

Healthy House as Indicator to Realize Healthy City and its Relationship with the Role of Community in Medan City

¹*Lita Sri Andayani, and ²Juliandi Harahap

¹Department of Health Education and Behavior, Faculty of Public Health, University of Sumatera Utara, Medan 20154, Indonesia;

²Department of Community Medicine, Faculty of Medicine, University of Sumatera Utara, Medan 20154, Indonesia;

*Corresponding Author: lita_andayani@yahoo.com

Abstract

A healthy city connotes a city that is clean, comfortable, safe and healthy for inhabitants, which is achieved through the implementation of the arrangements and agreed activities between communities and local government units. Healthy house is one indicator of a healthy city. A healthy house meets the health requirements as measured by three parameters: components of house, sanitation facilities and the behavior of occupants. This study aimed to analyze if the houses in Medan qualify for the attainment of a healthy city, determine the knowledge of community in terms of healthy house, healthy city and the role of community, and to find out if there is a significant relationship between the role of community and having a healthy house. The study design used is survey with quantitative and qualitative approaches. Research sites were the 21 districts in the city of Medan wherein 400 respondents were selected through proportional random sampling. Data were analyzed quantitatively and qualitatively. The results showed that in the city of Medan, only 30% of houses were healthy and 70% were not. 63.0% of the respondents have good knowledge about healthy house and 57.8% have good knowledge about healthy city. Furthermore, the community perceived to have played a good role as much as 75.5% in the effort to realize a healthy home/city. The community's role has a positive and significant effect on healthy house in efforts to achieve a healthy city in Medan ($p = 0.04$). It is recommended that the government of Medan City draw up a program of healthy house and healthy city and involve related stakeholders, increase community participation from the beginning of planning stage in order to increase community involvement in the implementation of development and formation of Healthy City Forum.

Key words: Healthy house, healthy city, role of community, Medan City

Introduction

One of the ways to achieve optimum health status is the availability of healthy house in urban areas. Healthy housing is a prerequisite to realize the healthy condition of society (Hud, 2006; Keman, 2007). People living in slum dwellings have higher incidence to suffer infectious diseases and accidents in the home (Keman, 2005).

The concept of a healthy city is a reflection that health is a common problem that implementation is carried out by the health and non-health sectors, government, public and private. Role of whole communities is the key to addressing urban problems in addition to government support (Kjellstrom, 2007). According to Werna (1998), participation becomes effective mechanism to achieve strong political support in Brazil. In some African countries a healthy urban planning constraints are the lack of community participation because it is not involved in policy making and development process (WHO, 2002). According also to Hidayat (2003), public health planning will be more effective if it included active participation. Implementation of a healthy city can be done by empowering the community through the Healthy City Forum whose role is to determine the direction, priorities, territory development planning that integrates various aspects so as to realize the area is clean, comfortable, safe and healthy for the citizens to live. The performance of the city of Medan in the assessment of the implementation of a healthy district/city conducted by MOH in 2005 was at level *Padapa* (the lowest level). Several studies revealed the factors that might relate to this lowest level.

Materials and Methods

The design used was survey with quantitative and qualitative approaches. The study was conducted in Medan, with a sample of 400 households (people) which taken by proportional random sampling in 21 sub-districts. Quantitative approach was conducted by interviewing respondents using a questionnaire. The questionnaire rated, then categorized into good if the score $\geq 60\%$ of the total score, and poor if $<60\%$ of the total score. A form of healthy cities based on the indicators of a healthy home in line

with assessment format of MOH Dirjend PPM & PL 2002. A qualitative approach done by indepth interview using interview guideline. Informants consisted of communities, community leaders and health volunteers in the city of Medan.

Results and Discussion

1. Characteristics of Respondents

The results showed that 78.5% of respondents were female, 61.5% were housewives, 36.5% aged 36-45 years and 33.0% had high school education level.

2. Assessment of Healthy House

Assessment of healthy house was carried out in accordance with Decision of MoH (Kepmenkes 829/Menkes/SK/VII/1999), there are three parameters assessed: (1) The components of the house: ceilings, walls, floors, bedroom windows, family room windows, and the living room, ventilation, kitchen smoke disposal facility, lighting; (2) sanitation: clean water, sewage facilities, wastewater disposal, and garbage disposal facilities; and (3) the behavior of the occupants: the behavior of opening the bedroom windows, family room windows and living room, cleaning the yard, throwing feces of the baby/child to the toilet, and dispose of waste in place.

Table 1. Frequency Distribution of Healthy House

Categories	n	%
Healthy house	120	30
Unhealthy house	280	70
Total	400	100

Based on the assessment of the houses, results revealed that 70% were not healthy. Only 30% were categorized as healthy houses. The low number of healthy houses was due to many factors, including the building component, sanitation and poor behavior of occupants. Results showed that 51.5% ventilation did not meet the health requirements (the ventilation exist but not more than 10% of floor area), the house had a ventilation/air holes in the main room and in the kitchen which also did not meet the health requirements. Air holes that were not maximum will cause poor quality of indoor air, thus increasing the risk of respiratory disease. Only 65.0% sanitation facilities which had source of clean water that meet the health requirements.

Housing and residential, residence/ healthy house as a condition that must be met in achieving a healthy city. Efforts to control the risk factors that affect health has been set in Kepmenkes No. 829/Menkes/SK/VII/1999 on the health requirements of housing. Healthy housing is a concept of housing as a factor that can improve the health standards of its inhabitants. The concept involves a sociological and technical management of risk factors and oriented to the location, construction, qualification, adaptation, management, use and maintenance of the house and the surrounding environment, and includes elements of whether the house has a water supply and adequate facilities for cooking, washing , storing food, as well as the disposal of human waste and other waste (WHO Commission Regarding the Health and Environment, 2001).

2.1. House components

Assessment of the components of the house found that 64.5% ceiling components met the health requirements that the ceilings must be clean and secured to avoid accidents. Most of the components of the wall construction were permanent as much as 63.5%. Regarding the ventilation, study found that 51.5% of houses did not meet the health requirements and 12 % did not have ventilation at all. 51.5% of houses had kitchen smoke disposal facilities which do not meet health requirements. As much as 71% of lighting in the house met the health requirements. The construction of house and its environment that do not meet health requirements is a risk factor for the transmission of various diseases, in particular. Acute respiratory tract infection and tuberculosis.

2.2. Sanitation Facilities

The results showed that 65% of households in the city of Medan had source of clean water that meets the health requirements, this was still less than the maximum target of the government in the access to clean water. Only 69.0 % of the respondents owned a healthy latrine. Amount of 61 % of households did not have proper sewerage, thus human waste products just flow into the open sewer causing bad smell and increased susceptibility to gastro-intestinal and skin diseases. Around 63% of houses had garbage disposal facilities that do not meet the health requirements, the garbage disposals were not waterproof and did not have a lid.

2.3. Occupants behavior

Healthy house assessment also includes the behavior of the occupants of the house. The behaviors assessed were the habits in opening the windows, cleaning the house and yard, throwing feces of infants and toddlers to the toilet, and dispose of garbage in the trash. This study found out that the behavior of the inhabitants were still not good, where in 25% still throw feces into the river/garden/pool, and 10% still throw garbage into the river/garden/pool.

3. Community Knowledge about Healthy House

Table 2 depicts that 63 % of the respondents have good knowledge about healthy house. This illustrates that community of Medan City already have a fairly good knowledge about the components and indicators of a healthy house. This knowledge might be obtained from the mass media, television and social environment.

Table 2. Community Knowledge Regarding Healthy House

Knowledge of Health House	n	%
Good	252	63
Poor	148	37
Total	400	100

4. Community Knowledge about Healthy City

Table 3 shows that 57.8 % of the respondents have good knowledge about healthy city. This means that some people were able to answer correctly the questions relating to the understanding of a healthy city. Healthy city is measured by indicators that the city was clean, comfortable, safe and healthy for inhabitants, which is achieved through the implementation and application of some of the integrated activities agreed by society and local government.

Table 3. Community Knowledge Regarding Healthy City Program

Knowledge of Healthy City	n	%
Good	231	57.8
Poor	169	42.3
Total	400	100

Results from in-depth interview approach revealed that the community does not know the definition of a healthy city and healthy home. The opinion of informants mentioned that healthy city is a city that is free of disease, clean flood-free, has garden and no air pollution. The community also does not know the definition of a healthy home and healthy condition of the house, this is due to the lack of information dissemination of the government to the public, the public only knows about waste management. The opinion of informants suggests that the city of Medan does not deserve to be called a healthy city because there are often floods due to dense trenches and piles of garbage, trash which were not taken by Department of Sanitary, dirty and a lot of air pollution. The public believes that the government should exert more effort in order to achieve a healthier city, such as improving infrastructure including the repair of trenches and acquisition of more garbage trucks to facilitate effective garbage collection and disposal.

5. Community Perception about the Role of Community

The community has four roles to play in order to realize a healthy city, namely: the role of the community in planning, the role of the community in the implementation, the role of community in the utilization of results and the role of community in evaluation. The results showed that the community played a good role as much as 75.5% in the effort to realize a healthy home in the city of Medan.

Table 4. Community Perception about the Role of Community

Role of Community	n	%
Good	302	75.5
Poor	98	24.5
Total	400	100

One of the characteristics of a healthy city is involving the society in decision-making regarding healthy interventions that safeguard life, health, and welfare of the people (Glouberman, et.al 2006). Zoe and Mark (2009) also found out that nearly 80% of the cities have a mechanism to involve the public participation in decision-making; and more than two-thirds of the city explicitly been initiated to empower local communities.

According to Kummeling (1999), a healthy city clearly requires high participation of society by promoting active involvement and empowerment rather than just provide information and consultation. The same thing was also expressed by Hidayat (2003), that people who have healthy behavior and civilized proactively play a role in a variety of healthy movement to realize the creation of a healthy city. Similarly, Chan (2010) stated that in the implementation of a healthy city program, community readiness to participate becomes one of the important considerations.

The realization of a healthy city makes the community gain several advantages, ie; 1). The development process can be drawn up together with the community, so the community needs can be met; 2). The community will be more independent, capable and has the opportunity to become a partner of the government in conducting urban development; 3). The community will take responsibility and participate in assessing the results and benefits of such development.

The implementation of strategies to promote a healthy city may be carried out through forums and/or mobilization of the existing public institutions. Healthy City Forum serves to determine the direction, priorities, territory development planning that integrates various aspects, so as to ensure that the area is clean, comfortable, safe and healthy for the citizens to live. According to WHO (2002), developing a community forum with the number and representation with broader membership is a better approach in the development of a healthy city.

The results of in-depth interviews showed that the community has not fully play the role in planning for developing a healthy city in the region where they live. The community people were not invited to ~~plan something~~ during development planning, they were only involved in meetings for mutual cooperation. There were several planning meetings attended by the people, but did not mention specifically the problem of healthy house or healthy city. The community was invited to the *Musrembang* meeting (Planning and Development for Region) at district level plan that address global issues, never specifically on the issue of healthy house and healthy city. The community was invited regardless of the ability to express opinions. The presence of the community was called for just to show that there was existing community representation. In the *Musrembang* meeting, government program/work plan already exists, the public may attend and give comments, but they do not have access/participation in determining its progress.

The role of the community in terms of the implementation of a development plan involves providing manpower, money, and ideas when coordinated by the government. The community believed that the government should assist and always guide the community people in their participation in the development process. Community stated that the government did not invite and involve them in the implementation process. Some residents linked by NGO stated that they would cooperate with NGOs program because they were involved from the planning, and the community will further contribute to the implementation of development programs.

The opinion of informants in terms of the role of the community in the utilization of the results was that, generally the community would like to take advantage of the results but did not want to maintain, because they felt it was government obligation to provide it, and people did not feel that they were involved in the planning, so there is no need to care and maintain infrastructures, moreover to spend their money and energy on activities of such utilization. The government never disseminate any information about developing housing and residential areas, and whether it will good or bad to public interest. Therefore, the public was not concerned with housing and residential areas. As to the role of the community in the evaluation of development programs, the public believed that their obligations include providing inputs to the assessment and implementation of programs and monitoring the use and functioning of the infrastructure, facilities, housing and public utilities and residential areas.

6. Relationship between Community Perceptions about the Role of Community with Healthy House Condition

The relationship between community's role and the indicator of healthy house based on the perception of the community, can be seen in the table below.

Table 5. The Role of Community and Healthy House

Healthy House		Total	p value	OR
Unhealthy	Healthy			

The Role of Community	Poor	80 (28.6%)	18 (15.0%)	98 (24.5%)	0.04	2.3
	Good	200 (71.4%)	102 (85.0%)	302 (75.5%)		
Total		280 (100.0%)	120 (100.0%)	400 (100.0%)		

Analysis by using chi square test showed a significant relationship between community's role and healthy house, where the obtained value is $p < 0.05$. Indicators of healthy house were influenced by community's role, the house for the community is one of the necessities in addition to food and clothing, and therefore it has to be fulfilled. However, according to the community, house is a private area that does not need to be taken care of by government. In fact, from the government side, the house is one of the requirements that must be met, and set the terms, arrangement, location, and others, in order to meet health requirements. So that people who occupy the house will be healthy physically and socially as mentioned in Law No. 1 of 2011 on Housing and Settlement Region.

Conclusions

Embodiment of healthy city based on indicators of healthy house in Medan obtained only 30% healthy house and 70% unhealthy. Community knowledge about healthy house in good category as much as 63%, and 37% in the poor category. Community knowledge about healthy city in good category as much as 57.8%. Community perception about the role of the community in the good category 75.5%. Community perception of the community's role has a positive and significant effect on healthy house in Medan. The role of the community in the planning, implementation, utilization of results and evaluation is still not good in terms of healthy house in realizing a healthy city in Medan, because it is not facilitated, and not coordinated by the government.

References

- Chan, M. (2010). A Short Guide to Implementing the Healthy City Programme. WHO.
- Glouberman, et al. 2006. A Framework for Improving Health in Cities: A Discussion Paper Journal of Urban Health. Bulletin of The New York Academy of Medicine, Vol. 83. 2
- Hidayat, A. (2003). Building Healthy City and Civilized through the Healthy Behavior toward Healthy Indonesia 2010. Journal of Medicine Trisakti, Mei- August 2003: Vol 22 No 2.
- Hud. (2006). Healthy Housing Reference Manual. Kentucky: US. Department of Housing Urban Development .
- Keman, S. (2005). Health Housing and Environmental. Environmental Health Journal Vol. 2. No. 1. 29-42.
- Keman, S. (2007). Six Fundamental Needs of Healthy Housing. Environmental Health Journal Vol. 3. No. 2. January 2007: 183-184.
- Kjellstrom, T. (2007). The WHO Commission on Social, Our Cities, our Health, our Future Report to the WHO Commission on Social Determinants of Health from the Knowledge Network on Urban Settings Acting on Social Determinants for Health Equity in Urban Settings. WHO Kobe Centre: Japan.
- Kummeling, I. (1999). Community Participation in Healthy Cities. Unpublished dissertation. Faculty of Health Sciences, Maastricht University.
- Ministry of Health. (2002). DG PPM and PL. Guidelines for Technical Assessment of Healthy House. Jakarta, Ministry of Health.
- Werna, (1998). Healthy Cities in Developing Countries An International Approach to Local Problems. Earthscan: London.
- WHO Commission on Health and Environment. (2001). Our Health Our Planet. Kusnanto, H.(ed). Yogyakarta: Gadjah Mada University Press.
- WHO. (2002). Healthy Cities Initiative: Approaches and Experience in the African Region. WHO Regional for Africa.
- Zoe, H. and Mark, D. (2009). Community Participation and Empowerment in Healthy Cities. Journal of Health Promotion International, Vol. 24.