/owner), number of people living in the household, and number of children under 5 years of age in the household.

Sanitation situation

These questions captured data on the sanitation facilities used by the household respondents (private/shared/public/none), and their perceived cleanliness (scale: very dirty to not dirty at all), the number of households sharing a toilet room, the facilities used by children under 5 years of age, whether shared toilet rooms were lockable (yes/no) and the main problem concerning the cleaning of the shared toilet (nobody feels responsible for cleaning/expensive to buy water to clean/no cleaning materials or detergents/always dirty/difficult to clean because of construction design/no problem/others).

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