

## Blind People Safety Condition for Domestic Activity At Home

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**ABSTRACT:** *Blind people are the most disadvantaged type of disability. Because eyes are superior senses. Many blind people feel more marginalized and their lives are over. Therefore, many blind people spend time at home. But even in his house there are no specific standards to ensure his safety to move independently like normal people. The most basic standard is the comparison anthropometry with its ergonomic value. The purpose of this research is to find the changes in the pattern of domestic activities with blind people and their need to feel safe and comfortable in their daily activities. Data and information are obtained through in-depth interviews and simulation of domestic activities, which are then translated into the Linkert scale. The results showed that the variety of blind backgrounds affect the types of blind needs, and how they respond with their limitations. It was concluded that in reality, the blind are forced to adapt with their limitations rather than getting privileges and ease of activity. For this reason, activity support facilities are the main urgency in responding to blind people doing activities at home. This is an effort to get the same rights and restore the confidence of the blind people.*

**Keyword:** Blind People, Antropometry, Safety, Domestic Activity

### INTRODUCTION

Blind people are people who have physical deficiencies in the ability of the sense of sight. So all of the activity are somewhat different from most normal people. Blindness can be interpreted as the most severe disability, because eyes are superior senses (Pallasmaa, 1996). If it is related to physiological needs, people with disabilities do not necessarily have the convenience of a normal person. With their physical limitations, they need active and passive assistance to carry out their domestic activities.

The need for blind people in the domestic scope is actually very simple, because of its simplicity, it seems neglected. There is no standardization or special mechanism in fulfilling the rights of the blind in activities at home. So far this is limited to guidelines for treating blind people. On the other hand, the blind are also the same as a human being, who has the right and will for himself. Blind people are entitled to freedom of activity. But blind people need tools to fulfill it. Especially in domestic activities, which as people do at home. In fact, it's not that easy. The blind cannot yet feel the right to their own will, because the help comes from other people. Now compare with public spaces like sidewalks or tourist attractions. In the public space, those standards have been used to fulfill the rights of persons with disabilities. While in their own domestic environment there are still many shortcomings and difficulties to get it.

Based on reality, the fulfillment of supporting facilities for activities aimed at the visually impaired is more focused on the scope of a place rather than through the overall standard, if the scope is reduced it will only stop at the public scope. For example, in public places such as sidewalks or public service office buildings that are equipped with guide blocks. Architectural solutions are only felt in the scope that will be used for many people, but seem to forget things that are more basic in the domestic realm in their homes. Logically, the blind do more activities at home, with the aim of reducing the risks that occur in areas that are less well known and far from them. But the stigma is a little lost, where perception at home will be easier because it will always get special attention from other family members. But everything that blind people do need help from others can affect a person's psychological condition. Being blind has a different reaction in each individual. Rosa (in Fitriyah, 2012) explained that the innate blind people still feel happy, and automatically

accept the conditions experienced because they do not feel anything. But it is different from blind people whose situation loses the ability to see well. This has the potential to change an individual into inferiority, loss, and lack of confidence (Fitriyah, 2012). These changes also cause internal and external reactions. Internal reactions will arise with a lack of confidence, pessimism, doubt and worry in making their own choices (Khusnia & Rahayu, 2010). Another external reaction, it will emerge from the point of view of the community that the blind are helpless, not independent and sad. It can be said that these psychological conditions must not be preserved given the fulfillment of rights and equality for persons with disabilities.

Safety for the blind people in building, on a broader scale accessibility for people with disabilities has its own regulations, such as Permen PU No. 30 Tahun 2006. That explains the importance of accessibility for people with disabilities is to ensure their independence and participation in all areas of life in society.

Blind people need guidance in learning the environment around them without visual projections. This requires optimization of other senses such as hearing, touch, and smell. The function of the senses is needed in the process of forming maps in the memory of the brain, or so-called cognitive maps, but this requires a long process, in which the blind need to be involved in the repetition of pathways and reflexes in space become commonplace.

The context of domestic activities that are targeted in this research is daily activities related to physical activities carried out within the scope of the house. Based on Full-information factor analysis (FIFA) of the Daily and Autonomy (DRA) which is a research journal on the level of independence of adolescents with the autism spectrum in conducting domestic activities. Showing the results of this study the types of domestic activities are grouped into three factors;

1. Basic self-care and routine maintenance activities.

Basic activities such as washing your face and brushing your teeth, bathing, sleeping, wearing clothes, eating and drinking, worshipping and using the toilet.

2. Complex daily activities

Activities that have job levels such as making food or drinks, cleaning the room, washing clothes or gardening.

3. Social and recreational activities

Domestic activities within the scope to entertain themselves or socialize such as using electronic media, and socializing with other family members.

That way the level of type of research subject activities can be monitored or measured based on class. (Lamash & Josman, 2020). In this activity, blind people who have the right to get independence in creativity need security and safety. Especially if there is no assistance from the closest person. Passive security and safety should be applied to building designs both in the design or modification process and in building maintenance activities.

In Permen PU No. 30 of 2006 mentions technical guidelines in fulfilling several principles of accessibility, namely "safety", "convenience", "usefulness" and "independence":

1. Safety, i.e. every building that is general in nature to the built environment, must maintain safety for all people.
2. Convenience, i.e. everyone can reach all places or buildings that are general in an environment.
3. Usability, i.e. everyone must be able to use all places or buildings that are common in an environment.
4. Independence, i.e. everyone must be able to reach, enter and use all places or buildings that are common in an environment without the need for help from others.

And in the book "Building an Inclusive Campus", an example of how building accessibility and an accessible environment is presented includes:

1. Ramps or ramps. Ram should be positioned at each entrance so that it is easily accessible for the blind, hoping to reduce the risk of tripping or slipping. With the slope of a ramp in the building no more than 7° and the horizontal length of one ramp is not more than 900 cm. With a flat surface the prefix or suffix of a ramp must have a texture so it is not slippery either. (Kemen PU No. 468 Tahun 1998).
2. Toilet with room dimensions that are suitable for the visually impaired. As the range between the bathtub, shower and toilet are not far apart.
3. Installation of room names with braille in the room / room.
4. Environmental safety in the form of closed drains / drains and non-slippery or wet surface surfaces.

## **METHOD**

### **Sample**

The sampling technique using convenience sampling method in the study of "Blind people safety condition for domestic activity at home" is purposive random quota.

Purposive = The study sample was selected only for visually impaired people who reside in their own homes in Pati Regency and Jepara Regency.

Quota = The research sample only consisted of respondents with a minimum of less than 12 respondents of blind people.

Random = Obtaining data from respondents through in-depth interviews and simulation activities.

### **Data Collection Techniques**

Collection of population data and patterns of activities of persons with visual impairment in Central Java especially in Pati and Jepara Regency. And field survey in blind people homes. The survey was conducted by measuring the range in spaces and furniture sizes. The measurement results will be compared with anthropometric data. Then through a review of blind domestic activity simulation. Simultaneously conducting in-depth interviews and translate it into Likert scale with ordinal data into scoring of 1 – 4. Where assumes different levels of scale 1 = feeling unsafety, 2 = feeling unsafety but familiar, 3 = feeling safety enough, 4 = feeling safety.

### **Variable**

1. Type of Domestic Activity
2. Need of Space
3. Selection of Furniture
4. Selection of Material
5. Building Utility

### **Parameter**

1. Space configuration in the building
2. Interior Element
3. Tactile Element
4. Building Utility Condition

## **RESULTS AND DISCUSSION**

### **Data Description**

Observations were made using the in-depth interview method for blind respondents to explore the pattern of respondents' daily activities. The research was carried out by taking data from the respondents of the hostage located in several regions in Pati Regency and Jepara Regency, including; Payak Village, Plaosan Village and Ngablak Village located in Cluwak District, Waturoyo Village in Margoyoso District, Wedarijaksa Village in Wedarijaksa District and Puri Village in Pati District, Pati Regency. And 1 respondent resides in Jlegong Village, Keling District, Jepara Regency. Respondents are visually impaired who have total visual impairment and reside in their own residence.

Data obtained from scoring using Likert scale with ordinal variables. With rubric 1 = feeling unsafety, 2 = feeling unsafety but familiar, 3 = feeling quite safety, and 4 = feeling safety. Likert scale filling data is carried out by researchers during space observations, in-depth interviews and activity simulations, with assumptions based on respondents' explanations in conducting domestic activities. Because, to make an assessment and asked for the selection of numbers 1 to 4, all respondents lack understanding and have difficulty in explaining it. Assumptions of assessment formed are also strengthened by the physical condition of the room, the experience of falling, slipping, tripping, bumping and other injured experiences, as well as in the simulation of domestic activities, the ability to memorize from cognitive maps is formed in respondent's memory.

### Research Data

Respondent Data				Antropometry Data	
No	Respondents	Gender	Age	Height	Width
1	Respondent 1	M	47	160	45
2	Respondent 2	F	80	150	38
3	Respondent 3	M	65	158	40
4	Respondent 4	M	53	157	40
5	Respondent 5	F	64	143	38
6	Respondent 6	F	65	157	45
7	Respondent 7	M	62	160	45
8	Respondent 8	M	65	165	42
9	Respondent 9	M	53	158	42
10	Respondent 10	M	72	163	40
11	Respondent 11	F	55	160	38
12	Respondent 12	M	52	165	45

Translated data of space needs, furniture and material, and building utility from in-depth interview of each type of domestic activity into Likert Scale									
No	Washing Face	Brushing Teeth	Bath	Sleep	Wearing Clothes	Eating and Drinking	Worship	Using Toilet	Make Food
1	4	4	3	4	4	4	4	3	1
2	3	3	3	4	1	4	4	1	1
3	4	4	4	4	4	4	4	4	1
4	1	1	1	4	4	3	1	1	1
5	1	1	1	4	1	2	1	1	1
6	4	4	3	4	4	4	4	3	3
7	3	3	3	4	4	3	1	2	1
8	4	4	4	4	4	4	4	4	3

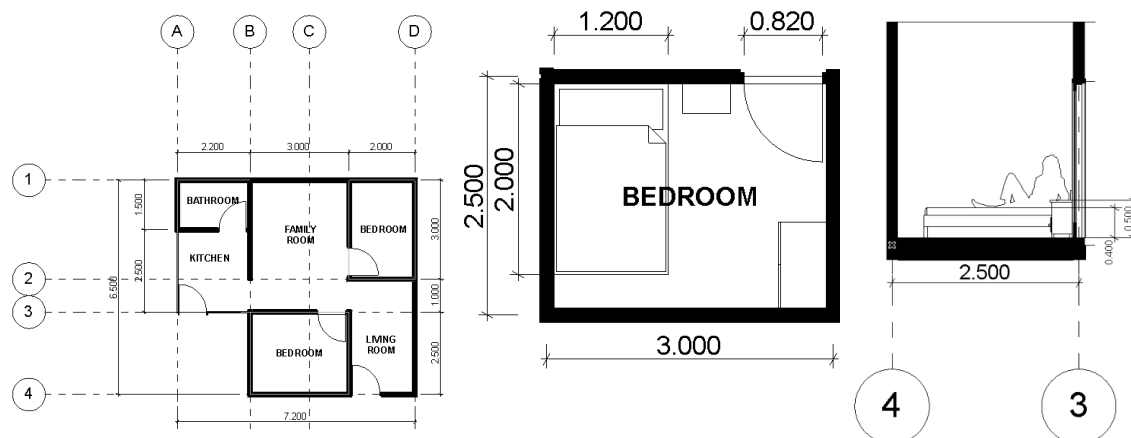
9	4	4	4	4	4	4	4	4	1
10	2	2	2	4	4	3	1	2	1
11	4	4	3	4	4	4	1	3	3
12	4	3	3	4	4	4	4	3	1

Translated data of space needs, furniture and material, and building utility from in-depth interview of each type of domestic activity into Likert Scale				
No	Cleaning Room	Washing Clothes	Use Electronic Facilities	Socializing
1	2	2	4	4
2	1	1	4	4
3	1	1	4	4
4	1	1	4	4
5	1	1	1	2
6	1	1	3	4
7	1	1	1	3
8	1	1	4	4
9	1	1	4	4
10	1	1	1	4
11	3	3	4	4
12	1	1	4	4

### Discussion

In the research results of the study of 12 respondents in in-depth interviews, showed a variety of reviews and conditions of the blind. The twelve respondents have different conditions and different backgrounds. The only thing that is the same is shown from the results of the research of the twelve respondents is the absence of building utility facilities whose purpose is to respond to the physical condition of the blind in their homes.

For example respondent 5, many activities that show uncomfortable figures. It's no longer uncomfortable, but it can't be accommodated. Because, respondents conditions other than blind, the respondent is also a survivor of a stroke that is quite severe, so much of his daily life is spent in bed. From the following activities that were not well accommodated by respondents, they included domestic activities in the bathroom such as washing their faces, brushing their teeth, bathing, which was assisted by family members by rinsing respondents in their beds. Even the condition of the rooms in her house is quite well.



Compare it with respondent 9, Mr. Suharno, a 53 years old healthy man whom lost his sight since 15 years ago, and can accept his own shortcomings well. It could be said that respondent 9 had developed the ability of his other senses to coexist with his lack of being unable to see. Respondents also active to serve patients in reflexology, respondents also often visit neighboring homes and go to mosques or prayer rooms for worship every day independently. Respondents are able to memorize someone from their voice or walk on the side of the road. Between those respondents, show significant differentiate background and willingness to survive with their limitations. The exact difference should be able to be slightly closer with the helps from active and passive assistance.

Building utility which is a research parameter is not fulfilled at all. The specified building utility refers to the ramp, handle or auxiliary stairs which cannot be found in the twelve respondent's residential houses. These elements are supporting elements of visual impairment in the context of circulation to space or connecting to space.

From the twelve respondents, the average activity that was uncomfortable or could not be accommodated was a type of domestic activity that had more complex levels of activity, such as washing clothes and making food and drinks. Regardless of the condition of the activity of washing manually, according to the description of respondents shows that washing often makes the floor more slippery because it is mixed with soap or detergent (Respondent 2). And for the activity of making food and drinks, some respondents were only able to do the activity of choosing spices or concocting cooking spices such as respondents 6 and 11. Or respondent 8 who was accustomed to packing coffee and sugar for later cooking by other family members. Respondents prefer to avoid the risk of contact with kitchen activities that are identical to heat.

## CONCLUSION AND RECOMMENDATION

Overall the study of the twelve respondents with visual impairment, showed that the size of the anthropometrics in the visually impaired did not change, but the ergonomic needs change. Ergonomic needs are related to research parameters such as the need for space, materials and furniture, the blind must be able to adjust to their new habits to respond to their daily needs. The timeframe for getting used to starts with the formation of a cognitive map of repetitive activities performed both before losing sight and after becoming blind.

Space requirements in the visually impaired are relatively the same as normal human needs based on the type of activity. For building surface materials, there is no significant difference with the limitations of respondents to see. Because the movement of respondents is relatively slow and for the wall surface it is used as a marker of each space. Likewise with furniture, respondents find it easier to form a cognitive map of a space if the room has fewer furniture. To walk, respondents tend to prefer to propagate through walls

rather than furniture, this is to avoid the respondent to damage the furniture which can change at any time. That is actually the function of building utility which is an important element for blind people to do activities, especially in moving and moving places. But in fact could not be found in research in twelve respondents' residence.

Blind people need a lot of attention and assistance in carrying out their daily activities. However, on the contrary, opposing actively makes blind people become bound. A good response also needs to be given blind access to independent activities safely and comfortably. This can be done by adjusting the use of furniture with a safe surface material. And the most important thing is to equip the house with building utilities. The reason is that it is very useful to support special activities in the circulation space. Building utilities also need to be applied in strategic spaces with more complex forms of activity such as bathrooms. Not only for the visually impaired, building utilities also work for elderly people. And from the results of the study can be announced the average blind person is an old person in old age, or near old age.

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