Burnout and its associated factors among medical students of Jazan University, Jazan, Saudi Arabia

Mohamed Saih Mahfouz and Suhaila Abdalkarim Ali

Department of Family and Community Medicine, Faculty of Medicine, Jazan University, Jazan, Saudi Arabia, and
Haya Ahmed Alqahtani, Amani Ahmad Kubaisi, Najla Mohammed Ashiri, Eshrag Hassan Daghriri, Shaima Ali Alzahrani, Azhar Ahmed Sowaidi, Afnian Mousa Maashi and Doa’a Albarag Alhazmi

Faculty of Medicine, Jazan University, Jazan, Saudi Arabia

Abstract

Purpose – The purpose of this study is to assess the prevalence of burnout syndrome and its associated factors among medical students at Jazan University, Jazan, Kingdom of Saudi Arabia.

Design/methodology/approach – A cross-sectional survey was conducted among 440 randomly selected medical students at Jazan University. The questionnaire used for this study was based on the Copenhagen Burnout Inventory.

Findings – The overall prevalence of burnout was estimated at 60.2% (95% CI 55.6 – 64.8). The prevalence was higher for females (64.1%) than for males (56.2%) but without statistically significant differences (p > 0.05). On average, the students scored the highest averages in the personal burnout category, followed by the study-related and client-related burnout categories. In the multivariate analysis, a lower age (beta = –3.17, p = 0.026), female (beta = –0.896, p = 0.016), and having better burnout knowledge (beta = 0.710, p = 0.025) predict significantly higher personal burnout.

Practical implications – It is necessary to implement strategies to reduce the incidence of burnout among medical students for the sake of a better quality of life for future doctors.

Originality/value – There is a high prevalence of burnout among Jazan’s medical students.

Keywords Burnout, Copenhagen burnout inventory, Jazan

Paper type Research paper

Background

Medical education at the undergraduate level is associated with increased stress and depression among the students (Alharbi et al., 2018; Sarkar et al., 2017; Sani et al., 2012; Abdulghani, 2008; El-Gilany et al., 2008). The long process of the study modules and the academic environment have multiple challenges to students and expose them to increasing stress.

The sources of stress in medical training are diverse, ranging from keeping appropriate academic achievements to the vastness of the educational curriculum (Sani et al., 2012; Abdulghani, 2008; El-Gilany et al., 2008). The continuous exposure to stress without taking a break may lead to a decrease in achievements ability, and this, in turn, causes the burnout syndrome (Moghadam et al., 2017).

Burnout syndrome is a state of emotional, mental and physical exhaustion caused by excessive and prolonged stress (Schaufeli et al., 2002). It occurs when the person feels overwhelmed, emotionally drained and unable to meet constant demands (Moghadam et al., 2017; Schaufeli et al., 2002).

Many studies have been conducted internationally (Moghadam et al., 2017; Schaufeli et al., 2002; Asencio-Lopez et al., 2016; Muzafar, et al., 2015; Costa et al., 2012) and at KSA level (Albalawi et al., 2015; Almalki et al., 2016).

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The sampling design will be divided into males and females and three dimensions: various degrees of burnout. Burnout among students has professional et al. (2006). Increasing shreds of evidence suggested the effect of burnout syndrome on the academic performance of medical students (Rana, 2016). Further, it illustrated that burnout is associated with psychiatric disorders and suicidal ideation (Dyrbye, et al., 2008).

Although there is increasing global interest (IsHak et al., 2013) in the burnout syndrome, no previous study assessed the extent of burnout among medical students at Jazan University. The main objective of this study was to evaluate the prevalence of burnout syndrome and its associated factors among medical students in Jazan University.

Research methods
Study design, area and population
This research used an analytical cross-sectional study design. The research was conducted in the Faculty of Medicine at Jazan University. Jazan is located in the southwest of the Kingdom of Saudi Arabia (KSA) on the Red Sea. Study participants were medical students at Jazan University, who registered for the academic year (2017–2018).

Sampling procedures
The sample size is calculated to be 440 students. The estimation was based estimated on sample size formula for cross-sectional study design, using the following parameters response $p = 50\%$ (As no previous study on Burnout conducted at Jazan University), 95% confidence interval and error, not more than 5%. Also, the study assumed a non-response rate of 10%:

$$n = \frac{Z^2 \cdot P \cdot (1 - P)}{d^2}$$

The sampling design will be divided into males and females and stratified according to different classes within the faculty of Medicine at Jazan University all.

Data collection and study tool
Data was collected by using a self-administered questionnaire. The study mainly used the Copenhagen Burnout Inventory (CBI) questionnaire (Kristensen et al., 2005), which measures the three aspects of burnout, namely, personal, work related and patient related and consists of 19 questions in the 3 mentioned domains.

Personal domain refers to the state of prolonged physical and psychological exhaustion. Work-related burnout relates to the degree of physical and mental fatigue and exhaustion that is perceived by the person as related to his or her study. We defined a client-related burnout, as the degree of physical and psychological fatigue and exhaustion that is perceived by the student as related to his or her work with clients. The clients are a broad concept covering terms such as colleagues, patients, inmates, students, residents, etc.

The validity, reliability of the CBI has been previously discussed, and the Cronbach’s alpha for the burnout scale was estimated at 0.87 (Kristensen et al., 2005; Milfont et al., 2008). Students responses were made in the following categories: always, often, sometimes, seldom and never; the corresponding scores for each category are 100, 75, 50, 25 and 0, respectively. For each aspect of the burnout (personal, work related and patient related), average score was calculated. Free or minimal is defined as average total scores less than or equal 50, high burnout average more than 50. In addition to the CBI questionnaire, the study collected background information on the study participants including, gender, age, cumulative grade points average (CGPA), marital status and mode of living.

Data management and analysis
Data collected was checked on regularly bases by the study team and entered into SPSS program for analysis. Descriptive statistics was used first to summarize the data using frequency distributions, graphs, means, etc. To compare categorical variables, chi-square test was used. Linear regression models were used to assess the relationship between the depended variable – burnout as a continuous variable with potential predictors such as age, gender, burnout level of knowledge, level of studies, CGPA and some selected preventive measures. A $p$-value < 0.05 was used to indicate statistical significance.

Ethical consideration
This study was conducted in accordance with ethical standards of the KSA. All the participants read, understood and signed a written consent form.

The anonymity of participants was emphasized, and confidentiality was strictly maintained on all collected questionnaires. Finally, the study was approved by the ethical Committee of Jazan University (HAPO-10-Z-001) (Approval #REC39/8-S024).

Results
Of the 440 college students recruited, 438 completed the questionnaires, with a response rate of 99.5.0%. A total of 233 (53.2%) were females, with a mean age of 21.91 ± 1.6 years. Sociodemographic characteristics of the study population are described in Table 1. Regarding the marital status of the students, a majority of them were singles and rural students represented (53.2%) of the total number of the students.

Students’ knowledge regarding burnout showed that 26.7% had low knowledge scores, and that 40.6% had intermediate knowledge, whereas 32.7% reported a high level of knowledge scores (Table 2). The difference in the knowledge scores by age group showed no statistical significance ($p = 0.166$). Students from urban areas had a better knowledge score than those from rural areas, but the difference was not statistically significant ($p = 0.512$). Females had reported higher knowledge scores.
Table 1 Socio-demographic characteristics of the study participants

| Characteristics | Male (N=428) | Female (N=436) | Total (N=864) |
|-----------------|-------------|---------------|--------------|
| Age groups (n=428) |             |               |              |
| 19-21           | 89 (44.1)   | 94 (41.6)     | 183 (42.8)   |
| 22-23           | 76 (37.6)   | 92 (40.7)     | 168 (39.3)   |
| 24-27           | 37 (18.3)   | 40 (17.7)     | 77 (18.0)    |
| Marital status (n=436) |             |               |              |
| Single          | 198 (97.1)  | 203 (87.5)    | 401 (92.0)   |
| Married         | 6 (2.9)     | 26 (11.2)     | 32 (7.3)     |
| Divorced & widow| 0 (0.0)     | 3 (1.3)       | 3 (0.7)      |
| College level (n=436) |             |               |              |
| 2nd year        | 75 (36.8)   | 78 (33.6)     | 153 (35.1)   |
| 3rd year        | 48 (23.5)   | 43 (18.5)     | 91 (20.9)    |
| 4th year        | 33 (16.2)   | 41 (17.7)     | 74 (17.0)    |
| 5th year        | 27 (13.2)   | 42 (18.1)     | 69 (15.8)    |
| 6th year        | 21 (10.3)   | 28 (12.1)     | 49 (11.2)    |
| Grade Points Average (n=346) |             |               |              |
| Pass            | 8 (4.8)     | 14 (7.7)      | 22 (6.4)     |
| Good            | 61 (37.0)   | 76 (42.0)     | 137 (39.6)   |
| Very Good       | 40 (24.2)   | 49 (27.1)     | 89 (25.7)    |
| Excellent       | 56 (33.9)   | 42 (23.2)     | 98 (28.3)    |
| Place of Residence (n=425) |             |               |              |
| Urban           | 89 (44.1)   | 110 (49.3)    | 199 (46.8)   |
| Rural           | 113 (55.9)  | 113 (50.7)    | 226 (53.2)   |
| Total           | 205 (100)   | 232 (100)     | 438 (100)    |

Table 2 Knowledge score about burnout according to some selected variables

| Variable          | Low (N=436) | Moderate (N=436) | High (N=436) | p-value |
|-------------------|-------------|------------------|--------------|---------|
| Age (years)       |             |                  |              |         |
| 19–21             | 38 (21.6)   | 74 (42.0)        | 64 (36.4)    | 0.166   |
| 22–23             | 46 (28.0)   | 68 (41.5)        | 50 (30.5)    |         |
| 24–27             | 25 (38.3)   | 33 (33.8)        | 20 (29.4)    |         |
| Gender            |             |                  |              | 0.000   |
| Male              | 71 (35.7)   | 75 (37.7)        | 53 (26.6)    |         |
| Female            | 40 (18.4)   | 94 (43.3)        | 83 (38.3)    |         |
| Levels            |             |                  |              | 0.368   |
| 2nd               | 28 (18.9)   | 64 (43.2)        | 56 (37.8)    |         |
| 3rd               | 27 (30.7)   | 35 (39.8)        | 26 (29.5)    |         |
| 4th               | 21 (29.2)   | 20 (41.7)        | 21 (29.2)    |         |
| 5th               | 21 (31.8)   | 27 (40.9)        | 18 (27.3)    |         |
| 6th               | 13 (31.7)   | 13 (31.7)        | 15 (36.6)    |         |
| GPA               |             |                  |              |         |
| Pass              | 8 (36.4)    | 10 (45.5)        | 4 (18.2)     | 0.573   |
| Good              | 37 (28.2)   | 51 (38.9)        | 43 (32.8)    |         |
| Very Good         | 20 (23.5)   | 33 (38.8)        | 32 (37.6)    |         |
| Excellent         | 25 (26.6)   | 43 (45.7)        | 26 (27.7)    |         |
| Place of residence|             |                  |              | 0.512   |
| Urban             | 49 (25.9)   | 72 (38.1)        | 68 (36.0)    |         |
| Rural             | 61 (28.2)   | 89 (41.2)        | 66 (30.6)    |         |
| Overall Knowledge | 111 (26.7)  | 169 (40.6)       | 136 (32.7)   |         |

(38.3%) than males (26.6%); this difference was statistically significant (p < 0.05) (Table 2).

Burnout scores were categorized to free/minimal and significant (high) burnout. Based on this categorization, the overall prevalence of burnout was estimated at 60.2% (95% CI 55.6–64.8) higher for females (64.1%) than for males (56.2%) but without significant difference (p > 0.05). Regarding academic year, the high level of burnout among the students was reported among students of the fifth year (68.2%) and the lowest in the sixth year (internship 54.2%) also without statistical significance (p > 0.05). Students from Urban areas were characterized by having a high level of burnout (64.1%) compared with those from rural areas (58.1%) with statistical no significance difference (p > 0.05) (Table 3).

Table 3 Prevalence of burnout among medical students based on CBI according to some selected factors

| Characteristics | Burnout levels | p value |
|-----------------|----------------|---------|
| Gender          |                | 0.093   |
| Male            | 89 (43.8)      | 114 (56.2) |         |
| Female          | 80 (35.9)      | 143 (64.1) |         |
| Age groups      |                | 0.186   |
| 19–21           | 67 (38.1)      | 109 (61.9) |         |
| 22–23           | 61 (36.7)      | 105 (63.3) |         |
| 24–27           | 37 (48.7)      | 39 (51.3)  |         |
| Marital status  |                | 0.624   |
| Single          | 158 (40.4)     | 233 (59.6) |         |
| Married         | 10 (32.3)      | 21 (67.7)  |         |
| Divorced & widow| 1 (33.3)       | 2 (66.7)   |         |
| College level   |                | 0.574   |
| 2nd year        | 57 (38.3)      | 92 (61.7)  |         |
| 3rd year        | 38 (43.2)      | 50 (56.8)  |         |
| 4th year        | 30 (40.5)      | 44 (59.5)  |         |
| 5th year        | 21 (31.8)      | 45 (68.2)  |         |
| 6th year        | 22 (45.8)      | 26 (54.2)  |         |
| Grade Points    |                | 0.360   |
| Average         |                |         |
| Pass            | 9 (40.9)       | 13 (59.1)  |         |
| Good            | 46 (34.1)      | 89 (65.9)  |         |
| Very Good       | 38 (43.2)      | 50 (56.8)  |         |
| Excellent       | 42 (44.7)      | 52 (55.3)  |         |
| Place of Residence |            | 0.216   |
| Rural           | 93 (41.9)      | 129 (58.1) |         |
| Urban           | 69 (35.9)      | 123 (64.1) |         |
| Overall Prevalence |              | 169 (39.8) | 256 (60.2) |         |
| 95% C.I         |                | 55.6–64.8 |         |
Table 5 illustrates the students’ responses on preventive measures regarding the burnout. More than 50% of the respondents had never or rarely enjoyed a good vacation; however, 24.9% reported that they have a good vacation. About one-quarter of the respondents never practice any exercise for at least one hour, whereas 1.8% said that they never did anything for fun. About 15% of the studied sample had never felt a healthy life, whereas only 10.4%

**Table 4 CBI burnout scores, mean (SD) according to burnout dimensions among the medical students, according to some selected factors**

| Characteristics | Personal burnout | Study-related burnout | Client-related burnout |
|-----------------|------------------|-----------------------|------------------------|
| **Gender**      |                  |                       |                        |
| Male            | 67.7 (18.2)      | 59.3 (17.2)           | 44.7 (22.9)            |
| Female          | 70.9 (22.0)      | 61.9 (19.6)           | 37.6 (23.7)            |
| p value         | 0.115            | 0.155                 | 0.002                  |
| **Age groups**  |                  |                       |                        |
| 19–21           | 70.6 (20.6)      | 58.8 (19.8)           | 37.9 (24.1)            |
| 22–23           | 69.5 (19.8)      | 62.2 (17.4)           | 43.4 (23.1)            |
| 24–27           | 66.6 (20.8)      | 60.8 (18.0)           | 43.0 (22.6)            |
| p value         | 0.358            | 0.250                 | 0.076                  |
| **Marital status** |                |                       |                        |
| Single          | 72.8 (21.4)      | 64.8 (20.6)           | 37.6 (19.3)            |
| Married         | 70.8 (31.5)      | 76.8 (2.5)            | 23.3 (22.5)            |
| Divorced & widow| 69.0 (20.2)      | 60.2 (18.4)           | 41.5 (23.9)            |
| p value         | 0.601            | 0.200                 | 0.289                  |
| **College level** |                 |                       |                        |
| 2nd year        | 70.6 (20.9)      | 58.7 (18.6)           | 35.8 (23.5)            |
| 3rd year        | 68.9 (19.6)      | 61.2 (19.0)           | 44.2 (20.8)            |
| 4th year        | 67.0 (20.2)      | 60.9 (18.7)           | 44.2 (25.7)            |
| 5th year        | 72.3 (19.5)      | 64.7 (18.5)           | 42.2 (23.0)            |
| 6th year        | 67.0 (20.9)      | 60.3 (17.2)           | 44.2 (24.5)            |
| p value         | 0.464            | 0.307                 | 0.453                  |
| **Grade Points Average** |        |                       |                        |
| Pass            | 67.9 (22.1)      | 60.2 (17.5)           | 41.0 (21.0)            |
| Good            | 71.2 (21.7)      | 63.9 (19.2)           | 42.8 (24.1)            |
| Very Good       | 67.0 (18.7)      | 57.4 (18.1)           | 38.0 (22.1)            |
| Excellent       | 68.2 (19.7)      | 57.3 (18.1)           | 43.0 (25.4)            |
| p value         | 0.470            | 0.026                 | 0.453                  |
| **Place of Residence** |         |                       |                        |
| Urban           | 72.2 (19.5)      | 62.8 (18.9)           | 42.3 (24.7)            |
| Rural           | 67.8 (20.5)      | 60.0 (17.3)           | 40.2 (22.5)            |
| p value         | 0.028            | 0.126                 | 0.367                  |
| All Students    | 69.5 (20.3)      | 60.7 (18.6)           | 41.0 (23.6)            |

**Table 5 Preventive measures among the study participant regarding the burnout**

| Statement                              | Always (N) | Often (N) | Sometimes (N) | Rarely (N) | Never (N) | Mean (D) |
|----------------------------------------|------------|-----------|---------------|------------|-----------|----------|
| Having a full day to do what you like  | 45 (10.4)  | 94 (21.7) | 181 (41.7)    | 98 (22.6)  | 16 (3.7)  | 3.12 ± 0.99 |
| Having time for your Self              | 120 (27.6) | 158 (36.4)| 112 (25.8)    | 39 (9.0)   | 5 (1.2)   | 3.80 ± 0.98 |
| Having a good vacation.                | 108 (24.9) | 76 (17.6) | 74 (17.1)     | 73 (16.9)  | 102 (23.6)| 3.03 ± 1.51 |
| Practicing exercise for at least one hour | 26 (6.0)  | 65 (15.0) | 98 (22.7)     | 139 (32.2) | 104 (24.1)| 2.46 ± 1.18 |
| Doing Something for fun                | 120 (27.7) | 144 (33.3)| 131 (30.3)    | 50 (12.0)  | 13 (3.0)  | 3.78 ± 0.98 |
| Having time for friends and family     | 71 (16.5)  | 132 (30.6)| 160 (37.1)    | 57 (13.2)  | 11 (2.6)  | 3.45 ± 0.99 |
| Share your stress with others          | 74 (17.1)  | 109 (25.1)| 119 (27.4)    | 71 (16.4)  | 61 (14.1) | 3.14 ± 1.28 |
| Good sleep quality (8-9 hours per night) | 56 (12.9)  | 97 (22.4) | 143 (32.9)    | 88 (20.3)  | 50 (11.5) | 3.04 ± 1.18 |
| Say “No!” to inappropriate things      | 91 (21.0)  | 128 (29.6)| 149 (34.4)    | 52 (12.0)  | 13 (3.0)  | 3.53 ± 1.04 |
| Feeling a healthy Life                 | 28 (6.5)   | 69 (15.9) | 148 (34.2)    | 123 (28.4) | 65 (15.0) | 2.70 ± 1.10 |
always having a full day to do their lovely things. A total of 20% of the studied sample rarely have a good sleep quality for 8–9 h per night.

In multivariate analysis (Table 6) decreasing age (Beta = −3.17, p = 0.026), being a female (Beta = −0.896, p = 0.016); and increase burnout knowledge (Beta = 0.710, p = 0.025) predict significantly higher personal burnout. Also, increase in the burnout knowledge (Beta = 0.277, p = 0.000), academic year (Beta = 0.175, p = 0.000) and CGPA (Beta = 0.369, p = 0.000) significantly predict high study-related burnout. Age (0.762, p = 0.002) and CGPA (Beta = 0.305, p = 0.037) significantly predict high client-related burnout.

**Discussion**

To the best of our knowledge, this is the first study to deal with burnout syndrome at Jazan University. This study attempts to assess the prevalence of burnout syndrome and its associated factors among medical students. The results revealed a worrisome prevalence of burnout of 60.2% among all medical students from second to sixth year.

Consulting the literature on medical students’ burnout (Albalawi et al., 2015; Almalki et al., 2017; Aboalshamat et al., 2017; Altannir et al., 2019; Al-Alawi et al., 2019; Stein and Sibanda, 2016; Chin et al., 2016; Atlam, 2018; Fares et al., 2016a; Popa-Velea et al., 2017 and Dewitt et al., 2016), the use of different scales to measure burnout, which in turns makes direct comparison very difficult; however, it appears that the prevalence of burnout in this study was similar to Almalki (2017) in KSA, probably higher than Al-Alawi et al. (2019) in KSA, Albalawi et al. (2015) in KSA, Stein and Sibanda (2016), Popa-Velea et al. (2017) and Dewitt et al. (2016). Our estimate also looks to be lower than Chin et al. (2016), Atlam (2018) and Aboalshamat (2017) (Table 7).

Our results indicated that the prevalence of burnout was higher for females 64.1% than for males 56.2%, and the three burnout dimensions are higher for females than for males. Many studies have documented gender as a risk factor for burnout.

### Table 6 Regression analysis of the factors associated with burnout

| Predictors                                      | Personal burnout |        | Burnout dimensions |        | Client–related burnout |        |
|-------------------------------------------------|------------------|--------|--------------------|--------|------------------------|--------|
|                                                 | Beta             | p value | Study-related burnout | Beta   | p value                 |        |
| Having a good vacation.                         | −0.610           | 0.148  | −0.010             | 0.798  | 0.093                  | 0.169  |
| Practicing exercise for at least one hour       | 0.024            | 0.944  | 0.022              | 0.624  | 0.006                  | 0.613  |
| Doing Something for fun                        | 0.092            | 0.696  | 0.055              | 0.478  | −0.086                 | 0.391  |
| Having time for friends and family              | 0.907            | 0.069  | −0.027             | 0.704  | 0.023                  | 0.030  |
| Share you’re stress with others                 | −0.850           | 0.064  | 0.046              | 0.359  | 0.028                  | 0.054  |
| Good sleep quality (8-9 hours per night)        | −0.429           | 0.159  | 0.027              | 0.619  | −0.176                 | 0.514  |
| Say ”No!” to inappropriate things               | 0.598            | 0.075  | −0.001             | 0.989  | −0.104                 | 0.870  |
| Feeling a healthy Life                          | 0.709            | 0.074  | −0.071             | 0.170  | 0.037                  | 0.070  |
| Knowledge Score                                 | 0.710            | 0.025  | 0.277              | 0.000  | −0.017                 | 0.660  |
| Age                                             | −30.17           | 0.026  | −                    | 0.762  | 0.002                  |        |
| Gender (female)                                 | −0.896           | 0.016  | 0.136              | 0.016  | −0.103                 | 0.265  |
| Academic year                                   | 2.795            | 0.025  | 0.175              | 0.000  | 0.115                  | 0.130  |
| CGPA                                            | −1.030           | 0.047  | 0.369              | 0.000  | 0.305                  | 0.037  |
| R²                                              | 0.96             | 0.90   | 0.77               |        |                        |        |

### Table 7 Prevalence of burnout among students during the past five years

| Study               | Sample size | Population                                      | Country     | Scale | Prevalence(%) |
|---------------------|-------------|-------------------------------------------------|-------------|-------|---------------|
| Al-Alawi et al. (2019) | 662         | Sultan Qaboos University                        | Oman        | MBI   | 7.4           |
| Albalawi et al. (2015) | 140         | Tabuk University                                | KSA         | MBI   | 48.6          |
| Almalki et al. (2017)  | 249         | King Saud bin Abdulaziz University for Health Sciences | KSA       | MBI   | 61.8          |
| Stein and Sibanda (2016) | 93          | University in Johannesburg                     | South Africa| CBI | 31.0           |
| Chin et al. (2016)    | 452         | Universiti Sains Malaysia                      | Malaysia    | CBI   | 67.9          |
| Atlam (2018)          | 672         | Tanta University                                | Egypt       | CBI   | 79.9          |
| Fares et al. (2016a)  | 165         | Private university in Beirut,                   | Lebanon     | MBI   | 75.2          |
| Popa-Velea et al. (2017) | 299       | the University of Medicine in Bucharest         | Romania     | MBI   | 15.05         |
| Dewitt et al. (2016)  | 688         | five Australian medical schools                 | Australia   | CBI   | 51.0          |
| Aboalshamat et al. (2017) | 645      | medical and dental students in Jeddah           | KSA         | CBI   | 67.9          |

Note: MBI: Maslach Burnout Inventory-Educators Survey (Maslach et al., 1996)
factor for burnout (Altannir et al., 2019; Chunming et al., 2017). Altannir et al. (2019) argued that higher levels of burnout among female in KSA resulted from cultural, social and religious factors that affect the three dimensions of burnout. Traditionally females were more susceptible to stress, depression and hence to burnout.

In the present study, there was a significant association between the age of the students and client-related burnout, while the same variable is negatively associated with personal burnout dimension. In some studies, age was found to be significantly associated with burnout. Dyrbeye et al. (2006), showed that senior medical years are associated with more significant burnout. Another study in Pakistan found that age was significantly associated with burnout (Muzafar et al., 2015). The possible explanation for that is increase in age is associated with higher academic years.

Looking for the association between the burnout syndrome and academic year, literature revealed a controversial outcomes, some studies reported a higher prevalence of burnout among students in advances clinical years (Muzafar, et al., 2015; Fares et al., 2016a, 2016b; Cecil et al., 2014; Seo et al., 2015), whereas others observed the reverse relationship (Dyrbeye et al.; 2009). In the present study, we reported a significant correlation between the year of study and personal and work-related burnout syndrome.

In our study, only 12.9% of students reported that they always sleep for 8–9 h. Moreover, the multivariate analysis suggested a negative association between sleep duration (8–9 h) and personal and client-related burnout, although no significant association was observed. Sleep problems have been regarded as the most common symptoms of burnout. We assessed the association between sleep and burnout using one question and it may be better be assessed using any objective sleep disorder scale.

To minimize the adverse effects of burnout among the future physicians, protective strategies have been proposed in the literature, such as adequate sleep, physical activity, psychological support, educational strategies, and a better learning environment (Fares et al., 2016a, 2016b). The intervention strategies may also extend to reducing the weight of daily college activities, introducing extracurricular programs and educating students about means of minimizing personal stress. Educators and decision-makers can create methods to increase the confidence and personal motivation of students with the central purpose of increasing empathy and enjoyment in the study, thus fostering healthy well-being as a substantial individual factor of protection (Dyrbeye et al., 2009; Fares et al., 2016a, 2016b; Prins et al., 2008; Youssef, 2016; Dyrbeye and Shanafelt, 2016).

Although this study is the first study to investigate the burnout syndrome among medical students at our University, our research suffers from some limitations. First, our research design is a cross-sectional study which means the difficulty to determine the cause and effect and hence the relationship between the dependent variable burnout score and the set of explanatory variables should be understood in this context. Second, the comparisons of our outcomes with other studies may be affected by the mere heterogeneous nature of the studies regarding burnout as different scales were used which in turns challenges our ability to assess our results.

Conclusions

In conclusion, our study showed that burnout syndrome was highly prevalent among medical students at Jazan University. The present study identified several factors associated with burnout in Jazan medical students. It is necessary to implement strategies to reduce the incidence of burnout among medical students for the sake of a better quality of life for future doctor.

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Corresponding author
Mohamed Saih Mahfouz can be contacted at: mm.mahfouz@gmail.com