Study of Bone Mineral Density among Women in Central Taiwan

許文斌、王安祥
E-mail: 9315399@mail.dyu.edu.tw

ABSTRACT
The osteoporosis of Taiwan prevails in recent years. Creating a database for women's bone mineral density (BMD) in central Taiwan may help to find the state of the adult women's osteopenia in early days. The research includes two stages. In the first stage, 217 normal BMD data in central Taiwan of women were collected to create a mineral density database for women's bone mineral density (BMD) in central Taiwan. In the second stage, 1031 BMD data in central Taiwan of women were collected, then were applied into SVM tool to predict BMD classification. In BMD database, it was found that lumbar vertebrae L2-L4 of BMD is relatively lower than women of the north of Taiwan and Caucasians women. In comparison with other existing BMD databases, our database is specialized for the diagnosis of Osteopenia or Osteoporosis for women in central Taiwan. In the research of SVM classifying machine, predictive performance can reach to $\text{Az} = 0.7862$. All finding of this research can help the doctor to get better osseous discrimination while diagnosing.

Keywords: Bone Mineral Density (BMD), Support Vector Machine (SVM), Database


