
ERGONOMIC USE AND SHAPE OF MOBILE PHONES TO AVOID WORK ACCIDENTS

By

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Abstract: *The main use of Android mobile phones is for massive communication. However, there are still many incidents of complaints and accidents due to the use of cellphones. This article aims to reveal the ergonomic use and shape of mobile phones to avoid work accidents. This article is planned descriptively, meaning that the data is analyzed and then presented. Data is taken from various research opinions or what is usually called literature studies. The analysis was also carried out descriptively. Conclusion: 1). The impacts of using mobile phones include: when driving there is a tendency for accidents, addiction, emotional disorders, social behavior disorders, attention deficit disorders, pain and tension in the neck muscles. Therefore, there needs to be a threshold for the length of time you use a cell phone, driving speed when using a cell phone, when communicating using the five senses, please do not use a cell phone at the same time, and when using a cell phone, don't bend over. 2). The ergonomic shape of the mobile phone takes into account: the size of the mobile phone is wide and thick according to the anthropometry of the length of the middle finger and the length of the thumb, and the length of the mobile phone matches the length between the ear and the mouth. Then, from an ergonomic perspective, you also pay attention to the shape, weight, and materials used in the mobile phone body. From an ergonomic perspective, mobile phones can be operated with one hand, the buttons are easy to reach, responsive and comfortable. Suggestion: Cell phone users should choose a cell phone that is ergonomic in terms of size, shape, weight, material and the buttons are easy to reach, so it is safe and avoids work accidents.*

INTRODUCTION

Almost everyone uses a mobile phone (cell phone) or cell phone (cell phone) for communication purposes. For communication with fellow friends, business colleagues, co-workers in agencies, consumers, customers and others. The main use of Android mobile phones is for massive communication. However, there are still many incidents of complaints and accidents due to the use of cellphones.

Using a cellphone still causes eye fatigue. As stated by Della Gumunggilung et al (2021), in their research they concluded that "there is a relationship between the distance between smartphone use and complaints of eye fatigue". Even the use of cell phones (cell phones) or mobile phones can lead to driving accidents. As Donny Syofyan (2024) said, "in 2021, around 2000 road accidents occurred in India due to the use of cell phones while driving". In the same vein, Eni Mahawati et al (2013) also concluded that "the behavior of using cellphones while driving is a serious problem that must be addressed immediately."

When driving, communicating using a cell phone carries the risk of an accident. As stated by Mohammad Kogani et al (2020) that "22.7% of them had a motorbike accident, 47.1% said they used a manual cellphone while driving, and 89.1% of them said they used a cellphone while driving."

The duration, position and display of the cellphone or gadget monitor have an effect on making the eyes tired. As research by Thesa Yurika et al (2022) concluded that "the duration, position and appearance of the gadget monitor screen influence the incidence of tired eyes, but the type of gadget does not influence the incidence of tired eyes." Eye fatigue has risks, as Chris Lohmann in the Banjar Health Office (2024) states that "staring at gadget screens, such as cell phones, this habit can increase the risk of reduced distance visual acuity. The eyes tend not to blink as much as they should when looking at a screen, causing eye fatigue, tearing, and reduced ability to focus."

Therefore, it is necessary to provide an ergonomic approach to the shape of a mobile phone. This is to reduce and even avoid fatigue and accidents due to mobile phones (cellphones, mobile phones, or gadgets).

METHOD

This article aims to reveal the ergonomic use and shape of mobile phones to avoid work accidents. This article is planned descriptively, meaning that the data is analyzed and then presented. Data is taken from various research opinions or what is usually called literature studies. The analysis is also carried out descriptively, then concluded.

ANALYSIS AND DISCUSSION

1. Use of Cell Phones

Age and cellphone use are related and using cellphones while driving tends to cause accidents. This is as stated by Eni Mahawati (2013) that "there is a significant relationship between age and the behavior of using cellphones when driving and the incidence of traffic accidents and there is a significant relationship between the use of cellphones and the incidence of traffic accidents."

In addition, cellphone use contributes to addiction, triggers emotional disorders and social behavior. This was stated by Sjafiatal Mardiyah (2023) in the results of the research explaining that "gadgets contribute to the emergence of addiction and have an impact on emotional disorders and social behavior in early childhood. Gadgets give birth to manipulative practices and weaken the power of the family as the primary and first educator for their children." Likewise, Enny Fitriahadi et al (2020) stated that "there is an influence between the use of gadgets and attention disorders in children".

In solving school children's gadget addiction, not only children are involved, but parents are also carried away by the positive current. Like Refa Adinda Fauziah Isni et al (2021) in treating school children's gadget addiction "which was carried out after discussions with teachers, the author took part in suggesting fun learning activities so that children do not get bored and remain motivated even though they are studying from home. "Furthermore, the author also discussed with parents to schedule meetings with children in order to divert children's interest from gadgets and find new interests or hobbies that are more useful and more fun." The results: According to Refa Adinda Fauziah Isni et al (2021) that "children are starting to respond to how many things they can do that are more useful and more fun than just playing with gadgets all day, children are also starting to show interest and change. Children are starting to respond to how many things they can do that "It's more useful and more fun than just playing with gadgets all day, children are also starting to show interest and change." So to deal with gadget addiction, you have to teach things that are fun and not boring, and divert your interest into new, more useful hobbies.

Students or teenagers who are addicted to cell phones (smartphones) can be diverted by reading Al-Qur'an applications. This is as per the research results of Aprianda Helni Hs (2021) stating that "students or teenagers who are addicted to smartphones state that they have changed for the better and want to continue reading the Al-Quran application on their cellphones to be able to stop being addicted to their smartphones". Another opinion, to deal with gadget addiction in community groups, according to Willius Kogoya (2022), is "to provide an understanding of solutions to overcome the negative impacts of gadgets".

Then, using cellphones/gadgets can cause pain and tension in the neck muscles. This is according to Park et al (2015) in Cypriani Muda (2020) that "body position when using gadgets also influences cases of neck pain. "The results of research conducted show that gadget users usually lower their heads to look at the screen. If the gadget is too low, the neck tends to be tilted down for a long time, which can cause pain and tension in the neck muscles."

Based on several opinions above, the use of mobile phones has impacts, including: using mobile phones while driving tends to cause accidents. Using cell phones can cause addiction, emotional disorders, social behavior disorders, attention deficit disorder, pain and tension in the neck muscles. Therefore, there needs to be a threshold for the length of time you use a cell phone, driving speed when using a cell phone, when communicating using the five senses directly without using a cell phone, and when using a cell phone, don't bend over.

2. Ergonomic Mobile Phone Shape

The ergonomic shape of a cell phone depends on the size of the hand, pocket, length between the ear and the mouth, and several other factors. As Smartphone (2024) states that "the ergonomic shape, this smartphone can adapt to the shape of the user's hand so that it is comfortable to use for a long time. Apart from that, it is also equipped with easy-to-reach buttons so that users can operate it easily. Smartphones with ergonomic designs taking into account the shape, weight and materials used in the smartphone body. Apart from that, also check the buttons whether they are easy to reach and responsive."

Our nation tends to be a target market, consuming all products, including cell phones. The marketing people choose the "feeling prestige" model. If it is not a new model, it is

rumored to be considered old school, ancient, outdated, unsophisticated and so on. This makes people feel prestigious.

It's best if you choose to buy a product according to its function. But "afraid" of being considered poor, old-fashioned, old school and so on. Formed also to "feel prestige, this leads to "showing off". Likewise, currently buying a cellphone (handphone) chooses the new mode of large screen, flip, or slop. The new model of cellphone, is very expensive, for "prestige rather than function" must be the new model. Mobile phones are just for toys rather than communication functions and as a tool for other products.

In terms of ergonomics, mobile phones have a wide screen shape and must be operated with the fingers of both hands. Obviously this is more tiring than a small cellphone, just one finger, one hand. Apart from that, small mobile phones can be operated with your fingers, which is safer (save). Because, the ergonomic shape is that if you hold it in one hand, grip it, the tip of your middle finger will meet (the tip of your thumb) with the tip of your thumb. It is tight, safe, doesn't fall easily when held, and can be operated with one hand, no need for two hands. Save energy so you don't get tired easily.

ouch screen cellphones, if you use a wide screen up to 5.7 inches, it is difficult and uncomfortable to operate with one hand. This is as Zhongzhe Li (2016) pointed out that "in one-handed operation, the size of the touch screen significantly affects the operating performance. However, it is difficult to implement one-handed operation if the touch screen size is more than 5.7 inches. Apart from that, the thickness of a smartphone greatly influences the level of comfort."

Based on various opinion data above, the ergonomic shape of a mobile phone takes into account: the size of the mobile phone, the width and thickness according to anthropometry, the length of the middle finger and the length of the thumb, and the length of the mobile phone according to the length between the ear and the mouth. Then, from an ergonomic perspective, you also pay attention to the shape, weight, and materials used in the mobile phone body. From an ergonomic perspective, mobile phones can be operated with one hand, the buttons are easy to reach, responsive and comfortable.

CONCLUSION

- a. The use of mobile phones has impacts, including: using mobile phones while driving tends to cause accidents. Using cell phones can cause addiction, emotional disorders, social behavior disorders, attention deficit disorder, pain and tension in the neck muscles. Therefore, there needs to be a threshold for the length of time you use a cell phone, driving speed when using a cell phone, when communicating using the five senses directly without using a cell phone, and when using a cell phone, don't bend over.
- b. The ergonomic shape of a mobile phone takes into account: the size of the mobile phone, namely the width and thickness according to anthropometry, the length of the middle finger and the length of the thumb, and the length of the mobile phone according to the length between the ear and the mouth. Then, from an ergonomic perspective, you also pay attention to the shape, weight, and materials used in the mobile phone body. From an ergonomic perspective, mobile phones can be operated with one hand, the buttons are easy to reach, responsive and comfortable.

Suggestions

Cell phone users should choose a cell phone that is ergonomic in terms of size, shape, weight, material and easy to reach buttons, so that it is safe and avoids work accidents.

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