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RESEARCH

Staff and student health and wellness at the Faculty of Medicine and Health Sciences, Stellenbosch University: current status and needs assessment

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Background: Emphasis is currently placed on the importance of employee and student wellness initiatives. The aim was to assess staff and student health status at the Faculty of Medicine and Health Sciences (FMHS), Stellenbosch University (SU), and to conduct a wellness needs assessment.
Methods: Online, self-administered questionnaires were used to collect data concerning staff and students. Additionally, students' anthropometric and biochemical parameters were assessed. Summary statistics, correlation coefficients and appropriate analysis of variance were used for data analyses.
Results: Data were obtained from staff (survey: $n = 300$) and students (screening: $n = 536$; survey: $n = 330$). Some 58% ($n = 174$) of staff had a self-reported BMI of ≥ 25 kg/m^2 whilst mean screening values for all variables fell within normal reference ranges for students. In all, 78% ($n = 232$) of staff reported to exercise < 150 min/week and 28% ($n = 91$) of students were sedentary for > 8 h/day; 63% ($n = 188$) of staff expressed the need to make better food choices, 17% ($n = 55$) of students were aware of the need to change but experienced reluctance, and both staff and students felt dietary assistance would be beneficial (43% vs. 46%). In addition, 79% of staff ($n = 208$) and 42% of students ($n = 138$) reported being under constant pressure.
Conclusion: Much can be done to improve the health and well-being of both staff and students at the FMHS, SU. Wellness is a multifactorial concept; as such, health-promotional strategies for classrooms and workplaces should consider all factors in order to provide a holistic approach and potentially identify those who are at risk of a sub-optimal wellness status.

Keywords: health sciences, health screening, online survey, staff and student wellness

Introduction

The World Health Organization (WHO) defines wellness as not only the absence of illness but a state of complete physical, mental and social well-being.[1] Wellness is a multifaceted concept that incorporates seven dimensions, namely social, emotional, physical, intellectual, spiritual, environmental and occupational wellness.[2] These aspects are believed to be a worthy focus for employee and student wellness programmes, as they exist as a holistic model wherein the diverse dimensions are interdependent.[1] It is important to be able to identify these dimensions and implement a programme that addresses these within an organisation.[3]

From the standpoint of an employee, not only is each dimension of wellness important, but the ability to balance these dimensions is fundamental.[3] Employees of an organisation should have access to wellness programmes, along with incentives that encourage participation. This change in behaviour can be beneficial in improving organisational culture,[4] decreasing absenteeism, reducing medical costs and improving well-being of employees.[5]

Similarly, many studies have been conducted worldwide emphasising the unhealthy behaviour and lifestyles of university students.[6–16] Behaviours and lifestyle habits formed during the university years are likely to be continued throughout adulthood and could contribute to increased development of non-communicable diseases (NCDs), namely diabetes, cardiovascular disease (CVD), coronary heart disease (CHD) and cancers.[14,17,18] Multiple factors can influence student wellness, such as limited or expensive food choices, time constraints, psychological issues, substance abuse and a sedentary lifestyle.[19,20]

The vision of the Faculty of Medicine and Health Sciences (FMHS) at Stellenbosch University (SU) is to 'advance health and equality in South Africa and beyond'.[21] This vision is further strengthened by the faculty mission statements, a set of values and the development of an institutional culture that welcomes, develops and supports a diversity of students and staff.[21] In recognition thereof, an existing strategy at the FMHS is the current wellness programme implemented in May 2012, focusing on staff—as opposed to student—wellness.[22]

Data generated from Discovery Health Wellness day reports (2010–2015) provided the basic health profile of staff members at the FMHS.[23] These findings showed that at least 60% of participants were overweight, with poor dietary intake and unsatisfactory physical activity levels. The aims of this study were therefore to assess the current health status of students, and to assess the knowledge, attitudes, practices and needs of staff and students with regard to health and wellness at the FMHS, SU.

Methods

A descriptive, cross-sectional study with an analytical component was conducted. This project was divided into two categories, namely staff and student wellness. Staff wellness was assessed according to an online survey, while both an overview of current health status and an online survey were conducted for students.

Staff

Online survey

The electronic survey, developed with the assistance of the Tygerberg Information Technology Department, was conducted on the SU survey tool (SUN Surveys) during March 2016. All academic and administrative staff of the FMHS were approached

for participation. Participants were eligible for inclusion if they had Internet/email access and gave informed consent. Staff members who participated in the pilot study and contract staff were excluded. A sample size was calculated with a 95% confidence interval and a margin of error of 5%. Of the total staff count on campus that met the inclusion criteria (n = 1 190), a minimum sample of n = 291 was required.

The survey aimed to measure and assess the current understanding of wellness and to conduct a needs assessment. The survey consisted of four sections: (a) socio-demographic details; (b) current understanding of wellness; (c) wellness programme at FMHS and (d) a needs assessment. Sixty questions were included and took approximately 10–15 minutes to complete.

Prior to the start of data collection content validity was assessed by experts in the field of nutrition and wellness. A pilot study was conducted with staff from the Division of Human Nutrition to assess face validity. The study was advertised by means of email correspondence to recruit participants. Two reminders were sent to staff during the data collection period to encourage participation.

Students

Phase 1: basic health profile

The study population consisted of both male and female full-time undergraduate students at the FMHS who were invited to participate in the screening during March 2016. Recruitment emails were sent via the university distribution list and flyers and posters were distributed around campus containing details about the study.

Non-random, voluntary sampling was used and a minimum sample size of n = 475 was required to provide data that could be interpreted with a 95% confidence interval and a precision error of 4%, based on the total number of registered full-time undergraduate students at FMHS in 2015 (n = 2 267). Data collection was conducted in March 2016 over five weekdays by 14 fieldworkers (BSc IV Dietetics students from SU).

Before performing anthropometric and biochemical measurements on all participants, individuals were briefed on what the study entailed and written informed consent was obtained. Fingerprick biochemical measurements included random capillary cholesterol (Cobas Accutrend Plus cholesterol meter and strips, Roche, United States) and random capillary glucose measurements (Accu-chek Active plus blood glucose meter and strips, Roche, United States). Anthropometric measurements' included height (Seca model 217 portable stadiometer, Seca, Hamburg, Germany), weight (Seca Robusta 813 digital scale, Seca, Hamburg, Germany) and waist circumference (non-elastic tape measure). BMI was calculated according to the WHO guidelines.[24] Resting blood pressure was measured using an Omron M6 sphygmomanometer (Omron, Kyoto, Japan). Cholesterol and glucose meters were coded daily prior to taking measurements, and the scale was zeroed before each measurement. A pilot study was conducted in February 2016, whereby 14 BSc Dietetics IV students were trained and observed by five trainers.

Phase 2: online survey

All full-time undergraduate students at the FMHS (n = 1 773) who met inclusion criteria, provided informed consent and who volunteered to participate in the study were included. First-year students registered at the FMHS, first- and second-year B. Speech and Language Therapy students (not hosted at Tygerberg campus), postgraduate students and BSc Dietetics IV students who had participated in the pilot study were excluded from the study.

An electronic questionnaire was developed by the researchers and made available to students during February–March 2016 (three weeks). To encourage participation, an informative email was sent prior to the start of the study, followed by a weekly reminder e-mail. Similar to the staff version of the survey, this tool also aimed to assess the understanding of wellness by students, and to determine the need for a student wellness programme. The survey consisted of four sections: (a) socio-demographic details; (b) current understanding and perception of wellness; (c) wellness on Tygerberg campus and (d) determining the need for a student wellness programme. The survey concluded with an overall assessment of perceived wellness regarding each of the seven wellness dimensions.

Content validity was assessed by three experts in the field of health and wellness. Face validity was evaluated by ten BSc Dietetics IV students who were not involved in the questionnaire compilation or the greater study.

Ethics approval

Ethics approval (N15/10/123) was obtained from the Health Research Ethics Committee (HREC) of the FMHS, SU. Institutional approval was granted by the Division of Institutional Planning (SU). The first page of both questionnaires included a consent form. By proceeding with questionnaire completion, participants acknowledged and consented to participate in the study. Participants could withdraw at any time. During the health screening each person received a participant number to ensure confidentiality and anonymity. As part of the student basic health profile, each participant received a copy of their results, and if their measurement was not within the normal reference ranges, they were advised to seek medical assistance. Participants voluntarily provided their contact details if they wished to partake in a lucky draw to win a retail voucher for each phase of the study.

Data analysis

Normal reference ranges were based on the following guidelines: random capillary blood glucose 4–8 mmol/l (preferably < 7.8 mmol/l), total blood cholesterol < 5 mmol/l, blood pressure ≤ 120/80 mm/Hg and BMI 18.5–24.9 kg/m^2.[24–26] Waist circumference was considered normal if < 80 cm for females and < 94 cm for males.[27]

Statistical analysis

MS Excel® (Microsoft Corp, Redmond, WA, USA) was used to capture the data and STATISTICA version 13 Dell Inc (Round Rock, TX, USA) (2015) was used to analyse the data. Summary statistics were used to describe the variables. Regression and correlation analyses were utilised to document the relationship between continuous variables. Appropriate analysis of variance was used to investigate relations between continuous and nominal variables. Where residuals were not normally distributed, non-parametric methods were used. The relation between nominal variables was investigated with contingency tables and likelihood ratio chi-square tests. A p-value of $p < 0.05$ represented statistical significance in hypothesis testing and 95% confidence intervals were used to describe the estimation of unknown parameters. Open-ended questions were grouped and interpreted according to the various themes that emerged.

Results

Staff

Online survey

Three hundred participants completed the online survey (25.2% response rate), with a mean age of 41 years (SD ± 10.64). It must be noted that not all respondents answered every question in the online survey. Socio-demographic profiles of respondents are shown in Table 1. This table reflects the numbers of academic and administrative staff who took the online survey, as well as the students who did the online survey and who were screened for six indicators.

The self-reported results indicated that, on average, the BMI of staff was 26.9 ± 5.85 kg/m^2 (overweight). Data revealed that 58% (n = 174) of employees have a BMI of ≥ 25 kg/m^2. Hypertension was indicated as the most frequently occurring health condition (n = 34, 11.3%), either individually or combined with another health condition. High cholesterol was indicated by 10.3% (n = 31) of respondents.

With regard to employee's activity levels, 78% (n = 232) of staff reported to exercise less than the recommended 150 min/week. Some 51% (n = 153) of respondents reported consuming ≤ 2 servings of fruit and vegetables/day. A significant difference in sugary drink consumption was found whereby both younger staff (p = 0.01) and administrative staff (n = 88; 61.1%) were seen to consume more per week (p = 0.02). In total, 59% (n = 177) of participants were observed to never purchase food items on campus, due to the high cost of food options (n = 141; 47%), lack of variety (n = 118; 39%) and lack of healthy options (n = 64; 21.3%). Additionally, 63% (n = 188) of staff feel that they need to make better food choices, and 43% (n = 127) would like help doing so.

Some 70% (n = 208) of staff often or always feel under pressure at work and more than half have difficulty relaxing (n = 161; 54.03%). There was a significant difference between designation (p = 0.00013), whereby more academic staff (n = 40; 26.32%) reported always feeling under pressure in the workplace, compared with their administrative counterparts. In addition to work pressure, almost a quarter of all staff, 22.9% (n = 68) work > 50 h per week and approximately 49.6% (n = 147) feel the need for more flexible working hours.

Responses generated by the needs assessment revealed an overall lack of motivation within the workplace and dissatisfaction with management, facilities and wellness initiatives currently in place. A total of 52% (n = 156) of respondents reported not being aware of the wellness committee on campus, but almost all staff members (n = 281; 94%) reported that they felt this committee was necessary. Staff felt it would increase productivity, improve health and motivation, create awareness of healthy behaviours and that these activities would also be more accessible if occurring on campus.

> A healthy lifestyle should not be separate from one's work life. A healthy lifestyle can only be achieved when small changes are made in all spheres of life—including your work life. A wellness committee is instrumental in educating people on the healthy options/choices they can make at work, and elsewhere. Healthy workers benefit the company they work for, and it is wise of the company/institution to help people become more healthy. (Stellenbosch University Staff member [online survey])

Students

(Please note that students who took part in the physical screening and the online survey were not necessarily the same individuals.)

Phase 1: basic health profile

A total of 536 students participated in the study (23.6% response rate) (Table 1), with a mean age of 20.59 years (SD ± 2.17). The mean BMI was within the normal range (23.69 ± 4.29 kg/m^2) (Table 2), although overweight/obese students were also included in the study. Residence-accommodated participants had a significantly higher mean BMI (23.97 ± 4.17 kg/m^2) compared with privately accommodated participants (23.22 ± 4.46 kg/m^2) (p = 0.02). A borderline significant positive correlation was found between mean BMI and year of study: as the year of study increased, the mean BMI also increased (r = 0.08, p = 0.05).

Males were found to have a significantly higher mean random blood glucose value (5.82 ± 1.03 mmol/l) compared with females (5.61 ± 0.85 mmol/l) (p = 0.02). Female participants had a significantly higher total weighted mean cholesterol (4.67 ± 0.46 mmol/l) compared with males (4.47 ± 0.46 mmol/l) (p = 0.000). Other anthropometric and biochemical variables are shown in Table 2. A significant positive correlation was found

Table 1: Total population (staff and students) demographics

Item				Online survey	
				n	**%**
Staff:	Demographic characteristics				
Gender	Male	–	–	62	20.7
	Female	–	–	238	79.3
Designation	Academic	–	–	152	50.7
	Administrative	–	–	146	48.7
Students:		Basic health screening		Online survey	
		n	%	*n*	%
Gender	Male	155	29	59	17.9
	Female	381	71	271	82.1
Accommodation	Residence	334	62	184	55.8
	Private	202	38	146	44.2
Degree	BSc Physiotherapy	52	10	28	8.5
	BSc Dietetics	47	9	41	12.5
	B Speech, Language & Hearing Therapy	15	3	16	4.9
	B Occupational Therapy	40	7	16	4.9
	MB ChB*	382	71	228	69.3
Year of study	First year (screening only)	105	20	–	–
	Second year	150	28	94	28.6
	Third year	124	23	97	29.5
	Fourth year	77	14	70	21.3
	Fifth year	54	10	40	12.2
	Sixth year	26	5	27	8.2
	Seventh year	–	–	1	0.3

Two participants did not indicate staff designation.
*MBChB = Bachelor of Medicine and Surgery.

Table 2: Phase 1—Anthropometric, biochemical and other measurements of students

Variable and category	Measurement (mean ± SD)					
	BMI (kg/m²)	WC (cm)	Systolic BP (mm Hg)	Diastolic BP (mm Hg)	BG (mmol/l)	Blood cholesterol (mmol/l)
Overall population	23.69 ± 4.29	78.09 ± 10.36	113.86 ± 13.43	72.29 ± 8.43	5.67 ± 0.91	4.61 ± 0.62
Gender						
Male	24.80 ± 3.87	83.39 ± 10.27	125.50 ± 13.42	73.34 ± 8.65	5.82 ± 1.03	4.47 ± 0.46
Female	23.25 ± 4.38	75.94 ± 9.60	109.12 ± 10.15	71.86 ± 8.31	5.61 ± 0.85	4.67 ± 0.66
Accommodation						
Residence	23.97 ± 4.17	78.33 ± 9.97	113.07 ± 12.65	71.73 ± 8.31	5.67 ± 0.85	4.57 ± 0.61
Private	23.22 ± 4.46	77.70 ± 10.98	115.15 ± 14.57	73.21 ± 8.57	5.68 ± 1.00	4.68 ± 0.63
Degree programme						
MBChB	23.93 ± 4.39	78.79 ± 10.44	114.83 ± 13.96	72.05 ± 8.58	5.67 ± 0.9	4.59 ± 0.53
Dietetics	23.08 ± 3.96	76.74 ± 10.11	112.96 ± 12.79	74.11 ± 7.83	5.57 ± 0.83	4.69 ± 0.72
Physiotherapy	22.82 ± 3.59	75.63 ± 9.11	111.35 ± 11.01	72.50 ± 7.51	5.86 ± 1.07	4.54 ± 0.56
Occupational Therapy	23.68 ± 4.59	77.23 ± 10.92	109.25 ± 11.09	72.35 ± 8.51	5.71 ± 0.88	4.64 ± 0.64
Speech Therapy	22.49 ± 4.02	75.53 ± 10.54	112.93 ± 12.20	71.73 ± 9.55	5.40 ± 0.77	5.11 ± 0.63
Year of study						
1st year	23.14 ± 4.28	–	113.58 ± 13.72	72.09 ± 8.43	5.71 ± 0.86	4.50 ± 0.53
2nd year	23.78 ± 4.16	–	112.13 ± 13.31	71.74 ± 8.51	5.67 ± 0.92	4.61 ± 0.69
3rd year	23.36 ± 4.08	–	112.58 ± 13.31	71.15 ± 8.09	5.68 ± 0.93	4.60 ± 0.61
4th year	24.08 ± 4.31	–	116.91 ± 12.28	73.57 ± 8.64	5.71 ± 1.04	4.64 ± 0.50
5th year	23.89 ± 4.26	–	116.39 ± 14.29	73.35 ± 8.25	5.48 ± 0.79	4.72 ± 0.72
6th year	25.43 ± 5.72	–	116.69 ± 13.37	75.69 ± 8.44	5.83 ± 0.85	4.81 ± 0.65

*Bold variables indicate statistically significant findings between various groups.
SD = standard deviation; BMI = body mass index; WC = waist circumference; BP = blood pressure; MBChB = Bachelor of Medicine and Surgery; BG = blood glucose.

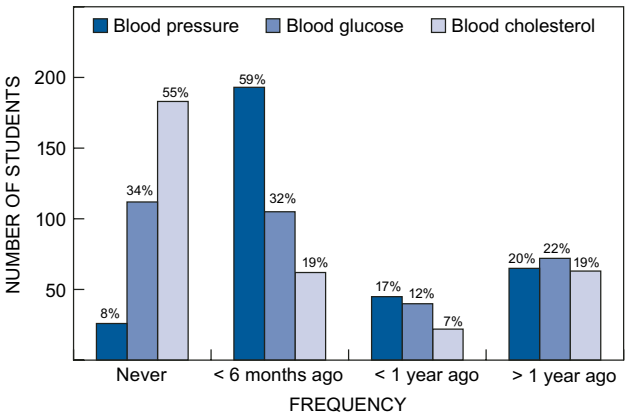

Figure 1: Frequency of biochemical screening (students).

between year of study and cholesterol: as the year of study increased, total blood cholesterol also increased (r = 0.14, p = 0.00).

Phase 2: online survey

A total of 330 students participated in the online survey (18% response rate). Socio-demographic profiles of the respondents are depicted in Table 1.

Participants perceived their body weight to be normal (n = 234; 73.1%) although 24.5% (n = 81) thought they were overweight. Many of the participants had never tested their blood cholesterol (n = 183; 55%) or blood glucose level (n = 122; 34%) (Figure 1).

More than a quarter of students (n = 91; 27.66%) were sedentary for > 8 h during the day.

The majority of students did not purchase meals on campus (n = 223, 67.6%) due to high prices (n = 228; 69.1%), lack of variety (n = 192; 58.2%) and unhealthy food options (n = 207; 62.7%). In all, 46% (n = 155) expressed a need for help with their eating habits and 17% (n = 55) were aware they needed to modify their dietary habits, but were reluctant to change. Additionally, 42% of students (n = 138) reported constantly being under pressure, and 38.5% (n = 126) struggled to relax. The majority (n = 310; 94%) of students agreed that targeted wellness activities are necessary on campus.

Discussion

The term 'wellness' comprises many elements, some of which are often compromised or neglected once a person enters the late student years or working world, as well as during the course of their productive years.[2] At this time, an individual also becomes more at risk for developing chronic lifestyle diseases,[2] which not only affects their own life but also their work performance, which ultimately influences economic growth. It is thus evident that employers and those involved with student wellness should focus on building a culture of well-being within their organisation, and invest in wellness activities that will strengthen the concern for healthy behaviours.[5]

Considering the current health profile of staff on campus, it is evident that the average staff member is unhealthy, but is seeking assistance in improving his/her overall health and wellness. Data also revealed an overall feeling of under-appreciation by colleagues, lack of motivation within the workplace and

dissatisfaction with management, facilities and wellness initiatives currently in place at the faculty. This could negatively affect several of the previously mentioned dimensions of wellness. Data revealed by the survey (as well as previously mentioned Discovery reports) shows that the majority of staff have a consistently high BMI, are overweight or obese and have a waist circumference above acceptable ranges. The results from this study are in line with the current national statistics in South Africa, indicating that 31.3% of the total population are either overweight or obese.[28]

In contrast to staff anthropometric findings (self-reported survey data and prior Discovery reports), total population measurements for students fell within the normal ranges for all measurements performed during the health screening, which seems to indicate a relatively healthy physical wellness of students on campus. There were, however, 41% of males and 25% of females who were found to be overweight or obese. This finding differs from the latest South African National Health and Nutrition Examination Survey (SANHANES) report, which states that the prevalence of overweight and obesity in South Africa was significantly higher in females (64%) compared with males (31%).[29] This study's population, however, is unique in terms of age and future profession, compared with the SANHANES population. A study done in Saudi Arabia on medical students revealed males to have a higher prevalence of overweight and obesity (47.2%) compared with females (26.8%) and a Greek university had corresponding rates of 40% and 23% for males and females respectively.[7,8] In the survey aspect of the study, more students (24%) perceived themselves to be overweight than is currently observed at other South African universities (13.3%).[12]

A quarter of participants who lived in university residences where classified as pre-obese, compared with 17% of privately accommodated participants. There are a number of factors that may have resulted in this finding, including the availability and/or cost of healthy food on campus, cafeteria portion sizes and lack of cooking facilities in residences.[20] Other factors could be related to lifestyle changes, as shown by poor dietary variety and lack of physical activity on campus.[30,31] Adolescents are also often susceptible to manipulation of health behaviours, due to exposure to alcohol and other substances, and altered sleep patterns.[32] Factors relating to student interactions, such as eating with peers in larger groups, excessive dietary intake during exam periods, peer pressure, lack of family support and emotional interactions, should also not be discounted.[32] Addressing these factors could possibly create opportunities for potential interventions.

Female students had a significantly higher mean total cholesterol compared with male students, which corresponds with SANHANES that found one in three females had abnormally high serum total cholesterol, compared with one in five males.[29] A study done on first-year university students in South Africa also showed females to have a higher total blood cholesterol compared with males.[6] As the year of study increased, total cholesterol increased. Literature suggests that, as studies progress, there is a concomitant rise in stress levels.[10] This increased stress can be due to a larger workload, more clinical hours and greater pressure, and can contribute to higher cholesterol levels.[10] Literature has also proved that stress can cause multiple metabolic and inflammatory processes, which can contribute to obesity and metabolic syndrome.[33] The results also showed that as the year of study increased, BMI also increased. Higher levels of stress could therefore be contributing to the higher mean BMI of the sixth-year students.

As revealed in the staff study, the majority of employees who responded exercised for less than the recommended 150 min/week, and were furthermore unaware of this recommendation. Regular physical activity has been associated with reduced risk of mortality due to CVD and has been shown to aid in weight loss, prevention of diabetes mellitus, bone strengthening and immune system enhancement.[34] Physical activity is also beneficial for the psychological well-being of an individual, which in turn may improve work performance and morale.[34] The results from the online survey found a significant difference in the exercise frequency between genders, where more females than males exercised for less than 150 min per week. This is in line with research indicating that 48% of men and 63% of women are inactive.[35]

Although these students were aware of the minimum required amount of daily exercise, many did not achieve this level, which places them at higher risk for development of NCDs.[36] This finding corresponds with a similar study conducted at another health science faculty in SA.[16] Time and financial constraints and somewhat isolated campus facilities were reportedly major contributing factors to low activity levels at the FMHS. Many of the participants in this study did not walk or cycle or exercise or eat properly to maintain good health. It is therefore important that cost-effective, group activities that require minimal resources be made available on campus.

Overall, the nutritional intake of many was poor and is a significant predictor of ill health. Many respondents felt the need to make better food choices and requested assistance in making these changes. Fruit and vegetable intake was found to be very low amongst both groups, considering their importance in a balanced diet and contribution to the prevention of a variety of diseases and cancers. The WHO has linked almost 2.7 million deaths per year to low fruit and vegetable consumption.[28] The consumption of sugary drinks was more prevalent among staff members and is a significant contributor to weight gain and CVD.[37] Individuals who consume one to two cans a day (or more) have a 26% greater risk of developing type 2 diabetes and a 35% greater risk of having a heart attack.[38] Healthier meal options are often limited on campus and/or not actively promoted, which results in a large proportion of employees and students never purchasing food on campus. Reasons include the high cost of food, as well as lack of variety and healthy options.

Occupational stress has been linked to the development of CVD and also has a negative impact on work performance. Approximately 25% of women and 18% of men worldwide report high levels of stress due to work-related pressure.[39] Results from the online survey indicate a great percentage of staff feel under pressure at work and that many of them find it difficult to relax. Research has indicated that short sessions of physical activity during the workday may reduce occupational stress and increase productivity.[39] The workplace is therefore an ideal setting for health promotion and intervention strategies.[40]

Student life, especially on a medical campus, is also a very stressful time that can have negative effects on academic performance, physical health and psychological well-being.[41,42] Although stress is a normal phenomenon, it can negatively affect an individual. Stressors influencing students can be grouped as either financial, academic, time and/or health related, as well as

self-imposed in nature.[43] The key to stress management, particularly among students, is a combination of rigorous time management, support from social circles, positive affirmation and partaking in leisure activities.[44] FMHS students reported feeling stressed and unable to manage their academic workload and approximately a quarter of participants experienced sleep deprivation. It is therefore essential that more effort be made to assist students to develop effective coping strategies and time management skills.

Recommendations stemming from the staff component of the study included performing frequent health risk assessments and developing more targeted health-promotion strategies (secure exercise facilities on campus, enforcement of tea/lunch breaks, team-building activities, stress management workshops, availability of healthier/cheaper foods and dietary modification guidelines). Staff also mentioned the importance of holistic wellness care such as an on-site child care service and a more suitable breastfeeding area. Some of these recommendations (e.g. annual health risk assessments, workshops and a breastfeeding area) have been implemented at the FMHS whilst others are being investigated. Incentives, such as cash rewards or novelty items, were suggested to positively reinforce short-term behaviour and increase participation in wellness programmes. [45]

With regard to the student aspect of the study, recommendations included performing more detailed studies in the future, as well as establishing a student wellness committee and improving the current physical wellness facilities available on campus. Further suggestions highlighted the need for free annual basic health screening, wellness-based societies and including a subject based on personal health and wellness as part of the curriculum. Extrapolation of the latter recommendation included each student profession taking responsibility for a particular aspect of wellness, i.e. dietetics students to counsel students on dietary habits, physiotherapy students presenting group exercise programmes etc.

General limitations of survey-based research include inaccurate reporting by participants, voluntary participation which could introduce bias, no indication of portion sizes and unavailability of trained interviewers to clarify or probe participants when answering questions. The design of the online survey allowed participants to proceed without answering every question, which is not ideal. This study was also conducted in a single-faculty setting, which could limit the generalisability of the results to the entire university population. The non-random sampling method could have led to a less representative sample of the whole population, although this remains the most common sampling method for a study of this nature.

Conclusion

Upon consideration of the study results, it is clear that much can be done to improve the health and well-being of both staff and students at the FMHS. These wellness initiatives include means of adopting healthier lifestyle habits, namely diet and physical activity, as well as dealing with occupational and study-related stress.

As wellness is a multifactorial concept, classroom and workplace health-promotion strategies should consider all factors in order to provide a holistic approach and potentially identify those who are at risk of a sub-optimal wellness status. Future interventions should not only address workplace policies but also environmental and social norms that ultimately affect health behaviour decisions.[46] The compilation and implementation of an action plan addressing overall campus wellness should be encouraged.

These data create a potential platform to develop sustainable wellness-promotion activities and awareness campaigns that are targeted at employees and students alike. It is important to remember that behaviour change is not a simple process, but rather incorporates several stages, namely contemplation of the proposed change, preparation for change, taking action and ultimately maintenance of the adopted health behaviour.[47] Any future wellness activities and campaigns would thus fare better by incorporating these aspects into their strategies.

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