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Injury, Illness and Mental Health Complaints in Elite Professional Female Golfers: A Cross-Sectional Cohort Study at the 2024 Aramco Team Series on the Ladies European Tour

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This study assessed illness, injury, and mental health complaints among professional female golfers on the Ladies European Tour. A cross-sectional survey of 48 golfers found high four-week prevalence rates of injury (81.3%), illness (69.6%), and mental health complaints (79.1%). Neck, lower back, and wrist were the most common injury sites; anxiety, low mood, and performance anxiety were the most frequent mental health complaints. Mental health complaints were significantly more prevalent in those with injury ($\text{Chi}^2 = 5.0$; $P = 0.025$) or illness ($\text{Chi}^2 = 6.0$; $P = 0.014$) complaints, highlighting the need for holistic care and improved mental health support.

INTRODUCTION

Golf is a worldwide sport with growing participation, with the latest figures suggesting more than 150 million people are playing golf globally (National Golf Foundation, 2025; The R&A, 2024), with The R&A's latest participation report, suggesting around a third (31%) of participants are women (The R&A, 2024). Golf can provide physical and mental health (MH) benefits (Luscombe et al., 2017; Murray et al., 2016) and contribute to supporting the World Health Organisation's mission to promote physical activity globally (Murray et al., 2019; WHO, 2020). However, there is a risk of injury, especially at the professional level, with a recent systematic review and meta-analysis of 9,221 golfers (28.1% were female) reporting a lifetime injury prevalence of 73.5% in professionals and 56.6% in amateurs (Williamson et al., 2024). The most prevalent injury sites in professionals were the hand and wrist (51.5%) followed by the lower back (40.9%) with no significant differences in injury prevalence or incidence between male and female golfers reported (Williamson et al., 2024). Furthermore, this study highlighted a significant heterogeneity in injury data collection methods, which is something a recent international consensus statement relating to the reporting of injury and illness in golf aims to improve (Murray et al.,

2020). Research into injury, illness and mental health specifically looking at female golfer populations is very limited. However, one study (Mountjoy, Schamasch, et al., 2024) of 162 elite amateur female golfers at the 2022 World Amateur Team Championships (WATC2022) reported that in the four weeks leading up to the event 63.1% of golfers reported musculoskeletal injury complaints, 37.4% reported illness complaints, and 32.5% reported mental health complaints, with anxiety, performance anxiety, and low mood being the most prevalent. Similarly, a study on the male professional golf tour (DP World Tour) reported rates of 74.6% for musculoskeletal injury complaints, 44.9% for illness complaints and 43.1% for mental health complaints in the four-weeks leading up to an event (Wynter Bee et al., 2026). Furthermore, both studies (Mountjoy, Schamasch, et al., 2024; Wynter Bee et al., 2026) discuss possible associations between injury and mental health complaints. This association is well reported in the literature (Gil-Caselles et al., 2024; Lyon-Monk et al., 2026; Rogers et al., 2024) and the literature also suggests an association between physical illness and mental health (Bentzen et al., 2025). On the Ladies European Tour in 2024, there were 31 tournaments in 20 countries globally resulting in significant travel and time away from friends and family. The competitive schedule as reported in a study (Fry & Bloyce, 2017) entitled “Life in the Traveling Circus” can expose golfers to the stress that comes with time zone changes and sleep disturbances as well as loneliness, isolation, and low social support which have been identified as key risk factors for mental health problems. There is currently no similar research reviewing injury, illness and mental health complaints in the professional female golfer population.

This study’s primary aim was to assess injury, illness and mental health complaints in elite professional female golfers, alongside considering their training / tournament environment. Secondary aims explored differences between golfers with and without injury in relation to the presence of MH complaints. Furthermore, differences were also explored between golfers with and without illness complaints in relation to the presence of MH complaints.

METHODS

The Ladies European Tour event, known as The Aramco Team Series was held on the 1st to the 5th of July 2024 at Centurion Club, United Kingdom. Of the 108 participants competing in the event, those over the age of 18 years of age were eligible and invited to participate. Data was collected using a cross-sectional cohort study methodology using an anonymous online questionnaire created and administered via Qualtrics (Provo, UT).

During the tournament, a trained researcher asked golfers to review participant information, provide consent, and complete an anonymous questionnaire on injury, illness mental health and training environments in golf. They were invited to complete the questionnaire during the seven days of the tournament week via a poster with a QR code based primarily at the registration, but also further posters were positioned at various locations e.g.

the café, player lounge and health and performance service areas to remind golfers to fill in the questionnaire and assistance was provided by trained researchers when asked for.

The questionnaire (appendix 1) was previously used in the WATC2022 (Mountjoy, Schamasch, et al., 2024) and DP World Tour studies (Wynter Bee et al., 2026) which also looked at a 4-week period and was informed by the international consensus on recording injuries and illness in golf (Murray et al., 2020), the Oslo sports trauma questionnaire (Clarsen et al., 2014) and the International Olympic Committee consensus for the surveillance of Mental Health symptoms and disorders (Mountjoy et al., 2023).

The full questionnaire is presented in appendix 1. It includes baseline demographics, number of competitions played in each year, availability of support staff and presence and characteristics of musculoskeletal complaints or injury (referred to as “injury complaints”), other physical complaints or illnesses (referred to as “illness complaints”) and MH problems (referred to as “mental health [MH] complaints”) in the four-weeks before the event. For the three most severe injury complaints the golfers were requested to indicate the location on a list of 20 injury locations, or fill in their own answer using a free text box. Furthermore, golfers were asked about medical support for the injury, if the injury was new, recurrent or chronic and thought to be related to playing golf or not and how frequently they engaged in injury prevention exercises. For illness complaints, golfers were asked to select from a list of 9 illnesses and / or physical health symptoms and for MH complaints, golfers were asked to select from a list of 25 symptoms / symptom clusters, or provide their own answer, using a free text box. For MH complaints, golfers were also asked about the contributors to their MH health complaints and if they have ever wanted or needed support from a psychotherapist either previously or currently. Golfers also had the opportunity to rate their training environments, both at home and at tournaments and using a free text box were able to make suggestions for improvements to services. At the end of the questionnaire, there was a message with contact details for the onsite medical team so players could reach out for support if needed.

Participants were included in analysis if they completed the injury complaint questions. Ethical approval was received through McMaster University (HiREB#17114) and further approval was provided through Edinburgh University (WWBEE24072024-EFG). Results are reported in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines.

Stata (Version 18.5; StataCorp LLC, College Station, TX, USA) was used for data analysis and results are described using means with standard deviations or frequencies with percentages. Differences were analysed between golfers with and without injury complaints in relation to the presence of MH complaints. Differences were also analysed between golfers with and without

TABLE 1. Participating golfer demographics

Demographic	Mean	
Age (n = 48)	28.7 years (SD = 5.4, range: 20 - 44)	
No. tournaments in last year (n = 48)	23.2 (SD = 8.9; range 4 - 48)	
CONTINENT / Country (n = 48)	Country of representation in % (n)	Country living/training in % (n)
EUROPE	72.9% (35)	70.8% (34)
UK	20.8% (10)	20.8% (10)
Spain	10.4% (5)	12.5% (6)
Finland	6.3% (3)	6.3% (3)
Sweden	6.3% (3)	6.3% (3)
Austria	4.2% (2)	4.2% (2)
Czech Republic	4.2% (2)	4.2% (2)
Denmark	4.2% (2)	4.2% (2)
Austria	4.2% (2)	4.2% (2)
Norway	4.2% (2)	4.2% (2)
Belgium	2.1% (1)	2.1% (1)
Italy	2.1% (1)	2.1% (1)
Ireland	2.1% (1)	2.1% (1)
Poland	2.1% (1)	2.1% (1)
Switzerland	2.1% (1)	2.1% (1)
France	2.1% (1)	0.0% (0)
AFRICA	8.3 (4)	8.3% (4)
South Africa	6.3% (3)	7.3% (4)
Morocco	2.1% (1)	2.1% (1)
NORTH AMERICA	12.2% (5)	12.5% (6)
USA	6.3% (3)	10.4% (5)
Mexico	2.1% (1)	2.1% (1)
Panama	2.1% (1)	0.0% (0)
ASIA	6.3% (3)	6.3% (3)
Thailand	6.3% (3)	6.3% (3)
OCEANIA	2.1% (1)	2.1% (1)
New Zealand	2.1% (1)	2.1% (1)

n, number, %, percentage

illness complaints in relation to the presence of MH complaints. T-tests and chi squared (χ^2) tests were used to examine differences between groups with an a-priori alpha value of $P < 0.05$ deemed statistically significant.

RESULTS

Of the 108 golfers at the Aramco event, two were less than 18 years old so were not eligible to complete the questionnaire. Thus, of the cohort of 106 eligible golfers 48 consented and answered the key questions on injury and were included in the study (response rate 45.3%). The mean age was 28.5 years (SD = 5.4, range: 20-44). Golfers included players from all over the world but with the majority coming from Europe (72.9%: [Table 1](#)).

TABLE 2. Prevalence of injury, illness and mental health complaints reported in the four weeks prior to participation

Injury complaints n=48 responded to questions		Illness complaints n=46 responded to question		Mental health complaints n=43 responded to question	
Body Part	Prevalence (% (n))	Type	Prevalence (% (n))	Type	Prevalence (% (n))
Overall Prevalence	81.3% (39)	Overall Prevalence	69.6% (32)	Overall Prevalence	79.1% (34)
Neck/ cervical spine	43.8% (21)	Fatigue/ lack of energy	30.4% (14)	Feeling anxious, nervous or on edge	51.2% (22)
Lumbar spine / lower back	39.6% (19)	Headache/ migraine	28.3% (13)	Feeling down, depressed, or hopeless	37.2% (16)
Wrist	22.9% (11)	Allergy / hay fever	19.6% (9)	Performance anxiety	30.2% (13)
Hip / groin	10.4% (5)	Flu, influenza, sinusitis, cold, cough	17.4% (8)	Mood swings	30.2% (13)
Thoracic spine / upper back	10.4% (5)	Other	15.2% (7)	Little interest or pleasure in doing things	18.6% (8)
Pelvis / Buttock	10.4% (5)	Diarrhoea, nausea, vomiting	6.5% (3)	Sleeping problems	16.3% (7)
Hand	6.3% (3)	Asthma	2.2% (1)	Irritability, anger, or tension with people	11.6% (5)
Finger / thumb	4.1% (2)			Difficulties concentrating	16.3% (7)
Elbow	4.1% (2)			Panic attacks	9.3% (4)
Knee	4.1% (2)			Not able to stop or control worries	9.3% (4)
Foot / toes	4.1% (2)			Social withdrawal	7.0% (3)
Shoulder (incl. clavicle)	2.1% (1)			Suicidal thoughts, intentions, or actions	2.3% (1)
Ankle	2.1% (1)			Eating problems	2.3% (1)
Forearm	2.1% (1)			Phobia, i.e., excessive fear of an object or situation (e.g., flying)	2.3% (1)
Chest / ribs	2.1% (1)			Hyperactivity / agitation	2.3% (1)
Lower leg / Achilles tendon	2.1% (1)			Aggressive behaviour against other people or objects (verbal or physical)	2.3% (1)
				Thoughts or actions of non-suicidal self-harm (e.g., cutting, or severe scratching)	2.3% (1)

%, percentage, n, number

Injury Complaints

There was a high prevalence (81.3%) of golfers reporting at least one injury complaint in the 4 weeks leading up to the Aramco event. In total, 82 injuries were reported with the most prevalent injury location being the neck / cervical spine (43.8%), followed by the lumbar spine / lower back (39.6%) and the wrist (22.9%) (Table 2). It was reported that 79.3% (n=65) were related to playing golf, while 9.8% (n=8) were reported as being not related to golf and 11.0% (n=9) were reported as not being sure if they were golf

related. Golfers reported 26.8% (n=22) to be worsening / chronic injuries, 53.7% (n=44) to be recurrent after full recovery and 19.5% (n=16) to be new injuries.

Regarding medical support for the 82 injuries reported, 6.1% (n=5) reported no medical support, 85.4% (n=70) reported consulting a physiotherapist, 17.1% (n=14) a physician, and 1.2% (n=1) someone else.

With regards to the frequency of participating in injury prevention exercises, 2.1 % (n=1) reported never engaging, 2.1% (n=1) as seldom, 10.4% (5) sometimes, 29.2% (n=14) often, 56.3% (n=27) very often.

Illness Complaints

Among the golfers who responded to this question (n=46), there was a prevalence of 69.6% for illness complaints, with the most prevalent symptom being fatigue / lack of energy (30.4%), followed by headache / migraine (28.3%), allergy / hayfever (19.6%), flu, influenza, sinusitis, cold and cough (17.4%) and other illness complaints (15.4%), of which menstrual-related problems were the most common (n=3) ([Table 2](#)).

Mental Health Complaints

Among the golfers who responded to this question (n=43), there was a prevalence of 79.1% for MH complaints. The most prevalent reported was feeling anxious, nervous/on edge (51.2%), followed by feeling down, depressed/hopeless (37.2%), performance anxiety (30.2%) and mood swings (30.2%) ([Table 2](#)).

Of the 32 golfers who reported underpinning reasons for the MH complaints ([Table 3](#)), the most reported reasons were sport performance (e.g., perceived failure, pressures) (68.8%, n=22), followed by life outside of sport (25.0%, n=8) and dissatisfaction with sports career (25.0%, n=8).

MH complaints were significantly more common ($\chi^2 = 5.0$; $P = 0.025$) in players with injury complaints (85.7%; 30/35) than in players without injury complaints (50.0%; 4/8). MH complaints were significantly more common ($\chi^2 = 6.0$; $P = 0.014$) in players with illness complaints (89.7%; 26/29) than in players without illness complaints (57.1%; 8/14).

Regarding psychotherapeutic support, 70.1% (34/48) of players expressed the need for psychotherapeutic support either previously (39.6%; 19/48) or currently (31.3%; 15/48).

Training environment

One quarter (25.0%; n=12) of the golfers described their daily training environment (e.g., facilities and support staff) at home as very good, 43.8% (n=21) as good, 20.8% (n=10) as sufficient and 10.4% (n=5) as poor. The training environment at the tournament was rated as very good by 14.6% (n=7) of the golfers, as good by 39.6% (n=19), as sufficient by 37.5% (n=18), as poor by 6.3% (n=3) and as very poor by 2.1% (n=1) of the golfers.

TABLE 3. Reported contributors to mental health complaints (n = 32)

Contributor to mental health complaints	Prevalence of contributors given for MH complaints reported (%) (n)
Sport performance (e.g., perceived failure, pressures)	68.8% (22)
Life outside of sport (e.g., problems in family/partnership, loss of a close person, finances)	25.0% (8)
Dissatisfaction with your sport career	25.0% (8)
Other aspects related to your sports environment (e.g., risk of injury, poor sport-life-balance)	18.8% (6)
Body weight, body shape or body image	12.5% (4)
Don't know	12.5% (4)
Loneliness, isolation, low social support	9.4% (3)
Illness	6.3% (2)
Musculoskeletal Injury	6.3% (2)
Social media, or other media comments (e.g., harassment, bullying)	6.3% (2)
Behaviour of other players, coach, management, etc. (e.g., rivalry, bullying, harassment)	3.1% (1)
Transitioning, or retiring from sport	3.1% (1)

n, number, %, percentage

TABLE 4. Availability of support staff in the daily training environments and during tournaments

Support Staff	Not available in daily training environment % (n)	Not available at tournaments % (n)
Coach	0.0% (0)	17.4% (8)
Physician / doctor	4.2% (2)	15.2% (7)
Physiotherapist	8.5% (4)	8.7% (4)
Mental coach / psychologist	8.5% (4)	43.2% (19)
Specialised trainer	12.5% (6)	32.6% (15)
Masseuse	14.6% (7)	10.9% (5)
Nutritionist	27.1% (13)	23.9% (11)
Sports scientist	42.6% (20)	53.3% (24)

n, number, %, percentage

Furthermore, [Table 4](#) outlines some of the common support staff that golfers highlighted were not available in either the training and / or tournament environments.

The golfers were also provided a free text box to suggest improvements to tournament services and provide qualitative feedback (see full questionnaire in Appendix 1). These responses were collated and categorised. Of the 14 suggestions for enhancements to accessibility of health-related services, the most common recommendation was a call for MH support enhancements 9 (64%), with 6 (43%) specifically, 'having someone to talk to' (e.g. sports psychologist / clinical psychologist / psychiatrist). Other areas for enhancement included free physiotherapy, comprehensive gyms onsite and more research on premenstrual syndrome and athletic performance.

DISCUSSION

This is the first study to evaluate the prevalence and type of injuries, illnesses, and MH complaints in female professional golfers and analyse links between physical and MH.

Injury complaints

Regarding injury prevalence, 81.3% of golfers reported at least one injury complaint in the 4 weeks prior to the Aramco Team Series. This prevalence was higher than in the elite amateur female population participating in the WATC2022 who reported a prevalence of 63.1% (Mountjoy, Schamasch, et al., 2024). This may be due to several factors including a higher load perhaps reflected in the higher average number of tournaments participated in during the previous year, with the current study's cohort participating on average in 23.2 compared to 15.9 in the WATC2022 cohort. In addition, there was a higher average age (28.7 vs. 20.0 years) which has been reported to be a risk factor for an increased injury risk in golfers (Robinson et al., 2024). The evidence suggests there appears to be a higher lifetime injury prevalence in professionals (73.5%) compared to amateur golfers (56.6%) (Williamson et al., 2024).

Furthermore, evidence suggests that the most prevalent injury sites in professional golfers are the hand and wrist and lower back (Williamson et al., 2024) and although these sites were commonly reported (22.9% - wrist, lower back - 39.6%) in this cohort, the most prevalent injury complaint was the neck / cervical spine with a prevalence of 43.8%. This is a more than fivefold higher prevalence than in female amateur golfers participating in the WATC2022, which found a prevalence of 8.0% (Mountjoy, Schamasch, et al., 2024). This could once again be attributed to a higher training and competitive load reflected in a great number of tournaments, associated travel, and a higher average age (Robinson et al., 2024). Furthermore, other risk factors for neck pain also include psychological distress (Alghamdi et al., 2023; Moon & Shin, 2024) and within the current cohort there was a high reported prevalence for MH complaints which could indicate a higher level of psychological distress, and it is certainly far higher again than in the WATC2022 cohort (Mountjoy, Schamasch, et al., 2024) and could potentially contribute to some differences in relative prevalence.

It should also be noted that there are specific differences in injury complaints between males and females with a slightly higher overall prevalence (81.3% vs. 74.6%) in this population compared to the male professional population (Wynter Bee et al., 2026). This could reflect inferior access to injury prevention programmes and support as is often seen in elite female athletes compared to their male counterparts (Crossley et al., 2025). Furthermore, another possibility is that top female professionals on average declared professional status at a younger age than male counterparts and were younger at their career mile stones at a younger age, with the average males receiving their first Official World Golf Ranking (OWGR) around 22

while females received their first Women's World Golf Rankings (WWGR) at 18.4. This could mean a greater exposure to injury risk in the female professional population (Koenigsberg et al., 2023). As stated, the injury complaint prevalence could be in part mitigated by improved knowledge around injury prevention exercises, and improved access to specialised physical trainers at tournaments to advise golfers. Furthermore, this is a profession that was reported as less commonly available at tournaments (Table 4), so could be an important area of focus for future service development.

Regarding the site of injury, both the 'lower back', and 'hand and wrist' were prevalent in male (Wynter Bee et al., 2026) and female professional populations but neck pain was far more prevalent in the professional female population (43.8% Vs. 16.4%). The literature does suggest that neck pain is more commonly reported in females in the general population than in males (Chen et al., 2024; Palacios-Ceña et al., 2021; Wu et al., 2025). However, other specific factors that may contribute include reduced neck stability, girth and strength relative to the head compared to males, which has been associated as a possible risk factor for sports injuries previously (Carmo et al., 2023; Chen et al., 2024; Lin et al., 2018). Another area of ongoing research in golf is assessing breast biomechanics (Clarke et al., 2025). Optimising breast support has been suggested to likely have an impact on spinal loading (Leme et al., 2020; Oo et al., 2012) and so could be implicated in neck / back pain, however further research is needed to understand this relationship. The high MH prevalence reported in this cohort compared to the professional male cohort (79.1% Vs 43.1%) may also be a contributory factor as there is a clear link between neck pain and poor MH especially depression & anxiety (Blozik et al., 2009; Moon & Shin, 2024; Song et al., 2025).

Illness Complaints

There was a high prevalence of illness complaints (69.6%) in golfers participating in the Aramco Team Series. The illness prevalence is higher than in the WATC2022 elite female amateur cohort, who reported a prevalence of 37.2% (Mountjoy, Schamasch, et al., 2024) and the professional male cohort who reported a prevalence of 44.9% (Wynter Bee et al., 2026). The most prevalent problems were fatigue / lack of energy (30.4%), followed by headache / migraine (28.3%) and allergy / hayfever (19.6%, n=9). Other illness complaints had a prevalence of 15.4% (n=7), of which menstrual problems, including related pain and irregularity were the most common (n=3). Menstrual related problems were also reported as a significant problem in the WATC2022 elite female amateur cohort (Mountjoy, Schamasch, et al., 2024), with a reported prevalence of 16.0%. The higher levels of fatigue / lack of energy in the professional female cohort (30.4%) compared to the amateur cohort (9.6%) and male professional cohort (6.1%) could be related to the higher load / travel requirements and / or linked to the higher MH burden as fatigue / lack of energy would be common in people experiencing MH problems, like depression or anxiety (Chung et al., 2015; Ferentinos et al.,

2009; Leung et al., 2022; Mozuraityte et al., 2023). The high levels of allergy / hayfever reported in both professional cohorts (10.2% - male, 19.6% - female) and amateur (10.5%), may be attributed to the outdoor setting of the sport resulting in exposure to environmental pollens.

The common complaint of headache / migraines is also more prevalent in this cohort (28.3%) than in the professional male (8.2%) (Wynter Bee et al., 2026) and female amateur cohorts (9.9%) (Mountjoy, Schamasch, et al., 2024). Headaches are more common in women (Palacios-Ceña et al., 2021), and also can often be linked to neck pain (Palacios-Ceña et al., 2021; Xavier et al., 2021). This suggests that the high level of neck / cervical spine injury complaints could be a contributory factor to the high prevalence of headaches and suggests that reducing neck pain through appropriate management such as cervical stabilisation exercises could also help reduce headaches (Al-Khazali et al., 2023; Altmis Kacar et al., 2024). The reporting of menstrual-related pain, in both this cohort and the WATC2022 elite female amateur cohort also reflects the importance of having access to support from clinical expertise in women's health at events, especially given the fact that the number of tournaments golfers compete often precludes access to healthcare at home.

Mental Health Complaints

There was a much higher prevalence of MH complaints (79.1%) reported in this cohort compared to the WATC2022 elite female amateur study (32.5%) (Mountjoy, Schamasch, et al., 2024). This may be related to the pressure to perform as a professional with financial implications. Professionals may also spend more time away from friends and family, thus putting them at greater risk of exposure to risk factors associated with poor MH that have been identified in the literature, which include isolation, lack of support network, and increased exposure to harassment and abuse (Fry & Bloyce, 2017; Mountjoy et al., 2016).

This cohort also demonstrated a higher MH complaint prevalence than in an elite professional male population on the DP World Tour (Wynter Bee et al., 2026), which reported a prevalence of 43.1% for MH complaints with feeling anxious, nervous or on edge (25.5%, n=13) followed by performance anxiety (21.6%, n=11) being the most prevalent problems. This higher prevalence may be related to several factors including female cohorts being more likely to report MH symptoms, especially symptoms associated with anxiety and depression (Kew et al., 2025; Marcus et al., 2008; Walton et al., 2021). Furthermore, there are specific psychological stressors that have been identified to be more common in female athletes, including exposure to interpersonal violence (psychological, physical, sexual, or neglect) (Mountjoy, Adriaens, et al., 2024) as well as inequalities such as lower pay, access to support, training opportunities, under representation in media, fewer leadership opportunities, and implications associated with family planning, motherhood and being a professional athlete (Pascoe et al., 2022).

It has also been found that females may have a higher level of MH literacy (Blom et al., 2024; Chu et al., 2025; Hadjimina & Furnham, 2017), perhaps meaning they are more likely to recognise and report MH complaints.

Regarding MH complaints, the most prevalent symptom was feeling anxious, nervous, or on edge with over half (51.2%) reporting this, followed by feeling down, depressed or hopeless (37.2%), performance anxiety (30.2%) and mood swings (30.2%). This high prevalence of anxiety and depressive symptoms are in concordance with the WATC2022 and other literature in athletic and non-athletic populations (Gouttebauge et al., 2019). Reasons commonly reported to contribute to MH complaints in athletes include sport performance (e.g. perceived failure, pressures) (68.8%, n=22), life outside of sport (25.0%, n=8), and dissatisfaction with sports career (25.0%, n=8), which combined, highlight some of the pressure experienced by professional golfers. Considering this finding alongside the aforementioned risk factors they are exposed to, such as loneliness, isolation, low social support (Fry & Bloyce, 2017), there is a clear need to prioritise MH support to identify golfers who may be struggling and to help them to flourish.

MH complaints were significantly more common in players with injury complaints than in players without injury complaints. MH complaints were also significantly more common in players with illness complaints than in players without illness complaints. These points are interesting, as they suggest an association that is supported in the literature with injury being a risk factor for MH problems (Gouttebauge et al., 2016; Kiliç et al., 2018; Li et al., 2017; Putukian, 2016; Rice et al., 2019; Wolanin et al., 2015) and potentially vice versa with the literature also suggesting a bi-directional relationship between injury and MH (Andersen & Williams, 1988; Rogers et al., 2024). Interestingly, only two players (6.3%) reported injury as being a significant contributor to their MH complaints which could indicate a lack of insight and knowledge into the relationship between MH and injury. It is therefore important that players and those around them, including clinicians working in golf, take this into consideration when working with golfers.

Training environment

Overall, most players (68.8%) felt that their daily training environment (e.g., facilities, support staff) was either very good (25%) or good (43.8%). With regards tournament environments, the percentage of golfers reporting them as either very good (14.6%) or good (43.8%) was slightly lower (58.4%). Furthermore, there was a difference between the availability of MH coaches / psychology support, with only 8.5% reporting this support not being available within their daily training environment compared to 43.2% in the tournament environment. This lack of support at tournaments is higher than in the professional male cohort (Wynter Bee et al., 2026) who reported 19.2% not having access to MH coaches / sports psychology at tournaments, suggesting possible inferior access to services which is something also reflected in the literature (Crossley et al., 2025). This, alongside the high burden of MH complaints, the fact that 70.1% of golfers reported needing

psychotherapeutic support, and enhancing MH provision was a key area reported by players for service development, highlights a need for the continued development of robust MH support. Any such intervention / improved support must be designed taking into account risk factors for poor MH, including injury (Gouttebarga et al., 2016; Kiliç et al., 2018; Li et al., 2017; Putukian, 2016; Rice et al., 2019; Wolanin et al., 2015), reduced performance (Hammond et al., 2013; Prinz et al., 2016; Wolanin et al., 2015), interpersonal violence (Mountjoy, Adriaens, et al., 2024; Tuakli-Wosornu et al., 2024) and transition from sport (Grove et al., 1997; Stephan et al., 2003; Wippert & Wippert, 2010; Wolanin et al., 2015) as well as consider barriers to help-seeking (Gulliver et al., 2012; Hilliard et al., 2019; Wood et al., 2017) including, stigma, poor MH literacy, lack of access, and busy schedules (Reardon et al., 2019).

STRENGTHS & LIMITATIONS

Injury and illness research, especially looking at MH in elite professional golf, is limited and research within the female population is even less common, so the present study provides valuable novel insights to a challenging-to-access elite population. However, the response rate of 45.3% may pre-dispose to selection bias. As with all survey-based studies there is a potential for biases including recall and social desirability. It should also be noted that the survey reported complaints rather than clinical diagnoses. It is also possible that the results underrepresent the true injury, illness and MH burden as the data collection was at a tournament, where those on the tour who were too unwell to attend the tournament would not have completed the survey. In addition, only the site of injury was recorded as type and severity of injury were not included in the questionnaire. Furthermore, for illness and MH complaints, there was also no recording of severity. Finally, given the univariate nature of the analysis used to examine associations between outcome measures, the confounding effect of known risk factors was not considered.

CONCLUSIONS

There was a notably high prevalence of injury, illness and mental health complaints in this professional female golfer population. These findings highlight neck / cervical spine injury to be a prevalent problem which could impact on illness complaints such as headaches and impact MH problems. This complex relationship between physical and MH is important to recognise to help ensure clinicians working in golf support golfers holistically and can identify MH problems when treating physical health complaints. Present findings also highlight MH as a key area for enhancement to services, which could involve education, improving the environments on the golf tours and better access to expert support.

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Ethical Statement

The study had ethical approval from McMaster University—Hamilton Integrated Research Ethics Board, Canada for data collection and The University of Edinburgh for data analysis

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Conflicts of Interest and Source of Funding

WWB, AM, MM and DG have paid and unpaid roles supporting the care of professional and amateur golfers including with the DP World Tour, the International Golf Federation, The R&A and the Ladies European Tour. SW is a member of the DP World Tour medical and scientific advisory board, and DPr is part of the DP World Tour mental health and well-being team. MM is also a member of the IGF medical committee. GM, GH, DPa and AJ report no conflicts of interest.

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Supplementary Materials

Appendix

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