

ABSTRAK

Latar Belakang: Pencegahan Penyakit Jantung Kronis (PJK) dengan mengidentifikasi faktor risiko memudahkan perencanaan intervensi pencegahannya. Salah satu penyebab peningkatan prevalensi penyakit tidak menular (PTM) adalah pola makan yang tidak seimbang, sehingga pengendalian PTM ditekankan pada pencegahan, salah satunya dengan puasa. Sd-LDL adalah lipoprotein aterogenik yang mudah teroksidasi dan mempermudah terjadinya atherosklerosis. Puasa Daud merupakan salah satu puasa sunah yang dapat dilakukan kapan saja kecuali pada waktu yang dilarang. Puasa ini adalah model kombinasi TRF dan ADF (*modified alternate-day fasting* = MADF).

Tujuan: Membandingkan tekanan darah sistole dan diastole (TDS dan TDD), denyut jantung (HR), tes TTGO, kadar TNF- α , kadar hormon kortisol, kadar sd-LDL, kadar IL-10 dan kadar hormon β -endorfin (β -EP) darah individu yang melakukan puasa Daud selama enam minggu berturut-turut dengan kontrol, menganalisis peranan TDS dan TDD, HR, TTGO, kadar TNF- α , kadar hormon kortisol, kadar sd-LDL, kadar IL-10, dan kadar hormon β -EP yang berpengaruh di dalam mekanisme pengendalian faktor risiko atherosklerosis pada individu yang melakukan puasa Daud dan menganalisis pengaruh puasa Daud (MADF) terhadap kadar sd-LDL yang merupakan lipoprotein aterogenik sebagai faktor risiko atherosklerosis.

Metode: Studi kuasi eksperimental dengan desain *comparative pre-test post-test non-equivalent control group* dengan populasi santri Pondok Pesantren Hidayatullah Surabaya. Metode *purposive sampling* digunakan sampai jumlah sampel yang dibutuhkan terpenuhi. Subjek yang masuk kriteria inklusi dibagi menjadi dua kelompok yaitu kontrol dan perlakuan MADF selama enam minggu berturut-turut. Pengambilan sampel *pre-test* dilakukan sebelum memulai MADF (puasa Daud). Selama intervensi puasa, semua subjek baik kelompok kontrol maupun kelompok perlakuan mendapat nutrisi yang sama dua kali sehari selama 42 hari. Pada akhir minggu ketiga dilakukan sampling pertengahan, kemudian pada awal minggu ketujuh subjek melakukan sampling *post test*. Subjek mendapat motivasi spiritual dari narasumber kompeten yang memberikan inspirasi spiritual, sebelum dan selama MADF (puasa Daud) untuk menjaga niat yang benar dan tulus dalam mengikuti penelitian hingga selesai. Pengambilan sampel di PP Hidayatullah Surabaya dan analisis sampel di Laboratorium Patologi Klinik Dr. Soetomo Surabaya. Hasil analisis sampel ditabulasi dan statistik diproses oleh ahli statistik.

Hasil: Puasa Daud (MADF) selama enam minggu berturut-turut tidak menyebabkan perbedaan yang signifikan dibandingkan dengan kontrol pada semua variabel (TDS dan TDD, HR, TTGO, TNF- α , kortisol, sd-LDL, IL-10, dan β -EP) dalam sirkulasi darah tepi ($p > 0,05$). Namun, puasa Daud (MADF) selama enam minggu berturut-turut menghambat laju peningkatan kadar sd-LDL yang merupakan lipoprotein aterogenik sebagai risiko atherosklerosis.

Kesimpulan: Puasa Daud (MADF) selama enam minggu berturut-turut menghambat laju peningkatan kadar sd-LDL sebagai faktor risiko terjadinya atherosklerosis tetapi karena atherosklerosis merupakan proses yang melibatkan banyak jalur dan variabel, ternyata efek akumulasi dari variabel lain yang meningkatkan kadar sd-LDL ternyata lebih kuat daripada efek puasa Daud.

Kata kunci: puasa alternatif sehari, puasa Daud, risiko atherosklerosis, sd-LDL

ABSTRACT

Background: Prevention of chronic heart disease (CHD) by identifying risk factors facilitates planning for prevention interventions. The dominant risk factors for CHD in Indonesia are hypertension (HT), mental-emotional disorders, and diabetes mellitus (DM). The prevalence of non-communicable diseases (NCD) increases with one of the risk factors for NCD is an unbalanced diet. This NCD control program emphasizes more on prevention. The Dawood's fast is one of the sunnah fasts that can be done at any time except for the times that fasting is prohibited. This fast is a combination model of TRF and ADF (modified ADF = MADF).

Objective: to compare systolic and diastolic blood pressure (SBP and DBP), heart rate, OGTT, TNF- α levels, cortisol levels, sd-LDL levels, levels of IL -10 and levels of β -endorphins (β -EP) of individuals who performed the Dawood's fast for six consecutive weeks with control, to analyzed the effect of Dawood's fast on sd-LDL levels in the control mechanism of risk factors for atherosclerosis and to analyze the role of all influencing variables in the control mechanisms for atherosclerosis risk factors.

Methods: a quasi-experimental study with a comparative pre-test post-test non-equivalent control group design with the PP student population. Hidayatullah Surabaya with the purposive sampling method until the required number of samples was met, 34 respondents who entered the inclusion criteria were divided into two groups, control and MADF treatment for six consecutive weeks. The pre-test blood check was done before starting MADF (Dawood's fast). During the fasting treatment, all respondents in both groups received the same kinds of nutrition twice a day for 42 days. At the end of the third week, mid-blood sampling will be carried out, then at the beginning of the seventh week, the respondents will conduct a post-test blood sampling. Respondents received spiritual motivation from a competent resource person to provide spiritual inspiration. Before starting the MADF (the Dawood's fast), it is intended that the respondent maintains the correct and sincere intentions in following this research to completion. Blood sampling was carried out at the Hidayatullah Islamic Boarding School Surabaya and sample analysis was carried out at the Clinical Pathology Laboratory of Dr. Soetomo Surabaya. The results of the sample analysis will be tabulated and the statistics processed by a statistician.

The results: Dawood's fasting (MADF) for six consecutive weeks did not cause significant differences compared to control on all variables (SBP and DBP), heart rate, OGTT, levels of TNF- α , cortisol levels, sd-LDL levels, IL-10 levels, and β -EP levels) in the peripheral blood circulation ($p > 0.05$), however Dawood's fasting (MADF) for six consecutive weeks had a positive effect on decreasing the level of sd-LDL levels by inhibiting the rate of its increase in peripheral blood circulation as a risk of atherosclerosis.

Conclusion: Dawood's fasting (MADF) for six consecutive weeks has a positive effect on decreasing the level of sd-LDL levels by inhibiting the rate of its increase in peripheral blood circulation as a risk factor for atherosclerosis but because atherosclerosis is a process that involves multiple pathways and multi-variable, it turns out that the accumulated effects which increase sd-LDL levels were found to be stronger than the effect of Dawood's fasting.

Keywords: modified alternate-day fasting, Dawood's fast, risk of atherosclerosis, sd-LDL