

## ERGONOMIC FURNITURE SELECTION FOR LARISSA AESTHETIC CENTER SINGLE MASSAGE AREA

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### ABSTRACT

*In this modern era, hustle culture is a lifestyle where someone needs to be always busy working. It becomes a trend for the millennial generation in various countries. If this culture is carried out continuously, working will feel tiring, stressful and there will be no time for yourself. Larissa Aesthetic Centre is a beauty & health centre for relaxation and resting. There's demand for relaxation center to cater needs of body treatment and Larissa Aesthetic Center offers this service. The selection of ergonomic furniture is one of the keys to achieve relaxation of its user.*

**Keywords:** Ergonomic, furniture, relaxation

### 1. PREFACE

In this modern era, hustle culture or a lifestyle where someone must always be busy working has become a trend for the millennial generation in various countries. The work is done anywhere and anytime. Working continuously has long been believed to be a way to have a brilliant career path and giving a sense of accomplishment for the millennial generation. That is the reason this culture is one of the lifestyles that is deeply rooted in society. In implementing this lifestyle, it does provide some positive effects, but this lifestyle also have some cons. If the person continuously working, automatically the fatigue and stress level will increase. In 2019, Savvy Sleeper a team of writers and sleep experts with a passion for helping others find the latest and greatest sleep products, conducted research according to the data from the International Labour Organization, the Global Employee Engagement Index, the Institute for Health Metrics and Evaluation and 7 other reputable sources and found out the city of Jakarta was in the 6<sup>th</sup> position as the city with the highest stress level in the world.

Beauty & health centre is one of the alternatives for worker to pamper themselves and also take a break from work. Larissa Aesthetic Centre is one of beauty & health centre which has purposes in providing the best relaxation and aesthetic services through a combination of natural treatments and latest technology.

In the design, the selection of ergonomic furniture is one of the keys to achieve relaxation of its user. The designer's role is very important in this stage of designing furniture that is according to the aspects of human factors and ergonomic rules. The term ergonomic comes from Latin, namely ERGON means work and NOMOS means natural law. Ergonomic can be defined as a study of human aspects in work environment which are considered anatomically, physiologically, psychologically, technically, and designed to achieve a suitable size for humans [1]. (Nurmianto, 2003).

The application of anthropometric data is one of the standards in furniture design in order to deliver an ergonomic design. According to Wignjoseobroto (2008), anthropometry is a study that involves

measuring the dimensions of the human body including weight, standing position, body circumference, leg length, and others [2].

In this research, the comfort of the furniture is based on how accurate the furniture dimension to the ideal dimensions from Human Dimension & Interior Space book by Julius Panero and Martin Zelnik in 1980.

This research is focused in the single massage area furniture such as chairs, massage beds, sinks, and cabinet.

## **2. RESEARCH METHOD**

### **Descriptive qualitative**

Qualitative research is a way to collect data by answering questions and analyse the answers therefore the studied problems can be solved properly. Descriptive qualitative research is applied to this research. Descriptive qualitative research uses a case study approach and studies it intensively.

### **Research method technique**

Questionnaires, literature studies, interviews, and observations are used to obtain the required data. In this study, the method of observation was done in Larissa Aesthetic Center single massage area. Observations is done by measuring some of the main furniture in the single massage area and comparing the dimensions with anthropometric standards in ergonomics criteria.

## **3. RESULT AND DISCUSSION**

### **Ergonomic**

According to Bridger (2003), anthropometric data is used to determine the physical dimensions of a room or furniture in creating good ergonomics and avoiding physical incompatibility between furniture and its users [3]. Anthropometry can also be understood as the measurement of body size and other body characteristics related to the design [4][5][6]. (Sanders & McCormick, 1993; Pheasant, 1988; and Pulat, 1992).

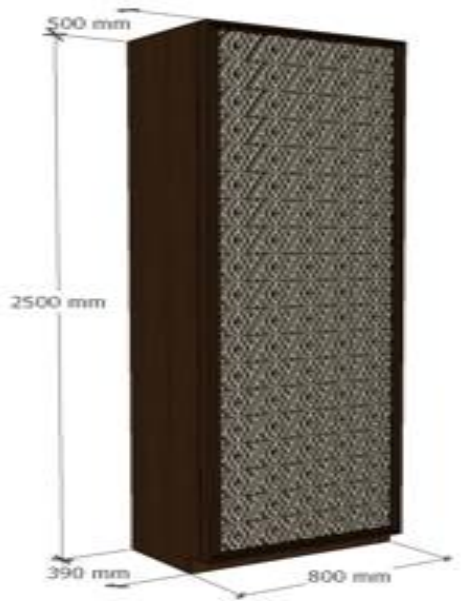
Anthropometric data is usually presented in the form of a graph which is an initial consideration before producing furniture for the interior design. All the furniture must be according to anthropometric data, both complex and simple designs.

The ergonomic element of Larissa Single Massage area is a component in determining the room's comfort.

## Single Massage Cabinet

**Figure 1**

*Single Massage Cabinet*



Source: Teofilus Alwin Darmadi, 2021

The first furniture is a cabinet with the dimension of 800 mm x 500 mm x 2500 mm.

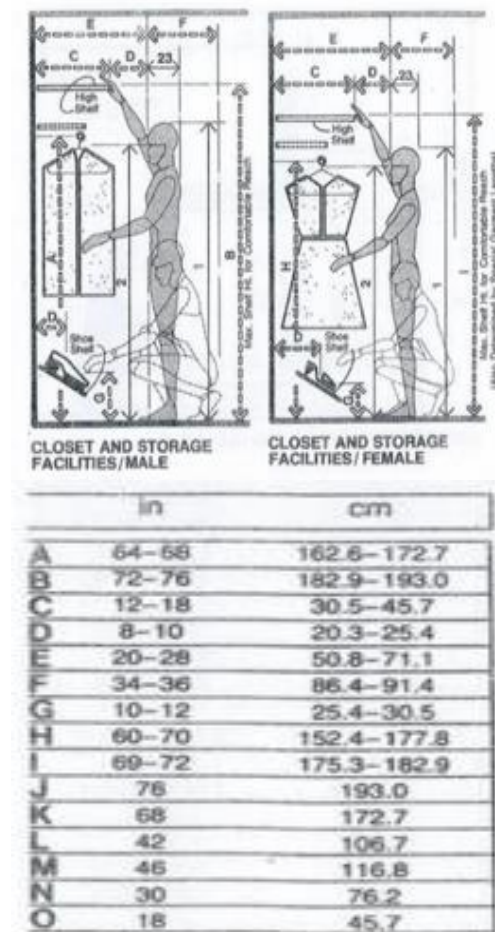
**Figure 2**

*Single Massage Cabinet*



Source: Teofilus Alwin Darmadi, 2021

**Figure 3**  
*Human Dimension & Interior Space [7]*



(Source: Julius Panero and Martin Zelnik, 1980)

Inside the cabinet there is an upper storage section which has a height of 2000 mm, clothes hanger with height of 1800 mm, a lower storage area with a height of 500 mm, and the cabinet depth of 500 mm. These four measures have been analysed using anthropometric data with the following comparison.

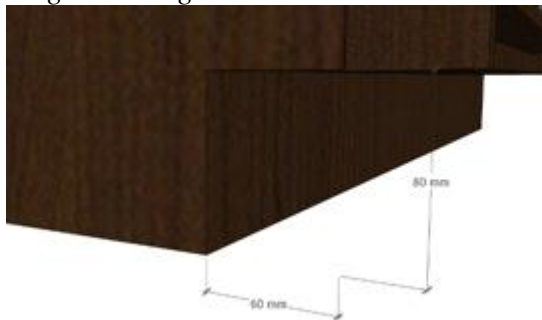
**Table 1** Cabinet Dimension Comparison

	Anthropometric Data	Ideal Data
Upper Storage	1820 – 1930 mm	2000 mm
Clothes Hanger	1620 – 1720 mm	1800 mm
Lower Storage	250 – 300 mm	500 mm
Cabinet Depth	300 – 450 mm	450 mm

Source: Teofilus Alwin Darmadi, 2021

According to the table above, the size of the single massage cabinet has met the anthropometric data standard.

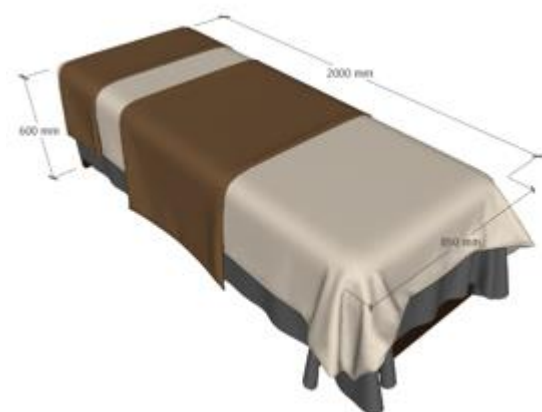
**Figure 4**  
*Single Massage Cabinet*



Source: Teofilus Alwin Darmadi, 2021

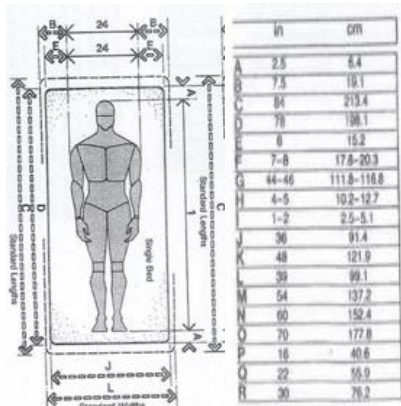
Designer provide legs room with height of 80 mm and depth of 60 mm in order to provide comfort for the user.

**Single Massage Bed**  
**Figure 5**  
*Single Massage Bed*



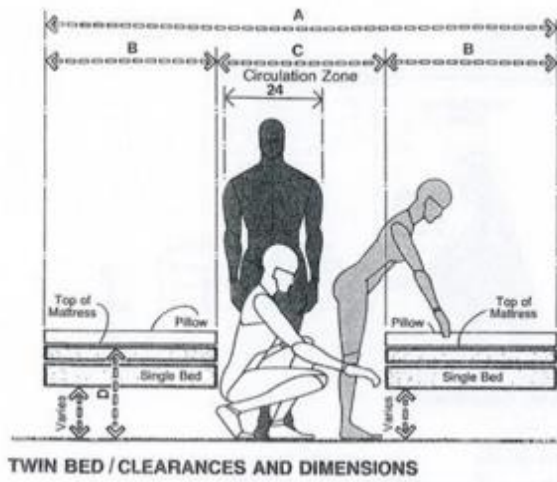
Source: Teofilus Alwin Darmadi, 2021

**Figure 6**  
*Human Dimension & Interior Space [7]*



Source: Julius Panero and Martin Zelnik, 1980

**Figure 7**  
*Human Dimension & Interior Space [7]*



	in	cm
A	108–114	274.3–289.6
B	36–39	91.4–99.1
C	36	91.4
D	18–22	45.7–55.9
E	30	76.2
F	82–131	208.3–332.7
G	46–62	116.8–157.5

Source: Julius Panero and Martin Zelnik, 1980

The measurement of the designed massage bed will be analysed with anthropometric data using the table below.

**Table 2**  
*Bed Dimensions Comparison*

	Anthropometric Data	Ideal Data
Bed Length	2130 mm	2000 mm
Bed Width	914 mm	850 mm
Bed Height	457 - 559 mm	600 mm

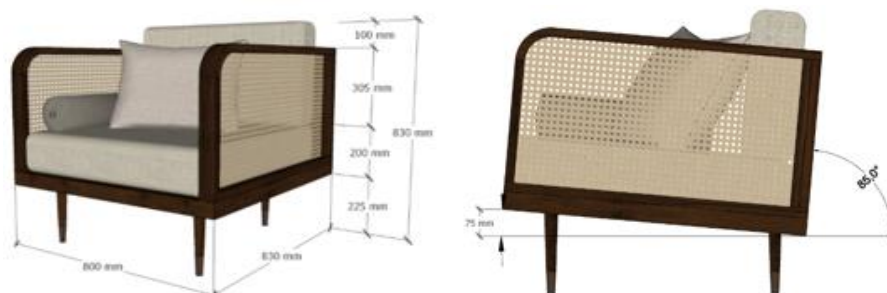
Source: Teofilus Alwin Darmadi, 2021

According to the table above, the size of the single massage bed has met the anthropometric data standard.

The designer also considers the material used to maximize the comfort level of the bed. Foam with high density is used for the bed. The denser the foam is, the more comfortable and durable it will be to use.

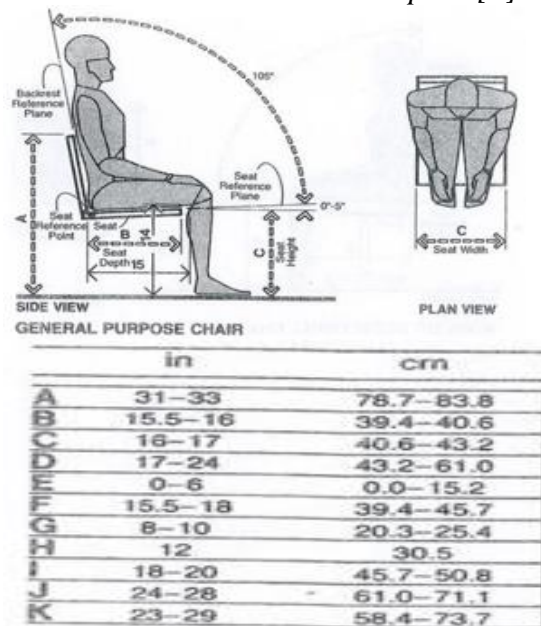
## Single Massage Sofa

**Figure 8**  
*Single Massage Sofa*



Source: Teofilus Alwin Darmadi, 2021

**Figure 9**  
*Human Dimension & Interior Space [7]*



Source: Julius Panero and Martin Zelnik, 1980

The measurement of the designed single sofa will be analysed with anthropometric data using the table below.

**Table 3**  
*Sofa Dimensions Comparison*

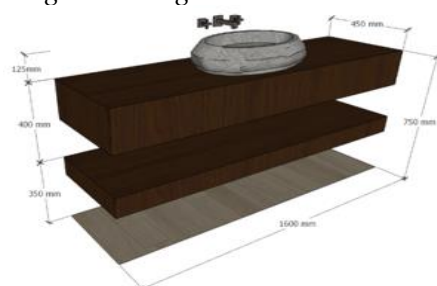
	Anthropometric Data	Ideal Data
Seat Length	Min. 394 - 406 mm	830 mm
Seat Width	Min. 406 - 432 mm	800 mm
Seat Height	762 mm (Adjust)	425 mm
Seat Slant	Max. 127 mm	50 mm
Backrest Height	Min. 787 – 838 mm	830 mm

Source: Teofilus Alwin Darmadi, 2021

According to the table above, the size of the single massage sofa has met the anthropometric data standard.

### Single Massage Sink Table

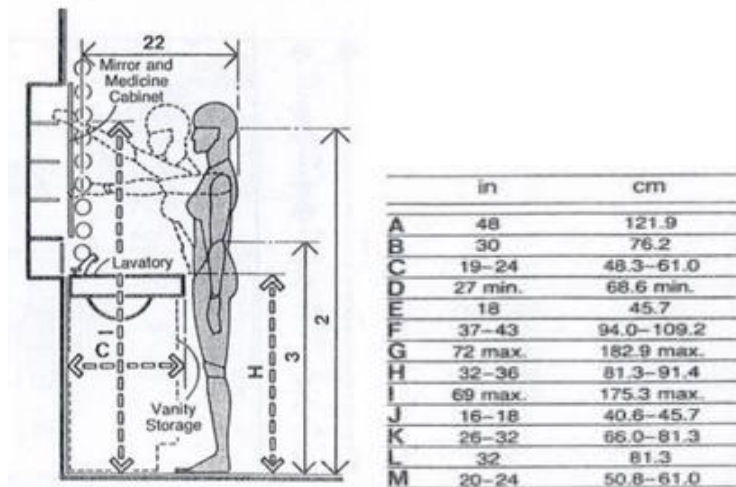
**Figure 10**  
*Single Massage Sink Table*



Source: Teofilus Alwin Darmadi, 2021



**Figure 11**  
*Human Dimension & Interior Space [7]*



Source: Julius Panero and Martin Zelnik, 1980

The measurement of the designed sink table will be analysed with anthropometric data using the table below.

**Table 4**  
*Sink Table Dimensions Comparison*

	Anthropometric Data	Ideal Data
Sink Height	813 – 914 mm	875 mm
Table Width	483 - 610 mm	450 mm

Source: Teofilus Alwin Darmadi, 2021

According to the table above, the size of the single massage sink table has met the anthropometric data standard.

### Comfort

The key of comfort in this research is how accurate the designed furniture dimension to the standard dimensions. Based on the results of comparisons done above, the designed furniture dimension is accurate. This will create a safe and comfortable single massage area.

The application of standard ergonomic can improve the physical and mental wellbeing of its users. Achieving the right balance between the technical, economic and anthropological aspects of any work system is done to create a high quality of work and life. (Tarwaka, 2004).

The use of ergonomic furniture will create a safe and comfortable single massage area. In this area, the use of right dimensions in the furniture according to anthropometric standard will make the area become comfortable for the users.

## 4. CONCLUSIONS AND RECOMMENDATIONS

In this modern era, comfort is the main thing that users look for in choosing furniture. Anthropometric data is one of the man keys in designing ergonomic and comfortable furniture.



In the case of choosing furniture for Larissa Aesthetic Center, ergonomic furniture is the main choice. After field observations in the Larissa Aesthetic Center single massage area, the furniture used is in accordance with anthropometric and ergonomic standards so that it can provide comfort to its users.

### **Acknowledgment**

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### **REFERENCES**

- Bridger, R. S. (2003). *Introduction to ergonomics*. Taylor & Francis.
- Nurmianto, E. (1998). *Ergonomi, konsep dasar, dan aplikasinya*. Guna Widya.
- Julius, P., and Zelnik, M. (1980). *Human dimension & interior space*. The Architectural Press Ltd.
- Pheasant, S. (1988). *Body Space, Anthropometry, ergonomics and design*. Taylor & Francis.
- Pulat, B. M. (1992). Fundamentals of industrial ergonomics, in: *Prentice hall international series in industrial and system engineering*. Prentice Hall, Englewood Cliffs.
- Sanders, M. S., & McCormick, E. J. (1993). *Human factors in engineering and design* (7th ed.). McGraw-Hill Book Company.
- Wignjosoebroto, S. (2008). *Ergonomi studi gerak dan waktu*. Guna Widya.