ABSTRAK

Telinga merupakan salah satu bagian tubuh yang dapat dijadikan bahan untuk mengidentifikasi individu selain menggunakan sidik jari, retina mata, atau struktur wajah. Hal ini dikarenakan telinga memiliki banyak variasi pada morfologinya sehingga setiap individu mempunyai morfologi yang berbeda satu sama lain. Terkadang terdapat kelainan morfologi pada telinga yang disebabkan oleh masalah genetik seperti penderita *Down Syndrome*. Karakteristik pada telinga *Down Syndrome* dapat dijadikan bahan deteksi.

Pada penelitian ini variasi morfologi telinga pada *Down Syndrome* dilihat berdasarkan ukuran serta karakteristik morfologinya. Sampel pada penelitian ini sebanyak 50 individu, 25 anak *Down Syndrome* dan 25 individu normal. Sampel berasal dari Yayasan Bhakti Luhur, Malang. Penentuan sampel *Down Syndrome* berdasarkan kriteria inklusi yang telah ditentukan. Variasi ukuran dilihat berdasarkan dimensi panjang dan lebar. Ukuran telinga akan dibandingan antara dua kelompok sampel dan diuji dengan t-test untuk mengetahui nilai signifikan. Peneliti menggunakan metode fotografi untuk meneliti variasi karakteristik morfologi. Foto telinga sampel digolongkan menurut karakteristik telinga milik Schwalbe.

Berdasarkan data penelitian, rata-rata ukuran telinga *Down Syndrome* lebih kecil dibanding individu normal. Perbedaan yang signifikan terlihat pada dimensi ukuran panjang telinga. Sedangkan pada dimensi lebar perbedaan tidak terlalu signifikan. Morfologi telinga penderita *Down Syndrome* memiliki karakteristik pada bagian anterior helix pada penderita *Down Syndrome* yang lebih menggulung, sehingga terlihat lebih tebal dibanding individu normal, bagian tidak adanya *crus superior anthelix*, serta bagian *lobulus* yang menempel pada pipi. Ukuran dan karakteristik morfologi telinga pada *Down Syndrome* yang dikarenakan kelainan pada genetika, menyebabkan perbedaan dengan individu normal.

Keyword : deteksi, genetik, telinga, antropometri.

ABSTRACT

The ear is a part of the body which also can be used as the indicator to identifying people beside fingerprint method, eye detecting by retinas, or craniofacial method. It is because the ear has many variation of its morphology, so that every individual has different morphology of one to another. Sometimes there are morphological abnormalities in the ears caused by genetic disorder such as individual with Down Syndrome. The characteristics of Down Syndrome's ears can be used as detection instrument.

On this research, the morphology variation of the ear in subject with down syndrome were selected based on size and characteristics of its morphology. The amount of the research sample was 50 subjects, which 25 subjects with down syndrome, and 25 normal subjects. The research sample was taken from the Bhakti Luhur Foundation, Malang. It was selected based on the criteria of inclusion, particularly people with down syndrome. Variation of the measurements were based on length and width dimensions. The ear size is compared between both sample group and tested with t-test to determine the significant values. Researchers was used the photographic methods to examine the variation in morphology characteristics. Photos of the ears samples were classified according to the Schwalbe's characteristics.

From the entire variables, an average size of the down syndrome's ear is smaller than the normal subjects. The significant differences apparent on the ear length dimensions. Whereas there are no significant on the ear width dimensions. On the Down Syndrome's ear morphology, they have difference characteristic of the anterior helix which looks convolved than the normal ear, they don't have the *crus superior anthelix*, and their *lobules* were attached to the cheeks. The ear size and the morphological characteristic of Down Syndrome's ear happened because of the genetic disorder, it caused the differences with the normal subjects.

Key word : detection, genetics, ears, anthropometry