Cancer Hospital with Healing Environment Approach in Cakung, Jakarta

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Abstract. Cancer is the second deadliest disease after coronary heart disease. In general, cancer patients often experience psychological disorders due to the effects of the chemotherapy treatment that they are undergoing. The comfort factor becomes important in improving the cancer patients’ quality of life when undergoing chemotherapy. The theory that can improve the quality of life is by applying aspects of healing environment. Therefore, researchers become interested in conducting research study to determine the comfort level of cancer patients against the use of healing environment, with the voting method and the likert scale to 23 respondents of cancer patients in Jakarta.

Keywords: Hospital, Cancer, Healing Environment

1. Introduction
Cancer is one of the second deadliest diseases after coronary heart disease. Generally, there are 347,792 cancer cases in Indonesia, and specifically 14,256 cancer cases in Jakarta[1]. Cancer treatment generally uses chemotherapy and surgery[2]. Chemotherapy is the most common treatment procedure for cancer. However, chemotherapy has side effects which affect patients’ psychology. Patient recovery time after chemotherapy is counted 3-4 days[2]. According to the oncologist from Adi Husada Cancer Center (AHCC), dr. Made Putra Sedana. Sp.PD.KHOM, one way to eliminate the side effects of chemotherapy is not found yet, but it can be minimized by evaluating the patients’ condition before and after chemotherapy by referring to psychological approach to the patients which can be achieved by making them comfortable and not too depressed[2].

The Ministry of Health also appealed that the integration and involvement of all elements of government, private and community are needed to reduce morbidity and improve the quality of life of the people suffering from this disease in preventing cancer[3]. According to WHO, aspects of quality of life are as follows[4]:

[1] Ministry of Health, Indonesia.
[2] Suharjanto, et al., 2020.
[3] WHO, 2020.
[4] WHO, 2019.
One aspect of quality of life is the environment. The quality of environment cannot be easily determined because different people may have different perceptions on environmental quality. Referring to a certain formula, it can be easily stated that quality of the environment is good if it is able to make people inhabiting feel "homey" or comfortable [5]. Therefore, the researcher becomes interested in conducting comfort study on cancer patients in Jakarta. In this case, the theory which is used by the writer is healing environment. Healing environment is a conditioning environment which may improve quality and accelerate patients’ to recover in the hospital. Aspects of healing environment are as follows:
This is based on the results of a study conducted by the researcher on 29 February 2020 to 23 respondents. This research was conducted in two ways; first, by using voting method to determine patient comfort with the help of visualization and sound and second, by using Likert method to find out which aspects of the healing environment is preferred the most by patients.

This study was aimed at determining the comfort level of cancer patients by adopting healing environment. When the patient feels comfortable, the level of psychological disorders will be reduced, resulting in speed up recovery after chemotherapy. The results of this study were expected to provide information in the development of knowledge about comfort for cancer patients using the healing environment theory.

2. The methodology

2.1. Primary Data
Primary data is data obtained through direct data collection process, and can be achieved by the followings:

2.1.1 Questionnaire
Questionnaire is data collection technique through question sheets given in writing to a person or group of people to get responses regarding the information needed by the writer. Questionnaire to cancer patients was assisted by VR or Virtual Reality tool (Fig. 2). The function of Virtual Reality is to visualize the concept of healing environment in cancer patients.

2.1.2 Likert Scale
It is data collection method by responding to questions on a Likert scale in which respondents determine the level of their agreement to a statement by choosing one of the available choices. Normally, five scale choices are provided in this format: Strongly disagree / Disagree / Less agree / Agree / Strongly agree.

2.2. Secondary Data
It is data or information which is not directly related to the design object but strongly supports the design program, including:

2.2.1 Literature Study
It is data collection method by using or taking from books as sources of reading and references relating to cancer problems and healing environment; data retrieval is also from the internet. Data obtained from this literature study can be from theory, expert opinion, and government regulations and policies which form basis of planning so as to deepen the analysis. Data obtained from literature
searches are sourced from internet data, books, magazines, brochures / pamphlets, documentary films, and government policy rules relating to cancer and healing environment.

3. Result and Discussion

3.1. Analysis of the healing environment of cancer patients
Based on journals and data obtained by the writer, a person suffering from cancer may experience psychological disorders, especially when undergoing chemotherapy treatment. Related to this, psychological problems experienced by cancer patients before and after chemotherapy can be minimized by increasing the quality of life, one of which is improving the quality of the environment by applying healing environment.

3.2. Comparative Study
The following is a comparative study analysis based on aspects of healing environment:

3.2.1 Parview Cancer Institute
Located in the United States, the cancer hospital adopts the concept of healing environment (Fig. 3).

![Figure 3](Source: google maps)

3.2.2 Shand Cancer Hospital at the university Florida
The hospital applies healing environment as a Healing Park to be a special facility designed to lift the spirits of patients and families through distraction, relaxation and physical activity. The park includes a pedestrian path, a butterfly park, a relaxation area with seating, gardening beds, and an interactive area for children of all ages to engage in exploration games.

![Figure 4](Source: google maps)
3.2.3 Concord cancer Hospital
Concord Cancer Hospital and Proton Therapy Center will be a comparison facility to fight cancer with the latest technology while providing an ideal environment to encourage the healing process for patients. There are 400 places connected by winding public spaces in which users can meet and mingle. Focus on community and comfort drives the overall design concept. The central park will connect patients with nature, especially important for those who may feel isolated and disconnected from the outside world during treatment.
3.2. Research Study

To support the above statement, the researcher gave a questionnaire with VR (Virtual Reality) tool to 23 cancer patients with the help of image simulations adopting the concept of healing environment. The results of the questionnaire were dominated by those who were very comfortable with healing environment, the remaining felt comfortable, and none of those felt uncomfortable up to very uncomfortable. In research on aspects of healing environment consisting of:

**Figure 7**  
Source: google maps

**Figure 8. Aspect of Healing Environment on Research**  
Source: google maps
Table 1. Comfort Level and Aspect of Healing Environment

| COMFORT LEVEL | FIGURE | ASPECT OF HEALING ENVIRONMENT | LIKERT SCALE |
|---------------|--------|-------------------------------|--------------|
| Comfortable   |        | Lighting                      | 4            |
| 74%           |        | Art                           | 3            |
| Neutral       |        | Color                         | 2            |
| 26%           |        | Garden/nature                 | 5            |
| Uncomfortable |        | Noise/music                   | 4            |
| 0%            |        | Homely Atmosphere             | 2            |

| Comfortable   |        | Lighting                      | 4            |
| 82.6%         |        | Art                           | 3            |
| Neutral       |        | Color                         | 3            |
| 17.4%         |        | Garden/nature                 | 5            |
| Uncomfortable |        | Noise/music                   | 4            |
| 0%            |        | Homely Atmosphere             | 2            |

| Comfortable   |        | Lighting                      | 4            |
| 74%           |        | Art                           | 3            |
| Neutral       |        | Color                         | 2            |
| 26%           |        | Garden/nature                 | 4            |
| Uncomfortable |        | Noise/music                   | 4            |
| 0%            |        | Homely Atmosphere             | 3            |

| Comfortable   |        | Lighting                      | 3            |
| 65.2%         |        | Art                           | 4            |
| Neutral       |        | Color                         | 2            |
| 34.8%         |        | Garden/nature                 | 2            |
| Uncomfortable |        | Noise/music                   | 4            |
| 0%            |        | Homely Atmosphere             | 3            |

| Comfortable   |        | Lighting                      | 3            |
| 74%           |        | Art                           | 2            |
| Neutral       |        | Color                         | 4            |
| 26%           |        | Garden/nature                 | 5            |
| Uncomfortable |        | Noise/music                   | 3            |
| 0%            |        | Homely Atmosphere             | 4            |
From the results of study to respondents it was found that they really Comfortable (73%)
Figure 9. Percentage of Aspects of Healing Environment
Source: Personal Source

Chart From the results of study to respondents it was found that they really like aspects of Garden the outdoor, aspects of Nature from indoor, lighting, noise / music).

Figure 10. Percentage of Aspects of Healing Environment
Source: Personal Source

4. Concluding Remarks
Results of study show that the healing environment can provide comfort to cancer patients, in which comfort is important in minimizing psychological disorders which possibly hinder the patients’ recovery before and after surgery. The most important aspect of healing environment obtained from the Likert scale results are Gardens the outdoor, Nature from indoor, lighting, noise / music. On
conclusion, these important aspects make the main focus of researcher to design a cancer hospital with a healing environment.

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