Developing a Causal Model for Health Promotion

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Abstract

This study investigated residents' attitudes, practices and health promotion in Lagos State Low Cost Housing Estates. The purpose of the study was to construct and test a four variable causal model of health promotion of residents of Low-Cost Housing Estates. Ex-post facto research design was used for the study. Purposive sampling technique was used to select 754 participants who were randomly drawn from Low Cost Housing units built between 1981- 1989. Two instruments namely Questionnaire on Residents' Attitude, Practices and Health Promotion (QRAPHP) and Focused Group Discussion (FGD) with in depth Interview (IDI) guide were used. Two hypotheses were tested at 0.05 level of significance. The instruments had reliability coefficient of 0.85. Data analysis was done using Path analytic procedures. The developed model revealed that attitude is the most important predictor that had direct interaction with health promotion, with a significant correlation coefficient of 0.40 at the 0.05 level of significance while others predicted otherwise. It was recommended that there is a need to provide Low Cost Housing Estate residents with appropriate knowledge on environment and healthcare, in order to develop better attitudes and practices towards health promotion.

Introduction

Individuals, families and communities have their own concept or perception of health. What one person considers as feeling well may to another individual be viewed as feeling ill. Health status of an individual correlated to quality of environment, because the condition of environment affects our health. The quality of environment in which individuals live is inextricably linked to the quality of life they enjoy, especially with regard to their health and socio-economic status. The prime aim of individuals is to live in a clean, safe and healthy environment that is conducive to life; one which enables them to achieve the goals set for themselves.

Environmental factors influence the growth, development and interaction of organisms within a system. Conducive environment facilitates harmonious interaction of individuals at home, communities and other eco-system, which considers the conservation of natural resources, compositing energy efficiency and ecological integrity towards health, with minimal harm to human life (Lucas and Gilles, 2006). Ecological health evaluates level of health achievement, health finance and commitment to health by residents in any geographical areas. Thus, the environment has its social and health value, which serve as critical agents for socio-economic development and also enhances people's wellbeing.

The basic needs of man such as food, water, rest and sleep, shelter, light, health services, transport and education occur in the environment. However, environment should result in good political stability, less stress and effective interaction with self and others. Uchegbu (2002) observes that any damage done to the environment or deviation from its ideal situation runs down the capital and put the health of its residents at risk. Human attitudes within the environment have negative or positive impact on people's health (Adebanjo, 2009). This mainly is due to unlimited exploitation

of the earth's natural resources, technological advancement, industrialization, urbanization, deforestation, desertification, noise, air, water and land pollution (Uchegbu, 2001, Ahove, 2001, Olagunju, 2002 and Osuafor, 2002). Currently the society faces various health challenges from the underpinned environmental factors; seemingly with unlimited power that dominate in wasteful natural resources use, to satisfy individuals' utmost desires, needs and wants, without the individuals acknowledging that they constitute a significant unit of the environment. This is a matter of attitude towards the environment.

In Lagos State, the need for conducive residential housing environment and proper health promotion calls for preservation and upgrading of delicate environmental structures in the urban areas as they have great impact on survival of people. Perhaps it is in realisation of this fact that in 1979, Lagos Sate Development and Property Corporation was empowered to develop and construct residential low cost housing estates in various locations within the State such as Ipaja, Surulere, Itire, Ogba and some other locations in Lagos State environment (Lagos State Development and Property Corporation, 2007). This was done in order to ease pressure arising from inadequate housing, resulting from rapid increase in the population of the State (Odewusi, 1998). Since then, Lagos State has witnessed a rapid increase in the provision of houses for all classes of people. Many of these Lagos State Low Cost Housing units in these estates have become dilapidated. Some of the buildings have weak foundation and lack structural stability. Many illegal structures have sprung up in these estates, resulting in distortions and modification of their original plans (Ben-Nwankwo, Balogun, and Busari 2012).

Adeseri, Usman and Adelaja (2012) observed that some residential houses now accommodate more individuals and more stress is being placed on available amenities provided in line with the original plan, thus creating unhealthy environment in these estates. The environmental degradation and population consequences of these conditions are inimical to the health of the residents; it also diminishes quality of life, happiness and morale. Shelter Rights Initiatives (2002) reports that it was the general acute shortage of housing, unemployment and absence of social safety in the cities of Lagos that gave impetus to the construction of the low-income estates in different parts of the major cities in Nigeria.

These estates are now plagued with health problems which are no longer necessarily met at the expense of the government but by active involvement of the residents who are the occupants of these structures. Olateju (2005) and WHO (2005) attribute impact of these problems to residents' exposure to high risk behaviors, high observable degree of poverty, ignorance of environmental hazards, non-commitment of residents to health promotion, inadequate administrative response to the needs of residents and cities' congestion. Health promotion is key to empowerment of residents towards overcoming many health challenges.

Purpose of the study
The purpose of this study is to ascertain residents' attitudes, practices and health promotion measures in Lagos State Low Cost Housing Estates. Specifically, it is to:

1. Identify and test a four-variable model of residents' attitudes, practices, awareness of environmental health hazards and health commitment as they relate to health promotion.

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2. Construct a causal model of health promotion and identify the total proportion of effects of the identified variables

Statement of the Problem

The society currently faces various serious health challenges resulting from the interaction of these natural courses and human activities. In Lagos State, the need for decent residential housing environment and proper health promotion calls for preservation and upgrading of delicate residential low-cost housing estates in various locations such as Ipaja, Surulere, Itire, Ogba and some other locations.

It has been observed that ever since people moved into these Estates, the population of the residents has increased, albeit at an alarming rate. The residents are facing serious challenges of poor waste disposal management, which creates unhygienic and insanitary conditions in these Estates. Human attitudes within the environment have negative or positive on people's health and many residents appear to be ignorant about the wide-ranging and devastating negative effects that their attitudes and practices have on their health and the environment. Therefore, the problem of the study, stated in the interrogative is: what are the residents' attitudes and practices towards health promotion in Lagos State Low Cost Housing Estates.

Research Questions

The following questions guided the study:

1. What is the most meaningful causal model involving residents' attitudes and practices of health promotion?

2. What are the interactive effects of Residents' attitudes, practices, health commitment and awareness of environmental hazards towards health promotion in the Low-Cost Housing Estate in Lagos State?

Research Methodology

Research Design

This study used ex-post facto research design. Kothari (2010) explains that in ex-post facto design the study attempts to discover causes even when the research cannot control the variable. Ex-post facto design was found most suitable and was used in the study to establish the link to already existing effects of some independent variables (attitudes, practices, health, commitments and awareness of the environmental hazards) on the criterion variable (health promotion).

Population of the Study

The population of this study consisted of residents of low-cost housing estates in Lagos state built between 1981 and 1989, mainly in Absean, Iba, Isolo, Iponri and Mile 2 Estates. The total population in the areas of study were residents occupying 12,534 housing units in five out of the twenty Estates in the state.

Sample and Sampling Technique

A sample size of 1,253 housing units randomly selected from five Low Cost Housing Estates, which is statistically, determined using a 10 percent of 12,534 housing unit's population. A total of 850 residents were randomly selected among the heads of the occupants of the selected housing units in the five housing Estates, out of which 50 were members of Residents' Association, selected specifically for Focus Group Discussion (FGD).

Sampling Technique

Multi-stage sampling techniques were used for selection of the participants in order to ensure adequate screening of the population. These involve three stages from the first to the final sampling stage. A purposive sampling technique was utilized to select Estates of study based on the following criteria:

   i.   Estates built between 1981 and 1989.
  ii.   Number of housing units above 700 units
 iii.   The houses must be in the category of low-cost housing units
  iv.   Availability of the record at the time of data collection.

Based on the above criteria, five out of twenty Low Cost Housing Estates were purposefully selected for the study. Fish bowl sampling technique was adopted to select the block of flats and heads of occupants who served as participants in each Estate. The sampling techniques assured to a large extent good representation of residents across the Estates.

Instruments

The collection of data included triangulation of methods involving two clusters of tools, Questionnaire on Residents' Attitudes, Practices and Health Promotion (QRAPHP) and Focus Group Discussion (FGD) with In-Depth Interview (IDI). The data was collected directly on the field through the use of questionnaire, Focus Group Discussion (FGD) with In-Depth Interview (IDI). The In-depth Interview (IDI) of residents involved direct observation and   measurement. The instrument development for residents' questionnaire was based upon the following sub- scales:

   i.   Residents' attitudes
  ii.   Residents' practices
 iii.   Environmental quality and health promotion

   The questionnaire consisted of 34 items and   were structured in modified Likert-type summated ratings , to which responses were   on a four-point scale with alternatives of   strongly agree (SA), agree (A) ,   disagree   (D) and strongly disagree (SA) with rating scale of 4,3,2,1 respectively; (4 being strongly agree) to (1 being strongly disagree). These items solicited responses from residents of Low-Cost Housing Estates on attitudes, practices and health promotion.

The questionnaire consisted of two parts. The first part (section A) addressed socio-demographic variables of respondents while the second part, (section B) contained items on the hypotheses formulated. Focus Group Discussion (FGD) with In-Depth Interview (IDI) contains 12 items

associated with varied attitudes and approaches to environmental protection and serves as a useful guide in evolution of suitable instrument for data collection to measure residents' attitudes and practices towards health promotion.

Validity and Reliability of Instrument

Three colleagues with expertise in questionnaire constructions for face validated the research tools. From the comment of the experts, items that were not clear or considered ambiguous were amended, while some of the items that overlapped were discarded. Factor analysis was conducted using orthogonal rotation to verify the construct validity. The analysis was to determinate the correlation coefficient between the items and sub-scales. The four factors (subscales) emerged from the principal component in agreement with the factor criteria loading of 0.30. These were health commitment at individual and group levels, residents' attitudes, residents' practices and environmental awareness towards health promotion. For reliability, the questionnaire was subjected to pretest using 40 residents outside the main study sample. The responses of these residents to the items were later subjected to test to ascertain the degree of internal consistency using Cronbach's alpha statistical method. The result of analysis yielded a standardardized Cronbach's Alpha reliability value of 0.85 for Residents' Questionnaire on Residents' Attitudes, Practices and health Promotion.

Method of Data Collection

The participants were given 800 copies of the questionnaires of which 704 copies were completed and collected on the spot and In-depth interviews on key areas were held with 10 residents' associations each, in five groups from the Estates with total number of 50 participants. The returned number of the study instruments was 754.

Data analysis

In the treatment of data for the study, the Social Pack of Social Science (SPSS, version 20) was used. Path analysis technique was used to select variables that are perceived to be determinants (causes or independent variables) of the effects and then isolating the separate contribution to effect (Health promotion or dependent variable) made by cause.

Results

Development of Causal Model

A meaningful hypothesized Health promotion causal model was developed with the use of the identified variables to isolate different contributions of effects made by each predictor through application of path analysis techniques. This was used to answer the research questions.

Research Question 1: What is the most meaningful causal model involving residents' attitudes and practices of health promotion?

Figure 1 shows a hypothesized relationship with four independent variables (Residents' attitudes, practices, health commitment and environmental awareness) on the dependent variable (health promotion). Four regression analyses were performed to compute values of the path coefficient for the hypothesized causal model as shown in Figure 1. The standardized regression weights of the series of multiple regressions were used to determining the path coefficient of the causal model.

In order to obtain the more parsimonious model, the path coefficient (beta) less than 0.05 were deleted.   This trimmed model therefore, became the most meaningful model that explained the health promotion measures of the residents in Lagos State Low Cost Housing Estate.
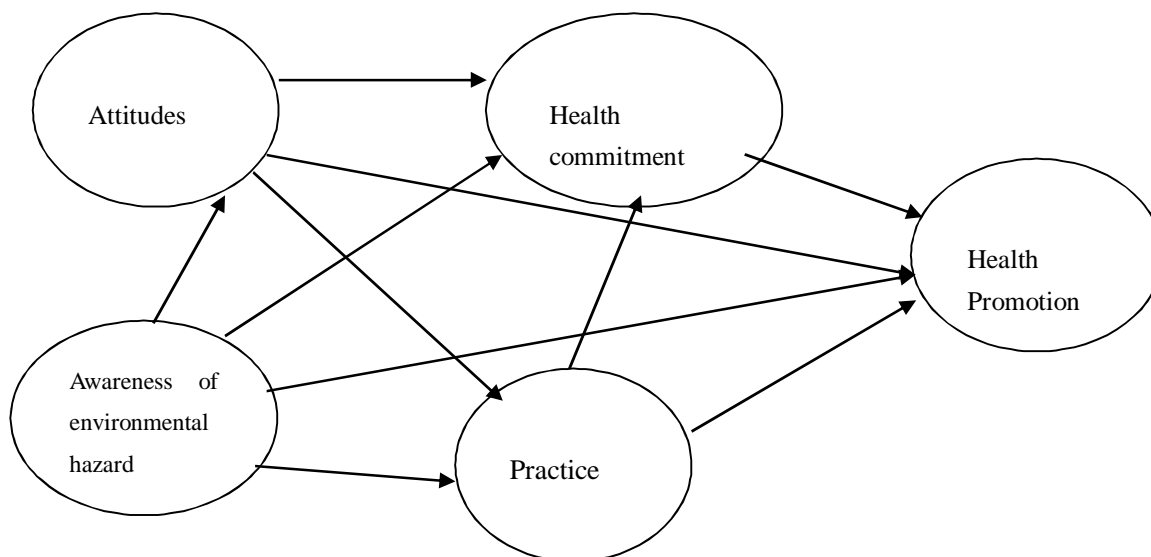
Figure 1: Hypothesized health promotion model

The hypothesized causal model predicts the effect of the four predictors' variables (attitudes, practices, awareness of environmental hazard and health commitment) on criterion variable (health promotion) through the illustrated paths diagram.

Research Question 2: What are the interactive effects of Residents' attitudes, practices, health commitment and awareness of environmental hazards towards health promotion in the Low-Cost Housing Estate in Lagos State?
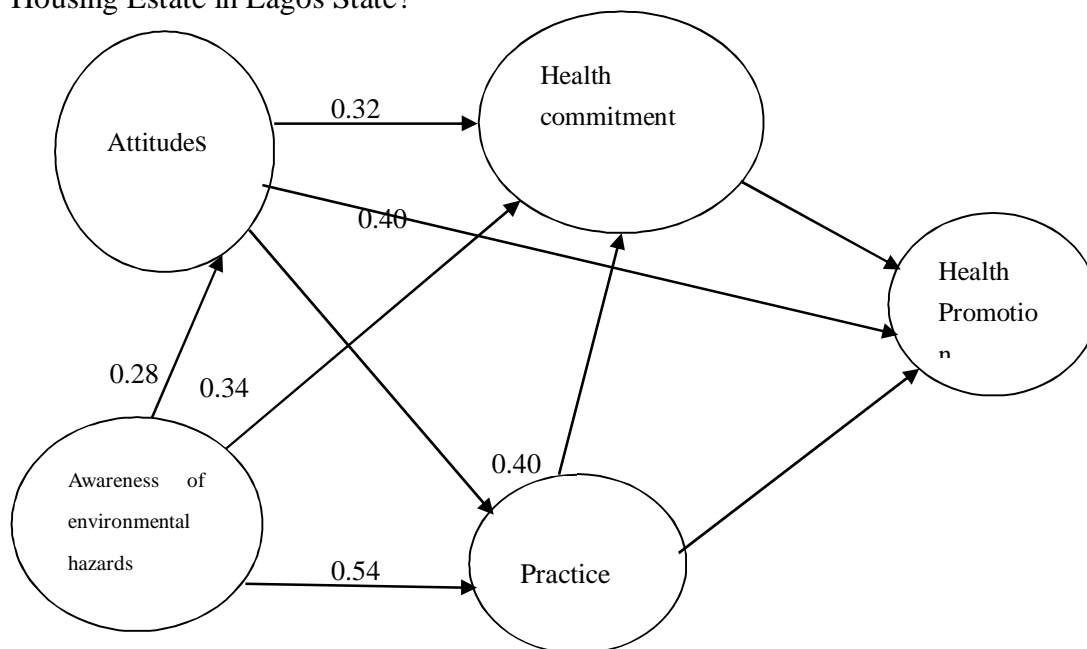
Figure 2: Estimates of Parameters in Health Promotion Model with Standardized Values

The value in Figure 2 shows that only attitude (beta =0.40) has direct effect on health promotion, while other independent variables (health commitment, practices and awareness of environment) have direct effect on each other, but have indirect effect on health promotion. The hypothesized model was trimmed to produce the parsimonious model as shown in Figure 2.

On the qualitative aspect of data, residents in interview informed and asserted that absence of highly needed basic utilities affects their health and daily activities. These include portable water supply, healthcare centre, market, Police post to curb crimes and banks for financial transactions. They reported about the frequent interrupted electricity, poor drainage and overcrowding. All these have influence on their attitudes, practices and health promotion measures. They claimed that some structures in the estates have been submerged in flood-prone area while many had developed cracks and weak walls resulting in of the buildings. The refuse that blocked the drainages result in flooding of the estates and constitute fertile ground for breeding of rats, mosquitoes, and cockroaches.

Discussion
Relative effects of the Variables on Residents' Health Promotion Measures
The hypothesized causal model as shown in Figure 1 was trimmed to produce the parsimonious model as seen in Figure 2. The dependent variable (health promotion) was accounted for by the four predictors' variables when taken together. The standardardized beta weights of the four predictors were assumed proportional to the degree of effects of the influencing variable. The four predictors have direct causal influence on health promotion.

In Figure 2, it is shown that only residents' attitude has the most direct influence on health promotion, with a significant correlation coefficient of 0.40 at the 0.05 level of significance. Whereas, the other variables such as health commitment (0.32) and environmental awareness (0.28) and residents' practices (0.40) do so through attitude towards health promotion. All these significant interactions of other variables with residents' attitude provide the basis for the relatively high multiple regression beta weights of coefficient correlation associated with the effect of attitude towards health promotion. Environmental awareness has direct influence on health commitment (0.40) and awareness of environmental hazards (0.54), while residents' practices had direct influence on health commitment (0.40).

This finding is consistent with those of Greg, (1995) Adegbenro, and Fabiyi. (2000), Oruche, (2001) Dansu and Oladipupo-Okorie (2007), Garuba et al, (2008), Adeseri et al (2012) and Ben-Nwankwo et al (2012), who explained that residents' attitudes, practices, insensitivity to environmental hazards, low level of awareness and lack of commitment to health and environmental care have direct influence on health of the residents. Thus, the residents' health problems will be brought under control when all issues factored into the continuing escalation are adequately confronted and resolved in the society. The results also indicated a significant relative effect of residents' attitude, practices environmental awareness and health commitment on health promotion of residents in the Low-Cost Housing Estate in Lagos State. This finding supports the study of Onwuama et al (2007) and Oladipupo-Okorie (2007) who reported that residents in Lagos state Estates had negative attitudes to environmental protection. These attitudes could be attributed to lack

of awareness and literacy level. That is why Ekpu and Archibong (2007) suggested creation of awareness at levels of community and large groups on positive attitudes and practices towards health promotion. There is need for active society involvement and commitment to practical environmental issues and teaching (Lawal 1998, Ivowi 1999 and Idowu, 2003). Therefore, special teaching methods can be inculcated into creating awareness on environment. Youth programmes that could enhance desired attitude and promote level of commitment and responsibility toward health promotion should be initiated.

Conclusion and Recommendations

The finding of the study in a parsimonious model developed, shows that it was only residents' attitude that has the most direct influence on Health promotion, whereas, other variables such as practices, awareness of environment and health commitment have indirect influence on health promotion in Lagos State Low Cost Housing Estates. Therefore, comprehensive environmental education of the residents of the Estates is needed, in order to ensure desirable attitudes and adequate environmental care in the Estates. This can be done through conferences, seminars, workshops in order to create awareness on health promotion and to develop reliable attitudes and practices. Health promotion activities should be coordinated through effective partnerships by strengthening community participation and partnership with non-governmental organization that help in creating awareness in the Estates through initiation of educational programmes. This study also recommends that once it becomes necessary to do so, residents in the worn-out structures and collapsing dilapidating buildings should be relocated to prevent any disaster. The gradual changing outlook of Lagos State and innovations evidenced in the Lagos Mega city should be extended to low cost housing estates. In addition, more research study is required on other potential variables affecting other grades of Estates (Medium and High Cost Estates).

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