AOSIS

Mental health and substance use among rehabilitation sciences students during the COVID-19 pandemic

CrossMark
click for updates

Authors:
Itumeleng Ntatamala[1]
Saajida Khan[1,2]
Zenzo Chakara[3]

Affiliations:
[1]Division of Occupational Medicine and Centre for Environmental and Occupational Health Research, School of Public Health, Faculty of Health Sciences, University of Cape Town, Cape Town, South Africa

[2]Medical School, Faculty of Health Sciences, Nelson Mandela University, Gqeberha, South Africa

[3]Division of Communication Science and Disorders, Department of Health and Rehabilitation Sciences, Faculty of Health Sciences, University of Cape Town, Cape Town, South Africa

Corresponding author:
Itumeleng Ntatamala,
itumeleng.ntatamala@uct.ac.za

Background: An increase in mental health problems have been documented in health sciences students globally during the coronavirus disease 2019 (COVID-19) pandemic.

Aim: This study aimed to determine the prevalence and correlates of mental health problems and substance use among health and rehabilitation sciences (HRS) students during the pandemic.

Setting: The study was conducted at the University of Cape Town, Health Sciences Faculty.

Methods: A cross-sectional study of 113 voluntary undergraduate participants was conducted. Participants completed self-administered electronic questionnaires. Multiple logistic regression analysis was performed to explore the sociodemographic and COVID-19-related determinants of mental health diagnoses.

Results: Substance use was common, including alcohol (54.05%), cigarettes and/or tobacco (17.27%), and illicit drugs (5.56%). Below a quarter (23.85%) self-reported a mental health condition in their lifetime and 14.81% in the past 12 months. Diagnoses included major depressive disorders (13.27%) and anxiety disorders (11.50%). A mental health diagnosis in the past 12 months was significantly associated with alcohol use (AOR [adjusted odds ratio] = 4.02, 1.06–15.23), prescription medication used to manage academic/social stress (AOR = 5.74, 1.68–19.69), COVID-19 diagnosis (AOR = 5.51, 1.60–18.92) and physiotherapy programme (AOR = 12.35, 1.21–126.44). Barriers to accessing mental health support included academic commitments (61.90%) and the lack of time to attend student wellness services (36.19%).

Conclusion: The self-reported prevalence of mental health problems and substance use among HRS students was high during the pandemic.

Contribution: Institutional and public health measures should address modifiable risk factors and barriers to accessing mental health support amongst students.

Keywords: mental health; substance use; university students; speech therapy; audiology; physiotherapy; occupational therapy; COVID-19.

Introduction

Mental health among university undergraduate students represents an important and developing global public health concern.[1] Attending higher education is a stressful period for many students and research suggests that university students are more likely to report psychosocial distress compared to older adults and non-student youth in the general population.[2] Academic expectations, large-volume courses, financial constraints, lack of sleep, poor adaptation to the university have been identified as contributors to students' poor mental health.[3,4] Studies conducted at 19 tertiary institutions across eight countries, including South Africa, showed one third of 1st-year students displaying at least one common anxiety, mood or substance disorder.[5] These results have been confirmed by Bantjes et al.[6] who revealed that common mental health disorders were highly prevalent in South African university students. Blows and Isaacs[7] further noticed that South African university students reported substances use (alcohol, marijuana and non-prescription amphetamine) at a greater rate than their non-student peers. Mental health symptoms and substance use were associated with academic progression delays and may contribute to low throughput rates in South African universities.[7,8]

The World Health Organization (WHO) declared the global outbreak of coronavirus disease 2019 (COVID-19) a Public Health Emergency of International Concern on 30th of January 2020.[9] As a result of the pandemic, higher education institutions closed campuses for improved infection prevention and risk mitigation.[10] In South Africa, tertiary education institutions suspended conventional academic teaching and online platforms were adopted.[11] During this period, most students faced multiple stressors, which included relocating back home from campus, fear of infection and infecting loved ones, exposure to patients' suffering or deaths, decreased social interactions because of isolation and physical distancing, increased concerns on academic performance with shifting to remote education and stress about future educational and employment prospects.[2] These stressors, by negatively affecting students' mental and emotional health could have increased rates of anxiety, depression and suicidal thoughts, which may have resulted in the adoption of maladaptive coping mechanisms such as substance use.[2,12]

The prevalence of mental illnesses increased significantly during the pandemic compared to pre-pandemic times, with the global prevalence of depression and anxiety increasing by 25%.[13] While much research has gone into the study of the impact of COVID-19 on healthcare workers and medical students,[4,5,14] there is paucity of research on the impact of the pandemic on health and rehabilitation sciences (HRS) students, which includes speech-language pathology, audiology, occupational therapy and physiotherapy students.[4,15] Health and rehabilitation sciences students are integral to the healthcare system as they form a critical support as future rehabilitation healthcare workers in the provision of health services. Mental health problems and substance use experienced by HRS students during the COVID-19 pandemic may adversely impact students' academic performance and contribute to student dropouts and attrition, thus reducing the number of rehabilitation science graduates.[5] This attrition of HRS graduates may also negatively impact the availability of rehabilitation therapists in ensuring universal healthcare promised by the National Health Insurance Bill of July 2019, adopted in November 2023.[16] However, it would be difficult to mitigate the impact of this attrition on present and future healthcare services because of the gap in knowledge, which exists regarding mental health problems and substance use among HRS students. This study, therefore, aimed to establish the prevalence and sociodemographic correlates of mental health problems and substance use among HRS at the University of Cape Town, South Africa, during the COVID-19 pandemic. It also aimed to identify barriers to accessing mental health support with the intent of establishing recommendations to mitigate both mental health problems and maladaptive behaviours, such as substance use, among these students.

Research methods and design
Study design, settings and participants

This study forms part of a larger cross-sectional study conducted at the University of Cape Town, between 23 June 2022 and 07 September 2022 when the COVID-19

Omicron variant was most prevalent. Participants included communication sciences (speech-language pathology and audiology), occupational therapy and physiotherapy students in Years 1–4, collectively referred to as HRS students at the university.

Setting

The study was conducted at the University of Cape Town, Health Sciences Faculty.

Study population and sampling strategy

All HRS students who were registered for the 2021/2022 academic year were eligible for inclusion and thus invited to participate in the study. Excluded were HRS students who were on leave of absence during the study period. A sample size of 253 was determined using a stratified Fisher's formula[17] to ensure sufficient statistical power. Only respondents who fully reported mental health parameters in the survey that were included in the final analysis.

Data collection

Eligible undergraduate HRS students were sent an email invite to the survey link through Vula Learning Management System. Awareness was further increased through regular classroom announcements, messages on social media and posters were placed on campus.

The online survey link consisted of an author-generated questionnaire that collected sociodemographic characteristics data on participants including age, gender, home background (urban or rural), marital status, employment status, current living situation, programme enrolled in and the year of study. Additionally, self-reported mental health history (including being diagnosed in the past 12 months and being on treatment for a mental health condition) was enquired about. Coronavirus disease 2019 specific questions included whether the participants were ever diagnosed with COVID-19, had fully recovered at the time of the study, had access to personal protective equipment (PPE) in the clinical platform or university premises, and whether they had received any COVID-19 vaccination. Substance use history was enquired about, including current use of cigarettes, tobacco, alcohol, illicit drugs and prescription medication. Participants were requested to additionally indicate if they ever felt the need to use substances to manage academic and social stressors. Finally, participants' sources of support for academic and social stressors, and barriers for seeking support when stressed were explored by offering students a multiple checklist, of which participants selected all that applied.

Data analysis

Statistical analysis was conducted using Stata 17.0 statistical computer software (StataCorp, College Station, Texas, US). The main associations of interest were between the explanatory variables (sociodemographic, COVID-19, substance use, health-seeking behaviour) and a self-reported

mental health diagnosis in the past 12 months as an outcome variable. Univariable and multivariable logistic regression analyses (with adjustment for age and gender) were conducted to calculate factors that determine increased odds of a mental health diagnosis in the past 12 months.

Ethical considerations

Ethical clearance to conduct this study was obtained from the University of Cape Town. Faculty of Health Sciences Human Research Ethics Committee (No. HREC Ref: 173/2022). Institutional approval to access student populations was granted by the University of Cape Town's Department of Student Affairs before data collection could commenced. Informed consent was obtained from all participants prior to the start of the online survey. This research was presented at the SACENDU Research Day on the 31st of October 2024. The presentation can be found on the South African Medical Research Council website. Refer: https://www.samrc.ac.za/sacendu/Dr%20Ntatamala-Undergraduate%20mental%20health%20and%20sub%20use%20during%20covid%2019.pdf.

Results

A total of 143 participants responded to the survey, representing a 56.5% response rate. Only 113 responses fully reported mental health parameters and were included in the final analysis.

Participant's sociodemographic characteristics

The sociodemographic characteristics of the participants are summarised in Table 1. The participants were young (mean

age; 20.77 years), mostly female (85.84%), unmarried (89.38%) and of urban background (82.30%). Most lived outside of their home, with 38.94% living in university student residences while 23.01% lived off-campus in private accommodation. Communication sciences students made up the majority of participants and comprised 44.64% speech-language pathology students and 27.68% audiology students. About half of the participants were in the 1st and 2nd years of study (46.43%).

Mental health characteristics and coronavirus disease 2019 transmission

About a quarter of the participants (23.85%) self-reported having had a mental health condition in their lifetime, with 14.81% having had a mental health condition diagnosed in the past 12 months of the pandemic, while 14.95% confirmed being on treatment for mental health condition at the time (Table 2). Participants reported being diagnosed with mental health disorders including major depressive disorder (13.27%), anxiety disorder (11.50%) and attention-deficit hyperactivity disorder (2.65%).

Just below half of the participants (43.12%) had been diagnosed with COVID-19 and most had fully recovered (89.36%). Most participants (99.05%) confirmed that they received adequate PPE to undertake academic and clinical duties during the COVID-19 pandemic. Most participants (94.34%) had also received the COVID-19 vaccination.

TABLE 1: Participant's sociodemographic characteristics (*N* = 113).

Participant characteristics	Mean	s.d.	Frequency	Percentage
Age (years, mean, s.d.)	20.77	0.23	-	-
Gender				
Female	-	-	97	85.84
Male	-	-	14	12.39
Non-binary/other	-	-	2	1.77
Marital status				
Unmarried	-	-	101	89.38
Married	-	-	12	10.62
Current living situation				
University student residence	-	-	44	38.94
Private off-campus accommodation	-	-	26	23.01
Home	-	-	43	38.05
Home background				
Urban	-	-	93	82.30
Rural	-	-	20	17.70
Programme of study (*n* = 112)				
Communication sciences and disorders				
Speech therapy	-	-	50	44.64
Audiology	-	-	31	27.68
Occupational therapy	-	-	18	16.07
Physiotherapy	-	-	13	11.61
Year of study (*n* = 112)				
First year	-	-	31	27.68
Second year	-	-	21	18.75
Third year	-	-	36	32.14
Fourth year	-	-	24	21.43

s.d., standard deviation.

TABLE 2: Mental health characteristics and coronavirus disease 2019 transmission.

Participant characteristics	Frequency	Percentage
Self-reported mental health condition – ever diagnosed (*n* = 109)		
Yes	26	23.85
No	83	76.15
Self-reported mental health condition – diagnosed in the past 12 months (*n* = 108)		
Yes	16	14.81
No	92	85.19
On treatment for mental health condition (*n* = 107)		
Yes	16	14.95
No	91	85.05
Type of mental health diagnosis (*n* = 113)*		
Major depressive disorder	15	13.27
Anxiety disorder	13	11.50
Attention-deficit hyperactivity disorder	3	2.65
Post-traumatic dtress disorder	2	1.77
Anorexia nervosa	2	1.77
COVID-19 diagnosis (*n* = 109)		
Yes	47	43.12
No	62	56.88
Fully recovered from COVID-19 (*n* = 47)		
Yes	42	89.36
No	5	10.64
Given adequate PPE during the COVID-19 pandemic to undertake studies (*n* = 105)		
Yes	104	99.05
No	1	0.95
COVID-19 vaccination received (*n* = 106)		
Yes	100	94.34
No	6	5.66

PPE, Personal Protective Equipment; COVID-19, coronavirus disease 2019.
*, Participants may have multiple diagnoses.

Substance use and stress management practices

About a fifth (17.27%) of the participants were current smokers of cigarettes and/or tobacco, while 19.00% of the participants felt the need to smoke to manage academic and social stressors (Table 3). A larger proportion of participants reported current alcohol use (54.05%), while only 16.33% felt the need to use alcohol to manage academic and social stressors. Illicit drug use was reported by 6.36% of the participants, with 5.56% of the total participants feeling the need to use illicit drugs to manage stress. Over the counter or prescription medicine use was common (33.03%), while a similar proportion (32.32%) felt the need to use the medication to manage academic and social stressors.

Sources of support and barriers to seeking help when stressed

The most preferred sources of support when stressed by academic work or other social stressors included family member or friends (92.38%) and fellow student or clinical partner (50.48%) while clinical educators (7.62%) and using telephonic mental health services (0.00%) were the least preferred.

The participants reported several barriers to seeking help when stressed by academic work and other social stressors during the pandemic. These barriers included being busy with studies or clinical duties (61.90%), difficulty in scheduling an appointment with student wellness services (36.19%) and fear that their academic career or prospects would be negatively affected (31.86%) (Table 4).

TABLE 3: Substance use and stress management characteristics.

Participant characteristics	Frequency	Percentage
Smoking – cigarettes and/or tobacco (n = 110)		
Current smoker	19	17.27
Non-smoker	91	82.73
Feel need to smoke to manage stress (n = 100)		
Yes	19	19.00
No	81	81.00
Alcohol use (n = 111)		
Current user	60	54.05
Non-user	51	45.95
Feel need to drink alcohol to manage stress (n = 98)		
Yes	16	16.33
No	82	83.67
Use of illicit drugs (n = 110)		
Current user	7	6.36
Non-user	103	93.64
Feel need to use illicit drugs to manage stress (n = 90)		
Yes	5	5.56
No	85	94.44
Use of prescription or over the counter drugs (n = 109)		
Yes	36	33.03
No	73	66.97
Feel need to use prescription or over the counter drugs to manage stress (n = 99)		
Yes	32	32.32
No	67	67.68

Interventions suggested by participants to help improve their quality of life and mental health included reducing academic workload (62.86%), provision of skill training on managing stress (49.52%), provide financial assistance or aid (43.81%), and access to opportunities to exercise on campus or health facilities (42.86%).

Logistic regression analysis

Adjusted for age and gender, the multivariable logistic regression analysis (Table 5) revealed that a mental health diagnosis in the past 12 months was significantly associated with being enrolled in the physiotherapy programme (AOR [adjusted odds ratio] = 12.35, 1.21–126.44), alcohol use (AOR = 4.02, 1.06–15.23), prescription medication use (AOR = 5.74, 1.78–18.70), feeling the need to use prescription medication to manage academic or social stress (AOR = 5.74, 1.68–19.69), and having had a COVID-19 diagnosis (AOR = 5.51, 1.60–18.92). There were no other significant associations found.

Discussion

This study has found that during the COVID-19 pandemic, substance use was common and the self-reported lifetime prevalence and 12-month prevalence of a mental health condition were 23.85% and 14.81%, respectively, among HRS at the University of Cape Town. A strong association was found between a mental health diagnosis in the previous 12 months and alcohol use, and prescription

TABLE 4: Sources of support and barriers to seeking help when stressed (N = 113).

Participant characteristics	Frequency	Percentage
Sources of support when stressed by academic work or other social stressors		
A family member or friend	97	92.38
A fellow student or clinical partner	53	50.48
Spouse or partner	34	32.38
Student wellness services	20	19.05
Spiritual or religious leader	18	17.14
Academic lecturer or thesis supervisor	14	13.33
Clinical educator	8	7.62
Telephonic mental support helpline (e.g. SADAG Mental Health Line)	0	0.00
Barriers to seeking help when stressed by academic work or other social stressors		
Unable because of studies or clinical work	65	61.90
Difficult to schedule appointment with student wellness services	38	36.19
Fear that my academic career or prospects will be negatively affected	36	31.86
A lack finances or medical aid	28	26.67
Unsure where to get help	17	6.19
A lack transport to access help	15	14.29
Fear that services are not confidential	15	13.27
Interventions to support participants' quality of life		
Reducing academic workload	66	62.86
Provide skill training on managing stress	52	49.52
Provide financial assistance or aid	46	43.81
Provide opportunities to exercise on campus or clinics	45	42.86
Provision of psychological counselling	39	37.14
Have mentoring programmes where senior students support us	33	31.43

SADAG, South African Depression and Anxiety Group.

TABLE 5: Adjusted multivariable logistic regression analysis for correlates of mental health diagnosis in the past 12 months (N = 113).

Correlates or predictor variables	AOR†	95% CI	*P*-value
Programme of study			
Audiology (Ref)	1.00	-	-
Speech-language pathology	3.587	0.40–31.81	0.251
Occupational therapy	7.62	0.77–75.31	0.082
Physiotherapy	**12.35**	**1.21–126.44**	**0.034**
Alcohol use			
No (ref)	1.00	-	-
Yes	**4.02**	**1.06–15.23**	**0.041**
Prescription medication use			
No (ref)	1.00	-	-
Yes	**5.74**	**1.76–18.70**	**0.004**
Feel need to use prescription medication to manage academic or social stress			
No (ref)	1.00	-	-
Yes	**5.74**	**1.68–19.69**	**0.005**
COVID-19 diagnosis			
No (ref)	1.00	-	-
Yes	**5.51**	**1.60–18.92**	**0.007**

Note: Statistically significant results indicated in bold.
AOR, adjusted odds ratio; CI, confidence interval; COVID-19, coronavirus disease 2019.
†, Data adjusted for age and gender.

medication use to manage academic/social stress. Having had a COVID-19 diagnosis and being enrolled in the physiotherapy programme were also positively associated with mental health diagnosis during the pandemic.

The South African Stress and Health Survey (SASH) conducted in 2003 to 2004, reported a lifetime prevalence of 30.3% for any mental health disorder in the South African general population while the 12-month prevalence of any mental health disorder was reported as 16.5%.[18] In comparison, this study found a reduced self-reported lifetime prevalence of 23.8%; however, the 12-month prevalence was comparable at 14.81%. While Herman et al.,[18] reported anxiety disorders as most prevalent (15.8%), followed by substance use disorders (13.3%) and mood disorders (9.8%) in the South African general population, in this study, major depression (13.27%) was the most prevalent disorder followed by anxiety disorders (11.50%). These differences may be on account of a relatively younger participant population in our study (reducing lifetime prevalence), a largely female study population, and external factors such as the COVID-19 pandemic, which are associated with increased depression and anxiety disorders.[19,20]

While differences are observed between the SASH survey conducted in the general population pre-pandemic, our results are consistent with those of Banjtes et al.,[6] conducted during the pandemic, who found a 15.4% prevalence of recent major depressive episodes and 10.9% prevalence of recent generalised anxiety disorder among undergraduate students at 17 South African public universities. In contrast, Visser and Law-van Wyk[10] described that 45.6% and 35.0% of students at a South African university reported subjective experiences of anxiety and depression, respectively, during the pandemic. However, in keeping with global research, the prevalence of major depressive disorder in our study and

Banjtes et al.[6] during the pandemic, was higher than the 10% prevalence of severe depression in 1st-year university students reported prior to the pandemic by Wagner et al.[8]

Internationally, a higher prevalence of mental health disorders during the COVID-19 pandemic has been reported in university and college students. Li et al.[21] have reported a prevalence of depression and anxiety of 39% and 36%, respectively, in college students. The results of our findings are also lower than those of Ma et al.[22] who reported that about 45% of the participants had mental health problems during the COVID-19 pandemic in a large-scale survey of 746 217 college students in China. Ma et al.[22] found a prevalence of 21.1% depressive and 11.0%, anxiety symptoms. Among studies conducted specifically on health and rehabilitation students, our results were lower than that reported by Syed, Ali & Khan[1] who noticed that the frequency of depression, anxiety found among undergraduate physiotherapy students in Pakistan was 48.0% and 68.54%, respectively, and those of Ali et al.[23] who reported that the prevalence of moderate to very severe depression and anxiety was 44.2% and 50.5%, respectively, among Bangladeshi undergraduate rehabilitation students. Sharma and Tyszka[24] in the United States also showed that of all occupational therapy and occupational therapy assistant students in their study (n = 457), 20.3% had severe to extremely severe ranges for depression, while 38.3% and 29.7% had evidence of severe to extremely severe ranges of anxiety and stress, respectively. These differences may be on account of studies being conducted in earlier waves of the pandemic (compared to ours), regional differences in the perception of mental health disorders, as well as the self-reported nature and small sample size of our study.

Our study supports evidence from previous studies, which showed a significant association between mental health disorders and substance use by university students, in particular alcohol use and prescription medication use to manage academic/social stress.[2,7] This study is also consistent with the pre-pandemic findings of Blows and Isaacs,[7] which showed the most prominent substance used by students was alcohol and further revealed clear associations between students' substance use and mental health, where university students who reported substance use, reported higher depression and anxiety scores than those who did not. Surprisingly, our findings are in contrast to a study conducted on Portuguese college students earlier in the pandemic, which reported reduced substance use during confinement.[2] This difference may be explained by some studies being conducted during earlier phases of the pandemic, when strict lockdown was enforced, and the closure of universities, which would have resulted in reduced access to these substances. The use of remote learning and the increased presence of the family during lockdown may also have been an inhibiting factor for the consumption of certain substances.[2] In comparison, this study was conducted during the third wave of the pandemic in South Africa, when some of the restrictions regarding the lockdown had been lifted, thus improving access to substances.

This study revealed a significant association between a mental health diagnosis in the past 12 months and a COVID-19 diagnosis. Surprisingly, our findings are in contrast to those of Meintjies[11] who, when comparing findings of a 2022 study with a 2017 study, found no evidence suggesting that the pandemic worsened mental health issues of extended programme students at the University of the Free State. Yet, our findings align with those by Sharma and Tyszka[24] who found that 87.7% of occupational therapy students in the United States reported that the COVID-19 pandemic impacted their mental health. The findings of this study are consistent with those of Park et al.[15] who reported that physical therapy students with a history of disease during clinical practice had a higher risk of anxiety and depression than those without disease history. Our results also corroborate those reported by Marcén-Román et al.[25] who found that Spanish university health science students developed stress and anxiety because of COVID-19 almost 1 year after the pandemic started and emphasise the chronicity of the mental health impact of the pandemic on university students.

A mental health diagnosis in the past 12 months was associated with being enrolled in the physiotherapy programme in this study. Shah et al.[26] in a narrative review on the impact of stress, anxiety and depression on academic performance of physiotherapy students between 2010 and 2022, similarly found that more than half of the physiotherapy students were found to be affected by depression, anxiety and stress before and during the pandemic. Park et al.[15] too reported a prevalence of 28% and 24% for anxiety and depression among physical therapy students in South Korea during the pandemic suggesting that physiotherapy students may have increased anxiety because of the nature of their clinical tasks, which required direct/increased face-to-face contact during the pandemic, raising concerns about their increased risk of infection within the hospital.[15] Tiwari et al.[27] in India, further reported that a third of physiotherapy students (35%) screened positive for depression, anxiety (31%), and academic/social stress (16%) that was predominantly mild in severity. Fear, anxiety and worry of getting infected with Severe acute respiratory syndrome coronavirus (SARS-CoV-2), social isolation, feeling a lack of control, are cited as possible reasons for the reported prevalence of mental health problems in this study. Final-year students in their 4th year of studies were reported to have been more affected in comparison to other more junior students.[27] In contrast, Constantinidis and Matsukura[3] in their scoping review of the mental health of occupational therapy students prior to the pandemic, reported that occupational therapy students had a higher prevalence of depression than physical therapy students. The observed difference in depression between physiotherapy and occupational therapy students was surprising, since both programmes begin clinical rotations/exposure in the 2nd year, which gradually increases into 4th year. The association between a mental health diagnosis and the physiotherapy programme in our study may therefore be attributable to the possible increased risk of COVID-19 exposure experienced by physiotherapists and physiotherapy students while performing clinical tasks such as airway clearance and chest physiotherapy.[28,29] Physiotherapy students in the United Kingdom similarly faced several challenges during clinical rotations in the COVID-19 pandemic including dealing with uncertainty, need for adaptation and witnessing suboptimal compliance of healthcare staff.[30]

Although mental health problems are common among university students, only a minority of students with psychological disorders access treatment.[31] This study identified academic commitments and the lack of time to attend student wellness service as barriers to accessing mental health support services at university. These are similar to concerns raised by Bantjes et al.[31] where practical barriers and scheduling difficulties were described as common barriers to accessing treatment. In this study, participants reported family member or friends, and fellow students or clinical partners as the most preferred sources of support when stressed, while academic lecturers and clinical educators were less preferred. This is consistent with the findings of Bantjes et al.[31] who posited that the undergraduate students are mostly young adults striving for autonomy and may distrust or not feel comfortable with authority figures, such as lecturers or educators. To mitigate the impact of COVID-19 on mental health among HRS students, participants suggested reducing academic workload and training on time and stress management, as preferred interventions to help improve mental health. Training on time and stress management in conjunction with psychological interventions (such as counselling and cognitive behavioural therapy) and strategies to improve resilience have also been proposed by other HRS students.[12,13,16,25]

Strengths and limitations

The study was conducted during the COVID-19 pandemic and included all HRS students at the University of Cape Town. The findings contribute to the mitigation of mental health problems and reduction of substance use among HRS students in several ways. In its entirety, the study contributes to the overall scarcity of existing knowledge on mental health problems and substance use among university students, particularly less frequently studied HRS. The study also sheds light on the current prevalence and the extent to which students use substances in an unexplored population of South African health science students. The anonymous nature of the study encouraged participants to freely report mental health and substance use characteristics, thereby limiting recall, information and social desirability bias. The study had several limitations. The cross-sectional study design does not allow for causal inference to be made as the exposure and outcome were measured at the same time. The study did, however, allow for factors associated with mental health diagnosis to be made. The study relied on self-reported mental health and substance use characteristics without the use of the gold standard of conducting clinical psychiatric examinations or use of validated mental health screening

questionnaires. A further limitation for this study was that the total sample was less than the calculated 253, which compromises statistical power and the over-representation of female students was also a limitation which could have skewed the results.

Implications or recommendations

The study's findings contribute towards a better understanding of the prevalence of and factors associated with mental health problems in health and rehabilitation students to inform prevention and response. Considering our research results, universities should address the factors associated with mental problems and substance use in HRS students and giving special attention to supporting these students as well as addressing the barriers to students seeking help when stressed by academic work or other social stressors. As proposed by the National Mental Health Policy Framework and Strategic Plan 2023–2030,[32] mental health prevention initiatives by universities would be instrumental in reducing the burden of mental health conditions. Primary prevention involving mental health awareness campaigns and wellness promotion initiatives will also improve help-seeking behaviour.[7,31] These initiatives may be integrated into existing university foundational courses created to nurture the future health professional. To limit the incidence of new cases, primary prevention should also involve university-directed interventions aimed at reducing academic stressors by means of providing additional academic support in the form of tutorial videos by lecturers and asynchronous digital classrooms, which would improve flexibility to benefit students schedules.[11] Peer-mentoring support and group interventions where senior students could assist junior students adapt to university life, should be developed to provide support to HRS students when stressed by academic, financial or other social stressors.[7,31] Secondary prevention would focus on preventing the progression of mental health illness by improving access to mental health services on campus with increased opportunities to collect treatment. To reduce the prevalence of mental health problems and substance use, secondary prevention should include counselling to assist students experiencing stressors and also focus on strengthening resilience by incorporating stress management and coping skills into well-being lectures offered not only at the foundation level but continued through the duration of the studies, until professional qualification.[12,13,16,25] Tertiary prevention would involve reducing the consequences of established mental health illness by early referral of impacted students for psychotherapy. Considering the resource constraints in South Africa where individual psychotherapy may not be a sustainable response, as well as the lack of support by participants in this study for the telephonic mental support helpline, the use of innovative emerging technologies such as smartphone applications for online psychological counselling sessions and webinars may strengthen mental health support.[7,31] In implementing the recommended interventions, it must be emphasised that students should be active partners in mental health and the recommended interventions such as access to opportunities to exercise on campus, should be devised in consultation with the students to support their mental health and quality of life.[33]

Conclusion

This study has reported that the self-reported prevalence of common mental health problems and substance use among undergraduate HRS was high during the COVID-19 pandemic. Alcohol use, prescription medication use to manage academic or social stress, COVID-19 diagnosis and being enrolled in the physiotherapy programme were identified as factors associated with a mental health diagnosis. Given our lessons from the pandemic, planning for mental health service adaptation as well as future pandemics is imperative. Both institutional as well as public health measures should be developed to address modifiable risk factors and barriers to accessing mental health support among undergraduate HRS students.

Acknowledgements

References

1. Syed A, Ali SS, Khan M. Frequency of depression, anxiety and stress among the undergraduate physiotherapy students. Pak J Med Sci. 2018;34(2):468. https://doi.org/10.12669/pjms.342.12298

2. Oliveira AP, Luis H, Luís LS, et al. The impact of COVID-19 confinement on substance use and mental health in Portuguese higher education students. Healthcare. 2023;11(4):619. https://doi.org/10.3390/healthcare11040619

3. Constantinidis TC, Matsukura TS. Mental health of occupational therapy students: Scoping review. Cad Bras Ter Ocup. 2021;29:e2139.. https://doi.org/10.1590/2526-8910.ctoAR2139

4. Yakasai AM, Dermody G, Maharaj SS, et al. Prevalence of psychological symptoms and their correlates among physiotherapy clinical students: A cross-sectional study. S Afr J Physiother. 2022;78(1):1795. https://doi.org/10.4102/sajp.v78i1.1795

5. Auerbach RP, Mortier P, Bruffaerts R, et al. WHO world mental health surveys international college student project: Prevalence and distribution of mental disorders. J Abnorm Psychol. 2018;127(7):623. https://doi.org/10.1037/abn0000362

6. Bantjes J, Kessler M, Lochner C, et al. The mental health of university students in South Africa: Results of the national student survey. J Affect Disord. 2023;321:217–226. https://doi.org/10.1016/j.jad.2022.10.044

7. Blows S, Isaacs S. Prevalence and factors associated with substance use among university students in South Africa: Implications for prevention. BMC Psychol. 2022;10(1):309. https://doi.org/10.1186/s40359-022-00987-2

8. Wagner F, Wagner RG, Kolanisi U, Makuapane LP, Masango M, Gómez-Olivé FX. The relationship between depression symptoms and academic performance among first-year undergraduate students at a South African university: A cross-sectional study. BMC Public Health. 2022;22(1):2067. https://doi.org/10.1186/s12889-022-14517-7

9. World Health Organization. Coronavirus disease (COVID-19) pandemic [homepage on the Internet]. [cited 2024 Apr 02]. Available from: https://www.who.int/europe/emergencies/situations/covid-19#:~:text=Cases%20of%20novel%20coronavirus%20(nCoV,pandemic%20on%2011%20March%202020

10. Visser M, Law-Van Wyk E. University students' mental health and emotional wellbeing during the COVID-19 pandemic and ensuing lockdown. S Afr J Psychol. 2021;51(2):229–243. https://doi.org/10.1177/00812463211012219

11. Meintjes R. The mental health state of extended programme students at a South African university. S Afr J Psychol. 2024;54(1):76–89. https://doi.org/10.1177/00812463241229163

12. Sarsak HI. Psychological impact of the COVID-19 pandemic on medical and rehabilitation sciences university students in Saudi Arabia. Work. 2022;71(3):473–480. https://doi.org/10.3233/WOR-210243

13. Santomauro DF, Herrera AM, Shadid J, et al. Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic. Lancet. 2021;398(10312):1700–1712. https://doi.org/10.1016/S0140-6736(21)02143-7

14. Winter ML, Olivia SG. A scoping review of mental health needs and challenges among medical students within South African universities. Int J Environ Res Public Health. 2024;21(5):593. https://doi.org/10.3390/ijerph21050593

15. Park SJ, Yeo SG, Kim BG. Mental health of physical therapy students in clinical practice during the COVID-19 pandemic: A cross-sectional survey in Gwangju and Jeollanam-do, South Korea. Kor Phys Ther. 2021;33(3):131–135. https://doi.org/10.18857/jkpt.2021.33.3.131

16. Republic of South Africa. National health insurance bill [homepage on the Internet]. 2019 [cited 2024 Jul 14]; p. 1–60. Available from: https://www.gov.za/sites/default/files/gcis_document/201908/national-health-insurance-bill-b-11-2019.pdf

17. Jung S. Stratified Fisher's exact test and its sample size calculation. Biometr J. 2013;56(1):129–140. https://doi.org/10.1002/bimj.201300048

18. Herman AA, Stein DJ, Seedat S, Heeringa SG, Moomal H, Williams DR. The South African Stress and Health (SASH) study: 12-Month and lifetime prevalence of common mental disorders. S Afr Med J. 2009;99(5):339–344.

19. Salari N, Hosseinian-Far A, Jalali R, et al. Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: A systematic review and meta-analysis. Global Health. 2020;16(1):57. https://doi.org/10.1186/s12992-020-00589-w

20. Necho M, Tsehay M, Birkie M, Biset G, Tadesse E. Prevalence of anxiety, depression, and psychological distress among the general population during the COVID-19 pandemic: A systematic review and meta-analysis. Int J Soc Psychiatry. 2021;67(7):892–906. https://doi.org/10.1177/00207640211003121

21. Li Y, Wang A, Wu Y, Han N, Huang H. Impact of the COVID-19 pandemic on the mental health of college students: A systematic review and meta-analysis. Front Psychol. 2021;12:669119. https://doi.org/10.3389/fpsyg.2021.669119

22. Ma Z, Zhao J, Li Y, et al. Mental health problems and correlates among 746 217 college students during the coronavirus disease 2019 outbreak in China. Epidemiol Psychiatr Sci. 2020;29:e181. https://doi.org/10.1017/S2045796020000931

23. Ali M, Uddin Z, Amran Hossain KM, Uddin TR. Depression, anxiety, stress, and suicidal behavior among Bangladeshi undergraduate rehabilitation students: An observational study amidst the COVID-19 pandemic. Health Sci Rep. 2022;5(2):e549. https://doi.org/10.1002/hsr2.549

24. Sharma A, Tyszka A. Understanding the mental health of occupational therapy students during the COVID-19 pandemic. J Occup Ther Educ. 2023;7(1):3. https://doi.org/10.26681/jote.2023.070103

25. Marcén-Román Y, Gasch-Gallen A, Vela Martín De la Mota II, Calatayud E, Gómez-Soria I, Rodríguez-Roca B. Stress perceived by university health sciences students, 1 year after COVID-19 pandemic. Int J Environ Res Public Health. 2021;18(10):5233. https://doi.org/10.3390/ijerph18105233

26. Shah TH, Vaghela KN, Hathila VP. Stress, anxiety and depression among physiotherapy students: A narrative review. Int J Pharm Sci Res. 2023;14(10):4750–4755.

27. Tiwari SS, Mitra S, Dabadghav R. Effect of COVID-19 crisis on mental health of physiotherapy students. Physiotherapy. 2021;15(2):85–88. https://doi.org/10.4103/pjiap.pjiap_7_21

28. Hassem T, Israel N, Bemath N, Variava T. COVID-19: Contrasting experiences of South African physiotherapists based on patient exposure. S Afr J Physiother. 2022;78(1):1576. https://doi.org/10.4102/sajp.v78i1.1576

29. South African Society of Physiotherapy. Practical guidance for physiotherapists in private and public sectors to consider related to COVID-19 [homepage on the Internet]. 2020 [cited 2024 Dec 04]. Available from: https://world.physio/sites/default/files/2020-06/SASP-Covid-19-Press-Release.pdf

30. Haghighi T, Ryan SJ. COVID-19: Physiotherapy students experience during practice placement in the United Kingdom. Physiotherapy. 2022;114:e48. https://doi.org/10.1016/j.physio.2021.12.300

31. Bantjes J, Kessler MJ, Hunt X, Stein DJ, Kessler RC. Treatment rates and barriers to mental health service utilisation among university students in South Africa. Int J Mental Health Syst. 2023;17(1):38. https://doi.org/10.1186/s13033-023-00605-7

32. Department of Health. National mental health policy framework and strategic plan 2023–2030 [homepage on the Internet]. 2013 [cited 2024 Jul 14]. Available from: https://www.spotlightnsp.co.za/wp-content/uploads/2023/04/NMHP-FINAL-APPROVED-ON-30.04.2023.pdf

33. Schreiber B. Mental health at universities: Universities are not in loco parentis – Students are active partners in mental health. J Stud Affairs Afr. 2018;6(2):3318. https://doi.org/10.24085/jsaa.v6i2.3318