Author, Year	Objective	Study design	Sample	Intervention protocol	Collection instrument	Results
Silva *et al.* [12], 2019	To analyze acute cardiovascular responses after isometric handgrip exercise at different intensities in healthy men	Crossover randomized clinical trial	Total: 23 men Age: 21 ± 0.4 years	Three experimental protocols were developed at 30%, 50% and 3% of MVC with an interval of 1 min between sets. Protocol 1: 4 sets of 2 minutes of contraction at 30% of MVC. Protocol 2: 4 sets of 2 minutes of contraction at 50% of MVC. Control protocol: 4 sets of 2 minutes of contraction at 3% of MVC. BP was measured between 15 and 30 min after application of the protocols	BP: measured using the Omron HEM 742 automatic device	There was no difference in SBP and DBP comparing the pre and post period (15min and 30min) of exercise with HG ($p > 0.05$).
Hartog *et al.* [13], 2018	To investigate changes in vascular hemodynamics in response to isometric handgrip exercise in people of different ages.	Uncontrolled trial	Total: 62 participants 33 male Age: 20 to 80 years	Three groups (n = 22: 28 ± 5.5 years; n = 20: 49.8 ± 5.9 years; n = 20: 71 ± 5.6 years) performed an experimental protocol lasting 30 seconds performing a MVC. BP was measured at rest and after the intervention.	BP: measured by the Mobil-o-Graph® device	There were changes in SBP among younger (1.9%), middle-aged (0.6%) and older (8.6%) participants. The values being more expressive in the older group. However, DBP only showed statistically significant differences ($P < 0.02$) between middle-aged (0.3%) and older (6.9%) participants.
Knobelsdorff-Brenkenhoff *et al.* [14], 2013	Establish a robust setup for isometric handgrip exercise during SRM imaging and to assess the cardiovascular effects that can be expected in this setting.	Uncontrolled test	Total: 53 volunteers 31 male. Age: 45 ± 17 years	An experimental protocol with HG at 30% of MVC for a period of at least 6min and, if tolerable, for 8min, in the SRM. HR, BP and DP were measured at rest, at peak stress and 2 min after termination.	BP: measure by a semi-automatic clamp sphygmomanometer; HR: calculated from the interval between beats obtained by the ECG. SD: calculated as an indicator of myocardial oxygen consumption and cardiac work.	Hemodynamic parameters showed an increase of 19% for HR ($p < 0.001$), 14% for SBP ($p < 0.001$), 19% for DBP ($p < 0.001$) and 35% for PD ($p < 0.001$). Results referring to the comparison of the stress peak with the resting state.

Boutcher *et al.* [15], 1999.	To compare the cardiovascular response of young and older subjects to light isometric and aerobic exercise using various measures of cardiovascular function.	Uncontrolled trial	Total: 30 men Age: 21 to 59 years old	An experimental protocol with HG at 30% of MVC for 2 min with a 4min interval being continued or preceded by the cycle ergometer at a rate of 60rpm with the load adjusted to keep HR within the desired range for 7min, with 8min recovery. applied in two groups: 15 young (Young, 21 ± 0.7 years) and 15 older (Old, 59 ± 0.8 years). BP, HR and DP were monitored every 30sec during the protocol and recovery up to 240sec.	BP: measured by the Ohmeda Finapres monitor (Model 2300); HR: calculated from the interval between beats obtained by the ECG. SD: by the formula (PAS*FC/100)	In the comparison between the volunteers (Young and Older) the older group presented higher percentage hemodynamic values in HR (10%), SBP (10%), DBP (5%) and DP (17%). Changes also occurred in the intra-group analysis with an increase in HR (Youth: 8%; Older: 7%), SBP (Youth: 23%; Older: 14%), DBP (Youth: 22%; Older: 15 %) and PD (Young: 32%; Older: 15%). Results referring to the comparison of the stress peak with the resting state.
Anand *et al.* [16], 2018	To evaluate the influence of the different phases of the menstrual cycle on cardiovascular responses, a product of blood pressure to the static isometric handgrip exercise.	Cross section	Total: 30 eumenorical women Age: 18 ± 0.66 years	An experimental protocol with HG at 30% of MVC and duration of up to 4min. BP was measured on the 1st, 2nd and 4th min of intervention, 2nd min. recovery and 4th min. recovery.	BP: measured by standard mercury sphygmomanometer and stethoscope. FC: Not mentioned	At the 1st minute of the protocol, HR and DBP were higher in the luteal phase (7% HR) (8% DBP) ($p < 0.005$), similar results are expressed at the 2nd min (8% HR) (4% DBP) ($p < 0.005$). However, at 4min and 2min of recovery, HR, SBP and DBP were also higher in the luteal phase. 4th min: PAS (9%), PAD (5%) and HR (5%). Recovery 2nd min: SBP (5%), DBP (6%) and HR (7%) ($p < 0.005$).

CVM = Maximum voluntary contraction; DP = Double product; ECG = Electrocardiogram; HR = Heart Rate; HG = Hand Grip; BP = Blood Pressure; DBP = Diastolic Blood Pressure; SBP = Systolic Blood Pressure; RPM = Rotation per minute; SRM = Magnetic Resonance Scanner