

EFFECTIVENESS OF BANANA STALKS TO IMMOBILIZE THE MANNEQUIN OF THE TIBIAL FIBULAR FRACTURE

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Abstract

Immobilization in a fracture has the goal of straightening the injured limb to maintain its position as anatomically as possible. Usually, the fracture of the tibial fibula uses cardboard, metal gutter, and long leg splints, and casts. However, not all ordinary people have this equipment at home, so people cannot immobilize when an accident occurs until medical personnel comes to the scene. If people use banana stalks, of course, they can immediately immobilize while waiting for medical personnel to come to the location. The Aim is to determine the effectiveness of banana stalks to immobilize the mannequin of the tibial fibular fracture. Methods for this study used a pre-experimental method, and the type of research design was Static Group Comparison Design, one group that would receive treatment (x) and one group as a comparison (-). The results is that the manufacturer's splint did not change the degree angle, which was still in the 180-degree position. Meanwhile, the banana stalk experienced a change in degree angle of 90 to 1710 on the observation for 1 hour every 10 minutes. The results obtained after a statistical test using the Mann Whitney test resulted in a p-value of 0.003. With a value (p-value $0.003 < \alpha 0.05$), it means that there is a significant difference in angle changes in the modified mannequin medium for tibial fibular fracture within 1 hour between. The conclusion is that the ambulance staff should not be in a hurry to remove the banana splint because the banana stalk can support the fracture for ± 1 hour because the shift experienced by the banana stalk for 1 hour is only 90 for use in the community.

Keywords : tibia fibula fracture, pre-hospital immobilization.

Introduction

Fracture is a condition in which the continuity of the bone is lost, either total or only partially, which is usually caused by trauma (Gde Rastu, 2013). A condition in which the tibia and fibula are broken between the two bones is called a cruris fracture. Cruris fractures clinically usually can be in the form of open fractures and closed fractures (Helmi 2016).

Assistance given when a person is injured for the first time as a result of an accident is called first aid which aims to save lives to avoid disability or more severe conditions to speed up the healing process (Rieva 2019). The body part of the extremity that is traumatized as a result of an

accident is immobilized as soon as possible using a splint (Rieva 2019). Proper use of splints can help stop bleeding, reduce pain, and can prevent further soft tissue damage (Putu Sukma Parahita 2012).

Methods

The material used in this study was banana midrib. The banana midrib is used as a tool when immobilizing a simulated fracture on a mannequin, the banana midrib taken is a large, old and thick stem, so that it can support the fractured part. The type of banana used is kepok. The kepok banana midrib used has a diameter range of 5.8 cm with a length range of about 30.92-40.92 cm.

The research method used is the experimental method using a quantitative approach. Which in this study uses a pre-experimental research method and the type of research design is Static Group Comparison Design.

The researcher will divide the group into two, one group will receive treatment (x) using banana midrib as an immobilization medium and the comparison group (-) will use a factory/wood splint to immobilize which will be attached to a modified mannequin. The final test score will be used to measure the results of the treatment.

Results and Discussion

From the results of data collection conducted by researchers during 1 hour using a factory splint, the factory splint did not change the angle of degrees, that is, the result remained at an angle of 180°. Furthermore, the researchers observed every 10 minutes on the banana midrib that had been attached to the tibia fibula fracture mannequin media for 1 hour. Furthermore, it was found that the banana midrib decreased the angle of degrees from 180° to 171°. Which is the first 10 minutes it decreased to 175°, then at the 30th minute the angle decreased to 173°, in the 40th minute the angle decreased to 172° until at 60 minutes the banana midrib defends at a corner of 171°.

As for the graph of changes in the angle of degrees on the manufacturer's splints and banana stems, it can be seen below:

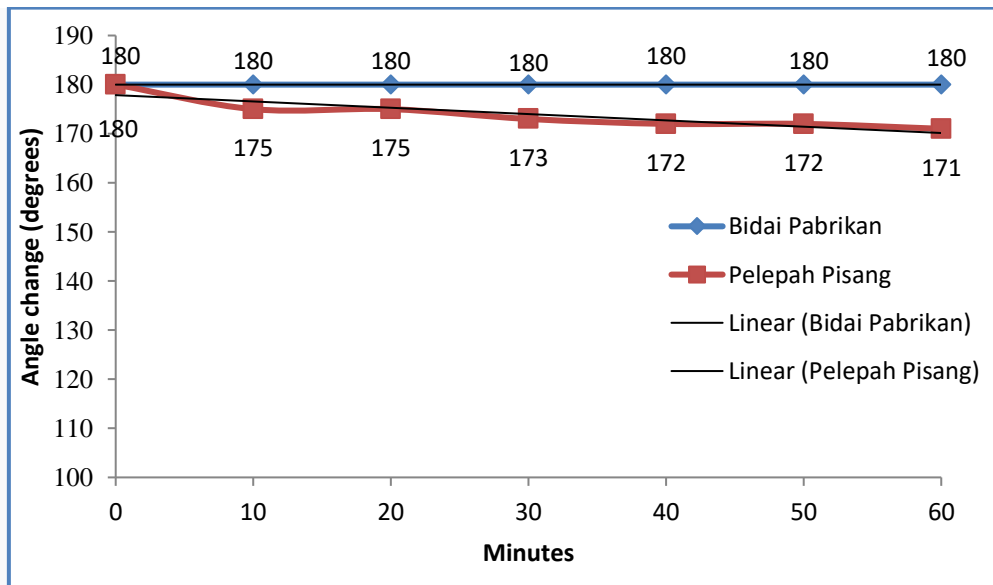


Figure 1 : Comparison of degree changes in the factory splint and banana midrib per 10 minutes for 1 hour

Splinting is first aid for people injured as a result of an accident, which aims to save lives, avoid injury or more severe conditions and accelerate healing. The traumatized extremity should be immobilized with a splint. The splint that is usually used is a splint (splint) where the splint is made of wood, metal or other strong material but light to immobilize the fractured bone which aims to rest the bone to prevent pain (Rieva, et al. 2019).

There are some basic principles before and after a splint, such as do not release manual stabilization on the injured bone until we have completely performed the splint, then apply a pressure bandage to stop bleeding on an open fracture before performing the splint, then apply padding or padding to prevent pressure on the fracture. the part of the bone that protrudes under the skin, after that assess the pulse, movement and sensation in the distal part of the fracture site (Magrufi, 2014).

Bananas are one of the most common types of fruit found not only in villages but also in urban areas, so it is very easy to find a banana tree and then use the parts of the banana plant such as using the banana stem to serve as a temporary immobilization medium (Harun 2016). It is known that the banana midrib has a smooth surface so that it does not hurt when used, the banana midrib has binding and flexible properties when used, besides that the banana midrib can also withstand loads if it is tied properly (Azizah 2019).

Conclusion

Comparison of changes in the angle of degrees on the factory splint with banana stems that have been given a load of 1 kg and observed every 10 minutes for 1 hour, the results show that the factory splint does not experience a change in the angle of degrees, namely from the initial angle of 1800 after 1 hour the degree angle remains 1800. Meanwhile, the banana midrib changes the angle of degrees from the initial angle of 1800 after 1 hour, it decreases to 1710. Where there is a difference in the decrease of 90 by the banana midrib.

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