

Commentary

Commentary on: “Scientific evidence is just the starting point: A generalizable process for developing sports injury prevention interventions” by Alex Donaldson et al.

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In a recent paper, Donaldson et al.¹ argued that lower extremity injuries can be prevented. Evidence-based sports injury preventive exercise programs usually have limited impact on public health because they are not widely adopted or sustained into regular training routines. One reason for this is that the intervention program may not seem relevant for the specific sport.

In the paper by Donaldson et al.,¹ the authors emphasized 2 complementary ideas for a generalized process to develop an intervention: (1) “evidence-based practice integrates the best available scientific evidence with practitioner expertise and end user values” and (2) “research evidence alone is insufficient to develop implementable interventions”. In other words, there is no “one size fits all” for either preventive training or implementation strategies. Instead, it is important to work through a structured process to identify the “right” program and the “right” implementation strategies for each context.

In a sport context, a key challenge is to make sure that injury prevention exercises become integrated into practice for coaches and athletes.² Donaldson et al.¹ provided a detailed description of a generalizable process for how to develop evidence-informed sports injury prevention interventions.

A 6-step intervention development process is summarized to facilitate uptake of the intervention by end users, i.e., implementation of an intervention. The FootyFirst,³ a program developed to prevent lower-limb injuries in community Australian football, is applied as an example along with the 6 steps. In brief, the 6 steps described in the paper include the following:

Step 1. Use the research evidence and clinical experience:

Systematically evaluate and synthesize research evidence on the benefits of exercise protocols and collate with clinical and research experience as well as knowledge of training principles.

Step 2. Consult the experts: Experts working with the target sport are consulted and involved in the development of the context-specific exercises and progressions.

Step 3. Engage end users: Any deliverers of the program, e.g., coaches and key representatives at the organizational level, as well as the intervention target, i.e., players, are engaged at this stage.

Step 4. Test the feasibility and acceptability of the intervention: In this step, you make sure that exercises are performed with proper technique, modify any exercises, and revise any instructions. This step also involves “train the trainers”, i.e., train the coaches in how to deliver the program.

Step 5. Evaluate against theory: The research team evaluates the program against a relevant theory in a structured discussion. In the present paper for the FootyFirst program, the authors explicitly stated aspects such as the total time it would take to complete the program, and that the exercises replace, rather than add to, existing activities.

Step 6. Obtain feedback from early implementers: Before the intervention is formally evaluated, a sample of end users is asked to use the intervention in their settings and provide feedback about the content and presentation. In this way, revisions to the program can be made before final resource production.

The process of implementing evidence-based practice in the real world is complex and challenging. Integrating behavioral and social science theories and models in studies on the implementation of promoting healthy behaviors, including injury prevention in sports,^{4,5} is required to understand the implementation for the specific context.⁶ These different models and frameworks can be used like checklists of factors relevant to various aspects of implementation.⁷ Donaldson et al.¹ used 2 frameworks to develop their 6-step intervention development process: “Develop preventive measures” of the Translating Research into Injury Prevention Practice framework⁷ and “Introduce preventive measures” of the Sequence of Prevention model.⁸

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In several previous studies, researchers have developed training programs without involving stakeholders or end users, often resulting in poor long-term maintenance. Utilizing knowledge from the stakeholders enables a collaborative process to establish an effective researcher–practitioner partnership. This will enhance the likelihood of developing appropriate and meaningful context-specific injury prevention exercises and an implementation plan, to optimize the translation of the program.

The authors also state that high levels of trainer (coach) competency and self-efficacy are acknowledged drivers of implementation success, and that this is an important part of the implementation plan along with distinct support and policy from the organization. Results from studies show that injury prevention interventions may not be used as intended² and studies within social sciences show that good intention does not guarantee good practice.⁹ This is reflected in the development of FootyFirst, where the authors state that although most clubs had experienced/qualified people to deliver the program, they needed help with the implementation of the program into the training sessions.

To fully succeed in implementing any health promotion program, behavioral change at multiple levels is needed. To understand how and why interventions succeed or fail, the intervention strategy needs to be linked with theories of behavioral change.^{6,10} Engaging end users during the development of a context-specific program may constitute a key component of succeeding in implementing the program. The 6 steps outlined in this paper provide a practical and feasible process for developing an intervention. The described generalizable process is applicable to intervention development across a range of topics and sports settings. Using such a process is

likely an important part for enhancing the implementation of context-specific programs.

Competing interests

The author declares no competing financial interests.

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