Redesigning the isolation room for schizophrenia patients after a partial remission stage

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Abstract. In rethinking and formulating the design or redesigning the isolation room or schizophrenia patient’s bedroom in the details of the spatial elements in this research will focus on the shape and color of the cell wall elements or the bedroom of schizophrenic patients. Further research of the meaning of space for humans and to recommend specific design of the space is expected to help minimize the negative behavior of schizophrenic patients condition. This research will identify whatever the effect and the trigger on how the wall element in terms of shape and color can intervene to the behavior of schizophrenic patients. Architecture and human behavior are for humanity. By using descriptive qualitative research methods based on behavioral research in an architectural perspective, direct observation, in-depth interviews until interviews with psychiatrists and also discussing these results with the theory that became the objective background for the assessment of spatial parameters. Emphasizes on the simple architectural products to be tested directly with a scale of 1:1 using architectural fabrication techniques, redesigning of the isolation room of catatonic paranoid schizophrenia patients after a partial remission stage which led to the formulation of a new design of simple architectural products of this research will be one of the beginning for the development on the multidisciplinary science for the advancement of human science in the future. The analysis of the spatial behavior of the patient will be mapped and taken into absolute consideration for designing architectural wall products for schizophrenic patients with the age over 15 years.

Key words: Redesign, Room, Spatial Behavior, Schizophrenia

1. Introduction
Mental health is an important factor for all of us to be a healthy people who can work, socialize and carry out daily activities properly. But psychologically unhealthy conditions are experienced by some people so they need to exert more effort to perform daily activities. As one of the many mental illnesses and can happen to people around us, namely schizophrenia. Schizophrenia is a mental disorder that happen commonly with characteristics of damage and peculiarities to the thoughts, perception, emotion, movement, and behavior. WHO (2012)
states that 24 billion people in the worldwide suffer from schizophrenia at the ages between 15 and 35 years. Men have a high incidence rate compared to women with a ratio of 1.4 to 1 patient.¹

Indonesia where we live has a considerable burden of mental illness. The result of Basic Health Research (Riskesdas: Hasil Riset Kesehatan Dasar) in 2013, showing that the prevalence of the emotional mental disorder as indicated by symptoms of depression and anxiety is 6% for the age of 15 years and over or about 14 million people. Meanwhile, the prevalence of severe mental disorder, such as schizophrenia is 1.7 per 1000 inhabitants or about 400,000 people. Based on the amount, it turns out that 14.3% of them, or approximately 57,000 people have been or are being put in a shackle. The figure of shackles in the rural area is 18.2%. This figure is higher compared to urban figures, which is 10.7%.²

2. Discussion
2.1. Interview and Observation
The research subject was Ryan (male), aged 22 years old, orphaned and was the patient of schizophrenia. The physical condition of the room for psychiatric patients is classified as not very specific in the Psychiatric Hospital Dr. Soeharto Heerdjan. The aspect that is most considered is the security aspect. There are no specific formulations or designs that are specifically designed or designed for behavior and activities or therapeutic space for patients.

![Figure 1. The Photo Bedroom in the Psychiatric Hospital Dr. Soeharto Heerdjan](source: Personal Documentation, 2018)

There is absolutely no space therapy that is attempted to maximize external stimuli to the patients. Because hospitals focus on treatment only on medical treatment, not psychological treatment, there may also be no supporting facilities available.

For patients with paranoid schizophrenia and catatonic Ryan can very well socialize well with strangers, questions and all the trials can be carried out smoothly without constraints. In addition to mapping activities in patients, there can also be some information from nurses and carers about interesting and frequently visited spaces or often noticed by patients. The following are the results of Ryan's activities and movements for 6 hours, consisting of 4 free

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¹ Sri Novitayani, “Karakteristik Pasien Skizofrenia Dengan Riwayat Rehospitalisasi”, 2016, halaman. 23.
² Kementrian Kesehatan Republik Indonesia, “Peran Keluarga Dukung Kesehatan Jiwa Masyarakat”, www.depkes.go.id, 6 Oktober 2016.
hours and 2 hours when there are eating activities or other routine activities; (Sketches are made based on existing plans).

Figure 2. Mapping of Ryan's Activity, Schizophrenic Patients in Psychiatric Hospital of DR. Suharto Heerdjan
Source: Personal Documentation, 2018

Figure 3. Mapping of Ryan’s Activity, Schizophrenic Patients in Psychiatric Hospital of DR. Suharto Heerdjan
Source: Personal Documentation, 2018
Related to the previous mapping layout the interviews conducted to patients about perception and custom are made for patients around the room she always passed or attended. Related to the previous mapping layout the interviews conducted to patients about perception and custom are made for patients around the room she always passed or attended. This interview question is to look for spatial points and elements that have a major effect on patients. How the point lines and the field as well as various design corner rooms which can affect the perception of the patient. The following is a summary of the entire interview within 2 days.

2.2. The Initial Design
This initial hypothesis has experienced several changes since its security must be consulted to a specialist psychiatric and related psychiatrist. An initial scheme that aims to give the psychology of the stimulation room to the patients to create a sense of trust in the surrounding physical environment. But some security aspects such as:

1. Arch must be not close to the ceiling because it is dangerous for the case of hanging yourself.
2. The material is soft and safe so as not knock to the head
3. Cell segments that must be open to eliminate the impression of decreasing.

![Figure 4. Initial Design Hypothesis Scheme 1](Source: Personal Documentation, 2018)
The initial hypothesis phase changes because of the security aspect, the arch does not meet the ceiling so it is not dangerous for suicides cases. The main structural material is iron which will later be wrapped in mattresses and synthetic leather. The area curvature of the wall with the aim to provide a shade that gives a sense of protection and trust. The colors chosen for the curved area use olive green color which can give a sense of trust and also represent green vegetation which is a calming object of view for people with schizophrenia. The preliminary design results are hypotheses based on discussion of related theories and the initial survey of the discovery of problems in the bedroom of schizophrenic patients. These forms and recommendations can change after experiencing further research and review.

2.3 The Revision Process of the Design and Development of the Installation
The initial hypothesis phase changes because of the security aspect, the arch does not meet the ceiling so it is not dangerous for suicides cases. The main structural material is iron which will later be wrapped in mattresses and synthetic leather. The existence of this installation must be between the window / space opening, and has a slope pattern according to the epidemiological committee theory. This open cell space stimulation has a slope detail that is not extreme and different for each row to form an arch that is mutually reciprocated by the installation of the front.
No | Stages | Background | Change Content |
---|---|---|---|
1 | Initial Hypothesis | Theory Discussion | Providing additional wall elements in the patient's sleeping room |
2 | Adjustment Stage in the Field | Theory Discussion | The installation is safe and can be installed and dismantled easily |
| | Interviews | Observation / Direct Observation | |
3 | Resource Person Input Phase | Theory Discussion | Installation is not harmful and can provoke self-injury until suicide |
| | Interviews | Observation / Direct Observation | |
| | In-depth interviews with psychiatric specialists | In-depth interviews with Hospital Psychiatrists & patient nurses | |
4 | Development Stages | The Overall + Strength Structure | It was decided to use iron as the bone of the main structure and a safe packaging would be planned to fill the security requirements from point 3. |
5 | Trial Stage 1 | The filed trials to see the results of the design from the perspective of the patient's own | Further research is needed to be able to test longer and more for schizophrenic patients with the same specifications |

**Table 1. Design Process**

Fabrication work uses welding techniques to connect one component to another. In the working process, the distance of curvature is reduced to consider the security and safety factors of schizophrenic patients who tend to have a suicidal drive. The installation uses the hollow steel frame components as the main material for its formation. And colors are adjusted to the results of theoretical discussions and field trials.

![Figure 7. The Final Design, Coated with Olive Green Color](source: Personal Documentation 2018)
3. Conclusion
How mutually complementary and complete, how spatial aspect will be an important aspect also in the psychological and medical disciplines is the point of good value in this study. Various aspects must be cross-checked directly to the speakers or related theories and also in the reality. The conclusions in this research can be drawn as follows:
1. That the sensory aspects (five senses) in the space is greatly affects patients with schizophrenia.
2. Color selection is very important due to the hypersensitivity of the research subject.
3. The material selection needs to be considered in a scale of safety and prevention of patients injuring themselves.

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