In conclusion, in this group who are self-identified as high risk for CKD, the prevalence of uncontrolled hypertension is unacceptably high. Prevention efforts to educate and improve treatment of hypertension in this group should be designed and implemented.

Key Words: Kidney Disease, Kidney Early Evaluation Program, Hypertension

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THE EFFECT OF HOME-BASED VERSUS HOSPITAL-BASED CARDIAC REHABILITATION ON 24-HOUR AMBULATORY BLOOD PRESSURE AND LIPID PROFILE IN PATIENTS WITH CORONARY HEART DISEASE: THE BIRMINGHAM REHABILITATION UPTAKE MAXIMISATION STUDY (BRUM)
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Although cardiac rehabilitation (CR) is now an accepted therapeutic intervention in patients following myocardial infarction (MI) or coronary revascularisation, the differential effects of home-based (nurse facilitated, based on the UK Heart Manual) versus hospital-based CR programmes on 24-hr ambulatory blood pressure (ABP) and lipid profile in these patients are unknown.

72 patients (58 male, 59 ± 11 yrs) with coronary heart disease (CHD) (following MI or coronary revascularisation) were randomised to either a comprehensive hospital (n = 35) or home-based (n = 37) CR programme. Fasting lipid profile and average 24-hr ABP variables were measured at baseline and after 3 months of CR. There were no significant alterations in antihypertensive treatments for the period of the study.

In the overall group, there were significant reductions in 24-hr systolic blood pressure (BP) (124 ± 15 vs 120 ± 13 mmHg, p = 0.001), diastolic BP (73 ± 10 vs 71 ± 8 mmHg, p = 0.01), mean arterial BP (91 ± 11 vs 87 ± 9 mmHg, p = 0.001) and the 24-hr pulse pressure (51 ± 11 vs 48 ± 9 mmHg, p = 0.04) after 3 months of CR. The 24-hr mean heart rate was not significantly changed. Plasma total cholesterol (4.0 ± 0.9 vs 3.7 ± 0.7 mmol/L, p = 0.006) was significantly reduced whilst high-density lipoprotein cholesterol was significantly raised (1.1 ± 0.3 vs 1.3 ± 0.3 mmol/L, p = 0.012). There were no significant differences between the hospital-based and home-based CR programmes on BP variables and lipid profile.

These data suggest that 3 months of CR can result in successful reduction of BPs and favourable changes in lipid profile that would be beneficial to patients with CHD. Furthermore, hospital-based and home-based CR programmes were equally effective in achieving these improvements.

Key Words: Cardiac Rehabilitation, Ambulatory Blood Pressure, Lipids

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ANTHROPOMETRIC, HEMODYNAMIC AND METABOLIC IMPLICATIONS OF THE DEGREE OF PHYSICAL EXERCISE IN PATIENTS WITH HIGH CARDIOVASCULAR RISK
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Introduction: The long term intervention programs for patients with high cardiovascular risk (HCVR) frequently neglect the importance of physical exercise.

Objectives: 1-To classify a population of HCVR according to the degree of physical activity. 2-To study its correlation with anthropometric, hemodynamic and lipid metabolism determinations.

Material and Methods: N=189, 21–87 years (56 ±9–14), 96M, 93F, with HCVR. Physical activity: High : hyperactive lifestyle (LS) and/or practice of over 30 m/day of aerobic exercise (AE), more than 5 days a week (d/w). Medium: moderately active LS and/or AE > 30 m/day, 3 to 5 d/w. Low: sedentary LS and AE< 30 m/day or AE > 30 m/day less than 3 d/w. Anthropometric parameters: BMI (Kg/m²); Waist circumference (cm). Lipid profile: total cholesterol (mg/dl), HDL(mg/dl), LDL-(mg/dl), triglycerides (mg/dl) 24-hour ambulatory blood pressure monitoring (ABPM): Spacelabs 90207. Parameters: Average 24h Systolic (S), Diastolic (D) BP and Mean (M): aSBP, aDBP, and aABP (SBP-DBP + DBP)/3. Standard S and D BP Burden (S>125 and D>75 mmHg pressure reading percentages(SSBP and SDBP). Hemodynamic Load (HL=Heart Rate × BPM/100). SBP (SBPV) and DBP(DBP- BPV) variability defined by standard deviation.

Statistical analysis: t-Student.

Results: 1 - N = 71 (37.5%) had a high, N = 61 (32.27%) a medium and N=57 (30.15%) a low degree, of physical activity. 2 - The patients of the different groups were comparable in terms of age. 3 - Comparing the “hyperactive” with the “hypoactive” (medium/low) groups, differences were observed in the BMI (p <0.05) and in the hemodynamic variables: aDBP: (p <0.05); aSBP (p =0.04); SDBBP: (p <0.05). 4 - The lower activity group had higher HL and DPBV as well as lower HLS levels compared with the rest: HL (p <0.05); DBPV: (p <0.04); HDL (p<0.05). 5 - Within the hypactive group (medium/low) and with similar BMI, differences were appreciated in terms of HLS levels (p<0.035), TCH/LDL (p =0.04), LDL/HDL (p =0.02), DBPV(p <0.05), with the most unfavorable results in the low group.

Conclusions: 1. Among comparable age groups, an active lifestyle is correlated with a lower weight, different hemodynamic variables and the lipid profile, with special significance for HDL cholesterol. 2. Such differences become evident with a moderate degree of physical activity: a vigorous exercise is not necessary.

Key Words: Physical Exercise, Cardiovascular Risk, Blood Pressure Monitoring

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OBESITY IN ADULTS. EFFECT OF LIFE STYLE MODIFICATION ON WEIGHT, HEMODYNAMIC AND AUTONOMIC NERVOUS SYSTEM
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Objectives: The aim of this study was to access the effect of a low caloric diet and regular aerobic exercise on hemodynamics, baroreceptor function, waist-to-hip circumference (W/H) ratio and weight reduction of obese patients.

Design and Methods: The study was performed in 42 obese subjects (BMI>27 Kg/m²), aged 37±12 years. Mean follow-up was 12.5 months. Hemodynamics and autonomic nervous system (ANS) evaluation were performed at supine and tilt position during 10 minutes by Finapres®. Stroke volume (SV) and vascular resistance (VR) were calculated non-invasively by TNO® modelflow analysis. Baroreceptor function (BR) was calculated by a-index and HF RR (vagal tonus) and LF_SBP (sympathetic tonus) by FFT. During follow-up there were no changes in salt intake or drug prescription. Data was evaluated before and after prescription of a low caloric diet adjusted to age, gender, physical activity and professional lifestyle. Implementation of aerobic exercise (40 minutes, 3 times per week) was also prescribed but not supervised.

Results: First evaluation vs Last evaluation: Weight (Kg) 81.3±13.7 vs 73.5±12.8 (p<0.05), BMI (Kg/m²) 31.5±4.8 vs 28.7±4.6 (p<0.01), W/H 0.83±0.1 vs 0.78±0.09 (p<0.05), % Body fat 39.6±8.5 vs 36.4± 8.1. First evaluation vs last evaluation of hemodynamic and autonomic data in supine: SBP (mmHg) 142.8±10.6 vs 128.8±10.7 (p<0.05), DBP (mmHg) 80.9±10.9 vs 66.4±16.7 (p<0.01), SV (ml)
Conclusions: Weight reduction as a result of low caloric diet and regular physical exercise induced a significant improvement in hemodynamics, baroreceptor function, and lowered blood pressure.

Key Words: Obesity, Hemodynamic, Autonomic Nervous System