Interior design of mother and child hospital in Jakarta

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Abstract. This research aimed to design hospitals’ interior for mothers and children that could help women and children heal psychologically. The methods of this design were to study by literature, an online survey, a hospital survey, and observed activities done by patients and staff in the hospital. The results show that most hospitals have safety problems in children’s areas, inadequate room circulation, and unsuitable ambiance that makes patient tense during the stay. This problem causes patients and staff to not being able to do their activities efficiently. Because of the problems stated, this design aims to design a hospital with a “healing environment” as a concept. With that, patient and staff can do their activities better, and patients especially will receive not only healing by medical methods but also with psychological methods from the ambiance of the hospital.

Keywords: mother and child hospital, interior design, healing enviroment

1. Introduction

The hospital is an integral part of a social and health organization with the function of providing plenary services (comprehensive), healing disease (curative), and prevention of disease (preventive) to the community. The hospital is also a training center for health workers and a medical research center [1].

However, in one’s health, health recovery is not only done by looking at physiological aspects, but also by considering psychological aspects such as someone who is experiencing severe stress can feel physical pain. In most hospitals in Indonesia, despite having excellent facilities, the interior design does not seem to help provide calm to the patient and instead gives the impression of being less friendly, sinister, and stiff at the hospital [2]. From the very beginning, visitors entered the hospital, and visitors had already smelled the scent of medicine, making most of them feel unpleasant impressions. Inside the hospital, visitors are also easily lost when they want to finish their business, which often requires visitors to visit various departments. Nevertheless, when viewed abroad, the hospital is worked on very seriously. It has an efficient interior design in circulation and provides a soothing and pleasing effect for children. Both patients and their companions feel not depressed when having to spend a long time in the hospital [3].

For a mother, pregnancy and childbirth are definitely felt. A pregnant woman’s burden is weighty psychologically and physically, especially because most mothers experience psychological fear and physical pain during pregnancy [4]. With that, it is certain that when this is experienced, mothers will want to feel the experience of visiting a comfortable hospital. In most hospitals, waiting areas do not provide comfort to pregnant women. Most rooms, especially waiting rooms, have circulation rooms that
are less than hospital standards, so for pregnant women to pass through it already has difficulty. Plus, the furniture is hard so that pregnant women who are long waiting will feel pain. Therefore, the design of an RSIA needs to prioritize pregnant and giving birth mothers’ comfort and health.

Children are the ones who experience the great effects of hospital interiors. If they have to go to the hospital, they will feel scared by doctors’ actions, such as injections. Therefore, it takes a special design for the child to relieve feelings of fear. The child does not feel tense while waiting, forgetting the actions he will receive from the doctor, so they can move according to what they want [5]. In doing activities in the child’s polyclinic area, security is also needed to ensure the child can move freely, without thinking about the risk of injury.

For the reasons described above, the authors are interested in designing maternal and child hospitals to provide designs that can help patients psychologically heal and help pregnant women, give birth, and children to forget their fears of action and pain to play and optimal activity. Also, this research was part of the interior design’s student final project.

The research problems are: (1) How to design hospital interiors that provide a healing and friendly atmosphere for patients and visitors? (2) How to design a safe and kids-friendly hospital for mother and child? Furthermore, (3) How to design the interior of the mother and child hospital that supports the user’s circulation needs?

2. Methodology
Data is collected by conducting literature studies, field surveys, and observations. The collected literature is books about the study of mother and child psychology, color, circulation, and maternal-child hospitals. Field surveys and observations are carried out by visiting the hospital to be studied and observing how the activities carried out in the hospital. The design stages carried out are as follows:

2.1. Background
The author gets the background from the proposed project, looking for existing problems.

2.2. Problem formulation
The author formulates the problems that exist in the project being worked on, and questions on how to produce a design that answers these problems.

2.3. Data
At this stage, the authors look for data by collecting literature data such as websites, papers, journals, and books relating to maternal and child hospital planning. The author also conducted field observations. Data such as facilities used and activities carried out by staff and patients were obtained.

2.4. Analysis
At this stage, the author analyzes the data obtained. In this case, the author makes a mind map to analyze existing data.

2.5. Programming
At this stage, the authors make a program of facility activities, where the calculation of facilities and circulation are counted. All the required facilities can have a sufficient area. The author also makes zoning and grouping for buildings, as well as making space diagrams.

2.6. Concepts
The authors make concepts such as the theme to be raised at this stage, the style to be used, shape, color, material, lighting, acoustics, and disposition.
2.7. Working drawing
At this stage, the writer will make a working drawing that is in accordance with the design agreement in the pre-design stage. The resulting image is the overall layout, floor plan, wall plan, ceiling plan, construction detail drawings, furniture detail drawings, and also room cutout drawings.

2.8. Image presentation
At this stage, the authors present aesthetically interesting images, such as 3D images, layouts, colored pieces, and axonometry.

3. Results and discussions
3.1. Analysis of survey result
In finding the needs and facilities available at maternal and child hospitals, a visit to the maternal and child hospital is conducted, and a web survey is done for comparison. In conclusion, the main problem of a hospital is inadequate circulation to the polyclinic area, and the second is that the design is limited to the public area. It can be seen that several maternal and child hospitals do not have special rooms for children, and have room designs that are not on par with the design of public areas.

3.2. Design statement
Healing Environment is the main function of the hospital, which is for healing patients [6]. The example of a healing environment is by considering the psychology of color and its effects. The selection of colors is expected to help reduce pressure on patients.

![Image of hospital interior]

Figure 1. Moodboard
(Source: Personal Data)

3.2.1. Children’s area moodboard
The color for the children’s area will be added with a bright accent so that the child’s area will look more fun. So, children will be able to forget their fear of the hospital. Children who are sick will also be more excited because of the elements in the interior [7].
3.2.2. *Mom’s area moodboard*

The area for the mother will be more soft and feminine, with pastel colors. The colors to be used are pink, blue and pastel green. To provide warmth, wood material is used [7].

3.3. *Concept*

The concept that will be presented in this design is Healing Environment. The interior area will look more natural and will give a more soothing impression to mother and child.

- **Style Concept**

  The style used will be more directed to modern natural, where the interior will look more balanced and calming to be inside, with the addition of wood-textured material.

- **Theme**
The theme that will be raised, especially for the children's area in this design, is the backyard theme, which means an area behind the house. The area behind the house is usually used as a place for relaxation and play area. The thing that gives relaxation is what you want to convey in this design. As for the mother area, the theme will be more feminine with pink and pastel blue. The theme was chosen to make the atmosphere more friendly so that patients do not feel tense and too felt in the hospital while in the clinic.

- **Shape**

To reduce the child's chance to be hit and the amount of dirt and germs that can cause transmission, the form that will be used is a form that is safe and kids friendly. The shape used is a geometric shape that is curved or circular or oval because to create a kid's friendly room, special security is needed for children who will use the room. By arching sharp furniture, children will not have the risk of being hit and injured because of the furniture in the room.

- **Lighting**

Lighting is divided into two types, namely natural and artificial lighting. For hospital interior design, both types of light are used. Natural lighting can help to cure patients so that natural lighting will take precedence in the inpatient room, especially for VIP rooms and above. Artificial lighting is used as:

1. Task lighting, which helps the work of doctors and nurses.
2. General Lighting, to provide overall lighting in the hospital.
3. Accent Lighting, to provide aesthetic elements in hospitals, such as indirect lighting.

- **Color**

The function is to provide psychological peace, many colors of green, blue, and pink are used.

- **Material**

The material used is hospital-safe material such as vinyl and leather material that is easy to clean. For walls, use colors that are healing that are green, pink, and blue. Panel using wood textured HPL is also used. Ceiling using gypsum board.

- **Airing**

The standard of room air quality in hospitals has a room temperature of 26-27 ° C with a 40-50% humidity. Natural ventilation comes from ventilation holes and windows. Artificial ventilation used is a centralized temperature control system, namely central air conditioning, which is anti-bacterial.

- **Acoustic**

For hospitals, it is important for some areas not to be noisy. The use of gypsum board in the ceiling and vinyl on the floor will help to reduce noise.

- **Application of Green Design**

Because Jakarta has a tropical climate, sunshine is abundant. Therefore, the use of sunlight as lighting must be used optimally. The use of the sunlight is more intended for inpatient rooms, especially VIP rooms and VVIP, a place where patients will spend more time while undergoing hospitalization in hospitals.

Lighter paint colors can also help reflect light, so the room looks brighter with natural light. The lamp also uses the LED type to reduce the energy used. The material, especially vinyl, is very sustainable so that the material can be used for the Olympics and survive well. Coupled with its anti-static properties, vinyl material is suitable for use in hospitals.

Other materials used, such as HPL, use a brand that supports green design. The material is non-toxic and does not endanger the environment.
Inside the polyclinic room, a wall plant is installed to help regulate the air and eliminate air pollution in it. The plant used is called photos, where the plant does not need direct sunlight. The soil where this plant is planted also does not need to have many nutrients, so it only requires a little water splash.

3.4. Design illustration

Lay-Out Furniture

From the recapitulation and zoning grouping results, the resulting layout is as follows.

![Figure 4. First Floor Lay-out Furniture](image-url)
Figure 5. Second Floor Lay-out Furniture

Figure 6. Third Floor Lay-out Furniture
3.5. **3D illustration**

3.5.1. **Children's polyclinic.**
For children, polyclinic designs use green as the main color, coupled with blue accents that describe the sky. The design of the children's area aims to give an outdoor impression so that a sick child feels more comfortable. The material used is vinyl and HPL, which has natural textures such as wood and concrete. In this room, the sharp shape of the furniture is arched, so that it will be kids friendly, where children can play freely without the possibility to knock.

3.5.2. **Mother's polyclinic.**
For the maternal polyclinic, the theme raised was the feminine theme, where the pastel pink was used as the main color. This color combination will provide a calming effect to those in it. The material used is vinyl and HPL, where wood texture is used as the main texture. Plus, given plants that are easy to care for and do not need much light in this room, the pollutants inside will be reduced.
3.5.3. *Mother and child inpatient rooms.*

For the mother and child room, the same material and color are used as the respective polyclinic. However, in this area, the blue color is used for dealing with patients to help win more patients. The material used is vinyl and HPL, both of which have wood texture to make the room feel warmer.

**Figure 9.** Mother’s Polyclinic

**Figure 10.** Mother’s Inpatient Room

**4. Conclusion**

The hospital has the main function as a facility to cure and prevent disease for the community. Healing in a hospital does require not only medical treatment but also psychological methods. Because of the psychological influence of children who are afraid to come to the hospital and mothers who tend to be more intense when they want to come to the hospital, the hospital's interior design must provide a safe environment and calm the patient. For areas visited by children, they must have enough security to move around without worrying about safety. Mothers who will give birth also need an atmosphere of space that will be calming, because the level of anxiety of mothers who will give birth is very high.

Hospitals in Indonesia at this time, especially private hospitals have begun designing hospital interiors to be informal, with the impression of being like a mall, or like a Disney film. However, there are no hospitals that really focus on providing peace and security for patients. Therefore, the purpose of
designing a mother and child hospital is to provide a safe environment for children and to heal them or with the concept of a healing environment.

The Mother and Child Hospital is designed with a modern natural theme. The material and shape used are more natural and not rigid. For security, especially child safety, the furniture used will be warped. The design also applies color psychology to users. The colors used in the interior elements are expected to help to provide a calm effect on the patient, so patients will not feel tense in the hospital. Wooden accents are also used for walls, floors, and furniture, so the room feels warmer. For flooring, the most suitable material for hospitals is vinyl, which is anti-static, soundproof, and also environmentally friendly or sustainable. The polyclinic room is also given a wall plant that is easy to manage to help absorb pollutants in the room.

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