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Gut and digestive health of Irish athletes post-concussion

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Sports-related concussions (SRC) may impact athletes at all levels, from recreational to professional. SRC disrupts brain function, initiating various transient, and subjective symptoms(1). Due to the gut-brain axis, gastrointestinal (GI) function is affected and may cause nausea, vomiting, and abdominal pain. Post-concussion GI symptoms may hinder digestion, nutrient absorption, and energy availability to the brain(1), and their prevalence among Irish athletes is unknown. This study aimed to investigate gastrointestinal disturbances experienced by Irish athletes post-concussion.

In January 2024, following ethical approval, an online survey was distributed to athletes and their support teams (coaches, nutritionists, physiotherapists, etc.) via social media, email, posters, and word of mouth. Eligible athletes had experienced a concussion/mTBI. The survey included sections on general and GI-specific symptomology, demographics, injury history, digestive function, and gut health. Questions were retrospective and specific to the Time of Participation (ToP). Quantitative data analysis was performed using Excel.

This research presents preliminary data on fifty-three Irish athletes, (43% female) between 18 and 40 years (median = 25). Athletes participated in a variety of sports, including Gaelic football (60%), rugby (53%), soccer (49%), hurling/camogie (30%), running (19%), equestrian (15%), field hockey (9%), athletics (11%), martial arts (11%), either at elite, recreational, or competitive levels. Athletes had sustained 1 to 6 concussions (median = 2), between 10 days (February 2024) to 180 months (2009) before study participation (median = 18 months).

Their ToP bowel function ranged from moving once (57%), 2-3 times (23%), 4-6 times (9%) daily, or once every 2-3 days to once a week (12%). Using the Bristol Stool Form (BSF) scale (4) at ToP, 45% were type 3 or 4, and 10% were type 2 (3). Acutely post-concussion participants' bowel function became more frequent, with 43% moving once daily, 30% 2-3 times, 6% 4-6, and 2% moving 7 times or more daily. 19% had experienced a reduction in bowel movements to once every 2-3 days, 4-6 days, or once a week post-concussion. Their stool forms ranged from hard, lumpy (type 1, 2), sausage-shaped (type 3, 4) to watery (type 5, 6, 7) on BSF (3). All participants identified prevalence of GI symptoms. Rating tiredness (55%), loss of/poor appetite (54%), and nausea/vomiting (47%) as most severe. Increased bloating, flatulence, urgency to open bowels, stomach gurgling, pain/discomfort, constipation, incomplete evacuation, diarrhoea, indigestion, reflux, heartburn, and increased cravings were also reported.

Athletes experienced increased bowel movements, irregularities, and constipation, alongside varying symptoms of appetite changes, nausea, vomiting, flatulence, and sensitivities, which resolved as most athletes began to recover.

Irish athletes encountered diverse GI disturbances post-concussion. Athletes and their professional support teams need to be mindful that head injuries affect GI function, causing symptoms such as a loss of appetite, vomiting, and changes in bowel habits.

References

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