ABSTRAK
HUBUNGAN ANTROPOMETRI POSTUR TUBUH DENGAN FAKTOR RISIKO PENYAKIT JANTUNG KORONER DAN GANGGUAN KESEHATAN JIWA

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Pendahuluan: Antropometri postur tubuh berhubungan dengan penyebab-penyebab potensial penyakit yang terdapat dalam suatu populasi seperti status nutrisi, dan kondisi sosioekonomi. Di sisi lain, penyakit-penyakit fisik umumnya akan berhubungan dengan gangguan kesehatan jiwa dengan beberapa patofisiologi hormonal maupun non hormonal. **Tujuan:** Tujuan dari penelitian ini adalah menganalisis hubungan antropometri postur tubuh dengan faktor risiko penyakit jantung koroner dan gangguan kesehatan jiwa. **Material dan Metode:** Penelitian ini adalah penelitian *cross-sectional* untuk mencari korelasi antara variabel-variabel antropometri postur tubuh (meliputi: Tinggi badan (TB), berat badan (BB), *body mass index* (BMI), *Upper leg length* (ULL), *Knee height* (KH), dan *Knee-Height ratio* (KHR)) diukur berdasarkan prosedur *The Third National Health Nutrition Examination Survey* (NHANES III) dengan variabel-variabel faktor risiko penyakit jantung koroner (meliputi: tekanan darah sistolik, tekanan darah diastolik, *pulse pressure, Mean arterial pressure* (MAP), dan *pulse rate*) yang diukur berdasarkan protokol *American Heart Association* (AHA) serta gangguan kesehatan jiwa (meliputi: Tingkat depresi, tingkat kecemasan, dan tingkat stres) berdasarkan kuesioner DASS-42 pada mahasiswa Fakultas Kedokteran Universitas Hang Tuah, Surabaya, Indonesia. Data parametrik dianalisa korelasinya dengan uji *Pearson* sedangkan data non-parametrik dianalisa dengan uji *Spearman*. Sedangkan uji komparasi menggunakan *independent t-test, Mann-whitney* dan *Chi square*, dengan level signifikan 0,05. **Hasil:** Perbedaan signifikan variabel antropometri postur tubuh antara laki-laki dan perempuan terdapat pada TB (p <0,001), KH (p <0,001), ULL (p= 0,02), dan BB (p= 0,005), sedangkan pada variabel antropometri yang lain yaitu KHR (p=0,205) dan BMI (p= 0,086) tidak didapatkan hasil yang signifikan. Pada variabel faktor risiko penyakit jantung koroner, perbedaan signifikan antara laki-laki dan perempuan didapatkan juga pada tekanan darah sistolik (p<0,001), *pulse pressure* (p<0,001), dan MAP (p=0,002), sedangkan pada tekanan darah diastolik dan *pulse rate* tidak didapatkan perbedaan signifikan antara laki-laki dan perempuan, masing-masing (p=0,667) dan (p=0,160). Hasil perbedaan yang signifikan antara laki-laki dan perempuan didapatkan juga pada skor DASS-42, dengan tingkat depresi (p<0,001), tingkat ansietas (p<0,001), dan tingkat stres (p<0,001). Hasil korelasi antara antropometri postur tubuh dan faktor risiko penyakit jantung didapatkan: tinggi badan berkorelasi dengan tekanan darah sistolik (r= 0,618; p<0,001), *pulse pressure* (r= 0,561; p= 0,001) dan MAP (r= 0,555; p= 0,001). Berat badan berkorelasi dengan tekanan darah sistolik (r= 0,605; p< 0,001), *pulse pressure* (r= 0,592; p< 0,001), MAP (r= 0,551; p= 0,001). KH berkorelasi dengan tekanan darah sistolik (r= 0,672; p< 0,001), tekanan darah diastolik (r= 0,365; p= 0,040), *pulse pressure* (r= 0,621; p< 0,001), dan MAP (r= 0,636; p< 0,001). *Upper leg length* berkorelasi dengan tekanan darah sistolik (r= 0,400; p= 0,018) dan MAP (r= 0,460; p= 0,008). *Knee-height ratio* berkorelasi dengan tekanan darah sistolik (r= 0,415; p= 0,018) dan *pulse pressure* (r= 0,392; p= 0,026). BMI berkorelasi dengan tekanan darah sistolik (r= 0,467; p= 0,007),

pulse pressure (r= 0,490; p= 0,004), MAP (r= 0,416; p= 0,018). Pada penelitian ini hanya BMI yang berkorelasi signifikan dengan tingkat depresi (r= -0,456; p= 0,009), ansietas (r= -0,466; p= 0,007), dan stres (r= -0,429; p= 0,014). BB hanya berkorelasi signifikan dengan tingkat stres (r= -0,422; p= 0,016). Sedangkan variabel antropometri postur tubuh yang lain tidak berkorelasi signifikan dengan variabel tingkat depresi, tingkat ansietas, dan tingkat stres. **Kesimpulan:** Antropometri postur tubuh terutama KH berkorelasi positif dan bermakna dengan beberapa variabel faktor risiko penyakit jantung koroner (tekanan sistolik, tekanan diastolik, *pulse pressure*, dan MAP). Hal ini berarti bahwa semakin tinggi KH maka semakin besar variabel-variabel faktor risiko penyakit jantung koroner tekanan sistolik, tekanan diastolik, *pulse pressure*, dan MAP). Antropometri postur tubuh terutama BMI berkorelasi negatif yang signifikan dengan gangguan kesehatan jiwa (depresi, ansietas, dan stres).

Kata kunci: *Antropometri postur tubuh, Body mass index, penyakit jantung, gangguan kesehatan jiwa*

ABSTRACT
CORRELATION BETWEEN STATURE, CORONARY HEART DISEASE RISK FACTORS AND MENTAL HEALTH DISORDERS

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***Introduction**: Posture anthropometry deals with potential causes of disease in a population i.e nutritional status, and socioeconomic conditions. On the other hand, physical illness are generally associated with mental health problems with several hormonal and non-hormonal pathophysiologies. **Aim**: To analyze the anthropometric relationship between posture and risk factors for coronary heart disease and mental health disorders. **Material and Methods**: This study is a cross-sectional study to find correlations between anthropometric variables of body posture (including: body height (TB), weight (BB), body mass index (BMI), Upper leg length (ULL), Knee height (KH), and Knee-Height ratio (KHR) was measured based on the procedure of The Third National Health Nutrition Examination Survey (NHANES III) with risk factors for coronary heart disease variables (including: systolic blood pressure, diastolic blood pressure, pulse pressure (PP), mean arterial pressure (MAP), and pulse rate) which were measured based on the American Heart Association (AHA) protocol 2018 and mental health disorders (including: depression level, anxiety level and stress level) based on the DASS-42 questionnaire for students of the Faculty of Medicine, Hang Tuah University, Surabaya, Indonesia. Parametric data were analyzed for correlation with Pearson's test, whilst non-parametric data were analyzed using Spearman's test. Meanwhile, the comparative test used independent t-test, Mann-whitney and Chi-square, with a significant level of 0.05. **Results**: Significant differences in posture anthropometric variables between men and women were found in TB ($p < 0.001$), KH ($p < 0.001$), ULL ($p = 0.02$), and BB ($p = 0.005$), whilst the KHR ($p = 0.205$) and BMI ($p = 0.086$), did not show any significant results. In the risk factor variables for coronary heart disease, significant differences between men and women were also found in systolic blood pressure ($p < 0.001$), pulse pressure ($p < 0.001$), and MAP ($p = 0.002$), whilst there was no significant difference between male and female in diastolic blood pressure and pulse rates, ($p = 0.667$) and ($p = 0.160$), respectively. The results of significant differences between men and women were also obtained in the DASS-42 score, with levels of depression, levels of anxiety and levels of stress ($p < 0.001$). The results of the correlation between posture anthropometry and risk factors for heart disease were obtained: body height correlated with systolic blood pressure ($r = 0.618$; $p < 0.001$), pulse pressure ($r = 0.561$; $p = 0.001$) and MAP ($r = 0.555$; $p = 0.001$). Body weight correlated with systolic blood pressure ($r = 0.605$; $p < 0.001$), pulse pressure ($r = 0.592$; $p < 0.001$), and MAP ($r = 0.551$; $p = 0.001$). The KH correlated with systolic blood pressure ($r = 0.672$; $p < 0.001$), diastolic blood pressure ($r = 0.365$; $p = 0.040$), pulse pressure ($r = 0.621$; $p < 0.001$), and MAP ($r = 0.636$; $p < 0.001$). The ULL correlated with systolic blood pressure ($r = 0.400$; $p = 0.018$) and MAP ($r = 0.460$; $p = 0.008$). The KHR correlated with systolic blood pressure ($r = 0.415$; $p = 0.018$) and pulse pressure ($r = 0.392$; $p = 0.026$). The BMI correlated with systolic blood pressure ($r = 0.467$; $p = 0.007$), pulse pressure ($r = 0.490$; $p = 0.004$), MAP ($r = 0.416$; $p = 0.018$), and all anthropometric variables are not significantly correlated with pulse rate. BMI was significantly*

correlated with the level of depression (r = -0.429; p = 0.009), anxiety (r = -0.466; p = 0.007), and stress (r = -0.429; p = 0.014). BB has a significant correlation with stress level (r = -0.422; p = 0.016). Meanwhilst, other anthropometric variables of posture did not have a significant correlation with depression, anxiety, and stress levels. ***Conclusion****: Posture anthropometry, especially KH, has a positive and significant correlation with several risk factors for coronary heart disease (systolic pressure, diastolic pressure, pulse pressure, and MAP). This means that the higher the KH, the greater the risk factor variables for coronary heart disease (systolic pressure, diastolic pressure, pulse pressure, and MAP). Posture anthropometry, especially BMI, has a significant negative correlation with mental health disorders (depression, anxiety, and stress).*

Keywords*: Posture anthropometry, body mass index, heart disease, mental health disorders.*