Scoring dietary goals: Creating resources with athletes & coaches to support Canadian high school athletes' dietary habits

Alysha L Deslippe[1,2] PhD(C), Molly Byrne[3] PhD, Eimear Morrissey[3] PhD, Oonagh Meade[3] PhD, Tamara R Cohen[1,2] RD, PhD

[1]Land and Food Systems, University of British Columbia, Vancouver, British Columbia, Canada [2]BC Children's Hospital Research Institute, Vancouver, British Columbia, Canada [3]School of Psychology, University of Galway, Galway, Ireland

The issue: Teen athletes are at a high risk of unfavorable dietary habits like not eating enough calories[1,2] or excessive intake of sport supplements (e.g., protein powder).[3] These patterns can impair performance, physical and mental health.[2,4] It is also known that body shape pressures play a role in the development of these habits, and differ based on gender.[2,5]

This is especially problematic in high schools as athletes do not have access to dietitians to help them navigate eating[6] and publicly available nutrition guidelines (e.g., Canada Food Guide) do not meet sport nutrition needs.[7] This means that in Canadian high schools, about 30% of teens[8] are left on their own with their participation in sports.

Objective: Co-define the content, delivery route and outcomes of a resource to support athletes' dietary habits in high schools.

Methods: Use of 2 advisory panels[9,10] to co-define the resource.

- Panelists recruited from posters, emails and snowball sampling from a school in Delta, Canada
- Bi-monthly meetings
- Followed a consensus process
- Rooted in the 'rope ladder adaptation' of Arnstein's foundational Ladder of Participation[11]

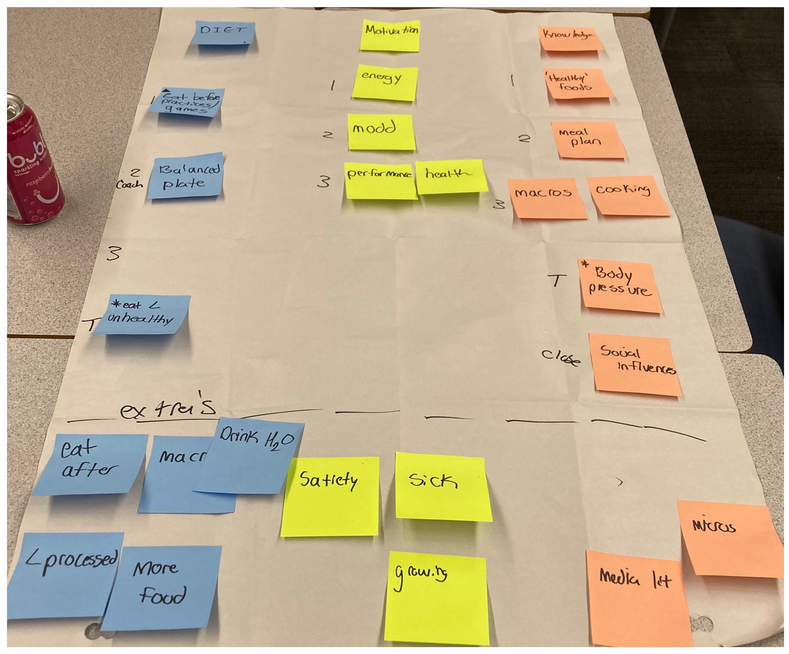
Panel tasks:

- Define resource delivery route
- Select Behaviour Change Techniques (BCTs)[12]
- Indicate main outcome valued

Bottom line: Resources to support high school athletes' dietary habits are lacking. Through a co-defining process, a dietary self-monitoring app that avoids calorie counting is an ideal route to empower athletes' dietary habits and has the potential to improve athletes' health, well-being and performance.

Example of meeting set ups.

"This app can help us eat before our sports to give us energy to play well."
– Athlete Advisory Panel



Example of consensus activity (determining outcomes).

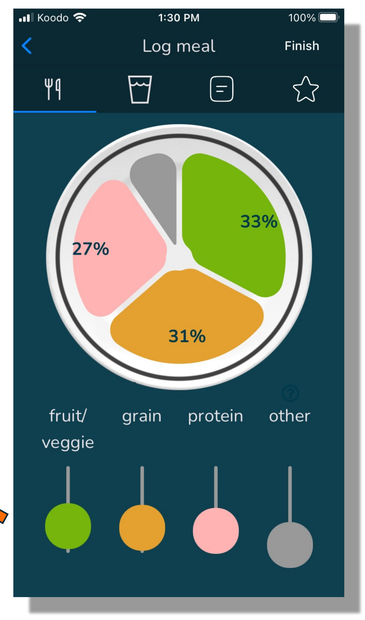
"Reflecting on how food impacts mood, energy & sport performance can help us (athletes) learn about fueling for competition"
– Athlete & Coach advisory panels

Panel characteristics:

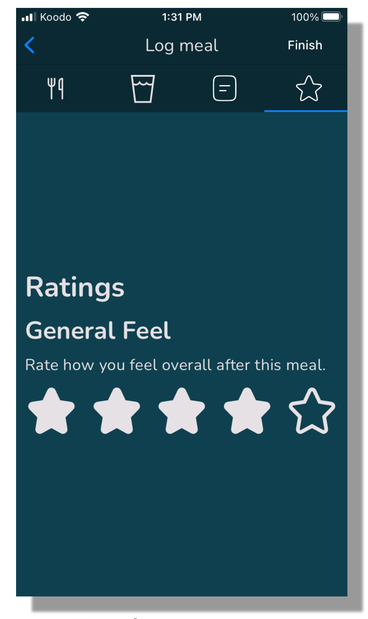
Athlete Panel (n=8)	*Coach Panel (n=7)*
4 boys, 4 girls	4 men, 3 women
Aquatics, basketball, hockey, track/ field, & volleyball	Basketball, track and field, & volleyball

Results:

Agreed delivery route - A tailored app using the iCANPlate™ app platform.



Self-reported meals using proportions.



Tracking energy.

Selected BCTs

- **Shaping knowledge** - sport nutrition videos.
- **Self-monitoring** - track dietary proportions, de-emphasizing counting calories and body shape.
- **Social support** - Recipe library and grocery planning tools that can be shared with parents.
- **Comparison of outcomes -** tracking dietary habits to mood, energy and sports performance.

Main outcome valued - eating a healthy meal before a sport event.

Next steps: Pre-liminary testing and refinement of the app following the ORBIT Model for intervention development.[13]

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