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TITLE: The Mental Health and Wellbeing Survey of Australian Optometrists

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Key words: optometry, mental health, burnout, , psychology, epidemiology

ABSTRACT

Purpose: To investigate the prevalence of mental health conditions and burnout among practising optometrists in Australia.

Methods: A cross-sectional survey of registered practising Australian optometrists was undertaken over a three-week period from mid-November 2019. The survey comprised three well-established mental health scales (Kessler Psychological Distress Scale [K10], Depression Anxiety Stress Scales [DASS-21] and Maslach Burnout Inventory [MBI]) and an open-ended question inviting comments.

Results: 505 respondents completed the K10, representing 8.8% of registered optometrists in Australia; 466 completed all three scales. Prevalence of moderate to severe psychological distress ($K10 \geq 25$) was 30.7% (95%CI 26.7% to 34.7%), with similar findings for depression and anxiety (DASS-21). Prevalence of high burnout, as indicated by MBI-GS exhaustion was 56.1% (95%CI 51.7% to 60.4%), cynicism 57.1% (95%CI 52.7% to 61.5%) and professional efficacy 23.1% (95%CI 19.4% to 26.8%). Optometrists aged ≤ 30 years were 3.5 times more likely to report moderate to severe psychological distress compared to optometrists aged > 30 years (OR = 3.54, $P < 0.001$, 95%CI 2.38 to 5.25). The most frequently mentioned work-related issues concerned retail pressures, workload and career dissatisfaction.

Conclusions: The rates of mental health conditions and burnout reported by practising Australian optometrists were high compared with the general population and other health professionals. Younger age and burnout were significant risk factors for psychological distress. Interventions are required to address these issues, particularly for younger optometrists, and could include workplace modifications and building resilience to improve personal mental wellbeing and ensure patient safety.

INTRODUCTION

Worldwide, one in five people experience a mental health condition each year.¹ In some health professions, the prevalence is substantially greater.²⁻⁵ A national survey found that 27% of doctors experienced anxiety and depression in the previous 12 months, and 10% experienced suicidal ideation, with the rates almost double among medical students.⁴ Optometrists are also vulnerable to mental health issues. They, too, must perform at a high level, given expanding roles and escalating workloads, where the consequences of errors can be significant. To date, one small qualitative study, in which older female employee optometrists were over-represented, alludes to increased stress, with 53% of the 60 Australian optometrists interviewed reporting work-related stress.⁶ No studies have attempted to investigate the prevalence of mental health conditions among optometrists using validated scales. Determining the prevalence of mental health conditions among various health care professions is important for developing appropriate intervention strategies to maximise the wellbeing and retention of the workforce, as well as ensuring patient safety.⁷

The aim of this study was to estimate the prevalence of mental health conditions and burnout among practising optometrists in Australia and investigate associated risk factors.

METHODS

Participants

A cross-sectional survey of registered Australian optometrists was undertaken over a three-week period from November to December 2019. Optometrists were excluded if they practised less than four hours per week, or less than 150 hours in the previous year. Optometrists were invited to participate in an anonymous survey through email advertisements that were sent by the peak professional organisation, Optometry Australia (with membership comprising approximately 85% of the profession), and a major national professional magazine (mivision). Consent for voluntary participation was obtained through the selection of a link to the survey. Reminder emails were sent one week prior to the survey closure date. The study adhered to the tenets of the Declaration of Helsinki and was approved by the Queensland University of Technology Human Research Ethics Committee.

Survey

The survey was based on the 'National Mental Health Survey of Doctors and Medical Students' (NMHSDMS),⁴ and compromised demographic questions (age, gender, state, location), work-related questions (primary role, years of experience, average weekly work hours, sole practitioner), general mental health questions ("Have you consulted a health professional regarding a mental health issue in the past 12 months?" and "If yes, have you received treatment (medication and/or counselling) for the mental health issue?"), three validated mental health scales (Kessler Psychological Distress Scale [K10],⁸ Depression Anxiety Stress Scales [DASS-21],⁹ Maslach Burnout Inventory [MBI]^{10,11}) and finally, an open-ended opportunity to comment ("Please provide any comments or additional insights that you would like to make, if any"). Participants did not receive their results for the mental health scales. The survey was administered online using Qualtrics CoreXM (Utah, USA).

The K10 was selected as the primary outcome measure of mental health as it is a widely used screening tool for mental illness that provides a non-specific measure of general psychological distress,⁸ and to facilitate comparisons with data for doctors from the NMHSDMS.⁴ It comprises 10 questions about feelings during the past 30 days, with a five-level response scale from 1 (none of the time) to 5 (all of the time). Scores range between 10 and 50. Scores below 20 indicate mental wellbeing, 20–24 mild mental health disorder, 25–29 moderate mental health disorder, and scores greater than 29 serious mental health disorder.¹²

The DASS-21 comprises three self-report scales designed to measure more specifically the negative emotional states of depression, anxiety and stress.⁹ It comprises 21 questions about feelings over the past week, with a four-level response scale from 0 (did not apply to me at all) to 3 (applied to me very much or most of the time). A sum score for each domain (depression, anxiety and stress) is calculated and multiplied by two, to facilitate comparisons with normative data for the full 42-item DASS. Higher scores represent more severe depression, anxiety and stress.

The MBI measures burnout as defined by the World Health Organization:

“Burn-out is a syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed. It is characterized by three dimensions:

- feelings of energy depletion or exhaustion;
- increased mental distance from one’s job, or feelings of negativism or cynicism related to one’s job; and
- reduced professional efficacy.

Burn-out refers specifically to phenomena in the occupational context and should not be applied to describe experiences in other areas of life.”¹³

A number of MBI versions have been developed for use with different groups. The MBI ‘General Survey’ (MBI-GS) version was used in this study,¹¹ rather than the ‘Medical Personnel’ or ‘Human Services Survey’ version, because scores can be compared across different occupational groups using the same metric, published normative values are available and it was the version used in the NMHSDMS.⁴ The MBI-GS comprises 16 items about the frequency of current work-related feelings (with a seven-level response scale from 0 [never] to 6 [every day]), which measures the three dimensions of burnout (exhaustion, cynicism and professional efficacy [confidence in one’s capacity to perform]). A sum or average score for each dimension is calculated. Higher scores for the exhaustion and cynicism dimensions represent a higher degree of burnout, while lower scores for the professional efficacy dimension represent a higher degree of burnout.

Analysis

Quantitative data were analysed using SPSS Statistics Version 26.0 (IBM, Armonk, New York, USA). Descriptive statistics were computed for demographics, work-related data and the K10, DASS-21 and MBI-GS. Differences between demographic characteristics of the sample compared to Optometry Board of Australia ‘general’ registrant data¹⁴ were analysed using the chi-squared test. Differences between males and females in mental health scales were analysed using the Mann-Whitney U Test. Scores for the K10, DASS-21 and MBI-GS were compared with available normative data and categorised according to severity for comparison with previous studies. All analyses were two-tailed and $P < 0.05$ considered statistically significant.

Logistic regression analysis was used to assess the factors associated with a) moderate to severe psychological distress (K10); b) moderate to extremely severe depression (DASS); c) moderate to extremely severe anxiety (DASS); and d) moderate to extremely severe stress (DASS). Demographic (age, gender, state, location), workplace (role, solo practice, average weekly work hours) and mental health related factors (MBI burnout dimensions of exhaustion, cynicism and professional efficacy) were evaluated in the models. MBI dimensions were entered as continuous variables, as categorisation was not recommended by the developers at this time.¹¹ Variables were eliminated if non-significant ($P > 0.05$) and the most parsimonious model for each factor reported.

A content analysis of the comments that participants made at the end of the survey was conducted by two of the researchers independently (FF [health psychologist] and SB [optometrist]) using a conventional approach.¹⁵ Comments were coded and grouped into categories that addressed similar topics. The independent analyses were iteratively compared and merged based on consensus among all researchers.

RESULTS

Participant Characteristics

A total of 522 optometrists commenced the survey; however, 17 did not complete any of the mental health scales. 505 respondents completed at least the first scale (K10) representing 8.8% of 5,768 'general' optometry registrants in Australia at the time,¹⁴ 489 completed the DASS-21 and 494 completed the MBI-GS, with 466 completing all three scales. The mean age of the 505 participants who completed at least the first scale was 40.0 years (SD, 13.0 years). Demographic characteristics of respondents compared with Optometry Board of Australia 'general' registrant data are provided in Table 1.

The majority (63.4%) of participants practiced in a metropolitan location, with over half (56.6%) being employees and approximately one third (35.6%) being the sole optometrist in a practice. Mean years in practice was 16.7 (SD, 13.3) years and mean work hours per week in the past 12 months was 35.2 (SD, 10.1) hours. Just over one quarter (25.5%; $n =$

129) said that they had consulted a health professional regarding a mental health issue in the past 12 months, of whom 107 (21.2% of total sample; 95%CI 17.6% to 24.8%) had received medication and/or counselling.

Mental Health and Wellbeing

Scores for the K10, DASS-21 and MBI-GS together with normative values are presented in Table 2 and classification by severity is presented in Table 3.

Table 1: Demographic Characteristics of Participating Optometrists and Optometry Board of Australia 'General' Registrants

	Participating Optometrists		Optometry Board of Australia 'General' Registrant Data (December 2019) ¹⁴	
	n	%	n	%
Age Group				
(years)				
< 25*	56	11.1	336	5.8
25-29	103	20.4	1133	19.6
30-34	68	13.5	770	13.3
35-39	48	9.5	644	11.2
40-44	47	9.3	607	10.5
45-49	49	9.7	596	10.3
50-54	43	8.5	547	9.5
55-59	44	8.7	459	8.0
60-64	30	5.9	427	7.4
65-69	14	2.8	182	3.2
70-74	2	0.4	42	0.7
75-79	1	0.2	22	0.4
80+			3	0.1
Total	505	100	5,768	100
Gender				
Male	176	34.9	2,567	44.5
Female*	329	65.1	3,201	55.5
	505	100	5,768	100
State/Territory				
ACT	8	1.6	90	1.6
NSW*	127	25.1	1,894	32.8
NT	5	1.0	38	0.7
QLD	105	20.8	1,165	20.2
SA	33	6.5	359	6.2
TAS	15	3.0	107	1.9
VIC	145	28.7	1,579	27.4
WA	49	9.7	443	7.7
Not applicable	18	3.6	93	1.6
	505	100	5,768	100

* Difference between sample and Optometry Board of Australia 'general' registrant data: $P < 0.001$ for age below 25 years, females and practice in NSW.

Table 2: Scores for K10, DASS-21 and MBI†‡

	Participating Optometrists		Normative Values§	
K10 score (n = 505)	mean	SD	mean	SE
all	21.16	7.57	14.5	0.1
male*	19.95	7.23	14.0	0.1
female	21.81	7.69	15.0	0.1
DASS score (n = 489)	mean	SD	mean	SD
Depression, all	9.99	9.75	6.34	6.97
male	10.06	9.83	6.55	7.01
female	9.92	9.73	6.14	6.92
Anxiety, all	7.14	7.31	4.70	4.91
male*	5.95	6.84	4.60	4.80
female	7.78	7.48	4.80	5.03
Stress, all	13.46	8.92	10.11	7.91
male	13.02	9.43	9.93	7.66
female	13.65	8.63	10.29	8.16
MBI score (n = 494)	mean	SD	mean	SD
Exhaustion, all	3.37	1.73	2.26	1.47
male*	3.03	1.80		
female	3.55	1.67		
Cynicism, all	2.67	1.73	1.74	1.36
male	2.65	1.84		
female	2.68	1.68		
Professional Efficacy, all	4.72	1.03	4.34	1.17
male*	4.90	0.98		
female	4.63	1.05		

†Abbreviations: K10 = Kessler Psychological Distress Scale; DASS = Depression Anxiety Stress Scales; MBI = Maslach Burnout Inventory.

‡ For the K10, a higher score indicates more severe psychological distress; for the DASS-21, a higher score indicates more severe depression, anxiety and stress; for the MBI-GS a higher degree of burnout is indicated by higher scores for exhaustion and cynicism, and lower scores for professional efficacy.

§K10 normative values, Slade et al. (2011);¹² DASS normative values, Lovibond and Lovibond (1995);⁹ MBI normative values, Maslach et al. (2018).¹¹

* $P < 0.05$ for gender difference in mean score.

Table 3: Classification by Severity for K10, DASS-21 and MBI†‡

K10 severity (n = 505)	n	%
'Likely to be well' (10-19)	247	48.9
'Likely to have mild psychological distress' (20-24)	103	20.4
'Likely to have moderate psychological distress' (25-29)	81	16.0
'Likely to have severe psychological distress' (30-50)	74	14.7
DASS severity (n = 489)	n	%
Depression		
Normal (0-9)	288	58.9
Mild (10-13)	54	11.0
Moderate (14-20)	81	16.6
Severe (21-27)	30	6.1
Extremely severe (28-42)	36	7.4
Anxiety		
Normal (0-7)	293	59.9
Mild (8-9)	44	9.0
Moderate (10-14)	90	18.4
Severe (15-19)	28	5.7
Extremely severe (20-42)	34	7.0
Stress		
Normal (0-14)	309	63.2
Mild (15-18)	55	11.2
Moderate (19-25)	74	15.1
Severe (26-33)	35	7.2
Extremely severe (34-42)	16	3.3
MBI severity (n = 494) §	n	%
Exhaustion		
Low (≤ 2.00)	134	27.1
Average (2.01 – 3.19)	83	16.8
High burnout (≥ 3.20)	277	56.1
Cynicism		
Low (≤ 1.00)	113	22.9
Average (1.01 – 2.19)	99	20
High burnout (≥ 2.20)	282	57.1
Professional Efficacy		
Low (≥ 5.00)	250	50.6
Average (4.01 – 4.99)	130	26.3
High burnout (≤ 4.00)	114	23.1

†Abbreviations: K10 = Kessler Psychological Distress Scale; DASS = Depression Anxiety Stress Scales; MBI = Maslach Burnout Inventory

‡ K10 severity: Australian Bureau of Statistics (2012);¹⁶ DASS severity, Lovibond and Lovibond (1995);⁹ MBI severity, Maslach et al. (1996).¹⁷

§A higher degree of burnout is indicated by higher scores for exhaustion and cynicism, and lower scores for professional efficacy.

Mean K10 score was significantly greater (more psychological distress) for females compared with males (Mann-Whitney U test = 24682.0, $P = 0.008$). For the DASS-21, mean score for anxiety was significantly greater for females compared with males (Mann-Whitney U test = 22519.5, $P = 0.003$), with no significant difference between females and males for depression or stress. For MBI-GS, mean exhaustion score was significantly greater for females compared with males (Mann-Whitney U test = 22737.5, $P = 0.002$) and professional efficacy score was significantly less for females compared with males (Mann-Whitney U test = 31766.0, $P = 0.003$), with no significant difference for cynicism.

The prevalence of K10 moderate to severe psychological distress was 30.7% (95%CI 26.7% to 34.7%), DASS-21 moderate to extremely severe depression 30.1% (95%CI 26.0% to 34.1%), DASS-21 moderate to extremely severe anxiety 31.1% (95%CI 27.0% to 35.2%), and DASS-21 moderate to extremely severe stress 25.6% (95%CI 21.7% to 29.4%). The prevalence of high burnout, as indicated by MBI-GS exhaustion, cynicism and professional efficacy was 56.1% (95%CI 51.7% to 60.4%), 57.1% (95%CI 52.7% to 61.5%) and 23.1% (95%CI 19.4% to 26.8%), respectively.

Associated Factors

The crude odds of moderate to severe psychological distress for optometrists aged 30 years or younger was 3.5 times that for optometrists aged over 30 years (OR = 3.54, $P < 0.001$, 95%CI 2.38 to 5.25). Significant predictors of K10 moderate to severe psychological distress are presented in Table 4, and predictors of DASS-21 moderate to extremely severe depression, anxiety and stress are presented in Table 5.

Table 4: Model for Predicting K10 Moderate to Severe Psychological Distress[†]

Variable	Coefficient	SE	Wald	P Value	OR	95%CI
Age group, years						
≤ 30	1.358	0.642	4.473	0.034	3.889	1.105 to 13.689
31-40	0.711	0.675	1.109	0.292	2.036	0.542 to 7.644
41-50	0.634	0.681	0.865	0.352	1.884	0.496 to 7.158
51-60	0.066	0.735	0.008	0.928	1.068	0.253 to 4.154
≥ 61					1.000 (reference)	
MBI, mean score						
exhaustion	0.726	0.117	38.542	<0.001	2.066	1.643 to 2.598
cynicism	0.294	0.100	8.585	0.003	1.342	1.102 to 1.634
professional efficacy	-0.329	0.141	5.434	0.020	0.720	0.546 to 0.949

[†]N = 474; Abbreviations: K10 = Kessler Psychological Distress Scale; MBI = Maslach Burnout Inventory; OR = odds ratio.

Table 5: Models for Predicting DASS-21 Moderate to Extremely Severe Depression, Anxiety and Stress[†]

Variable	Coefficient	SE	Wald	P Value	OR	95%CI
Depression						
MBI, mean score						
exhaustion	0.497	0.105	22.569	<0.001	1.643	1.339 to 2.017
cynicism	0.457	0.099	21.377	<0.001	1.579	1.301 to 1.916
professional efficacy	-0.468	0.135	12.090	0.001	0.626	0.481 to 0.815
Anxiety						
MBI, mean score						
exhaustion	0.653	0.077	70.958	<0.001	1.920	1.650 to 2.235
Stress						
MBI, mean score						
exhaustion	0.937	0.104	81.843	<0.001	2.533	2.084 to 3.128

[†]N = 470; Abbreviations: DASS = Depression Anxiety Stress Scales; MBI = Maslach Burnout Inventory; OR = odds ratio.

Participant Comments

There were 192 coded comments from 31% (n=158) of the sample that formed 10 categories (Figure 1). Of those who commented, 25.3% were aged 30 years or younger.

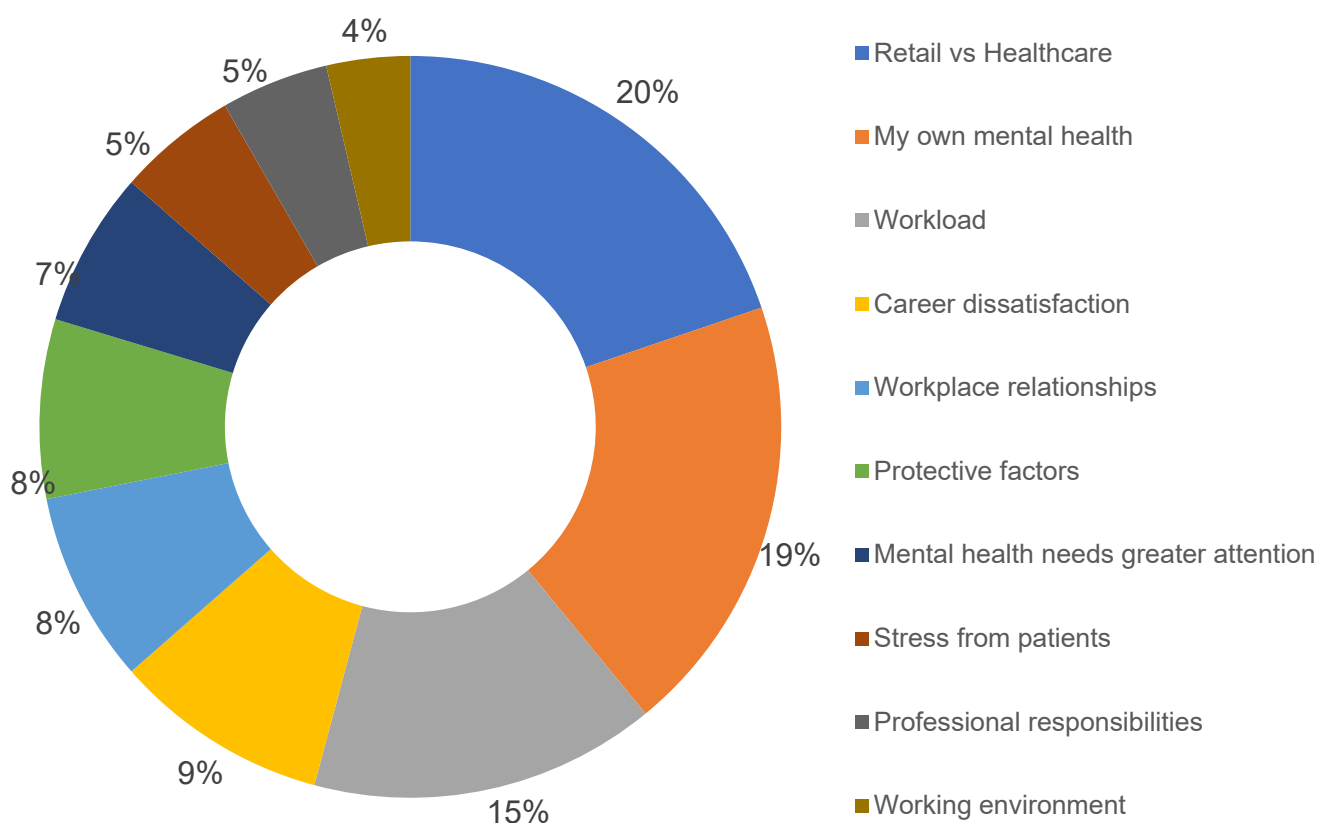


Figure 1: Proportion of participant comments in each category.

Retail vs healthcare (38 comments [20%])

Participants described a “corporate environment” and the resulting retail pressures they face. Participants highlighted the constant pressure to meet key performance indicators (KPIs), (e.g., sales targets and conversion rates). They disliked the focus on the health of the business rather than the health of the patients, with profit prioritised over patient needs. This was thought to compromise patient care and customer service, making optometrists feel devalued. A few worked in a teaching setting and described similar pressures in this sector, with pressure to teach increasing numbers of students without additional resources or support.

“I’ve become an increasingly anxious person outside of my job as well as in my job, as a result of the short appointments and full book and “go go go!” rushed nature of my corporate optometry job. I feel very devalued in my job. It’s never about clinical expertise or patient care, it’s all about conversion and sales” (participant ID 270)

“I often feel pressured between doing what I believe is ethically and morally the best care for the patient, and meeting retail targets... I find that in general the larger corporate businesses treat optometry as a retail business, rather than focussing on the fact that we are caring for people and their health.” (participant ID 423)

My own mental health (37 comments [19%])

Many participants described their own current or previous struggles with mental health (e.g., feeling burnt out, or suffering from anxiety, depression, or panic attacks). Some described how they feel at risk for mental health problems and a few that they are about to burn out. Some, but not all, perceived that these problems are a direct consequence of work pressure. Others stated that their mental health struggles arise from life events rather than work. Some reported reducing their working hours to protect their mental health. However, two noted that despite the pressures of work, they believe they cope well and have good mental health.

“I do experience feelings of anxiety, being overwhelmed or stressed out on a regular basis.” (participant ID 184)

“Now not feeling stressed but had had problems a few years ago when working in corporate optometry where never-ending workloads did cause stress-related problems. I was able to immediately stop this by walking out of the practice that day, and a few sessions with a local psychologist were very beneficial for me.” (participant ID 375)

Workload (29 comments [15%])

Participants described having to work long hours, including into the evening and on public holidays. They talked about insufficient breaks, skipping lunch and working late. Most described this was because they are under constant pressure to see too many patients with appointment slots that are too short. They explained that the pace of work feels very intense and stressful, which can also affect their physical health. Several participants described feeling emotionally drained or numb.

These pressures were also highlighted by participants who manage an optometry business, which they described as very stressful due to commercial pressures. They reported that the workload is relentless, they can be let down by staff, and that patients expected services and products to be cheap and fast. A few noted that franchisors imposed additional pressures. Others described problems arising from being unable to get part-time cover because of their remote location.

“I often feel like I will burn out from my job. The main issue for me is the need to push patients according to a packed schedule... I also find it hard to keep physically healthy when there's often not enough time to go to the bathroom or eat your lunch properly, and this has downstream effects on your mental health.” (participant ID 322)

“Every day off or break I have has the potential to upset someone who can’t be see(n), after almost 20 years of running an independent practice this takes its toll.”
(participant ID 240)

Career dissatisfaction (18 comments [9%])

Participants reported how dissatisfaction and disillusion with optometry as a career affects their mental health. They described that perceived lack of job security, due to increasing numbers of newly qualified optometrists, worried them. Some described how they find the work very monotonous and boring. Others reported that the pay is lower than anticipated, and that there is no career progression or capacity to transfer to other careers, which they find demoralising. Many described feeling negative about the future of the profession.

“Optometry has not been the rewarding career I envisaged when I first started working. It has been disappointing financially for me and the pressure on achieving KPIs at work to get any pay increase has taken all the enjoyment out of it.”
(participant ID 292)

“This work gets me down more than I would have ever expected. However, I feel locked into the profession as I cannot think of what else I could do. Sometimes I wish I had never even thought of doing optometry. But in all honesty what else is there for someone like me.” (participant ID 268)

Workplace relationships (16 comments [8%])

Relationships with colleagues and managers can be a source of stress, as can a change of leadership. A few noted that there is no mechanism to voice concerns and that bullying in the workplace affected their mental health. Seeing other colleagues struggle was also a source of stress, (e.g., if they suffer from anxiety or depression, or if they are making mistakes). In contrast, one comment was about how colleagues help reduce stress and that it was great to work with younger colleagues.

“There have been situations at work where my manager was borderline abusive towards staff and customers. That created a lot of stress at work.” (participant ID 387)

“There is no adequate or genuine place for grievances to take place from close to burnt out staff.” (participant ID 83)

Several participants talked about the stress arising from a lack of workplace relationships because they work in sole-optometrist practices or spend all day in a testing room. Some noted that colleagues are too busy to provide support or that there was not a culture of colleagues supporting one another. This isolation and lack of support was even more of a problem in locum work.

“As an optometrist, you rely primarily on your own decision making and lot of what you do goes on “in your own head”. You often have nobody else to bounce your thoughts off of. This can often make me feel isolated.” (participant ID 29)

Protective factors (15 comments [8%])

These comments were about what can protect people’s mental health. Many noted the importance of having a good work-life balance or having activities away from work. Others noted the importance of having a good home life and a supportive family. Some highlighted the importance of seeking help when you notice a problem.

“I think it helps a lot that I have several extracurricular activities outside of work to help me unwind, otherwise I'd probably go crazy.” (participant ID 247)

“I have a great partner/family/home life so I think that plays a huge role in my emotional and mental well-being, regardless of what happens at work.” (participant ID 331)

“Seeking timely and comprehensive mental health care is crucial to maintaining a successful working life...” (participant ID 314)

In contrast, some participants noted that their job protects them from stress in other aspects of their lives. Several noted that some days are more difficult than others, and it can be stressful, but overall, it is a rewarding job.

“I think there are always going to be days which are more difficult than others There will be times in people’s lives where they may become depressed and work can be an escape as the job is not monotonous, where every day is ALWAYS the same, it’s something that they can control in a way as well - you’re making a difference to people and that’s rewarding.” (participant ID 371)

Mental health needs greater attention (13 comments [7%])

Many participants noted that there needs to be more of a spotlight on mental health in the profession and were pleased that the research was being done. A few suggested there should be more continuing professional development on protecting your own mental health, or that university courses should teach students about protecting their mental health in the workplace.

“Thank you for the survey. There needs to be more insight into the mental health of optometrists as it is a different profession with its own challenges.” (participant ID 281)

“With the world we now live in, awareness of mental health is a positive step.” (participant ID 140)

Stress from patients (10 comments [5%])

Participants described how patients do not respect them or treat them as healthcare professionals in the same way they would treat a doctor or nurse. Some suggested that this was because of the retail nature of optometry practice. A few described how patients can be rude and swear at them. Participants explained that patients have higher expectations than previously and that patients no longer value their expertise.

“Being an incredibly retail field despite technically being a “health profession” makes the general public treat us worse than they would a Doctor for example.” (participant ID 47)

“Patients and customers are more demanding than ever and have ever increasing expectations. They come armed with a little bit of knowledge and think it's enough to devalue what you stand for and what your (sic) do.” (participant ID 271)

Professional responsibilities (9 comments [5%])

Several participants noted that they often worry about their patients and clinical decisions when they go home. Many reported that the intense pace of work exacerbates the anxiety they feel about clinical decisions. One participant noted that the situation is worse in rural areas where there is no ophthalmologist. Participants who are business owners also talked about the pressures of running a business, including managing staff and financial pressures.

“The massive decision fatigue felt at the end of a long day and then the second guessing of your own clinical judgment at the end of the day when you're forced to make split-second decisions due to time constraints.” (participant ID 322)

“Often the concern you have for patients' wellbeing can be overwhelming to deal with.” (participant ID 320)

Working environment (7 comments [4%])

Several participants commented that the working environment affects their mental health. Examples included the lack of windows in their examination room, insufficient ventilation or cooling and poor ergonomic layout that can lead to musculoskeletal problems. Locums highlighted that old or broken equipment in the practices they visit was a source of frustration and stress. A few explained that lack of control over their own workspace, such as the room layout and how patients are scheduled, caused them stress.

“My working ergonomics are damaging my wrists as the keyboard height is all wrong and so I have to stand to type. No thought has gone into the ergonomics and they are appalling.” (participant ID 335)

“The physical surroundings i.e., lack of windows, etc., can amplify any negative feelings.” (participant ID 348)

DISCUSSION

In this study of practising optometrists who responded to a voluntary mental health survey, approximately one in five reported having received medication and/or counselling for a mental health condition in the previous 12 months. All mean scores for the K10, DASS-21 and MBI-GS scales were worse for this sample of optometrists compared with normative values, with the exception of professional efficacy. Female optometrists experienced significantly greater psychological distress and anxiety than male optometrists, as well as greater exhaustion and less professional efficacy ($P < 0.01$). The overall prevalence of moderate or worse psychological distress was 31%, moderate or worse depression 30%, moderate or worse anxiety 31% and moderate or worse stress 26%. The prevalence of exhaustion and cynicism levels indicative of high burnout was 56% and 57%, respectively, whereas the prevalence of a low level of professional efficacy indicative of high burnout was just 23%. Younger age (≤ 30 years) and all three dimensions of burnout (exhaustion, cynicism and professional efficacy) were independently associated with moderate or worse

psychological distress. Although all three dimensions of burnout were significantly associated with moderate or worse depression, only exhaustion was significantly associated with moderate or worse anxiety and with moderate or worse stress. The most frequent comment was about the impact of the business of optometry on mental health, with increasing retail pressures and a decreasing focus on healthcare. Other frequent work-related comments concerned the impact of a high workload and career dissatisfaction on mental health.

Our finding of increased prevalence of psychological distress, mental health conditions and burnout among optometrists compared with the general population is consistent with findings for other health care providers, such as doctors, nurses, midwives and pharmacists.²⁻⁵ However, the 14.7% prevalence of severe psychological distress among this sample of optometrists far exceeds the 3.4% prevalence among doctors,⁴ and 2.6% prevalence in the general Australian population.¹⁸ Consistent with national data for the general population¹⁸ and for doctors,⁴ the prevalence of mental health problems in this study was greater among younger compared with older optometrists and among female compared with male optometrists. Although the prevalence of burnout (high levels of exhaustion and cynicism and low levels of professional efficacy), was greater in this sample compared with doctors in the NMHSDMS,⁴ it was similar to the rate of burnout reported by 411 practising community pharmacists in the United States, where significant risk factors included younger age, practising primarily in a chain pharmacy and a lack of resources for resiliency.⁵ However, the pattern of high levels of exhaustion and cynicism with a high level of professional efficacy found in this study was similar to findings for both doctors and pharmacists.^{4,5} This pattern is suggestive of an 'overextended' profile that could be amenable to workload-oriented interventions.^{11,19}

The association between poor wellbeing and moderate to high levels of burnout among health care providers has been previously reported.⁷ Furthermore, burnout not only has negative effects on individual health care providers, but on health care organisations and patients. Studies have shown that higher burnout is associated with less career satisfaction, greater absenteeism, greater probability of leaving a profession and greater risk of experiencing difficulties in interpersonal relationships.²⁰ For the organisation, burnout results in reduced productivity and efficiency, reduced practice revenue and high staff

turnover.²⁰ Significantly greater risk of patient errors and poor attitudes to patients have also been found.^{6,20} As the current study was limited to the qualitative analysis of only one open-ended question, future studies should use mixed methods approaches to explore and gain a deeper understanding of the workplace experience for optometrists and associated burnout. This would inform the development of the most appropriate interventions. There could be a range of strategies, including but not limited to mental health promotion, monitoring and support programs by employers and professional bodies targeted at both the individual and workplace level. In addition, mental health education at university for students of optometry would be beneficial.

Importantly, this study was conducted just prior to the COVID-19 pandemic, which imposed considerable additional challenges and stresses for optometrists. In Australia, practices and clinics were initially required to close for an unknown duration and workers were furloughed, with associated financial uncertainty and social isolation. Subsequently, rapid practice modifications were required, with fear of contagion in spite of increased infection control and physical distancing measures. Additionally, episodic lockdowns occurred at various times across different states of Australia, where only emergency patients were seen. Following the longer periods of lockdown, some practices struggled to keep up with demand for appointments. Therefore, it is likely that optometrists have been even more susceptible to developing mental health conditions and burnout during the COVID-19 pandemic than found in this study.

This was the first study to investigate the prevalence of mental health conditions and burnout among optometrists. Strengths of the study include the use of widely used validated mental health scales and a fair response rate. However, there are limitations, predominantly related to the sampling, non-response and social desirability biases associated with participants responding to research surveys. Although attempts were made to try to minimise these biases by using wide email distribution via two key organisations, using validated questionnaires, and making the survey as short as possible and anonymous, the results do suggest some potential bias. It is unknown how many optometrists actually received and read the email invitation. Moreover, the youngest age group (under 25 years), females and optometrists from NSW were significantly over-

represented in this study ($P < 0.001$). It is also possible that estimates in this study are higher than actual prevalence rates due to self-selection bias, where those who were experiencing or susceptible to mental health problems were more interested in participating than others. Conversely, it is also possible that some with mental health problems were not well enough to participate and that some chose not to participate for fear of stigma or repercussions regarding their answers, even though the survey was anonymous and confidential.

In conclusion, we found a higher prevalence of general psychological distress, mental health conditions and burnout among practising Australian optometrists compared with the general population. Younger age and burnout were risk factors for psychological distress. Preventative interventions targeted to younger optometrists that include workplace modifications and that build resilience are needed to improve the mental wellbeing of the profession and ensure patient safety.

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