ABSTRACT

Short-term dehydration is excessive fluid loss from body tissues in a short period of time. If there is an imbalance of fluid in the body, there will be an event of dehydration or excessive water loss. The impact of short-term dehydration if left unchecked, it will have a negative impact on the body.

*This research was conducted to create an application that can display the level of short-term dehydration according to the level of the stage that is mild, moderate and severe / long term. This study uses a digital color image of urine stored in a transparent sample tube. Then the image is improved by resizing and filling holes and then the color space is converted from Red, Green, Blue (RGB) to Hue, Saturation, Value (HSV), L * a * b and YCbCr, finally using K-Means Clustering segmentation to separate color pixels. Then use the method of artificial neural network classification Learning Vector Quantization (LVQ) to classify classes according to the stage.*

The results of application testing show that the level of accuracy of the Learning Vector Quantization (LVQ) method in classifying the level of dehydration based on its level,normal, low, medium and heavy / long term in training reaches 100% and testing reaches 98% . Possible inaccuracies occur because the position of the test image differs somewhat from the images being trained. Then, the need to consult with the medical authorities to follow up on the possibility of dehydration or not.

Keywords : *Short-term Dehydration, Learning Vector Quantization, Urine Color.*