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Non-linear Multimodal Program And Mobile Application To Attenuate Cardiotoxicity, Feasibility And Preliminary Results

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Last ACSM Roundtable about exercise in cancer survivors recognized the lack of trials to define FITT prescription in exercise to attenuate cardiotoxicity. In women with breast cancer during treatments, adherence is low and may increase when modulating the doses. Therefore, generate resources to increase adherence could be a strategic gap of knowledge which should be addressed.
PURPOSE: Analyse the feasibility of ATOPE program and to determine report preliminary results to preserve CV health.
METHODS: A 18-sessions supervised functional high-intensity exercise program and recovery strategies (ATOPE) was conducted. Non-linear prescription was used following FITT prescription and based on load assimilation, generated by ATOPE+ app[ICV1] . Participants were evaluated before cancer treatments and after ATOPE program. Feasibility and preliminary efficacy (cardiorespiratory fitness and blood pressure) were explored. [ICV1] [ICV1]S. Moreno-Gutierrez *et al*., "ATOPE+: An mHealth System to Support Personalized Therapeutic Exercise Interventions in Patients With Cancer," in *IEEE Access*, vol. 9, pp. 16878-16898, 2021, doi:10.1109/ACCESS.2021.3049398.
RESULTS: In total, 76.6% (23/30) women with I-II BC (47.78 ±9.8 years) participated. The adherence was 86.96±9.6%. Reasons for missing attendance were: fatigue (25.0%), personal reasons (17.0%) and medical appointments (12.7%). The mean perceived health status change was 4.04±1.20 points, and there was a 26.1% (n=6) of responders. There were no adverse effects and patients had high satisfaction (9.6±0.7, 9.5±0.6, and 9.3±0.8 points with exercise program, equipment and ATOPE+ app respectively). The main barriers and facilitators were: adverse effect of treatments, and perception that the program improved their psychological state. There was a significant increment in the distance of the 6-minute walking test (594.11±83.63 vs 621.00±83.94; p<.001) and a decrease in the diastolic blood pressure (73.81±11.65. vs 71.25±10.57; p=.043) after the ATOPE program.
CONCLUSIONS: The ATOPE program is feasible and enhance short-term CV health, among women during treatments. No responders during this window-period of treatment are a normal finding,

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Comparing Two Delivery Modes Of A Supportive Care Platform For Metastatic Breast Cancer Patients

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Novel technologies may be useful for measuring activity, enhancing patient-provider communication, and reducing symptom burden in metastatic breast cancer (MBC) patients. However, the best way to utilize technology to intervene on MBC patients is unclear. Therefore, we piloted Nurse AMIE, a digital supportive care platform that provides guideline-concordant symptom management interventions in response to patient reported outcomes among MBC patients using: 1) an Android electronic tablet, and 2) an Amazon Echo Show device.
PURPOSE: To compare the acceptability, usage, and satisfaction with the Nurse AMIE platform by mode of delivery.
METHODS: Consented MBC patients in both studies were randomized 1:1 to either immediate Nurse AMIE or a delayed-start condition. The delayed start condition received Nurse AMIE months 4-6. For both studies, we determined acceptability as the number of potential participants approached who agreed to participate. Usage was defined as the number of days the participant interacted with the Nurse AMIE platform over 90 days. Satisfaction was determined by the rate at which participant described the previous day's daily intervention as helpful. Usage and satisfaction between studies were compared with independent-*t* tests, and Cohen's d effect sizes. Values are presented as means ± standard deviation.
RESULTS: For the tablet version, 31 patients were approached before reaching our goal of consenting 21 patients, for a patient acceptability of 68%. For the Alexa version, 86 patients were approached before reaching our goal of consenting 42 patients, for a patient acceptability of 49%. Participants interacted with the tablet version on average 58±31 of the first 90 days. Participants interacted with the Alexa version on average 47±28 of the first 90 days. Usage did not significantly differ ($p>0.21$). Participants in the tablet version rated the previous day's intervention helpful 68±29% of the time. Participants in the Alexa version rated the previous day's intervention helpful significantly more frequently, at 88±21% of the time ($t_{(37)} = 2.28$, $p<0.03$, Cohen's d = 0.81, 95%CI: 0.13 to 1.47).
CONCLUSION: Researchers and clinicians must identify technological and trial-related factors that influence willingness to accept, use, and enjoy interventions utilizing novel technologies.

D-40 Sports Medicine Fellow Research Abstracts

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COVID-19 Infection Complications Among Division III College Athletes - A Cohort Study

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BACKGROUND: Myocarditis represents 9% of all causes of sudden cardiac death in athletes. COVID-19 has been linked with myocarditis at a higher frequency than other viruses (1). The prevalence of clinical myocarditis is uncertain.
PURPOSE: 1. Determine the prevalence of clinical myocarditis after COVID-19 infection in Division III college athletes at a single institution.2. Describe adverse events related to Covid-19 infection, such as failure to return to play, long COVID, or myocarditis in this population of student athletes.
METHODS: Observational cohort study. Inclusion criteria: athletes enrolled at a single DIII college between 3/1/20 and 12/15/21. Exclusion criteria: diagnosis of COVID-19 greater than 2 months prior to visit and under 18 years. Data (age, gender, sport, diagnosis date, vaccination status, test type, symptoms, duration, evaluation including EKG, troponin, CRP, Echocardiogram, Cardiac MRI, chest xray, CT, cardiology referral, clinical diagnosis of myocarditis, treatment and return to play time) was extracted from the electronic medical record. Myocarditis will be defined clinically as cardiac symptoms before or during the time of cardiac evaluation and changes on ECG, troponin, and/or echo with final diagnosis being given by cardiologist.
RESULTS: 818 records reviewed. 11% (88) athletes diagnosed with COVID-19. Of those: 39% female, 61% male, average age of 20: 32% were fully vaccinated, 2% partially, and 66% were not vaccinated: 1% were asymptomatic, 87% had mild symptoms, 13% had moderate - severe symptoms and required additional testing. The prevalence of cardiac symptoms was 7%. 0 % of athletes were diagnosed with clinical myocarditis. 15 % had prolonged symptoms.
CONCLUSION: This study indicates the prevalence of student athletes with clinical myocarditis after COVID-19 infection is lower than recent literature suggests, but does indicate COVID-19 infection may result in a prolonged symptoms and return to play.
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Incidence Of Injuries Among Us Paralympic Athletes Competing In The Tokyo 2020 Paralympic Games

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