or competition. The approval of swimmer's coaches was reported to be important and positively influencing the adoption of recovery strategies. Access to recovery equipment or resources was seen as both a barrier and an enabler as swimmers have access to a physiotherapist but had to adapt to their availability and get to their office. Swimmers describe that knowledge and perceived effectiveness of a recovery technique strongly influenced its adoption.

Discussion

Analysis of the semi-structured interviews provided insight into the specific determinants of swimmer's recovery behaviours. The present study could be of interest when designing theory and evidence-based behaviour change interventions to improve elite swimmers' adoption of recovery strategies. For example, targeted interventions for swimmers could include monitoring of swimmers recovery behaviours combined with feedbacks on performance self-efficacy or self-reported measures of perceptual recovery outcomes.

IMPACT OF PSYCHOLOGICAL PROCESSES ON MENTAL HEALTH SYMPTOMS IN COMPETITIVE ATHLETES: A CROSS-SECTIONAL STUDY BASED ON THE TRANSDIAGNOSTIC APPROACH

VALVERDE, S.1, HAMONNIERE, T.2, REGNAULD, C.3, KUENTZ, J.1, SOCQUET-DAGOREAU, C.1, CAUMEIL, B.1, RUFFAULT, A.1

1LABORATORY "SPORT, EXPERTISE, AND PERFORMANCE" , FRENCH INSTITUTE OF SPORT , FRANCE, 2RESEARCH UNIT CLIPSYD, UNIVERSITÉ PARIS NANTERRE, FRANCE, 3MEDICAL CENTER, INSEP, FRANCE

Introduction: Mental health disorders can impair performance and lead to injuries [1]. Transdiagnostic psychological processes are associated with the development of mental disorders [2]. The transdiagnostic approach of mental health posits that motivational, emotional, cognitive, meta-cognitive, and behavioral processes are common to several mental health disorders. In the general population as well as in competitive sports, women tend to show higher prevalence of mental health disorders [1]. The aim of the this study was twofold: (a) to evaluate the association of transdiagnostic psychological processes with mental health disorders in adult athletes practicing their sport at a competition level, and (b) to explore gender differences in mental health symptoms and transdiagnostic psychological processes.

Methods: A total of 159 competitive adult athletes aged between 18 and 40 years old (44% female; mean: 24.2 ± 4.88 years old) participated in this cross-sectional study. Participants were invited to fill in psychometric questionnaires to evaluate mental health symptoms, motivation to practice their sport, emotional competences, self-efficacy, ruminations, meta-cognitive beliefs, and impulsive and perfectionist behaviors. Correlational tests were performed to evaluate the association between mental health symptoms and transdiagnostic psychological processes, and mean group comparison tests were used to explore gender differences.

Results: Mental health symptoms were significantly and positively correlated with extrinsic regulations of motivation, ruminations, meta-cognitive beliefs, and impulsive and perfectionist behaviors; and significantly negatively correlated with emotional competences and self-efficacy. Female athletes showed significantly higher scores of mental health symptoms, ruminations, meta-cognitive beliefs, and impulsive and perfectionist behaviors; and significantly lower scores of emotional competences and self-efficacy.

Discussion: The results of the present study showed that transdiagnostic psychological processes were associated with mental health symptoms; and that female competitive athletes were more likely than males to experience mental health symptoms in addition to lower emotional, cognitive, meta-cognitive and behavioral processes. These results are in line with previous findings in clinical psychology, and allow investigating the risk mental health issues through psychological processes (including some specific measures to the context of sport). Further investigations may focus on the identification of the most relevant processes to estimate a risk of mental health disorder in competitive athletes.

1. Reardon et al. (2019) 2. Philippot et al. (2019)

Keywords: Mental health, transdiagnostic psychological processes, gender difference, competitive sport

ASSESSING AFFECTIVE RESPONSES IN STRETCHING EXERCISES

BASTOS, V., HENRIQUES, L., TEIXEIRA, D.S.

UNIVERSIDADE LUSÓFONA DE HUMANIDADES E TECNOLOGIAS

Introduction

Affective responses during exercise have been identified as a predictor of exercise adherence. However, research on core affect assessment has been mostly limited to aerobic and resistance exercises. Considering that stretching activities are also an important component in improving physical and psychological fitness, this quasi-experimental study was designed to 1) compare the affective responses during and immediately after stretching exercises in apparently healthy adults, and 2) verify the reliability and agreement of the affective responses assessment through a test-retest performed one week apart.

Methods

For that purpose, we applied and analyzed the Feeling Scale (FS) and Felt Arousal Scale (FAS) using Time (during and after stretching) x Intensity (light, moderate, and vigorous) x Stretched Muscle Group (quadriceps, hamstrings, glutes, latissimus dorsi, and triceps) with repeated measures analysis of variance (ANCOVA) in 34 participants (21 males; aged 32.8±8.6 years). Repeatability assessments of FS and FAS performed on different days were performed using a two-way mixed effects absolute agreement Intraclass Correlation Coefficients (ICC) and Bland-Altman plots.

Results

FS scores were higher following the stretching exercises, whereas FAS scores were lower, particularly in the vigorous intensity. The inter-day repeatability for FS and FAS measurements was generally good across muscle groups. ICC tended to be higher at vigorous intensities.

Discussion

An affective rebound effect could be verified in all stretched muscle groups and intensities but was particularly pronounced in stretches with vigorous intensity. This demonstrates the importance of the timing of core affect assessment in stretching activities, leaving suggestions that a measurement not conducted during the stretch could be reflecting the affective response of something other than the stretch itself. Regarding the test-retest results, the inter-day ICC at different intensities was, in general, moderate to good, with a tendency for higher reliability during vigorous-intensity stretching. Additionally, high variability in affective valence was identified between individuals, supporting an approach towards a more individualized intensity prescription of stretching exercises, in accordance with what the literature had previously indicated for aerobic and resistance training activities. Overall, the FS and the FAS applied during the execution of a static stretch represent a feasible and ecologically valid approach to measuring core affect. These results suggest that an adequate assessment of core affect in stretching activities should be performed during the exercise. Future studies should attempt to replicate these results with other types of stretches, with different muscle groups, and with more inexperienced participants.

COPING AND PAIN MANAGEMENT IN THE CONTEXT OF INJURY IN ELITE SPORTS

MACQUET, A.C.1, BONNET, R.1, TROUSSELARD, M.2,3

1ILABORATOIRE SPORT, EXPERTISE ET PERFORMANCE EA 7370, INSEP 2INSTITUT DE RECHERCHE BIOMÉDICALE DES ARMÉES; DÉPARTEMENT DE NEUROSCIENCES ET SCIENCES COGNITIVES; UNITÉ DE NEUROPHYSIOLOGIE DU STRE

Pain is an unpleasant experience combining sensorial, cognitive and affective dimensions (e.g., O'Reilly, 2011). It is a stressor with which athletes have to cope. The IOC has underlined the need to address acute and chronic pain management in elite athletes (EAs, Hainline, et al., 2018). Experts have searched literature and best practices seeking a consensus on guidance for clinical practice and athlete management. They have highlighted the need for better understanding of acute pain management, including post-injury pain management. Athletes are known to have higher pain tolerance than the general population (e.g., Tesarz et al., 2012), suggesting that they may have a specific coping mechanism for dealing with pain. According to the transactional model of stress (Lazarus & Folkman, 1987), coping has two main functions: problem-focused and emotion-focused coping. This study aims to: (a) formalise the coping strategies used by EAs when they are managing acute pain due to injury, and (b) compare the frequencies of these coping strategies.

Semi-structured interviews were conducted individually with 12 EAs to ascertain their coping strategies while managing acute pain following a sport injury. Data were processed using the comparative method (Corbin & Strauss, 1990) and the transactional model of stress (Lazarus & Folkman, 1987). The results showed 14 pain management strategies relating to problem- or emotion-focused coping. Problem-focused strategies referred to: (a) modulating activity; (b) seeking instrumental support; (c) goal setting; (d) self-encouragement; (e) taking painkillers; and (f) reframing the perception of pain. Emotion-focused strategies referred to: (a) diverting attention; (b) acceptance; (c) relativizing pain; (d) repeating negative thoughts; (e) ignoring pain; (f) seeking emotional support; (g) hoping and praying; and (h) self-blame. The results highlighted that EAs reported greater use of problem-focussed (59% of occurrences of all strategies) than emotion-focussed strategies (41% of all strategies). EAs were shown to favour three strategies (49% of all strategies). Women and men reported problem-focussed and emotion-focussed coping strategies to a similar extent but the breakdown of emotion-focused coping strategies differed. Women more frequently reported strategies associated with "seeking emotional support" and "diverting attention" than men.

The results reinforce the transactional model of coping (Lazarus & Folkman, 1987). The variety of coping strategies suggests flexibility in coping with acute pain. The results highlight the multifaceted nature of pain management, going beyond the strategies elicited for coping with chronic pain in the general population (Rosenstiel & Keefe, 1983). This study demonstrates that exploring pain management strategies provides useful insights into ways to improve our understanding of pain management and clinical practice for athlete pain management.