Commentary on Viewpoint: Perspective on the future use of genomics in exercise prescription

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TO THE EDITOR: Dr. Roth (4) puts forward an interesting Viewpoint suggesting that the use of genomics to individualize exercise prescription in the majority of cases would not be relevant or necessary. Dr. Roth focused on genomic information as the primary determinant of the individualization of the exercise prescription, rather than the more probable use of genomic information to further individualize already individualized exercise prescriptions. Every professional body that publishes exercise prescription guidelines (e.g., ACSM) already recommends individualized exercise prescriptions (1). This individualization is primarily accomplished through the use of differing activity durations, intensities, frequencies, and modalities that are dependent on several factors, including the participant’s health status, their preferences, and the goals of their program. In this context, the use of genomic information that may predict how the targeted phenotype/characteristic will respond in the individual will be an adjunct to the existing individualization and will simply lead to a further refinement of the prescription.

This refinement of prescriptions will be further heightened with understanding of genomic mechanisms’ regulation of various exercise behaviors. For example, if future investigations determine the biomarkers for differing predispositions to physical activity (3, 5), then differing strategies that work optimally with varying activity predispositions could be used to increase daily activity (e.g., 2).

Thus, because genomic information will not be the primary determinant of exercise prescription individualization, but rather will be an additional piece of information used to further refine the already individualized prescription, the incorporation of genomic information will be a positive tool for exercise prescription.

REFERENCES