

## **Evaluating workforce needs: an investigation of healthcare professionals' attitudes, beliefs, and preparedness towards the management of Para athlete mental health at the Tokyo 2020 and Beijing 2022 Paralympic Games**

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## **ABSTRACT**

### **Objectives**

The aim was to examine healthcare professionals (HCPs) attitudes, beliefs and preparedness towards the management of Para athlete mental health during the Tokyo 2020 and Beijing 2022 Paralympic Games.

### **Methods**

A cross-sectional observational study was conducted. National Paralympic Committee HCPs (857) working at the Tokyo 2020 and Beijing 2022 Paralympic Games were invited to respond to an anonymous online survey regarding the management of Para athlete mental health in their team. Data were analysed using descriptive statistics, presented as frequency counts.

### **Results**

The survey was completed by 256 HCPs. Most HCPs (strongly) agreed that mental health was a concern in athletes (n=243; 95%) and a specific concern in Para athletes (n=210; 82%). However, almost 50% of HCPs (n=122; 48%) (strongly) agreed that they did not screen for mental health symptoms in athletes. Half of HCPs (n=130; 51%) (strongly) agreed that there was an increased stigma around disclosure of mental health symptoms among Para athletes, compared with athletes without disability. More than 80% of HCPs (n=221; 86%) (strongly) agreed that they wanted to improve their knowledge and skills surrounding athlete mental healthcare. Many (n=197; 77%) reported that they required additional training to provide optimal mental healthcare to athletes, and most (n=203; 79%) (strongly) agreed that greater collaboration with mental healthcare specialists was needed. Environment-specific contextual factors were highlighted as requiring specific non-discriminatory attention in future research and education opportunities.

## **Conclusion**

HCPs working at the Paralympic Games considered Para athlete mental healthcare important, despite low rates of mental health screening in their teams. These HCPs reported that stigma was a barrier to disclosing mental health symptoms in these athletes. HCPs strongly expressed the need for mental health education and greater involvement of specialists in mental healthcare. Culturally sensitive training and education should be implemented to optimally manage Para athlete mental health.

## **What is already known on the topic**

- Elite athlete mental health is influenced by sporting environment and entourage, and optimal mental health is important for both well-being and performance.
- Para athletes may be exposed to unique impairment-related stressors and may experience higher levels of psychological distress and anxiety.
- Stigma is a known barrier to mental health symptom disclosure and treatment in elite Para athletes.
- Mental health screening may assist in early detection and timely referral of athletes in need of increased mental health support and treatment.

## **What this study adds**

- Most healthcare professionals working at the Tokyo 2020 and Beijing 2022 Paralympic Games acknowledged the importance of athlete mental health and expressed specific concern for the mental health of Para athletes.
- Yet, almost 50% of healthcare professionals indicated that they did not screen for mental health symptoms in athletes and that it was not considered mandatory in their team.
- Over half of healthcare professionals providing clinical care at the Games felt that there was an increased stigma surrounding the disclosure of mental health symptoms in Para athletes compared with nondisabled athletes.
- The majority of healthcare professionals expressed the need for enhanced mental health education and collaboration with mental healthcare specialists in order to optimally support mental health in their athletes.
- Cultural and contextual factors associated with providing adequate mental healthcare were highlighted as a specific focus requiring attention.

## **How this study might affect research, practice or policy**

- Reasons for low mental health screening rates in Para athletes should be investigated and addressed.
- Future research should focus on the implementation of Para athlete mental health support systems as well as improvements to mental healthcare services and practices that can be delivered in culturally diverse cohorts in both developed and developing environments.

- Stigma, as well as cultural and contextual influences, regarding mental healthcare provision warrant further investigation in order to establish non-discriminatory, culturally sensitive mental healthcare for Para athletes.
- Targeted, culturally sensitive interventions are needed to educate and train team healthcare professionals in athlete mental health and to establish specialist referral systems within multidisciplinary management plans.

## INTRODUCTION

Protecting the mental health of elite athletes has become a priority in recent years.<sup>1,2</sup> Research has shown that elite athletes experience mental health symptoms and disorders which may affect injury risk, recovery, performance and biopsychosocial well-being.<sup>2</sup> According to the findings of the International Olympic Committee (IOC) consensus statement on mental health in elite athletes, 5-35% present with mental health symptoms.<sup>1,2</sup> Limited research regarding Para athlete mental health reveals higher levels of distress and lower self-esteem, self-acceptance as well as increased alcohol consumption.<sup>2-7</sup> Higher mental health burden in Para athletes may be due to unique impairment-related stressors, including functional limitation, chronic pain, overtraining and higher risk for injury and illness.<sup>2,8</sup> Furthermore, lack of adaptive sporting and living facilities, classification difficulties, negative coaching behaviours, sport retirement, trauma and sexual harassment/abuse as well as the psychological influences of participating in disability sport have been shown to be stressors present among Para athletes.<sup>2,4,9</sup>

The sporting environment and entourage have been identified as important factors in athlete mental health. Healthcare professionals (HCPs) are an integral part of team management and athlete welfare during sporting competitions.<sup>1,2</sup> Their vital role ensures that athletes are physically healthy and mentally ready to compete.<sup>10-12</sup> In developed settings, environments are considered ideal if they are well-resourced, barrier-free, and where mental healthcare is part of standard care. Indeed, confident, well-prepared and -educated HCPs who recognise and respect social and cultural differences and who provide excellent care contribute to optimal athlete mental health and performance in their team.<sup>2,13</sup> Low-resourced environments, poor mental health knowledge, busy schedules, stigma and previous unhelpful treatment encounters have been identified as barriers to HCPs providing optimal mental healthcare in elite athletes.<sup>10-13</sup> A call by experts has been made for research regarding healthy sport environments, highlighting the need for mental health research in the Paralympic setting.<sup>1,2,4</sup> However, no data exist regarding the attitudes and practices of HCPs in the management of mental healthcare in their Para athletes. Therefore, the aim of this study was to examine and describe HCPs attitudes, beliefs and preparedness towards management of Paralympic athlete mental health during the recent Tokyo 2020 and Beijing 2022 Paralympic Games. Results of this study may help identify possible areas of

intervention to optimise Paralympic mental healthcare environments and Para athlete mental health in sport.<sup>1,2,10-12</sup>

## **METHODS**

### **Participants and recruitment**

In this cross-sectional observational study, National Paralympic Committee (NPC) HCPs working at the Tokyo 2020 and Beijing 2022 Paralympic Games were invited via email to complete an anonymous Likert-scaled survey. Further information about the study was provided by the International Paralympic Committee (IPC) Medical Committee during the team physician meeting held in the pre-competition period of each Games. Informed consent (e-consent) was obtained prior to completion of the survey, which was open for responses during the entirety of both Paralympic Games and closed two weeks after the Games.

### **Data collection**

Demographic information of participants was collected including Games (Tokyo 2020 or Beijing 2022), gender, age, number of years involved with the management of athlete health, nature of team involvement at the time of the Games, field of practice, and country economic status. Country economic status was described according to World Bank classification as low-income (gross national income (GNI) per capita of \$1,085 or less), lower middle-income (GNI per capita between \$1,086-\$4,255), upper middle-income (GNI per capita between \$4,256-\$13,205) or high-income (GNI per capita of \$13,205 or more).<sup>14</sup>

The survey comprised four sections of Likert-scaled questions ('strongly disagree', 'disagree', 'neutral', 'agree', and 'strongly agree') for 1) attitudes and beliefs - stigma, importance and willingness to address mental health, 2) knowledge, training and preparedness, 3) contextual factors, and 4) organisational support and policy. The screening policy and management process questions (section 5) were answered per sub-question (yes/no) and with specific answers per sub-question. Given that no standardised questionnaires exist that adequately explored all the concepts of interest, questions were adapted from similar published studies and revised according to the requirements of this study.<sup>13,15-18</sup> Revision of the questions was guided by the theory of planned behaviour and the socio-ecological model, considering multiple factors that may influence the management of Para athlete mental health. According to the theory of planned behaviour (Ajzen 1991), behavioural intention is the most important predictor of behaviour. Behavioural intention comprises beliefs and attitudes, normative beliefs and social norms (what one thinks others' attitudes are), as well as perceived behavioural control (knowledge and preparedness).<sup>19</sup> The ecological perspective (Bronfenbrenner 1979) especially considers the role of physical, social and political environments in shaping behaviour.<sup>20</sup> Guided by these theoretical

frameworks, the survey assessed HCPs attitudes, beliefs, knowledge, training and preparedness towards the management of athlete mental health as well as environment-specific contextual factors. It also assessed team policies regarding screening practices and interventions/support available to athletes regarding mental health stigma, attitudes and support-seeking behaviour. The survey included questions regarding whether athlete mental health screening was conducted in the HCP's team, whether it was mandatory (with or without enforcement) and if it was done, when it was done (during the pre-Games competition period, competitive season, post season or with the occurrence of a significant life event). Significant life events included unexplained under-performance, major injury/illness, end of competitive cycle, retirement from sport, as well as suspected abuse or harassment. The survey also asked for details regarding whether screening composites were used in the team, including personal history, family history or standardised surveys. The survey included the following specific sections: 1) attitudes and beliefs - stigma, importance and willingness to address mental health, 2) knowledge, training and preparedness, 3) contextual factors, 4) organisational support and policy, and 5) screening policy and management process (see Supplement 1 for the full survey).

### **Statistical analysis**

Data were analysed using descriptive statistics and all data are presented as count frequencies and percentage distribution contingency tables. Demographic characteristics include HCPs at each Games (Tokyo 2020 or Beijing 2022), gender (male/female/not specified), age (25-34; 35-44; 45-54; or 55+ years), number of years involved with the management of athlete health (< 1; 1-10; 11-20; 21-25 or over 25 years), nature of their team involvement at the time of the Games, field of practice (medicine, physiotherapy, psychology, nutrition, nursing, strength and conditioning, or other) as well as country economy (low-income, lower middle-income, upper middle-income, high-income). Likert-scaled and yes/no questions are presented by count frequencies and percentage distribution contingency tables for each question.

## **RESULTS**

### **Participant demographics**

There were 857 HCPs working at the Tokyo 2020 (n=678) and Beijing 2022 (n=179) Paralympic Games that were invited to participate in this study. There were 256 respondents in total, comprising 30% of the invited HCPs, 212 (31%) at the Tokyo 2020 Games and 44 (25%) at the Beijing 2022 Games. Demographic information of the 256 participants is presented in Table 1. The gender distribution was 57% male and 43% female, with most HCPs (n=82; 32%) falling into the category of 35-44 years. Most HCPs (n=142; 56%) were medical doctors and represented upper-middle to high-income countries (n=161; 63%). Most HCPs (n=109; 43%) had been involved with the management of athlete health for 1-10 years.

**Table 1.** Demographic characteristics of healthcare professionals working at the Tokyo 2020 and Beijing 2022 Paralympic Games\*\*

Total (n (%))	256 (100)
Games (%)	
<i>Tokyo 2020</i>	212 (83)
<i>Beijing 2022</i>	44 (17)
Gender (%)	
<i>Male</i>	145 (57)
<i>Female</i>	111 (43)
<i>Prefer not to say</i>	-
Age range (%)	
<i>25-34 years</i>	52 (20)
<i>35-44 years</i>	82 (32)
<i>45-54 years</i>	66 (26)
<i>55+ years</i>	56 (22)
Involvement of athlete health, years (%)	
<i>Less than 1 year</i>	14 (5)
<i>1-5 years</i>	47 (18)
<i>6-10 years</i>	62 (24)
<i>11-15 years</i>	35 (14)
<i>16-20 years</i>	34 (13)
<i>21-25 years</i>	26 (10)
<i>Over 25 years</i>	38 (15)
Nature of involvement of athlete health (%)	
<i>Involved only for the period of these Games</i>	30 (12)
<i>Involved only for the period of these Games and short period before</i>	32 (13)
<i>Involved for period of Games and intermittent involvement outside of Games</i>	69 (27)
<i>Permanently part of the team for less than 1 year</i>	13 (5)
<i>Permanently part of the team for more than 1 year</i>	103 (40)
<i>Other</i>	9 (3)
Field of practice (%)	
<i>Medicine</i>	142 (55)
<i>Physiotherapy</i>	72 (28)
<i>Psychology</i>	13 (5)
<i>Nutrition</i>	1 (1)
<i>Nursing</i>	5 (2)
<i>Strength and conditioning</i>	5 (2)
<i>Other (including mental healthcare provider, athletics therapy, etc.)</i>	18 (7)
Country's economic status (%)	
<i>Low to lower middle-income country</i>	95 (37)
<i>Upper middle to high-income country</i>	161 (63)

\*\* Table 1 previously published in Eken *et al.*, British Journal of Sports Medicine, 2023<sup>21</sup>

### **Attitudes and beliefs**

The attitudes and beliefs of HCPs towards Para athlete mental health are presented in Table 2. Most HCPs (n=243; 95%) (strongly) agreed that mental health was a concern in athletes, that it was a specific concern in Para athletes (n=210; 82%), and that addressing athlete mental healthcare and symptoms was an important part of their job (n=209; 82%). Half of HCPs (n=130; 51%) (strongly) agreed that there was an increased stigma around mental health symptom disclosure among Para athletes compared to athletes without disability. Some HCPs (n=36; 14%) (strongly) agreed that it was hard to shift their own cultural assumptions and positioning when addressing athlete mental health, and that they were concerned that talking to athletes and teams about mental health would negatively affect athlete confidence and performance (n=52; 20%) and subsequent team confidence and performance (n=35; 13%). Most HCPs (n=203; 79%) (strongly) agreed that their team's sporting environment was supportive towards mental healthcare, whilst some (n=14; 5%) strongly disagreed/disagreed.

Regarding the management of mental health, more than 60% of HCPs (n=167, 65%) (strongly) agreed that they often involved themselves in the management of athletes with mental health symptoms, that they felt responsible for the treatment of athletes with mental health symptoms (n=183; 71%), that they wanted increased collaboration with specialists in mental healthcare when looking after the mental health of athletes (n=203; 79%), and that they would like greater involvement in supporting their athletes' mental well-being (n=163; 64%). Most HCPs (n=160; 63%) (strongly) disagreed that mental healthcare was outside their scope of practice, but some (n=48; 18%) (strongly) agreed. Considering their own mental health state, most HCPs (n=189; 74%) (strongly) agreed that they felt emotionally equipped to engage with the mental health burden of athletes.

Most HCPs (n=239; 93%) (strongly) agreed that the broader social and environmental context of the athlete's demographics including age, gender, socio-economic status (n=229; 90%) as well as the athlete's impairment (n=192; 75%) played a role in the athlete's mental health.



**Table 2.** Attitudes and beliefs of healthcare professionals towards athlete mental health at the Tokyo 2020 and Beijing 2022 Paralympic Games

Total (n (%))	256 (100)				
	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
<b>Questions indicating value of importance</b>					
<i>Mental health is a concern in athletes</i>	2 (1)	3 (1)	8 (3)	94 (37)	149 (58)
<i>Mental health is a specific concern in Paralympic athletes</i>	3 (1)	14 (6)	29 (11)	100 (39)	110 (43)
<i>I think it is important to screen for mental health symptoms in athletes</i>	1 (0.5)	4 (2)	4 (2)	95 (37)	152 (59)
<i>The mental health of athletes is an important part of my job</i>	1 (0.5)	7 (3)	39 (15)	116 (45)	93 (36)
<b>Questions relating to stigma</b>					
<i>I believe that there is an increased stigma surrounding disclosing mental health symptoms in para-athletes when compared to athletes with no impairment</i>	8 (3)	50 (19)	68 (27)	92 (36)	38 (15)
<i>I find it hard to shift my own cultural assumptions and positioning when addressing the mental health of athletes</i>	51 (20)	107 (42)	62 (24)	30 (12)	6 (2)
<i>I am worried that raising the issue of mental health with an athlete in my care would affect their confidence or performance negatively</i>	54 (21)	108 (42)	42 (17)	46 (18)	6 (2)

*I am concerned that talking about mental health in the team would affect team confidence or performance negatively*

66 (26)	117 (46)	38 (15)	31 (12)	4 (1)
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*I think the sporting environment of the team that I am involved with is supportive towards mental health*

6 (2)	8 (3)	39 (15)	132 (52)	71 (28)
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**Questions indicating willingness**

*I often involve myself in the management of athletes with mental health symptoms*

4 (2)	24 (9)	61 (24)	117 (46)	50 (19)
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*I feel responsible for the management of athletes with mental health symptoms*

5 (2)	28 (11)	40 (15)	135 (53)	48 (19)
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*I would like to collaborate more with mental healthcare specialists in the provision of mental health services for my patients*

3 (1)	10 (4)	40 (16)	137 (53)	66 (26)
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*I would like to be more involved in the mental healthcare of my athletes*

3 (1)	20 (8)	70 (27)	113 (44)	50 (20)
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*I think mental healthcare is out of my scope of practice*

66 (26)	94 (37)	48 (19)	42 (16)	6 (2)
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*Considering my own state of mental health, I feel emotionally equipped to take on the mental health burden of athletes*

4 (2)	15 (6)	48 (19)	134 (52)	55 (21)
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**Questions indicating value of holistic approach**

<i>I believe that the broader social and environmental context of the athlete plays an important role in athlete mental health</i>	0 (0)	3 (1)	14 (6)	131 (51)	108 (42)
<i>I believe that personal factors (such as age, gender, socio-economic status,) play an important role in athlete mental health</i>	1 (0.5)	5 (2)	21 (8)	137 (54)	92 (36)
<i>I believe that the athlete's impairment play an important role in their mental health</i>	2 (1)	16 (6)	4 (18)	120 (48)	70 (27)

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### **Knowledge, training and preparedness**

The knowledge, training and preparedness of HCPs towards management of athlete mental health is presented in Table 3. More than half of HCPs (n = 149, 59%) (strongly) agreed that they had experience in supporting others in engaging with mental health awareness and screening. Less than half of HCPs (n= 95; 38%) (strongly) agreed that they had specific formal training to manage athlete mental health symptoms.

Most HCPs (n=169; 66%) (strongly) agreed that they felt confident to detect mental health symptoms in athletes, to offer mental health support to athletes (n=147; 57%), to refer athletes with suspected mental health symptoms (n= 213; 83%), to involve other professionals in athlete management plans (n=222; 87%), and to address other potential influencers of mental health such as team management or coaching staff (n=190; 74%). Half of HCPs (n= 131; 51%) felt competent in dealing with cultural issues or influences related to mental health.

More than 80% of HCPs (n=221; 87%) (strongly) agreed that they wanted to improve their knowledge and skills surrounding mental healthcare and that they require additional training in order to provide optimal mental health support to athletes.

**Table 3.** Healthcare professionals' knowledge, training and preparedness towards the management of athlete mental health at the Tokyo 2020 and Beijing 2022 Paralympic Games

Total (n (%))	256 (100)				
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<b>Questions relating to knowledge</b>					
<i>I feel confident in my capability to detect mental health symptoms and disorders in athletes</i>					
	1 (0.5)	21 (8)	65(25)	133 (52)	36 (14)
<i>I would like to improve my mental healthcare knowledge and skills</i>					
	1 (0.5)	7 (3)	27 (10)	145 (57)	76 (30)
<b>Questions relating to experience</b>					
<i>I have had specific formal training to manage mental health symptoms in athletes</i>					
	29 (11)	85 (33)	47 (18)	71 (28)	24 (10)
<i>I have experience supporting others to engage in mental health awareness and screening</i>					
	11 (4)	47 (18)	49 (19)	104 (41)	45 (18)
<b>Questions relating to preparedness</b>					
<i>I feel confident to offer mental health support to athletes</i>					
	6 (2)	37 (15)	66 (26)	108 (42)	39 (15)
<i>I require additional training in order to provide mental health support to athletes</i>					
	3 (1)	21 (8)	35 (14)	140 (55)	57 (22)
<i>I feel confident to refer athletes with suspected mental health symptoms and disorders</i>					
	3 (1)	8 (3)	32 (13)	139 (54)	74 (29)
<i>I feel competent in dealing with cultural issues or influences related to mental health</i>					
	8 (3)	38 (15)	79 (31)	107 (42)	24 (9)

<i>I feel confident in my capability to involve other professionals in the management plan</i>	0 (0)	11 (4)	23 (9)	142 (56)	80 (31)
<i>feel confident to address other potential influencers of mental health such as, team management or coaching, etc.</i>	0 (0)	17 (7)	49 (19)	139 (54)	51 (20)

### **Contextual factors**

Contextual factors influencing the management of athlete mental health are presented in Table 4. Over half of HCPs (n=147; 57%) (strongly) agreed that their own country's mental healthcare resources were of adequate availability. Many HCPs (n=103; 40%) (strongly) agreed that it is likely for people in their country to seek care from religious, spiritual or cultural healers outside the biomedical system and that they found language barriers problematic in adequately addressing mental health in their athletes (n=87; 34%).

**Table 4.** Healthcare professionals' contextual considerations to the management of mental health reported at the Tokyo 2020 and Beijing 2022 Paralympic Games

Total (n (%))	256 (100)				
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<i>We have adequate availability of mental health resources in my team's country</i>	21 (8)	47 (18)	41 (16)	90 (35)	57 (22)
<i>In my country it is likely that people will seek care from religious, spiritual or cultural healers outside the biomedical system</i>	7 (3)	67 (26)	79 (31)	72 (28)	31 (12)
<i>I find language barriers problematic in adequately addressing mental health</i>	45 (18)	77 (30)	47 (18)	67 (26)	20 (8)

### ***Organisational policy and screening***

The perceptions of HCPs organisational support and screening practices are presented in table 5. The majority of HCPs (n=190; 74%) (strongly) agreed that mental health screening was part of team policy, and that team policy included interventions or support around mental health stigma, attitudes and support-seeking behaviour (n=185; 72%). More than half of HCPs (n=133; 52%) (strongly) agreed that screening was mandatory in their team and that they did screen for mental health symptoms in athletes.

**Table 5.** Healthcare professionals' attitudes and beliefs towards organisational policy and support reported at the Tokyo 2020 and Beijing 2022 Paralympic Games

Total (n (%))	256 (100)
<b>Mental health screening is part of the sports team policy / team's specific mental health policies for athlete welfare</b>	
<i>Strongly disagree</i>	7 (3)
<i>Disagree</i>	33 (13)
<i>Neutral</i>	26 (10)
<i>Agree</i>	117 (46)
<i>Strongly Agree</i>	73 (28)
<b>Interventions or support around mental health stigma, attitudes and support seeking behaviour are part of the team's policy</b>	
<i>Strongly disagree</i>	10 (4)
<i>Disagree</i>	19 (8)
<i>Neutral</i>	42 (16)
<i>Agree</i>	121 (47)
<i>Strongly Agree</i>	64 (25)
<b>In your team, is mental health screening</b>	
<i>Mandatory with enforcement</i>	50 (20)
<i>Mandatory not enforced</i>	83 (32)
<i>Not mandatory</i>	123 (48)
<b>Do you screen for mental health symptoms in athletes?</b>	
<i>No</i>	122 (48)
<i>Yes</i>	134 (52)
<b>If yes, when is the screening performed?</b>	
<i>During the pre-competition period</i>	104 (41)
<i>During the season</i>	71 (28)
<i>Post-season</i>	41 (16)
<i>When any significant life event occurs</i>	61 (24)
<b>When any significant life event occurs, select which ones</b>	
<i>Major injury / illness</i>	53 (21)
<i>Unexplained performance concern</i>	54 (21)

<i>End of competitive cycle</i>	27 (11)
<i>Suspected harassment or abuse</i>	43 (17)
<i>Transition out of sport</i>	34 (13)
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<b>If yes, what does the screening comprise?</b>	
<i>Personal history</i>	117 (46)
<i>Family history</i>	83 (32)
<i>Standardised surveys*</i>	49 (19)

\*Most frequently used standardised surveys: Sports mental health assessment tool (SMHAT); Personal and family history, PHQ4 (Patient Health Questionnaire-4 item psychosomatics scale); PHQ-9 (Patient Health Questionnaire-9 item depression scale), GAD-7 (generalized anxiety disorder-7 item scale), DASS21 (depression, anxiety and stress scale-21 item scale), SCL90 (symptom check list-90 item scale), POMS (profile of moods states).

## **DISCUSSION**

The aim of this cross-sectional observational study was to examine HCPs attitudes, beliefs and preparedness towards the management of Para athlete mental healthcare during the Tokyo 2020 and Beijing 2022 Paralympic Games. The main findings were that 1) whilst most HCPs acknowledged the importance of athlete mental health and expressed specific concern for Para athlete mental health, half of the HCPs reported that they did not screen for mental health symptoms in athletes and did not consider screening mandatory in their team; 2) half of HCPs felt that there was an increased stigma around mental health symptom disclosure among Para athletes compared to athletes without disability; and 3) the majority of HCPs strongly expressed the need for further educational opportunities in order to optimally support mental health in athletes. It was also noted that cultural and contextual influences need to be considered in future studies as well as mental healthcare education and intervention programs.

### **Para athlete mental health is considered important, but screening rates are low**

The first important finding of this study was that even though most HCP's (n=243; 95%) considered mental health a concern in all athletes, and a specific a concern in Para athletes (n=210; 82%); as well as an important part of their job (n=209; 82%), half of HCPs (n=122; 48%) reported that they did not screen for mental health symptoms in athletes and that screening was not required or mandatory in their team (n=123; 48%).<sup>1,2</sup> Furthermore, whether due to omittance or ignorance, more than 15% of HCPs (n=40;16%) did not consider mental health screening to be included in team policy. Given the stressors to athletes, and Para athletes in particular, it is concerning that HCPs reported a lack of screening and policies in their teams.<sup>5,6</sup> Research has shown that screening for mental health symptoms allows for proper and timely management of these symptoms and facilitates optimal referral and treatment, as well as raises awareness and mental health literacy.<sup>22</sup> It is recommended that intentional efforts are made to ensure that sports organisations and teams advocate the importance of mandatory mental health screening as part of the periodic health assessment offered to all athletes in the team.<sup>23</sup> Interestingly, a

recent study published regarding mental health and burnout symptoms in the same cohort of HCPs as investigated in this study showed that 30% of HCPs reported moderate to severe burnout, and 8-12% reported moderate to severe symptoms of anxiety and depression, respectively. Furthermore, 8% of this cohort reported thoughts of self-harm.<sup>21</sup> Therefore, the implementation of mental health support systems is critical to improve Para athlete mental healthcare available to athletes as well as HCPs during pinnacle sporting competitions and the periods inbetween.<sup>2,13</sup> Thus, the call to improve mental healthcare provision is for both National teams as well as organising committees of sporting events, particularly multi-sport international events like the Olympic and Paralympic Games.

### **Healthcare professionals' perceptions of greater stigma around Para athletes**

The second important finding of this study was that most HCPs (n=203; 79%) viewed their environment as being supportive towards mental health, whilst some (n=14; 5%) did not. Importantly, half of HCPs (n=130; 51%) felt that there was an increased stigma around mental health symptom disclosure, specifically among Para athletes vs. athletes without disability. Of concern, some HCPs (n=29; 12%) reported that their team policy did not include interventions or support to reduce mental health stigma and poor attitudes, nor encourage support-seeking behaviour. Previous literature has shown that stigma towards individuals with disability presents a significant barrier to Para athletes seeking mental healthcare.<sup>4,13,24,25</sup> Research has also identified cultural influences that impact mental health and treatment-seeking behaviour in athletes, including gender, race, ethnicity, religion, and socio-economic status.<sup>2,13</sup> In addition, complex social views regarding athletes with disability have limited Para athlete mental health research.<sup>4</sup>

### **The need for culturally sensitive mental health education**

The third important finding of this study was that most HCPs (n=221; 87%) wanted to improve their mental healthcare knowledge and skills. Specific mental healthcare education and training is associated with decreased barriers to mental healthcare, including negative attitudes, incorrect diagnoses and stigma.<sup>11,26-29</sup> However, less than half (n=95; 38%) of HCPs reported any specific formal mental healthcare training and many (n=67; 26%) did not consider themselves emotionally equipped to manage the burden of Para athletes' mental health. Most HCPs (n=197; 77%) showed interest towards additional mental health education and responded in favour of greater collaboration with specialists in mental healthcare (n=203; 79%). Furthermore, most HCPs (n=189; 74%) demonstrated a willingness to encourage support-seeking behaviour in their athletes regarding mental health. The combination of HCPs feeling confident about detecting and supporting mental health, yet most wanting more education, may indicate ambivalence or uncertainty in their practices. Consensus statements promote multidisciplinary approaches to the management of athlete mental health and referral to specialists regarding emergencies related to specific mental disorders or severe/complex mental health conditions.<sup>22,30-32</sup> Future efforts should be directed toward education and training of HCPs regarding



athlete mental health management. Targeted research is needed to determine the exact format and content of such training and education opportunities, as well as the development of collaboration strategies and referral systems within the sporting environment.

It is important to note that only half the HCPs (n=131; 51%) considered themselves competent in dealing with cultural issues or influences related to mental health, whilst some HCPs (n=36; 14%) indicated that it was hard to shift their own cultural assumptions.<sup>33</sup> This is important as most HCPs (n=239; 93%) agreed that the broader social and environmental context of the athlete's personal factors such as age, gender, socio-economic status (n=229; 90%) and the athlete's impairment (n=192; 75%) played a role in athlete mental health.<sup>4-6,34</sup> Furthermore, many HCPs (n=103; 40%) acknowledged it was likely that athletes in their country sought care from religious, spiritual or cultural healers outside the biomedical system, and experienced language barriers during healthcare (n=87; 34%).<sup>35,36</sup> Whilst this study was representative of the range of countries participating in the Paralympic Games, there were fewer HCPs who worked in developing countries of lower socioeconomic status (n=95; 37%).<sup>13</sup> It is important that cultural and contextual influences in mental healthcare provision are investigated and invested in further within developing country environments, where healthcare is not as aligned to the biomedical system as is the model in developed countries.<sup>15,16,25,27</sup> Thus, the much-needed training and education of HCPs should be culturally sensitive and should take the country's contextual environment into consideration.<sup>33,37-39</sup>

### **Clinical and research recommendations**

The findings of this study suggest that future research and education regarding athlete mental health should focus on stigma, cultural and contextual influences as well as reasons for low athlete mental health screening rates in the Paralympic setting. In-depth qualitative investigations may be an effective method by which to gather these data. Efforts towards improved athlete mental healthcare should include the development and implementation of culturally sensitive actions that can be implemented in both developed and developing environments, with increased athlete mental health screening practices, HCP-targeted educational opportunities and the inclusion of mental healthcare specialists in athlete mental healthcare management plans.

### **Strengths and limitations**

This study was the first study of its kind to investigate HCPs attitudes and beliefs toward the management of mental health in Para athletes. The complete anonymity with which data were collected and stored is a key strength of the study. Additionally, data were collected within an international environment over two Paralympic Games (summer and winter settings) resulting in a larger, more representative sample. The survey was self-developed so was able to be tailored to the aim and population however was not validated. Given that the study was limited by English-only surveys, this

may have excluded HCPs not fluent in English and may have impacted the cultural representation of the sample. Future recommendations would be to provide survey translations in all major languages spoken at the Paralympic Games. Small sample size, potential bias towards HCPs already familiar to illness and injury surveillance, and most HCPs representing upper middle- and high-income countries are possible further limitations. The low response rate from low-income countries is an issue which must be investigated. These limitations need to be explored, especially in the context of their possible intersection with issues of disability inclusion and healthcare provision in different parts of the world.

## **CONCLUSION**

The current study showed that HCP's working at the Tokyo 2020 and Beijing 2022 Paralympic Games acknowledged the importance of elite athlete mental health and specifically Para athlete mental health, despite reporting low screening rates in their teams. In addition, HCPs indicated stigma and cultural influences to be a barrier to mental health disclosure among Para athletes. HCPs strongly expressed the need for mental health education and improved mental health specialist involvement, which needs to be culturally sensitive and applicable to all environments in which athletes live and compete. This is important for the optimal management of Para athlete mental health during sport.

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## **CONTRIBUTORS**

All authors have contributed to the development, application and write up of the current study.

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## **COMPETING INTERESTS**

All authors have declared no competing interests. WD is an associate editor of BJSM IPHP editions.

## **PATIENT AND PUBLIC INVOLVEMENT**

Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

## **ETHICS APPROVAL**

This study involves human participants and was approved by the IPC Medical Committee and the Health Research Ethics Committee of Stellenbosch University (N16/05/067). Participants gave informed consent to participate in the study before taking part.

## **EQUITY, DIVERSITY, AND INCLUSION STATEMENT**

This study was inclusive of all physicians who were working at the Tokyo 2020 and Beijing 2022 Paralympic Games. The author team is balanced. The researchers represent different genders, from both Northern and Southern hemispheres and different socio-economic status countries. Furthermore, the research group includes individuals from marginalised groups, as well as perspectives from multiple disciplines.

## **PROVENANCE AND PEER REVIEW**

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## **DATA AVAILABILITY STATEMENT**

No data are available.

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