

**The Impact of COVID-19 on Nutrition and Mental Health in Division I Student-Athletes: A Mixed-methods Approach**

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**Learning Outcome:** To determine D1 student-athlete perceptions and experiences regarding nutrition and mental health throughout the COVID-19 pandemic.

**Background:** At a global level, the COVID-19 pandemic disrupted dietary patterns, physical activity, and social interactions among adults in the U.S. For Division 1(D1) student-athletes, the adjustments to collegiate training disruptions, cancelled competitions, and ongoing mandates added another level of complexity to their lives.

**Objective:** To determine D1 student-athlete perceptions and experiences regarding nutrition and mental health throughout the COVID-19 pandemic.

**Methods:** A 7-to-8-minute online Qualtrics survey of 29 questions was distributed to D1 student-athletes at The Ohio State University between August 2021 and December 2021 via email. IBM SPSS Statistics 27 was used to calculate response frequencies for closed-ended questions. Qualitative responses were coded and further analyzed for emergent themes.

**Results:** Forty-five percent (n=467) of all D1 student-athletes from 2021-2022 active team rosters completed the survey. Across the 37 teams, there was an average participation rate of 51% from each team. Over 50% of all respondents reported a change in dietary patterns during COVID-19 with 26% reporting eating healthier or more intuitively while 15% reported disordered eating patterns. Of the 52% that reported a change in mood during the pandemic 32% reported a negative mood with 19% self-reporting sadness and 16% reporting depression.

**Conclusions:** Our findings document that the COVID-19 pandemic altered the behaviors and perceptions of Division 1 collegiate athletes in ways that impacted both their nutrition and mental health. It is critical for collegiate sports medicine providers and stakeholders to address these issues to ensure optimal health, safety, and performance of our student-athletes.

**Funding Source:** None

**The Impact of the Gx Sweat Patch on the Hydration Status of Division III College Athletes**

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**Learning Outcome:** Understand the impact of the Gx Sweat Patch on the hydration status of Division-III college athletes.

**Background:** Mild dehydration has been shown to impair athletic performance, and college athletes often arrive at practice dehydrated. Personalized fluid intake recommendations, based on individual sweat profiles (sweat rate and electrolyte composition), are known to improve hydration status (HS). Gatorade® developed the Gx Sweat Patch as a practical method for assessing sweat profiles and providing personalized fluid recommendations. The patches are valid and reliable measures of sweat profile, but no research has explored the effects of the patch on an athletes' HS.

**Methods:** Division-III men's and women's basketball, men's baseball, women's lacrosse, and track and field athletes (n=51) participated in the study. Urine samples (Pre-practice and recovery [next morning first void]) were collected at baseline, and after wearing the patch. Urine specific gravity (USG) and urine color were assessed as indicators of HS. Paired samples t-tests compared HS at baseline and post-patch.

**Results:** Of the 51 patches used, only 10 provided fluid recommendations. At baseline, athletes were, on average, mildly dehydrated before and after recovering from practice (USG=1.022 and 1.027, respectively). Pre-practice USG and color did not change significantly post-patch (p=0.229 and p=0.673, respectively). Recovery USG and color did not change significantly post-patch (p=0.735 and p=0.342, respectively).

**Conclusion:** The Gx patches had a high failure rate, and did not significantly influence hydration status in Division-III college athletes. Future research should identify factors preventing athletes from effectively utilizing the personalized fluid recommendations provided by the patch.

**Funding Source:** None