hemodynamics as a measure of responsiveness to cocaine infusions. This procedure also provides a benchmark to evaluate the potential impact of pharmacologic treatments on cocaine-induced hemodynamic changes and patient perceptions of cocaine response.

2491

Parental concerns about child participation in s reflect a need to move beyond traditional notions of trust and race

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OBJECTIVES/SPECIFIC AIMS: The objective of this study was to identify factors influencing parental willingness of adolescent participation in clinical trials. METHODS/STUDY POPULATION: We applied community engaged research principles to conduct a theory-based, cross-sectional study of parental willingness. Parents (N=307) were given a survey from November 2014 to April 2015. Factors influencing parental willingness were identified using binary logistic regression. SPSS version 22.0 was used to perform analyses, and $p<0.05$ was considered statistically significant. RESULTS/ANTICIPATED RESULTS: The most impactful factor on willingness was Advantages of Adolescent Clinical Research ($p = .001$), followed by Disadvantages of Clinical Research ($p = .006$), Knowledge of Adolescent Clinical Trials ($p = 0.029$), and Perceived Health Status of Adolescent ($p = .036$). In further exploring the influence of Perceived Advantages and Perceived Disadvantages, "My child will do something to help others." ($p = .026$) and "My child is too young to participate in a clinical trial." was the only significant Perceived Disadvantage ($p = .001$) were significantly associated with parental willingness. DISCUSSION/SIGNIFICANCE OF IMPACT: Improving parental knowledge and understanding of adolescent clinical trials, the advantages and disadvantages of adolescent participation, and the health status requirements for child participation are important factors to address when influencing parental willingness to allow adolescents to participate in clinical trials. Recruitment strategies that incorporate this information could improve future adolescent participation in clinical trials, ultimately promoting adolescent health and disease prevention.

2544

Dietary polyunsaturated fatty acid consumption is associated with improved body composition in nonalcoholic steatohepatitis patients

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OBJECTIVES/SPECIFIC AIMS: Nonalcoholic steatohepatitis (NASH) is a common cause of chronic liver disease in the United States characterized by fat accumulation, inflammation, and fibrosis. Higher amounts of fat-free mass (FFM) and lower amounts of fat mass (FM) have been associated with better outcomes in several chronic diseases, recently also in NASH. Body composition is highly influenced by diet. However, the role of diet on body composition in patients with NASH is largely unknown. We hypothesized that consumption of polyunsaturated fatty acids (PUFA), healthy fatty acids mainly found in fish, nuts, and some vegetable oils, is associated with improved body composition, specifically greater FFM and lower FM, in NASH patients. METHODS/STUDY POPULATION: In total, 13 patients with histologically confirmed NASH underwent body composition testing via bioelectrical impedance analysis to estimate FFM% (% of body weight), FM% (% of body weight), and FFM/FM ratio. PUFA and saturated fat consumption was determined by standardized 5-pass 24-hour dietary recall. Correlations were computed using the Spearman rank test. RESULTS/ANTICIPATED RESULTS: Median body mass index (BMI) was 35.7 kg/m^2 (32.8–42.7), median age of the sample was 50 years (46.3–57.3), and 73% were female. Median percent of calories from polyunsaturated fat was 6.8% (5.4–9.6). Percent of calories from PUFA was positively and significantly associated with greater FFM% ($R = 0.56$, $p = 0.049$), lower FM% ($R = -0.59$, $p = 0.035$), and greater FFM/FM ratio ($R = 0.58$, $p = 0.037$). Additionally, a higher PUFA to saturated fatty acids ratio was also significantly correlated with greater FFM% ($R = 0.58$, $p = 0.039$), lower FM% ($R = -0.64$, $p = 0.020$), and greater FFM/FM ratio ($R = 0.57$, $p = 0.043$). DISCUSSION/SIGNIFICANCE OF IMPACT: In patients with NASH, the consumption of PUFA is associated with higher FFM and lower FM, which suggests a protective role of these nutrients on body composition. A larger study on patients with NASH is warranted to confirm our findings on PUFA consumption and body composition, as well as to determine whether these effects will improve clinical outcomes.

COMMERCIALIZATION/ENTREPRENEURSHIP/ REGULATORY SCIENCE

2254

iobio: From academic project to commercial enterprise

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OBJECTIVES/SPECIFIC AIMS: The iobio project enables anyone (eg, diagnosticians, MDs, genetic counselors, citizen scientists) to perform useful analysis of genomic data, without a need to rely on bioinformaticians. iobio uses a novel real-time analysis framework, coupled with powerful visualizations delivered in a standard web browser. The project successfully supports free academic/nonprofit users, but occasions exist where it is more applicable for the project to be delivered commercially. Frameshift Genomics is developing commercial applications and functionality, which will exist alongside and in coordination with the academic project. These products will be marketed to large institutions including genome institutes, hospitals, diagnostic labs etc., but also to individual users who do not have access to large compute resources, or bioinformatic analysts, and everything in between. METHODS/STUDY POPULATION: The commercial iobio project under Frameshift Genomics aims to develop applications and features that cannot be successfully supported by an academic model. For example, when analyses are scaled up to processing of extremely large data sets, a commercial product with access to compute resources makes more sense than an academic tool. Bam.iobio is an application that samples data from sequencing alignment files, taking seconds to generate and visualize statistics representative of the entire file. This app is offered for free academically. When analysis involves thousands of such files, however, the commercial application, multibam.iobio, is more suitable. Other examples, including support for licensed third-party software and permitting extensive computation via cloud platforms, can also only be reasonably be supported via commercial software. Finally, development of commercial applications is driving adoption of more rigorous testing platforms, delivering more robust products. A particular strength of the iobio platform is allowing non-bioinformaticians to understand their data, for example providing quality control functionality providing confidence in data sets and the conclusions drawn from them. Such analyses are critical to all users of genomic data, and the iobio platform is ideally suited to provide an intuitive, integrated framework for performing them. RESULTS/ANTICIPATED RESULTS: The iobio project has been readily adopted by many in the community and shows significant promise for democratizing genomic analysis. Work is ongoing, supported by NIH small business grants, to develop commercial applications that will be marketed to analysts and medical professionals from large genome institutes and universities, to individual project users and citizen scientists. DISCUSSION/SIGNIFICANCE OF IMPACT: There are currently a number of iobio tools available academically, and they have been embraced by many in the genomics community. In fact, a number of popular platforms (eg, Galaxy, the International Cancer Genome Consortium (ICGC) data portal, mygene2 at the University of Washington) have incorporated iobio tools into their own platforms. To date, the gene.iobio variant interrogation tool has been used in a number of diagnostic projects, aiding identification of putative causative variants, and the pre-release version of the commercial multibam.iobio tool has been critical in unearthing data quality problems in project level data.

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I-Corps at NCATS: Toward entrepreneurial training for clinical and translational investigators and lessons learned in team-based customer and stakeholder discovery

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OBJECTIVES/SPECIFIC AIMS: The goal of this abstract/presentation is to share lessons learned from participation in the NIH SBIR I-Corps Train-The-Trainer Program, discuss our experiences offering programs at our local institutions, and communicate our plans to develop an I-Corps@NCATS program that can be disseminated across the CTSA network. We believe that an I-Corps@NCATS program will enhance the process of scientific translation by taking best practices from NSF I-Corps and adapting the program to meet the needs of biomedical scientists in academic medical centers. By integrating I-Corps@NCATS training, we hypothesize that the clinical and translational investigator base will be better prepared to identify new innovations and to accelerate

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