International Journal of Educational Technology Research (IJETR)
Vol.3, No.3 September, 2025: 796-805

Evaluation of the Implementation of Permenkes No. 40 of 2022 on the Interior Design of Wangaya Denpasar Hospital for Community Services

Yuni Indah Lestari[1], I Kadek Pranajaya[2], Ngurah Gede Dwi Mahadipta[3], Ngakan Ketut Acwin Dwijendra[4*]
[1,2,3]IDB Bali, Denpasar, Bali
[4]Universitas Udayana, Bali
Corresponding Author: Ngakan Ketut Dwijendra **:** acwin@unud.ac.id

A R T I C L E I N F O
Keywords: Hospital Interior Design, Evidence-Based Design, Patient Comfort, Service Efficiency, RSUD Wangaya, Minister Of Health Regulation No. 40/2022

Received : 12, July
Revised : 25, August
Accepted: 20, September

A B S T R A C T
The transformation of hospital interior design has moved beyond functional requirements toward holistic approaches that emphasize patient psychology, comfort, and healing environments. This study evaluates the implementation of *Minister of Health Regulation No. 40/2022* in the interior design of Wangaya General Hospital (RSUD Wangaya) in Denpasar, focusing on service efficiency and patient comfort. Using a qualitative method with field observations and semi-structured interviews involving patients and medical staff, the study identifies deficiencies in spatial layout, lighting, ventilation, and circulation. The findings reveal that while some aesthetic elements provide a calming atmosphere, the current interior design has not fully supported service efficiency or user comfort. Recommendations are proposed based on *evidence-based design* to enhance interior quality, ensure compliance with regulations, and improve healthcare delivery in regional hospitals.

DOI : **https://doi.org/10.59890/ijetr.v3i3.168**
ISSN-E: 3025-7131
https://ntlmultitechpublisher.my.id/index.php/ijetr

INTRODUCTION

Hospitals today are no longer seen solely as health institutions that carry out curative functions, but also as psychological and social spaces that have a significant impact on patient experience and the performance of medical personnel. Hospital interior design plays a dual role: as a means of healing that supports the physical and mental health of patients, as well as a workspace that promotes the efficiency, effectiveness, and safety of medical personnel (Kotler & Armstrong, 2018). In the context of the construction of modern healthcare facilities, the design orientation is not limited to the technical aspect, but includes the creation of an atmosphere capable of providing comfort, reducing stress and strengthening social relationships between patients, families and healthcare providers.

Globally, the trend of hospital design is evolving towards a *hospitality-oriented* paradigm or resembling a five-star hotel. This approach places convenience, aesthetics, and efficiency as top priorities in creating a humane and user-friendly experience. Elements such as efficient spatial planning, natural lighting, soothing color selection, and clear and safe circulation have been proven to increase patient satisfaction while supporting the productivity of medical staff (Raharja, 2017). This model is in line with the concept of *healing environment*, which is the idea that physical space is able to significantly influence the healing and recovery process of patients (Ulrich, 1984).

However, the application of modern design principles has not been evenly distributed in all health facilities in Indonesia, especially in regional hospitals. Wangaya Denpasar Hospital, as one of the main referral hospitals in Bali, faces challenges in implementing technical standards as stipulated in the Regulation of the Minister of Health (Permenkes) No. 40 of 2022. This regulation emphasizes the importance of spatial efficiency, lighting quality, ventilation systems, and smooth circulation between buildings in supporting quality health services. Initial observations show that at Wangaya Hospital, the layout of the waiting room, natural lighting, and circulation between service units is not fully optimal. This condition not only affects the comfort of patients and visitors, but also has an impact on the effectiveness of the work of medical staff (Sariningsih, 2022).
The urgency of this research is based on the need to optimize the interior design of regional hospitals to be able to meet applicable health service standards, while improving the work efficiency of medical staff and patient comfort. The focus on regional hospitals becomes relevant considering that these facilities serve the majority of people with various socio-economic backgrounds, so that the quality of interior design has direct implications for the accessibility and equity of health services.

In addition, this study has novelty value because it highlights the implementation of national regulatory standards in the context of regional hospitals in Bali, which is still relatively rarely explored in the Indonesian academic literature. Most of the research on hospital interior design has focused more on large-scale private hospitals or national teaching hospitals, while regional hospitals often go unnoticed. In fact, regional hospitals have their own complexities, both in terms of budget, management, and limited facilities (Kaplan & Kaplan, 1989).

Thus, this study not only contributes practically to providing recommendations for improving the interior design of Wangaya Hospital, but also theoretically enriches the literature on *evidence-based design* and its application in the context of regional hospitals in Indonesia. This study is expected to be a reference for designers, hospital managers, and local governments in improving the quality of health services through a measurable, humanist, and sustainable interior design approach.

LITERATURE REVIEW

Evidence-Based Design (EBD)

Evidence-Based Design (EBD) is a design approach based on the findings of empirical research to create a space that supports the health, safety, and well-being of users. In the context of hospitals, EBDs emphasize the importance of design decisions that are supported by scientific evidence, such as the effect of natural lighting on patient recovery or the layout of spaces that can improve the work efficiency of medical personnel. Ulrich et al. (2008) explained that the application of EBD has been proven to reduce patients' stress levels, speed up the healing process, and reduce medical errors. Therefore, EBD is the main theoretical framework in evaluating the interior design of Wangaya Hospital, especially related to spatial planning, ventilation, and lighting.

Environmental Psychology

Environmental psychology emphasizes the reciprocal relationship between physical space and human behavior. According to Gifford (2007), environmental conditions such as color, texture, lighting, and indoor air quality can affect the mood, perception, and satisfaction level of patients and medical staff. In healthcare facilities, cramped and uncomfortable waiting rooms can increase patient anxiety, while spaces with natural lighting and ergonomic layouts can create a feeling of calm and support the healing process. Thus, the theory of environmental psychology was used to analyze how the interior design at Wangaya Hospital affected the emotional experiences of patients and staff.

Ergonomics and Anthropometry

Ergonomics and anthropometry aspects are essential in designing inclusive and user-friendly healthcare facilities. Panero and Zelnik (1979) emphasized that the dimensions of the human body should be the main reference in determining the size of furniture, table height, distance between chairs, and circulation width. Hospitals with ergonomic designs can reduce the risk of work injuries to medical staff, improve patient comfort, and ensure accessibility for people with disabilities. In the context of Wangaya Hospital, the evaluation of the suitability of the dimensions of the service space with the anthropometric standards of the Indonesian people is one of the focuses of the research.

Salutogenic Design

The concept *of Salutogenic Design* was introduced by Antonovsky (1996) which emphasizes the creation of an environment that supports physical and mental health by reducing stress, increasing a sense of control, and creating social connections. In hospital design, this principle is embodied through the use of natural elements such as sunlight, indoor plants, soothing colors, and spatial planning that allows for positive social interaction. The application of salutogenic

concepts at Wangaya Hospital is important to ensure that public spaces such as waiting rooms and information rooms are not only functional, but also provide a calming experience for patients and families.

Permenkes No. 40 of 2022

Regulation **of the Minister of Health No. 40 of 2022** is a national technical guideline related to hospital building and infrastructure requirements. This regulation covers spatial planning standards, natural and artificial lighting, cross ventilation, accessibility for all people, including people with disabilities, and the use of hygienic and sustainable materials (Ministry of Health, 2022). This Regulation of the Minister of Health is the main evaluation basis in the research, because it regulates the obligation of hospitals to provide service spaces that are safe, efficient, environmentally friendly, and oriented towards patient comfort. The implementation of this regulation at Wangaya Hospital is the focus of the study to assess the extent to which the standards have been met or are still facing obstacles.

METHODOLOGY

Research Approach

This research uses a qualitative approach with *a case study orientation* . This approach was chosen because it is able to explore a deep understanding of the perceptions, experiences, and needs of hospital room users, both patients and medical personnel. Qualitatively it allows researchers to capture subjective meanings as well as social interactions that cannot be explained quantitatively (Creswell, 2014). The case study of Wangaya Hospital is seen as representative because this hospital is a regional referral hospital that faces challenges in the implementation of the standards of the Minister of Health Regulation No. 40 of 2022.

Location and Research Object

The location of the research is Wangaya Denpasar Hospital, one of the largest regional hospitals in Denpasar City. The object of the research is focused on three areas of public service that are considered the most crucial in shaping the patient experience, namely:

a. Information Room, as a starting point for patient and visitor orientation.
b. Waiting Room, as a transition area that affects the patient's comfort and anxiety level.
c. The Nurse Post, as a center for coordinating medical services that has a direct impact on staff efficiency.

Data Sources and Types

Research data was obtained from two main sources:

a. Primary data, through field observations and semi-structural interviews with patients and medical staff.
b. Secondary data, in the form of regulatory documents (Permenkes No. 40 of 2022), academic literature, and the results of previous research related to hospital interior design.

The types of data collected include:

a. Descriptive data on the physical condition of the space (spatial layout, lighting, ventilation, and circulation).
b. User perception data, in the form of experiences, comforts, and challenges felt by patients and medical staff.
c. Regulatory data, in the form of technical standards that are a reference for evaluation.

Data Collection Techniques

a. Field observations. Observations were made directly at the information room, waiting room, and nurse's post to document the actual condition of the interior design. The researcher noted aspects of spatial planning, natural and artificial lighting, ventilation quality, accessibility, and spatial atmosphere. Documentation in the form of photographs, spatial sketches, and field notes also support visual analysis.
b. Semi-structural interviews. Interviews were conducted with patients and medical staff using open-ended question guides to obtain data on perceptions, emotional experiences, and barriers experienced. A semi-structural approach was chosen so that respondents could explain their experiences flexibly, while providing space for researchers to explore issues that arise spontaneously.
c. Documentation Studies. The documentation includes a study of the regulation of the Minister of Health Regulation No. 40 of 2022, as well as academic literature on hospital interior design, *evidence-based design*, environmental psychology, and ergonomics. This documentation study provides a frame of reference to compare the condition of Wangaya Hospital with applicable standards.

Data Analysis Techniques

Data analysis was carried out using *evidence-based design (EBD)-based thematic analysis*. The analysis process includes:

1. Data reduction, which is sorting out relevant information from the results of observations, interviews, and documentation.
2. Thematic categorization, by grouping data into key themes such as spatial layout, lighting, ventilation, circulation, and user comfort.
3. The evaluative synthesis is to compare field findings with the standards of the Minister of Health No. 40/2022 and the EBD theory.
4. Interpretation of the results, by drawing conclusions about the suitability of the interior design of Wangaya Hospital to national standards and its implications for community services.

Data Validity

To ensure the validity of the findings, this study uses source and method triangulation techniques. Data from observations were verified by interviews and compared with regulatory documents. In addition, discussions with supervisors and hospital interior design experts were carried out as a form of *peer debriefing* to test the consistency of interpretation.

RESULTS AND DISCUSSION

Existing Conditions

Waiting Room

The waiting room of Wangaya Hospital shows problems of suboptimal space density and circulation. The entrance, exit, and transfer of patients are mixed with visitors, so it often causes crowds during peak hours. The waiting chair is arranged linearly without paying attention to the *flow* of movement, thus reducing comfort and increasing the patient's stress level.

Figure 1. Front View of Wangaya Hospital Denpasar City
Source: Personal Documents, 2025

b. Natural Lighting

Natural lighting has not been utilized to its full potential due to limited window openings and building orientation. Most of the service areas rely on artificial lighting with fluorescent lights. This creates a monotonous atmosphere of the room, reduces visual comfort, and does not support the principle of *healing environment*.

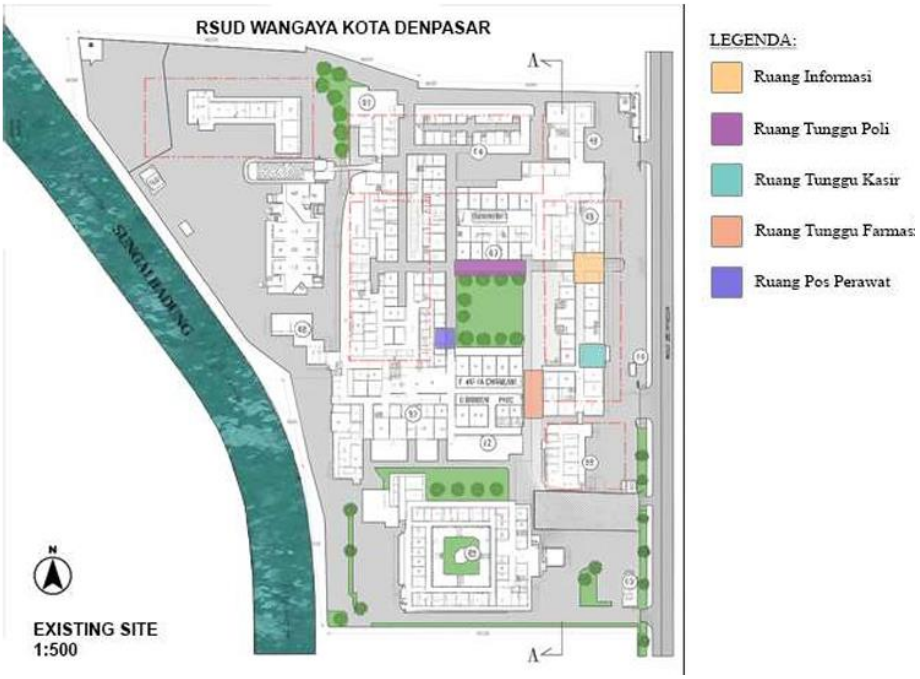

Figure 2. Existing Site, Wangaya Denpasar Hospital
Source: Wangaya Hospital, 2025

c. Ventilation

Air ventilation tends to be not up to standard because it only relies on air *conditioners* without cross ventilation. As a result, indoor air quality (IAQ) is poor, with static air circulation increasing the risk of thermal discomfort. This condition is very crucial considering that hospitals are areas with high intensity of use and are vulnerable to the spread of disease.

d. Nurse Post

The nurse post is placed in a less strategic location, so patient supervision is not optimal. This position does not allow medical personnel to conduct thorough visual control of the service area. As a result, the efficiency of coordination between medical staff decreases, which has an impact on delays in service responses.

Implementation of Permenkes No. 40/2022

a. Visual Aesthetics

Visually, the interior design of Wangaya Hospital meets the standards of cleanliness, order, and aesthetic simplicity. The neutral colors on the walls and the use of easy-to-clean materials support a hygienic impression. However, those aesthetics have not been enough to create a warm and soothing atmosphere of healing.

b. Spatial Planning and Accessibility

The spatial layout is not fully in accordance with regulations. The movement path of patients, especially wheelchair users, is not well accommodated. The width of the doors in some service rooms does not meet the minimum standards set by Permenkes No. 40/2022. This limits the accessibility of patients with disabilities and the elderly.

c. Material Interior

The material used meets the hygiene aspect with a surface that is easy to clean and resistant to medical liquids. However, problems arise in the acoustic aspect. The noise level in the waiting room and corridor is quite high due to conversations, visitor traffic, and medical equipment. This condition decreases user comfort and has the potential to increase patient stress.

Theoretical Perspective

a. Evidence-Based Design (EBD)

Judging from the *evidence-based design approach*, the spatial layout of Wangaya Hospital has not supported the creation of *a healing environment*. Crowded waiting rooms, minimal natural lighting, and poor ventilation are contrary to EBD principles that emphasize the importance of a calm, comfortable, and healthy healing environment.

b. Environmental Psychology

According to environmental psychology theory, the physical factors of the space such as lighting, sound, and layout have a direct effect on the psychological condition of the patient. Visual discomfort due to monotonous artificial lighting and acoustic disturbances at Wangaya Hospital exacerbated the patient's anxiety (Gifford, 2007).

c. Ergonomics and Anthropometry

In terms of ergonomics, the waiting chair is too low for elderly patients, and does not have adequate armrests. The circulation path is also too narrow for wheelchair users. The tables at the nurse's post do not meet the anthropometric standards of medical staff, thus posing a risk of work fatigue. This shows the lack of application of ergonomics and anthropometric principles in space design.

IMPLICATION

- For Patients. Patients experience increased stress levels due to crowded waiting rooms, unsupportive lighting, and high noise. This condition is contrary to the principle of the hospital as a healing room.
- For medical staff. The work efficiency of medical staff decreases due to the less strategic placement of nursing posts. Obstacles in coordination between staff slow down services and potentially reduce the quality of patient care.
- For Public Services. Overall, the image of Wangaya Hospital as a regional hospital has declined due to interior design that is not fully in accordance with regulatory standards. This can affect public trust in health services provided by local governments.

CONCLUSION

Based on the results of the research and analysis that has been carried out, it can be concluded that the implementation of Permenkes No. 40 of 2022 on the interior design of Wangaya Denpasar Hospital is still not fully optimal. Several crucial aspects such as spatial layout, natural lighting, cross ventilation, and space circulation systems are still far from the set standards, thus having an impact on decreasing the comfort of space users. However, the effort to apply visual aesthetics through the use of neutral colors and hygienic materials has provided a relatively soothing atmosphere. However, this aesthetic element has not been able to support the efficiency of services and the effectiveness of the work of medical staff.

Other findings show that hospital interior design has direct implications for patient comfort, both psychologically and physically, as well as on the performance of medical staff in carrying out service duties. The conditions of the congested waiting room, monotonous artificial lighting, and poor ventilation increase the stress level of patients, while the unstrategic placement of nursing posts hinders the coordination of the work of medical personnel. The wider impact is the decline in the quality of public services and the decline in the image of Wangaya Hospital as a regional hospital that should be the main referral for the community.

RECOMMENDATIONS

Based on these findings, there are several recommendations that can be used as a reference for improvement. First, from a practical aspect, Wangaya Hospital needs to optimize natural lighting by enlarging window openings or utilizing skylights, improving the cross ventilation system to improve indoor air

quality, and rearranging waiting rooms and nursing posts to be more ergonomic and efficient.

Second, in terms of policy, hospital management and local governments need to adopt an *evidence-based design (EBD) approach* in every planning and renovation process. This approach allows design decisions to be based on empirical data and previous research, so that it is more measurable in creating an environment that supports healing and service efficiency in accordance with the standards of the Minister of Health No. 40 of 2022.

Third, from an academic perspective, further research needs to be conducted to assess the implementation of interior design in other regional hospitals as a comparative material. This comparative study is important to expand understanding of the constraints, opportunities, and best *practices* in the implementation of hospital technical regulations in various regions in Indonesia. Thus, this research can contribute not only to Wangaya Hospital, but also to the development of hospital interior design policies and practices nationwide.

ACKNOWLEDGMENT

The author expressed his gratitude to the Rector of the Bali Institute of Design and Business, supervisors Dr. I Kadek Pranajaya and Dr. Ngurah Gede Dwi Mahadipta, as well as the Wangaya Denpasar Hospital for the research permit and support in data collection. Gratitude is also addressed to family and colleagues for their prayers, support, and motivation during the preparation of this thesis.

REFERENCES

Adisaputra, M. (2022). *Interior design quality and patient comfort of the hospital*. Jakarta, Indonesia: UI Press.

Antonovsky, A. (1996). The salutogenic model as a theory to guide health promotion. *Health Promotion International, 11*(1), 11–18. https://doi.org/10.1093/heapro/11.1.11

Barker, R. G. (1968). *Ecological psychology: Concepts and methods for studying the environment of human behavior*. Stanford, CA: Stanford University Press.

Becker, F. (2013). Hospital design and patient behavior. *Journal of Healthcare Design, 15*(2), 23–35.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage Publications.

Hall, E. T. (1966). *The hidden dimension*. Garden City, NY: Doubleday.

Kaplan, R., & Kaplan, S. (1989). *The experience of nature: A psychological perspective*. Cambridge, UK: Cambridge University Press.

Ministry of Health of the Republic of Indonesia. (2022). *Regulation of the Minister of Health of the Republic of Indonesia Number 40 of 2022 concerning Technical*

Requirements for Hospital Buildings and Infrastructure. Jakarta, Indonesia: Ministry of Health of the Republic of Indonesia.

Kotler, P., & Armstrong, G. (2018). *Principles of marketing* (17th ed.). Harlow, UK: Pearson Education.

Norman, D. A., & Draper, S. W. (1986). *User-centered system design: New perspectives on human-computer interaction*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Panero, J., & Zelnik, M. (1979). *Human dimension and interior space: A source book of design reference standards*. New York, NY: Whitney Library of Design.

Purnama, H. (2021). *Regional hospital design based on patient comfort*. Surabaya, Indonesia: ITS Press.

Raharja, I. (2017). The role of interior design in improving the quality of hospital services. *Journal of Architecture and Interior Design, 5*(1), 45–56. https://doi.org/10.32734/jadi.v5i1.1172

Sariningsih, D. (2022). *Evaluation of the spatial layout of regional hospitals in Bali*. Denpasar, Indonesia: Udayana University Press.

Ulrich, R. S. (1984). View through a window may influence recovery from surgery. *Science, 224*(4647), 420–421. https://doi.org/10.1126/science.6143402

Ulrich, R. S., Zimring, C., Zhu, X., DuBose, J., Seo, H. B., Choi, Y. S., Quan, X., & Joseph, A. (2008). A review of the research literature on evidence-based healthcare design. *HERD: Health Environments Research & Design Journal, 1*(3), 61–125. https://doi.org/10.1177/193758670800100306