MMJ

Malta Medical Journal, 34 (3): Pages (2022)

http://mmsjournals.org/index.php/mmj

ORIGINAL ARTICLE

A study on the health and well-being of doctors in Malta

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Background

Doctors' health, including mental health, can impair performance and reduce the quality of patient care. The aims of the study are to document physical and psychological health behaviours, self-stigma and help-seeking behaviours of doctors in Malta, and identify possible factors in the working environment that might be barriers or promoters for positive health behaviours.

Method

A national cross-sectional study of all doctors working in Malta, through the use on an online anonymous questionnaire. The participants provided socio-demographic data, health- and work-related information and completed standard assessment tools to assess well-being. Statistical and thematic analysis was carried out on the quantitative and qualitative data respectively.

Results

There were 173 responses to the questionnaire, giving an estimated response rate of 13.7%. This represents approximately 8% of the total number of doctors registered with the Malta Medical Council. Almost 48% of doctors in Malta who replied to the questionnaire were overweight or obese, the majority of whom were males. Doctors showed higher levels of severe stress when compared to their international peers, and levels of psychological distress and burnout were higher in trainees than specialists. Female respondents reported consistently higher levels of mental ill health in all areas being reviewed (stress, burnout, compassion fatigue and secondary traumatic stress).

Conclusion

The results highlight the importance of developing strategies to improve working conditions for doctors in training and increasing their awareness of health issues (especially psychological), while training senior doctors and specialists to identify colleagues who need support and help. Interventions at various levels – personal, professional and organisational, are needed to help doctors improve and maintain their physical and mental health and well-being.

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Introduction

The World Medical Association refers to physician well-being as 'the optimization of all factors affecting biological, psychological and social health and preventing or treating acute or chronic conditions experienced by doctors including mental illness, disabilities and injuries resulting from work hazards, occupational stress and burnout'.[1] It is thought that doctor's well-being could have a positive impact on patient care; however research on this subject is limited.[2-3] It is well-known that doctors tend to delay seeking help for a number of reasons which might include concerns about confidentiality, finding it difficult to adopt the 'patient role' and feeling guilty about dedicating time for their own well-being.[3-5]

The work carried out by doctors on a daily basis has both benefits and risks for their health and well-being,[4] especially since doctors tend to deal with 'complaints' and sick patients on a daily basis as opposed to other professions, and this in itself can act as a further drain on the psyche of doctors. There also seem to be difficulties dealing with other issues such as bullying in the workplace or supporting colleagues through challenging times[3-4]

This is the first local study for which all doctors working in Malta have been invited to participate. Previous research in Malta was mainly based in primary care and focused mostly on General Practitioners' prevention and health promotion beliefs and personal behaviour, job satisfaction and job stressors.[6-9]

There are currently 2138 doctors registered with the Malta Medical Council on the Principal Register and 50 on the Temporary Register (J. Vella, personal communication, July 13, 2021).[10]

The objectives of this study are:

- To document physical and psychological health behaviours, self-stigma and help-seeking behaviours of doctors in Malta
- To identify associations between the above issues and specific factors, e.g. age, gender, marital status, specialty, career stage
- To compare findings of our study to other published studies
- To identify possible factors in the working environment that might be barriers or promoters for positive health behaviours
- To identify and suggest practical ways in which the well-being of doctors may be promoted in the workplace

Materials and Methods

The study is a cross-sectional observational study of all registered doctors working and practicing in Malta, in both public and private practice.

An online anonymous questionnaire was developed using Google Forms® after an extensive literature review. In order to assess the intended objectives, the questionnaire incorporated standard assessment tools and questions that have been used in other doctors' health studies.[4-5,11] The questionnaire consisted of 57 questions including four open comments sections.

The following is a summary of the sections in the questionnaire:

- *Demographic data (Age, Gender, Marital status)*
- *Professional Role; Education; Specialty*
- *Working conditions (working hours, night shifts, on-calls)*
- *Personal Health Access*

- *Managing Stress*
- *Diet, exercise and sleep patterns; Smoking and alcohol*
- *Self-rated health*
- *Self-stigma*
- *Bullying and harassment in the workplace*
- *Tools for assessment:*
    - ***Kessler Psychological Distress Scale*** *(K10)*[12-13]
    - ***Professional Quality of Life Scale*** *(ProQOL)*[14]
- *Free-text questions at the end of the questionnaire asked about* perceived barriers and personal strategies used to maintain a healthy lifestyle, recommendations for improvements in the workplace and any other comments.

A letter to doctors explaining the aims of the study and other important information preceded the questionnaire. At the end of the information letter, the participants had to actively click on the 'Next' button to start the questionnaire, and this was accepted as consent to participate in the study. Participation was voluntary and participants could stop completing the questionnaire at any stage. No rewards were offered. Finally, participants were offered help pathways should the filling in of the questionnaire cause undue distress.

The questionnaire was distributed through various sources to maximise its reach. Permission was initially requested, and all approached entities acceded to facilitate distribution. The link to the questionnaire, was shared via email through the Medical Association of Malta (MAM), through the Facebook® group 'Tobba Maltin' (which is a private group for doctors in Malta with approximately 1260 members at the time of distribution), as well as through a number of local medical specialist associations. Participants were also encouraged to forward the link to any doctors they felt might be interested in participating. The questionnaire accepted responses for a period of four weeks between 26th January and 23rd February 2021. A reminder was posted after 2 weeks.

Data Protection & Ethics Approval

Data Protection clearance was obtained from the Data Protection Officer of the Primary Health Care Department. Research ethics clearance was granted by the Faculty Research Ethics Committee (FREC) Faculty of Medicine and Surgery in November 2020.

Statistical Analysis

Statistical analysis was carried out using Microsoft Excel® and Statistical Package for the Social Sciences (SPSS® v 24). Thematic analysis was carried out through development of coding categories.

Results

Response Rate, demographics and Professional role

There were 173 responses to the questionnaire.

In view of the various sources of distribution used, it was difficult to accurately calculate the response rate to the questionnaire. Taking into consideration that Facebook® was possibly the most popular platform used for distribution in this case, the estimated response rate calculated from the total number of doctors in the Facebook® group Tobba Maltin at the time of distribution was 13.7%. The number of responses represent approximately 8% of the total number of doctors registered with the Malta Medical Council.

The age-sex distribution of the participants is illustrated in Figure 1. Figures 2 and 3 illustrate the professional role and specialty of the participants.

Figure 1 Sex-Age distribution of participants

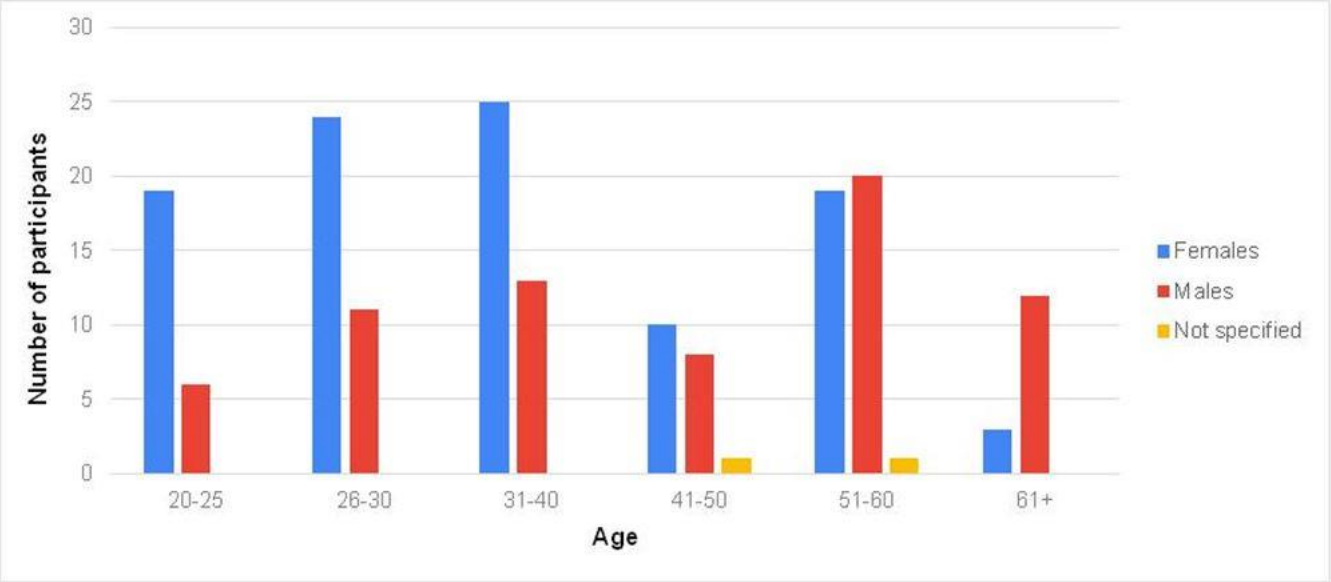

Figure 2 Professional Role of participants

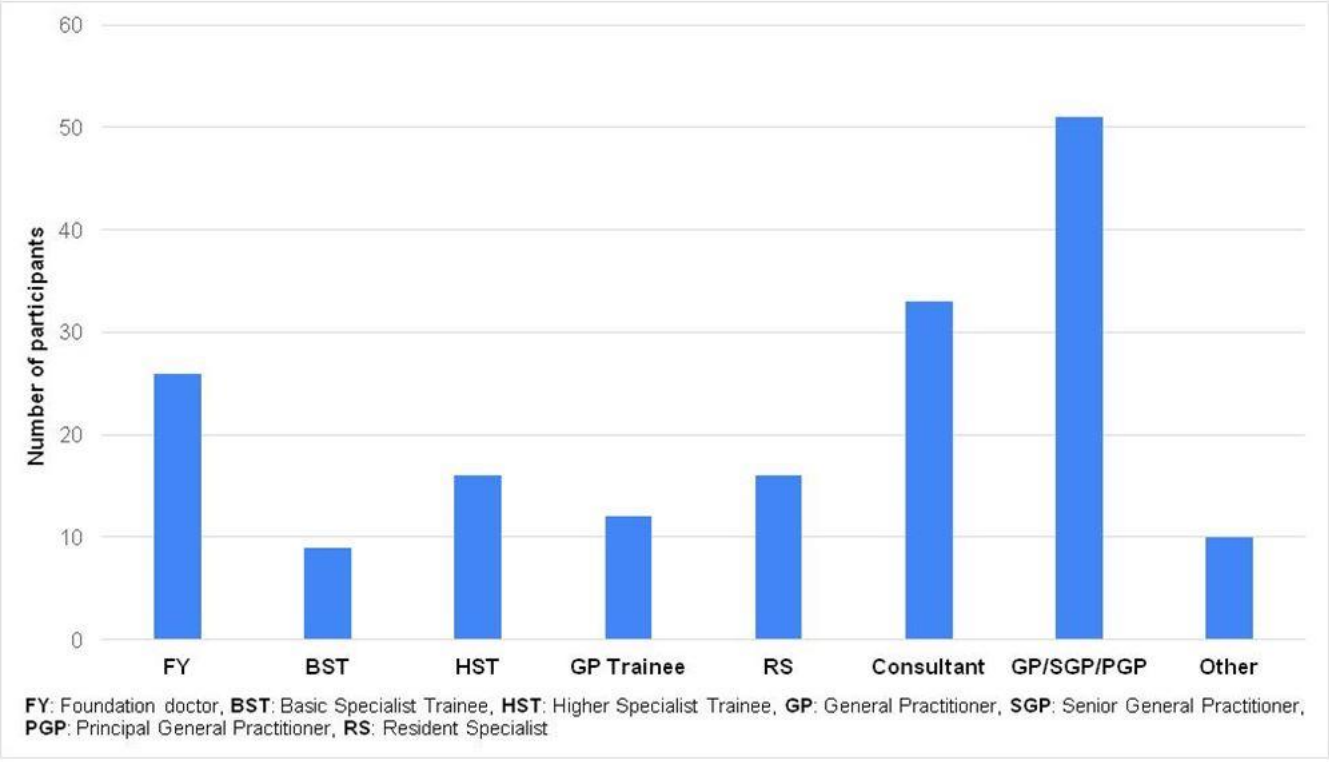

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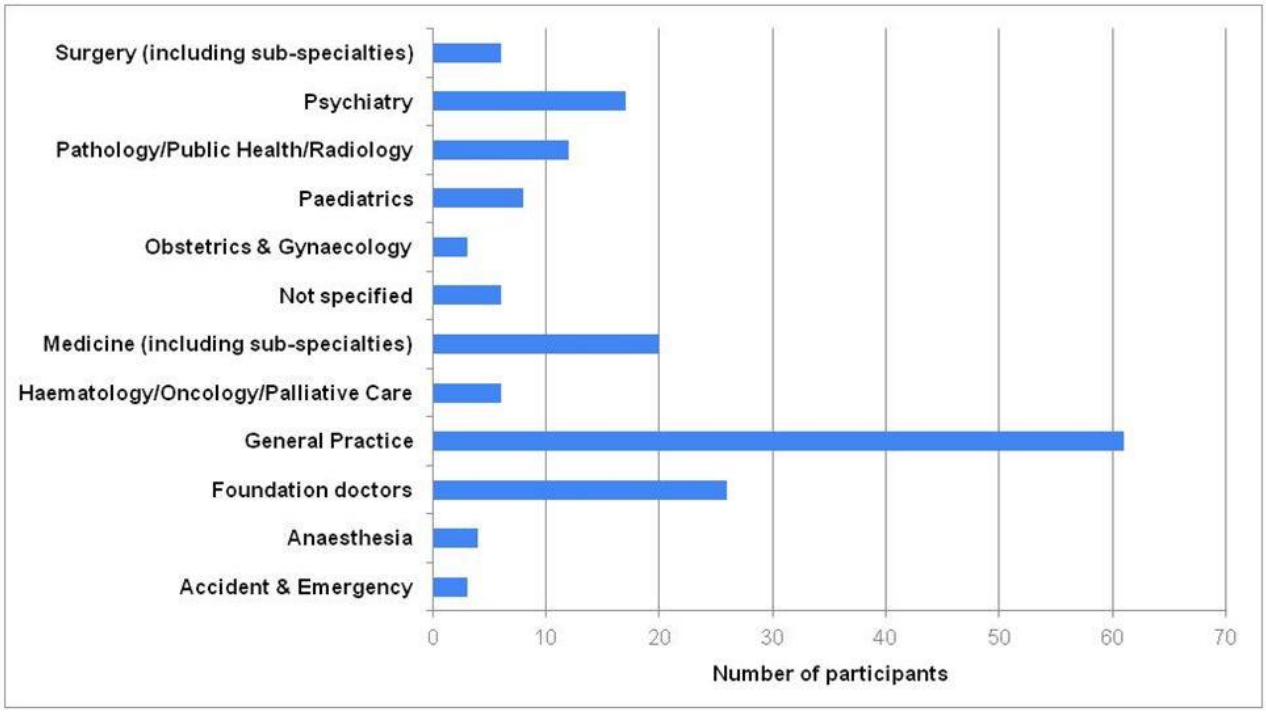
Figure 3 Specialty of participants



Work Characteristics

One hundred and twenty-one (69.9%) of the participants worked solely within the public sector, 26 (15%) worked solely within the private sector and 26 (15%) worked in both. The participants worked an average of 50.7 hours weekly and the mode was 40 hours.

There were 81 doctors who worked more than 48 hours per week (as per the European Working Time Directive). Further breakdown of this group of doctors shows that it consisted of 81% of the total FY respondents, 62% of the doctors in training (BST/HST/GP trainees) and 35% of the specialists.

One hundred and forty-five (84.3%) participants worked during weekends, and 112 (54.7%) worked on-call duties or night shifts.

Forty-seven (27.2%) participants reported that they managed to take a minimum 30-minute lunch break 'all or most of the time' while at work, compared with 49 (28.3%) who never managed to.

Personal Health

Seventy-four participants (43%) reported their general self-rated health as excellent or very good.

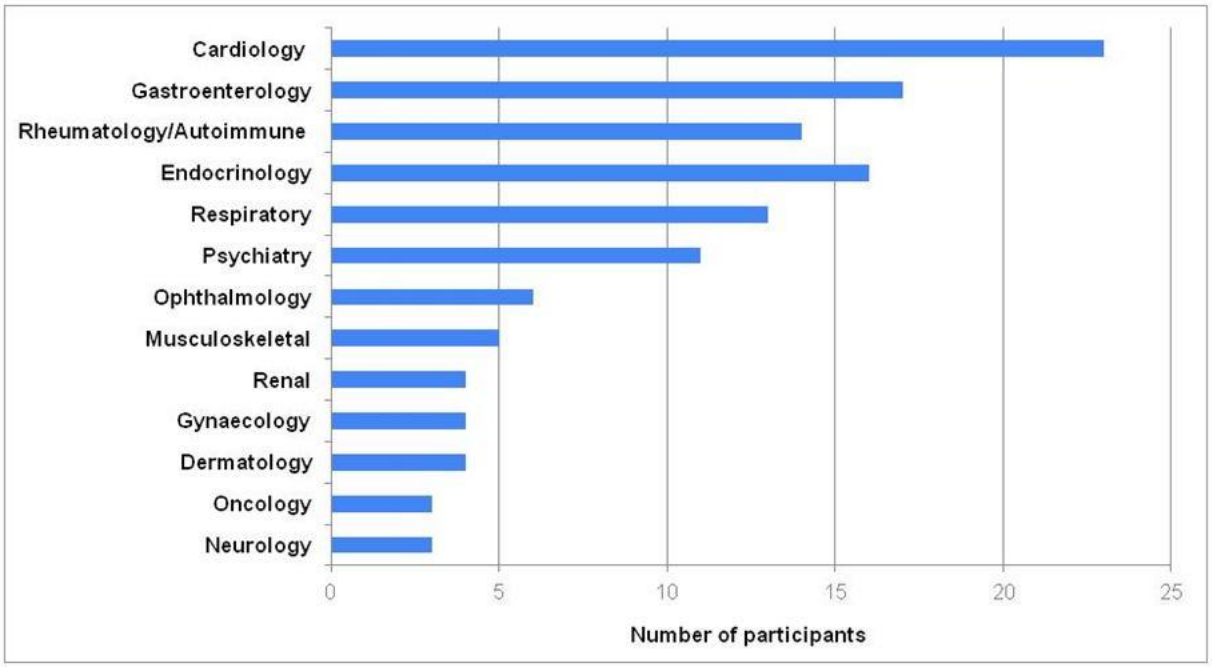
Fourteen participants (8.1%) reported that their physical health affected work 'half the time' or 'most of the time'.

On the other hand, 38 participants (22%) reported that their mental health affected work 'half the time', 'most of the time' or 'all of the time'. Twenty-four of these (63%) were doctors who were still in training (including Foundation doctors).

Health conditions

Eighty-one participants (46.8%) described themselves as having a chronic illness. Of those who answered this question and also indicated their sex, there were equal numbers of males and females. Some participants reported more than one chronic illness, and a total of 123 conditions were recorded. These are summarized in Figure 4.

Figure 4 Chronic illness categories reported by participants



Other health issues

A number of current or previous health issues were asked about specifically. Table 1 summarizes the results obtained. A total of 52 participants reported experiencing one or more of these health issues. The table also shows the gender of those participants who had specified this in their response

Table 1 Current or previous health issues in participants

	Number (*n*=52)	Male	Female
Obesity	**37**	22	14
Anorexia/bulimia	**5**	1	4
Cancer of any type	**5**	3	2
Clinically-diagnosed depression	**15**	6	9
Domestic violence	**7**	2	4
Sexual abuse	**3**	0	3

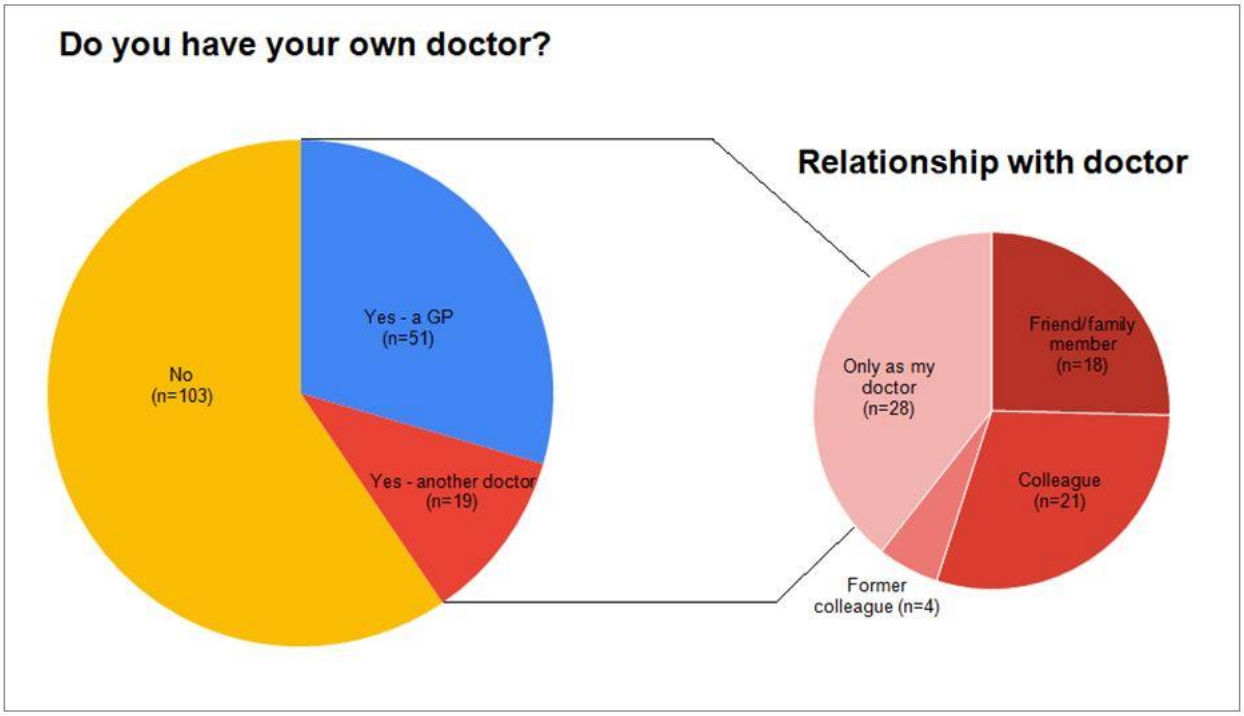
Self-stigma

Fifty-two of the participants (30%) strongly agree that they would not want others to know if they were experiencing physical health problems, in contrast with 101 (59%) when dealing with mental health problems.

Personal Health Access

One hundred and three (59.5%) doctors said they do not have their own doctor, and they provide their own medical care. The remaining 70 (41.5%) answered as per Figure 5.

Figure 5 Personal health access of participants



Immunizations

The rate of uptake of influenza vaccination in doctors increased from 66.3% in 2019 to 84.8% in 2020. An even higher number of doctors (96%) took the COVID vaccination when compared to the influenza vaccination.

Diet, Exercise and Sleep

Body Mass Index (BMI)

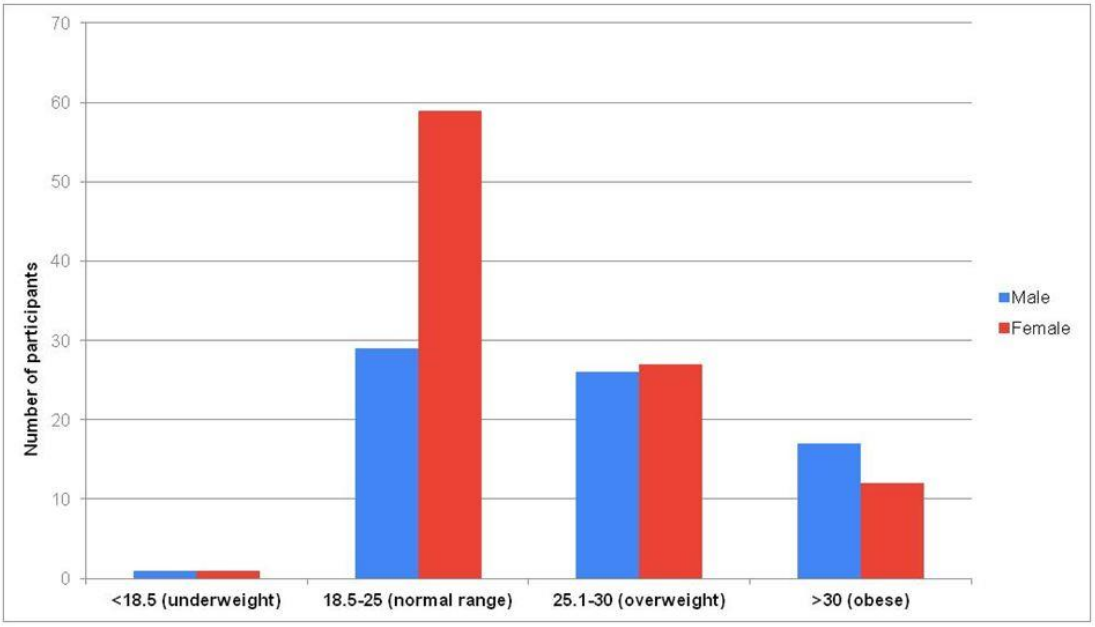
The BMI was calculated for participants who provided their height and weight. A summary of the results can be seen in Figure 6. The two participants who were underweight did not report a history of anorexia or bulimia. Eighty-two (47.7%) of the participants had a BMI in the overweight or obese range. The majority of male doctors were noted to be overweight or obese (n=43, 58.9%).

Nutrition

One hundred and nine participants (63.4%) reported having less than 3 portions of fruit daily, while 91 (53.3%) reported having less than 3 portions of vegetables daily.

Forty-five participants (26.1%) reported eating unhealthy food more than twice weekly, with the majority (*n*=61 and *n*=51) restricting this to once or twice a week respectively.

Figure 6 Body Mass Index of participants



Sleep

Participants were asked to record the number of hours they slept on the night before, with the majority (147) reporting sleeping between 6 and 8 hours, and 16 sleeping 5 hours or less.

Exercise

Sixty-two participants (37%) reported that they completed at least 100 minutes of mild exercise weekly, while only 27 (16%) performed at least 90 minutes of moderate exercise and 29 (17%) performed at least 60 minutes of strenuous exercise weekly.

Smoking and Alcohol

Sixteen of the participants (9.3%) were smokers and 22 (12.8%) reported drinking more than 3 times per week, with 11 (6.5%) reported drinking four units of alcohol or more when they drank.

Managing Stress

Table 2 summarizes the participants' responses to the different activities they use to manage stress.

Mental Health Surveys

Stress – K10 score

Higher scores on the Kessler Psychological Distress Scale indicate higher stress levels.[12,13] A total of 46 doctors recorded high and very high stress levels. Twenty-nine of these (63%) were females. Lower stress levels were associated with increasing seniority in career stage. This is clearly illustrated in Figure 7.

Burnout (using ProQOL)

Burnout is associated with feelings of hopelessness and results in difficulties dealing with work and doing ones job effectively.[15] Overall, 66 of the participants (38%) fell into the 75th centile for burnout and 39 (59%) of these were females.

Two of the participants who scored in the 75th percentile for burnout did not indicate their specialty. The rest are summarized in Table 3.

Figure 8 shows burnout at different career stages. Levels of burnout appear to decrease with advancing career stage, with doctors in the earlier stages of their career being impacted the most.

Table 2 Activities used to manage stress

Activity	Number (*n*=173)	Males	Females
Do something I enjoy	115	49	64
Spend time with family	93	39	53
Take a holiday	90	23	56
Eat more than usual	76	23	52
Take time off work	75	30	43
Spend time with friends	65	24	41
Do more physical exercise	62	30	32
Avoid being with people	49	16	33
Discuss concerns with a mentor	45	18	26
Practise mindfulness or other relaxation technique	36	10	25
Pray	35	14	20
Drink more alcohol	20	13	7
Smoke more cigarettes than usual	6	3	3
Formal debriefing	2	1	1

Figure 7 Stress levels (K10 score) at different career stages

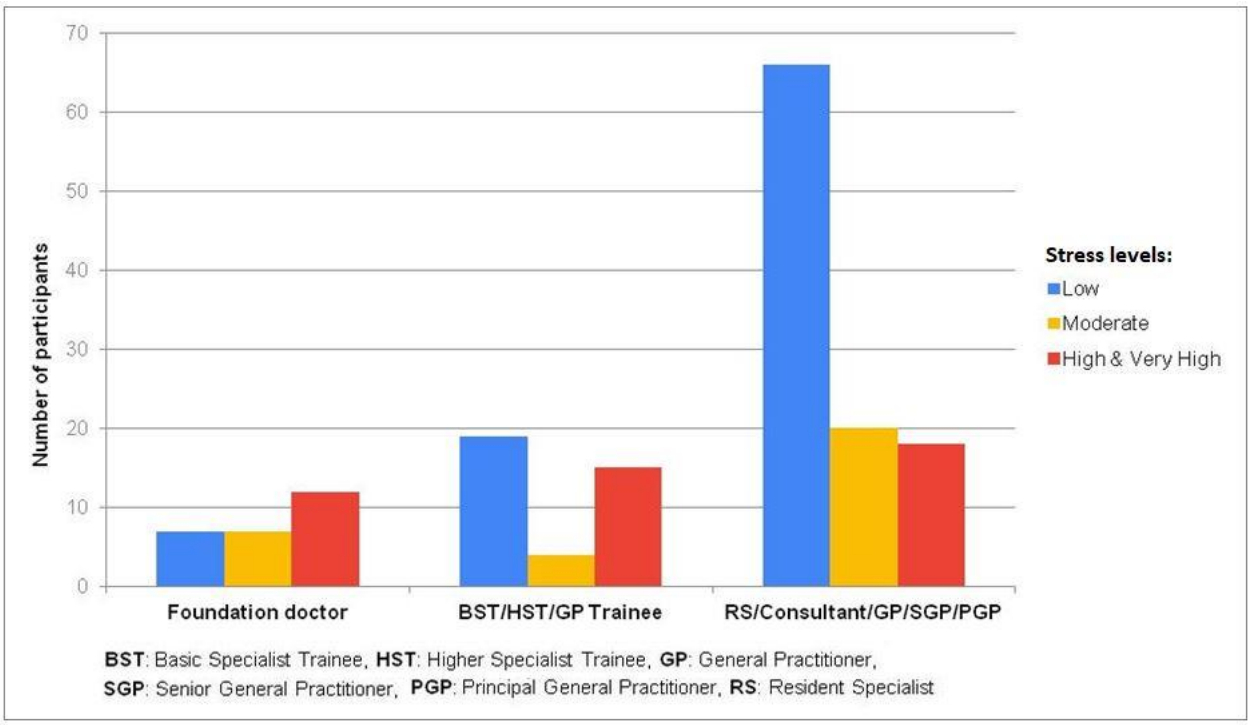
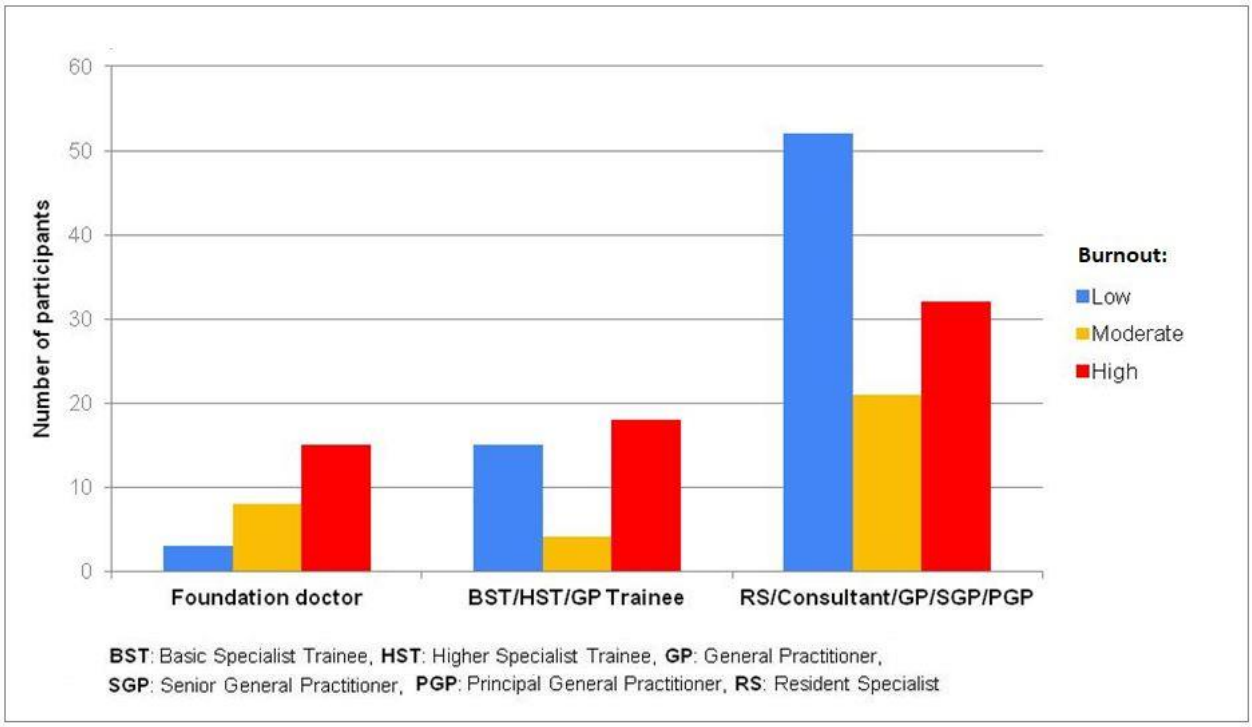


Table 3 Burnout and Specialty

Burnout (75th Percentile)		
Specialty	**Percentage of total in the specialty**	**Number (n=64)**
Accident & Emergency	66.7%	2
Foundation doctors	57.7%	15
Anaesthesia & Intensive Care	50.0%	2
Haematology/Oncology/Palliative Care	50.0%	3
Paediatrics	50.0%	4
Pathology/Public Health/Radiology	41.7%	5
Medicine (including sub-specialties)	40.0%	8
Obstetrics & Gynaecology	33.3%	1
Surgery (including sub-specialties)	33.3%	2
Psychiatry	29.4%	5
General Practice/Family Medicine	27.9%	17

Figure 8 Burnout at different career stages



Compassion Satisfaction (using ProQOL)

Compassion satisfaction gives an indication of the pleasure derived from work. Low compassion satisfaction scores point towards compassion fatigue, which is associated with low satisfaction at work, feeling more tired, and is often associated with burnout.[5]

Eighty-seven of the participants (50.3%) had compassion fatigue, scoring in the 25th centile for compassion satisfaction scores. Fifty-two (59.7%) of these were females.

Higher scores represent a greater satisfaction derived from the ability to be an effective caregiver while at work.[15] Eighteen of the participants (10.4%) had a high compassion satisfaction score, scoring in the 75th centile. Nine of these were females and 9 were males. The majority of the doctors who scored in the 75th centile for compassion satisfaction were doctors who were established in their career, as can be seen in Figure 9.

Secondary Traumatic Stress (using ProQOL)

Secondary traumatic stress is characterized by thoughts of people one has helped, and this can result in feeling trapped, on-edge, exhausted and overwhelmed.[5]

Sixty of the participants (34.7%) scored in the moderate-to-high range for secondary traumatic stress, and 38 (63.3%) of these were females. The results are illustrated in Figure 10.

Figure 9 Compassion Satisfaction at different career stages

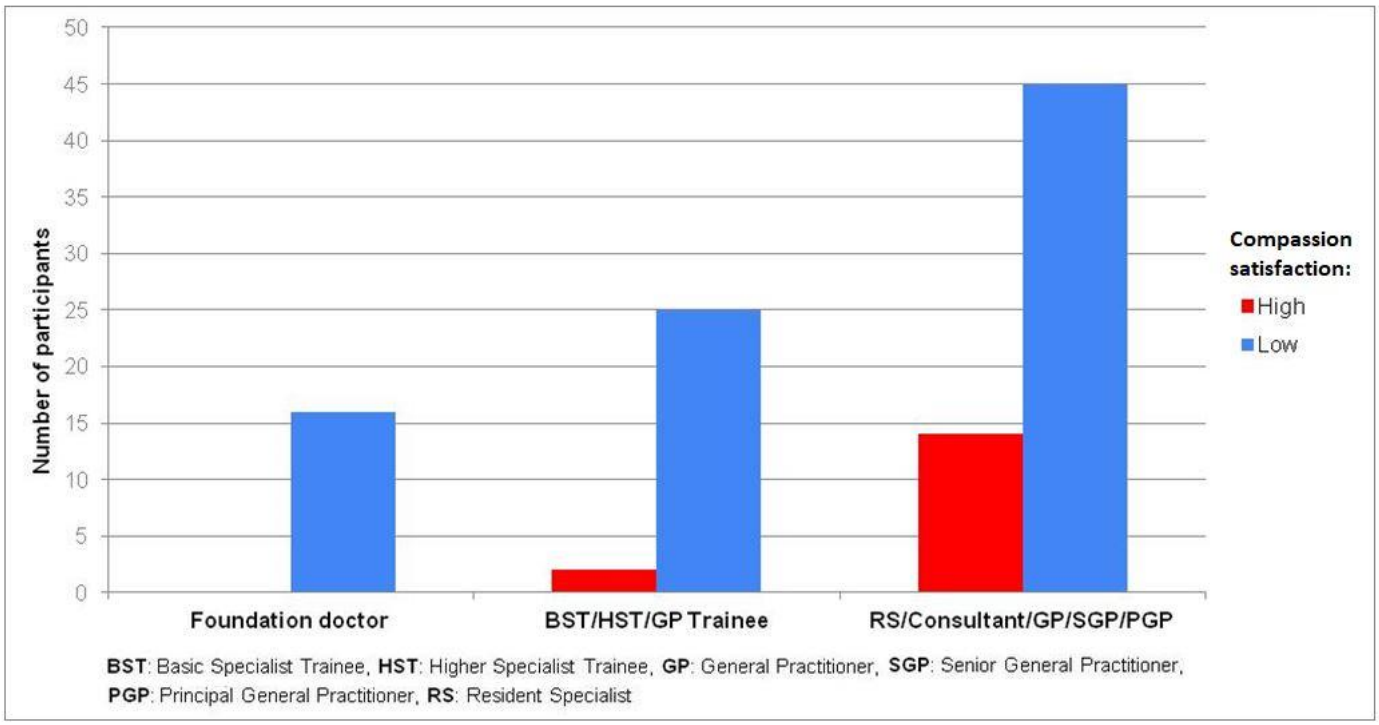
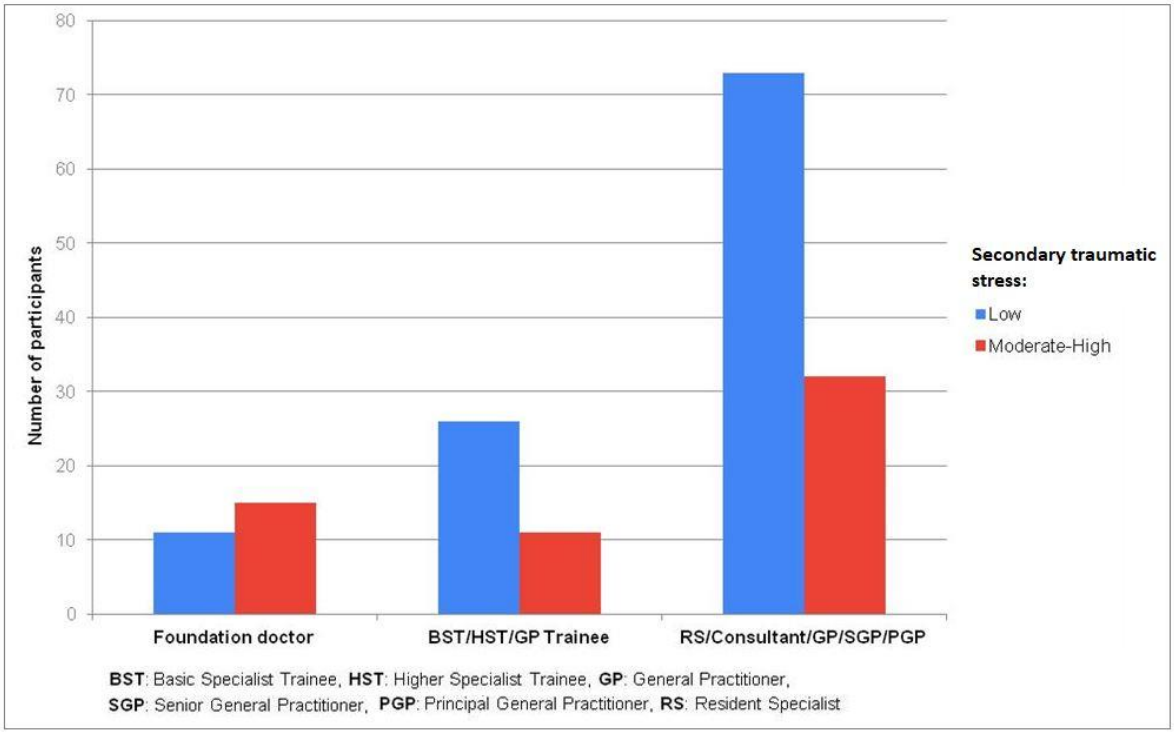


Figure 10 Secondary traumatic stress at different career stages



Belittlement, Harassment and Sexual Harassment

Participants were asked to indicate whether they experienced belittlement, harassment or sexual harassment at the workplace, and if yes to indicate the source and whether this occurred 'sometimes', 'often' or 'regularly'.

Table 4 summarizes the number of participants who marked each specific area.

From the participants who reported that they felt belittled often or regularly, 63.3% were females. From those who reported being harassed often or regularly, 55.9% were females and 80% of those who reported sexual harassment which happened often or regularly were females.

Qualitative Results

Barriers to maintaining a healthy lifestyle (n=155)

Working conditions

Most of the participants mentioned long and irregular working hours as one of the major barriers to maintaining a healthy lifestyle, in addition to the 'hospital duties' system. The high workload and pressure at work, as well as needing to study, attend lectures, carry out research and training outside working hours (often with a lack of flexibility) were also mentioned. Difficulty in taking vacation leave was also a recurrent issue brought up.

"The endless hours I have to work for duties take away time from my private life to explore new hobbies and relationships..." (HST, Medicine, 26-30 years, female)

"Having to find your own cover if you need leave..." (FY, 20-25 years, male)

"Irregular and long hours. I envy non-medical friends who meet up regularly for exercise classes etc" (GP/SGP/PGP, 51-60years, female)

Table 4 Belittlement, Harassment and Sexual Harassment in the workplace

Number of participants who felt...	Belittled	Harassed	Sexually harassed
By patients:	**109**	**88**	**33**
Often or regularly	*15*	*11*	
By senior medical staff:	**133**	**73**	**15**
Often or regularly	*31*	*23*	*3*
By administrative staff:	**95**	**64**	
Often or regularly	*28*	*15*	
By allied health professionals:	**80**	**50**	**17**
Often or regularly	*15*	*8*	*1*
By non-medical staff:	**51**	**39**	**13**
Often or regularly	*2*	*4*	*1*

Time constraints

A recurrent theme mentioned by many participants was difficulty in achieving a healthy work-life balance due to 'limited time' – limited time to exercise, to prepare healthy nutritious meals and to get adequate sleep. Several doctors, the majority of whom were females, also mentioned having to fulfil responsibilities and chores at home and taking care of family and children.

"Time. I feel there is no time to live my life. It feels it is just about work and helping patients..." (31-40 years, female)

"My lifestyle! Which includes being a mother of 2 young kids and never having time for myself!" (HST, Medicine, 31-40 years, female)

Personal attributes

Many participants mentioned the inability to unwind and switch off from work, as well as tiredness, exhaustion, high stress levels, lack of motivation and laziness as barriers to maintaining a healthy lifestyle.

"Switching off from work after hours or on weekends..." (Consultant, Paediatrics, 51-60 years, male)

"Feeling exhausted after work. Constant ruminations about work...thinking about patients and questioning one's decisions" (FY, 20-25 years, male)

'Environmental' factors

Lack of support at work, lack of teamwork and a competitive environment were repeatedly mentioned in this regard. The Coronavirus pandemic was also mentioned in terms of the changes it brought about to the way doctors are practising, loss of work for private family doctors and the inability to travel freely. A few participants

also highlighted that expensive healthy food options, the overbuilt environment, lack of green spaces and constant distractions from technology and social media also contributed to the struggle in maintaining a healthy lifestyle.

"Competitive environment, lack of support" (BST, Medicine, 20-25 years, male)

"Not working as a team at work" (GP/SGP/PGP, 61+ years, male)

APPROACH USED TO MAINTAIN OR IMPROVE HEALTH (*N*=151)

Lifestyle

Most of the participants mentioned that they try to follow a healthy diet, have regular meal preparation (to avoid eating junk food), exercise and get adequate sleep. The importance of setting priorities and planning in advance were also mentioned as being vital in carrying out the strategies mentioned above.

"Strive to maintain mental sanity and physical fitness through right priorities…" (Consultant, Dermatology, 51-60 years, male)

"Regular mild exercise, not eating too much..." (Consultant, Psychiatry, 61+ years, male)

Self-care

Many participants mentioned several self-care activities which they use to maintain or improve their health. These include relaxation techniques, meditation, mindfulness, yoga, positive thinking, regular therapy, time for oneself ('me time') and spirituality. Keeping strict boundaries and being able to switch off from work were also mentioned, alongside avoidance of excessive use of social media. Socializing, spending time with significant others, spending time outdoors, making time for hobbies, music and voluntary work were also mentioned by the participants.

"Unwind by playing musical instrument and listening to music..." (GP Trainee, 26-30years, male)

"Spend time with my family and set boundaries with my phone..." (GP, 31-40years, female)

"...pamper myself at times" (BST, Psychiatry, 20-25 years, female)

Working conditions

Reducing working hours and taking time off work were the most popular responses. Peer support was also considered an important factor in helping to improve and maintain one's health.

"Take time off from work (sick leave or vacation leave)..." (RS, Pathology/Public Health/Radiology, 51-60years, female)

"Venting with colleagues helps me a lot psychologically..." (GP trainee, 26-30 years, male)

"Sharing experiences with a mentor/friends also helps very much..." (GP/SGP/PGP, 51-60 years, female)

RECOMMENDATIONS OF CHANGES OR IMPROVEMENTS IN THE WORKPLACE (*N*=146)

Facilities in the workplace

The most common recommendations were easier access to exercise facilities at work (such as gyms, fitness classes), healthy food options, improved spaces for rest, showers, water dispensers and more ergonomic workspaces. Having designated lunch breaks and a meditation room were also mentioned.

"Gym facilities close to work that can be accessed during break time" (GP, 26-30 years, female)

"Several departments have lack of basic necessities for doctors such as changing rooms/ showers, lockers and break rooms..." (FY, 20-25 years, female)

Working conditions

Most of the participants mentioned easier accessibility of vacation leave and time off work, reducing long working hours and improving conditions and salary. The conditions mentioned include fairness at work, equality, being able to 'disconnect' when not at work and more family-friendly measures.

"Better hours/shifts. Allow better organization of leave" (GP Trainee, 26-30 years, female)

"Reduce the toxicity at work..." (31-40 years, female)

Work environment

The most common points mentioned in this area were a need for better communication, more respect, support and understanding, and feeling appreciated and valued at work. The need for improved teamwork, and organised team-building exercises was also pointed out, as well as consultation with frontline staff prior to decision-making by administration. Improved flexibility, less bureaucracy, implementation of changes in a timely manner, protection from harassment and caring more for young doctors were also commonly remarked.

"More understanding culture in the workplace..." (GP Trainee, 26-30 years, female)

"Dialogue with management and administration are crucial but sadly lacking, if not absent." (Consultant, Pathology/Public Health/Radiology, 51-60 years, female)

"We as doctors need to stick up for each other and work hand in hand together to support each other" (GP Trainee, 26-30 years, male)

"I am very pessimistic about what can be changed in the system to improve conditions for junior doctors. Administration pretends it cares about our well-being but it does not because nothing ever changes. I feel constantly exhausted after work." (FY, 20-25 years, male)

Access to well-being services

Many participants pointed out the importance of proactive psychological support for doctors. Several suggestions were made, including periodically answering a questionnaire about well-being, periodically having a feedback or evaluation (supervision) session with a mentor, debriefing sessions, doctors being obliged to having their own GP, and easier access to psychological services. Behavioural relaxation lectures and more focus in medical school and Foundation years on developing coping skills to help deal with stress in the workplace. These strategies would help create healthier resilient doctors who are more self-aware and who will be able to be more empathic towards patients and colleagues.

"Psychological support after traumatic patient experiences..." (RS, Haematology/Oncology/Palliative Care, 51-60 years, female)

"Receiving regular positive and constructive feedback..." (GP/SGP/PGP, 51-60 years, female)

"Encouraging a ...mentality whereby mistakes are corrected in private (not in front of colleagues and/or patients)" (FY, 20-25 years, female)

Other ideas, comments or suggestions (n=56)

Most participants asked for distribution of the study results, and thanked ~~us~~ the authors for the initiative of this study, which many felt was needed locally.

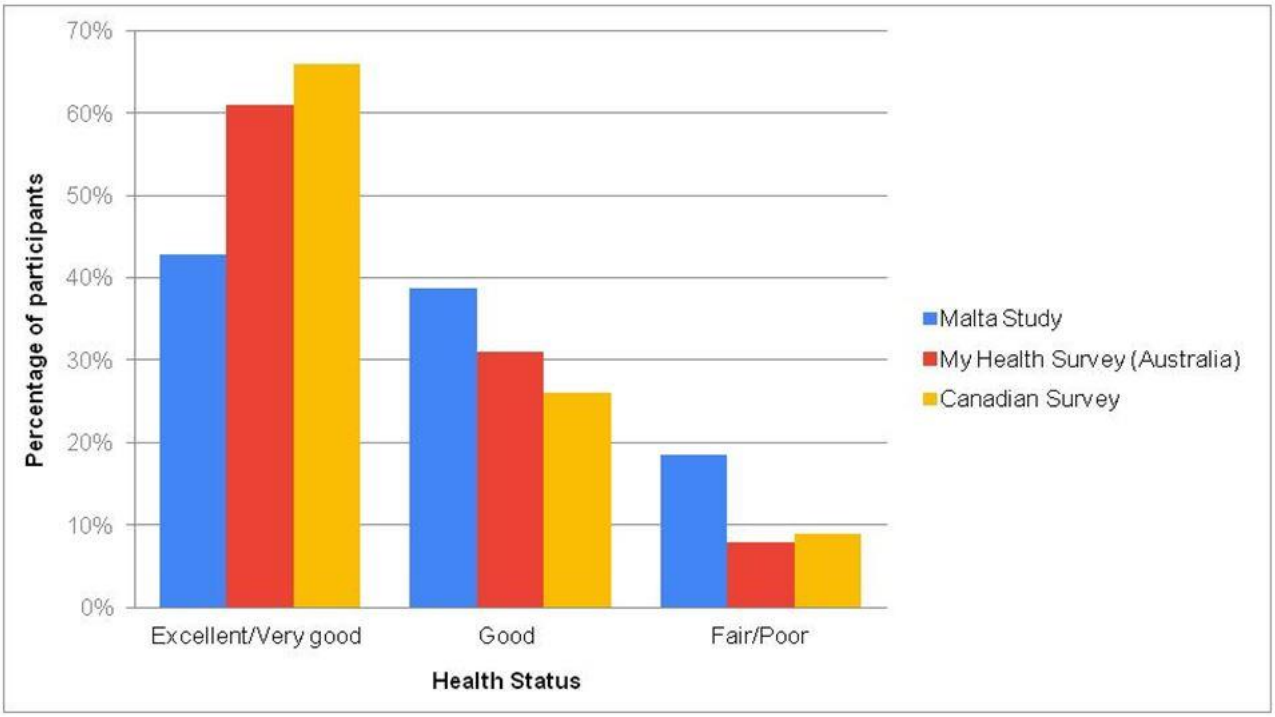
Some also pointed out that it helped them reflect on changes they need to implement in order to safeguard their well-being. Other comments relating to the questions above were included with the thematic analysis of the specific questions.

Discussion

The average number of hours worked by the doctors who participated in this study was in excess of the 48 hours requirement of the European Working Time Directive (EWTD).[16] Doctors in training, including Foundation doctors, worked longer hours when compared to specialists, which might be due to longer assigned duty hours, or to doctors working extra sessions to improve their pay or gain more experience. This finding is similar to previous studies[11] and might explain the higher stress levels and burnout experienced by younger doctors.[17] However, while such associations are relatively clear, the existing evidence shows an increased risk of percutaneous injuries and road traffic accidents, but does not allow for an established causal or 'dose–response' relationship between long working hours and mood disorders or general health.[18] It is also difficult to establish the ideal number of extra hours doctors could work while remaining safe and healthy.[18]

Overall, self-rated health was very good or excellent in 43% of participants in the questionnaire. This is lower than similar studies in Ireland, Australia and Canada.[4-5,11] Comparison with the latter two studies is illustrated in Figure 11.

Figure 11 Health Status of participants in different studies



The commonest chronic illnesses mentioned by doctors in our study were related to the cardiovascular system. This might be associated with the fact that almost 48% of doctors had a BMI in the overweight or obese range, and a very low number of doctors reported regular adequate exercise practices. The general lack of exercise and high BMI in male doctors was also evident in studies carried out in 2006 and 2014 amongst GPs in Malta.[6-7] Malta has been identified by the World Health Organization (WHO) as one of the European countries with the highest obesity prevalence, and this seems to also be reflected in the population of doctors, with males having a tendency for a higher BMI.[19] Research in 2014 showed that GPs in Malta who are obese find it harder to recommend exercise, while those who smoke find it more difficult to advise smoking cessation.[7] Thus, doctors' health and health beliefs were shown to negatively affect their advice and recommendation to patients, with subsequent adverse consequences on the health of patients.[7]

Self-stigma when dealing with mental health problems was expressed by 59% of participants. This is of particular concern, especially since 59.5% of participants also said they do not have a doctor and provide their own medical care. This stigma has been observed in previous doctors' studies and addressing this attitude in early stages of training may help to reduce barriers to care.[11] This is especially important when considering that the medical profession is associated with a high risk of mental ill health, substance misuse and suicide risk.[11]

Doctors in Malta had higher levels of severe stress (27%), when compared to similar studies carried out in Australia (13%) and Ireland (9.5%).[5,11] Levels of psychological distress and burnout were higher in trainees than specialists, as observed previously. One can argue that the expectations related to the training programmes occur more or less at the time that people start planning their family lives or actually start their family lives. These facts, coupled with an element of possible financial commitments might explain the observations.[3,11] Comparably, a reduction in stress, burnout, compassion fatigue and secondary traumatic stress was observed with advancing career stage. This observation might reflect the challenging and relatively unsupported role of doctors in training, where high demands are placed on doctors making it difficult for them to cope.[11] It might also show the tendency of doctors in difficulty to fail or choose not to progress to senior grades, therefore resulting in a cohort of specialists who represent those who survived in the challenging work environment.[11] When considering the spectrum of mental health, females reported consistently higher levels of mental ill health in all areas being reviewed (stress, burnout, compassion fatigue and secondary traumatic stress). Global research has shown that younger age, female sex, long working hours, low job satisfaction and the presence of work-home conflict were associated with an increased prevalence of burnout in doctors.[20] A higher rate of stress and burnout was evident in females in studies carried out in Canada, Ireland and United States, however studies carried out in Europe and Australia found that burnout was more prevalent in males.[4,5,11,21-22] There are a limited number of studies which analyze and report burnout data in doctors according to gender, however there is evidence to suggest that the experience of stress and burnout is different between males and females. Females are more likely to encounter gender discrimination and biases, postponed personal life decisions and barriers to career advancement, all of which may contribute to burnout.[23-25] Even though a significant improvement has been noted in recent years with

improvement of childcare facilities and local campaigns promoting the sharing of life's responsibilities between males and females,[26] female doctors, particularly those in training, possibly feel they have to juggle many other things in addition to work-related tasks, as was noted in the qualitative analysis of this study.

Harassment and sexual harassment were also noted to be experienced more by female doctors in our study. This finding has been reported previously, and was also found to be associated with a higher risk of burnout and mental health problems.[27-29] Similarly, in a study among GPs in Malta carried out in 2007, 31% of doctors felt verbally and physically used, misused and abused. This was found to be contributing to the poor job satisfaction experienced by the doctors.[8]

Recurrent themes mentioned by participants as barriers to maintaining a healthy lifestyle include working hours, conditions, workload and frustrations related to existing systems in the workplace (such as difficulty with taking vacation leave). These were similar to themes that emerged in previous studies with doctors.[3,5,20]

Strengths and Limitations of the Study

This study was innovative since it offered new information on the health and well-being of doctors working in Malta, which is indeed a poorly studied area. Doctors of all career stages were invited to participate in the study, including doctors who are still in their initial years of training and those working in both public and private sectors. This helped to get a better representation of the local situation. The tools used in this study were used in previous studies with doctors, and this was done to aid comparison.

There was a total of 173 responses to the questionnaire, and this represents approximately 8% of the total number of doctors registered with the Malta Medical Council. The small numbers were a limitation especially since it was not possible to analyze results by specialty and assess for significant associations. A number of online channels were used for distribution of the questionnaire to try and reach as many doctors as possible, including Facebook® since most people use social media on a daily basis. The authors however appreciate that not all registered doctors working in Malta were reached in this manner. It should also be noted that not all doctors in the Facebook® group and on the Medical Council registers are necessarily currently working in Malta, as was required in order to be eligible to participate in the study. Additionally, in view of data protection laws access to the email addresses of all doctors registered in Malta, which would have enabled wider distribution of the questionnaire, was restricted. Possible reasons for the low response rate include distributing the questionnaire electronically, having a long questionnaire dealing with sensitive issues, and being at a very particular time of almost one year into a worldwide pandemic. There was only one response from a non-Maltese doctor working in Malta, and therefore this subgroup was largely under-represented. Most of the participants in the study worked in General Practice, and this could have been influenced by the fact that both authors are practising GPs. The study was also limited by the fact that it is a cross-sectional study, thus susceptible to certain biases, such as responder bias, and it may also be difficult to interpret any associations identified in view of its design.

Recommendations

- Improve **facilities in the workplace** that help employees lead a healthier lifestyle (e.g. healthy food options at reasonable prices, water dispensers, exercise facilities at/close to

workplace, fitness classes, gym/sports membership fees at reduced prices, showers)

- At the **organizational level**:
  - Create a **better environment** at work – supportive and less competitive. This can be achieved through regular team-building activities, amongst other things.
  - Ensure **good working conditions** for all doctors – shared workload, manageable working hours, regular breaks, fair and equal access to vacation leave and study leave, family-friendly measures.
  - Being pro-active rather than reactive and try to prevent the onset of mental health issues through initiatives to **reach-out to doctors**, especially the at-risk category identified in this study, which are the doctors in training.
  - Develop **structures that allow for dealing with issues such as belittlement, harassment and sexual harassment** at the workplace in a confidential and effective manner.
- At the **educational level**:
  - Improving education about health and well-being of doctors, especially during medical school, foundation and specialist training years. Doctors should be aware of self-care and self-help strategies they can use, and when they should seek help. Education should focus on improving resilience through educational processes and practice-based interventions.[3]
  - Education of senior doctors and specialists is also vital in helping to identify problems with junior doctors (who might be very skilled at hiding certain issues), and how to tackle such problems and support the individuals.
- Development of a **formal national doctors' health and well-being programme**. This would have a number of roles, including:
  - Raising **awareness** about important areas of well-being through the use of emails, development of online toolkits etc.
  - Providing **access to specific activities** that can help maintain well-being, e.g. mindfulness or relaxation classes
  - Providing **easy access to confidential medical and psychological services**, specifically for doctors. This can be done through the setting up of a weekly afternoon/evening clinic, ideally outside of hospital or government health centres (to ensure privacy), where two GPs would be available. An email address can be made available for doctors to make contact or set an appointment. The GPs will make the initial assessment and be available for follow-up, or refer as needed.
  - Development of systems that will allow for **supervision or mentorship** for doctors in all specialties. This practice which is commonly used in psychiatry and psychology would possibly be extremely beneficial if implemented across all specialties; thus every doctor will know that a supervisor or mentor is available to discuss issues with periodically.
  - Co-ordinate **further research** on the subject, with a possible focus on doctors in training, different specialties and gender differences in health and well-being; as well as effective strategies that can be used to improve and maintain well-being.

Conclusion

The primary objective of this study was to shed light on the health and well-being of doctors in Malta, and any possible associated factors. In this regard, the findings of this study help in getting a better picture of the situation. Indeed, doctors in Malta who participated in this study were found to have higher levels of stress, burnout, compassion fatigue and secondary traumatic stress than their international peers.[4,5,11] These findings were more prevalent in young female doctors who were still in training. This highlights the importance of developing strategies to improve working conditions for doctors in training and increasing their awareness of health issues (especially psychological), while training senior doctors and specialists to identify colleagues who need support and help. The high percentage of doctors who are overweight or obese also emphasizes that despite their knowledge, the struggle with a healthy lifestyle is also common in doctors. Interventions at various levels – personal, professional and organisational, are needed to help doctors improve and maintain their physical and mental health and well-being.

Summary Box

Known about this subject:

- Doctors' health, including mental health, can impair performance and reduce the quality of patient care.
- Younger age, female sex, long working hours, low job satisfaction and the presence of work-home conflict were associated with an increased prevalence of burnout in doctors.
- Harassment and sexual harassment in the workplace have been found to be associated with a higher risk of burnout and mental health problems in doctors.

Findings:

- Doctors in Malta had higher levels of severe stress when compared to their international peers, and levels of psychological distress and burnout were higher in trainees than specialists.
- Female doctors in Malta reported consistently higher levels of mental ill health in all areas being reviewed (stress, burnout, compassion fatigue and secondary traumatic stress).
- Almost 48% of participating doctors in Malta were overweight or obese, with males having a higher tendency for an elevated BMI. Cardiovascular problems were the commonest chronic conditions suffered by doctors.

Acknowledgments

The authors are grateful to all the doctors who took time to complete the questionnaire and share their thoughts and experiences. ~~We~~ The authors would also like to thank all entities who kindly facilitated distribution of the questionnaire.

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