Attitudes and thoughts of medical practitioners towards their profession in the era of financial crisis in Greece

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Introduction. The financial crisis which started in Greece about 10 years ago has affected the income of citizens, their quality of life, as well as social and occupational relationships. It is actually suggested that the current situation led not only to a decrease in self-rated health status, but to general difficulties on public health policies regarding health promotion. The provided healthcare services have been adversely affected [2-4].

In this context, working conditions can be severely affected, especially since employees experience job insecurity [5]. In addition, and due to the applied policies towards hiring fewer personnel, usually under temporary terms, greater work intensity is observed, accompanied often by occupational stress and burn-out. Moreover, changes in attitudes towards the profession itself, towards colleagues and personal life are reported among healthcare workers with a significant deterioration in the already affected by other factors, such as shift work, work-life balance and sleep quality [6, 7].

Aim of the study was to assess attitudes towards working conditions and personal life and to record quality of environment, the salary and they rated their quality of life worse than that of the general population. Weekly workload exceeded 60 hours for the majority. No difference between sexes was revealed, with the exception of use of energy drinks which was more prevalent in males (70.7% vs. 51%, p = 0.022). Comparison between ranks revealed that medical students performed better in everyday activities and socialization, although prevalence of reported fatigue was higher in them. Finally, it was demonstrated that surgeons used more frequently medication to achieve sleep promotion (80.4% vs. 36%, p < 0.001) and daily energy (78.4% vs. 44%, p < 0.001).

Conclusions. An overall dissatisfaction regarding workload, salary and quality of life is recorded among doctors of a tertiary hospital in Greece, with different coping strategies among subgroups.

Methods

Study design, population and questionnaire

Included were doctors practicing medicine in a tertiary university hospital in the area of Alexandroupolis, NE Greece. More specifically inclusion criteria were the following: individuals studying medicine exclusively at the last (sixth) year of undergraduate studies with certain duties in the clinics and licensed doctors (medical residents or specialty holders) with clinical practice duties with medical or surgical specialties. Doctors practicing laboratory or diagnostic specialties were not included in the study. All participants were asked to participate voluntarily by answering to questionnaire comprising 31 questions about their demographics (age, sex, marital status), their working conditions (medical specialty, rank, workload, etc.), their quality of life, symptoms (anxiety, change in body weight, etc.) and sleep habits (use of sleep promoting medication, daytime sleepiness.
etc.). Most questions were answered in a 5-point Likert scale. The distributed questionnaire was based on that used by Bohrer et al. [8], modified after a pilot study on 10 doctors, so as to better depict the conditions in a Greek hospital environment. More specifically, the questionnaire was translated from German to Greek and back-translated to German by two independent bilingual individuals. The initially enrolled participants \( n = 10 \) answered the questionnaires in the presence of two members of the research team, to whom they reported their comments and suggestions, regarding the inclusion or exclusion of certain items. The survey took place between January and October 2016. The study protocol received approval of the Ethics Committee of our Institution.

**Statistical analysis**

Statistical analysis of the data was performed using IBM Statistical Package for the Social Sciences (SPSS), version 19.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics (expressed as % percentages for qualitative values and as mean ± SD for quantitative values) were used. Comparisons between different subgroups, depending on sex, occupational rank, and medical specialty were performed using t-test and ANOVA. Multivariate stepwise linear and logistic regression models were constructed to explore the independent association of general and demographic characteristics of the participants on their attitudes. Standardized beta regression coefficients, coefficients of determination \( R^2 \) and adjusted odds ratios (OR) with their 95% confidence intervals (CI) were estimated as the measure of the above associations. Cronbach’s \( \alpha \) coefficient was used to evaluate the internal consistency of the questionnaire. This was found to be 0.77, which indicates a very high internal consistency of the questionnaire. All tests were two tailed and statistical significance was considered for \( p \) values < 0.05.

**Results**

Out of the 198 initially approached, 140 medical doctors consented to participate and received the questionnaire with the obligation to deliver it the next day to members of the research team. (Fig. 1) Finally 133 questionnaires were gathered (response rate 67.2%).

**Participants’ general characteristics**

Mean (± SD) age of participants was 36 ± 12.5 years, ranging between 23 and 63 years. No difference was observed in terms of age, between males and females (36 ± 12 vs. 36 ± 13 years respectively, \( p = 0.847 \)), nor between holders of internal medicine or surgical specialties (40 ± 11 vs. 40 ± 12 years respectively, \( p = 0.749 \)). The rest of the participants’ general characteristics are being displayed in Table I. As seen, the majority (64.7%) works for more than 60 hours/week, with a 24.1% of them reporting weekly workload exceeding 80 hours. Attitudes towards their work, personal life and satisfaction are summarized in Table II. As seen in this Table, the majority (68.4%) characterized their weekly workload as excessive, while they are neither satisfied with the working environment (satisfaction was reported by 32.3%), nor with the salary (satisfied were only 19.8%). Participants also consider their quality of life worse than that of the general population, as well as their patients’. The only positive finding was that the majority (54.9%) believes that there are still opportunities for continuous medical education. Moreover, in a 5-point Likert scale, the mean (± SD) value of the importance of personal life was high among participants, i.e. 4.01(±0.95), however mean (± SD) time for personal life was lower 2.34 (± 1.10).

**Comparison between males-females**

Tables III and IV both display the comparison in prevalence of different symptoms between sexes. As seen in
Table III, a significantly larger proportion of men reported using energy-promoting medication. No other statistically significant difference was observed. Additionally, comparison of sleep quantity ranking, in a 5-point Likert scale: (0 = no sleep, 5 = excessive sleep time), did not reveal any difference \(1.96 \pm 0.94\) for females and \(1.72 \pm 0.99\) or males (\(p = 0.164\)).

**Comparison between ranks**

As a further step, an analysis comprising comparison between occupational ranks was performed and is displayed in Table V. As seen in Table V, students scored significantly better in terms of everyday activities, ability to be satisfied, socialization and team work. Moreover, a significant difference was observed regarding the use of sleep-promoting medication, which was more common among specialists, and less common among medical students. Additionally, a statistically significant difference was observed in reports of fatigue and/or weakness, with medical students reporting the higher. Sleep quantity was rated as better in students in comparison to both residents and specialists, as seen in section 5b of the Table.

**Effect of age**

The impact of age on attitudes of the participants was also explored. Pearson’s correlation analysis revealed a significant association between age and negative mood (i.e older age is associated with negative feelings) with \(r = 0.209, p = 0.016\). A negative association pattern was revealed between age and socialization (i.e. older participants report at a lesser level the will to socialize) with \(r = -0.245, p = 0.053\).

**Comparison between medical/surgical specialties**

The next step involved the exclusion of medical students, and the analysis of the same answers between doctors of medical and surgical specialties, as seen in Table VI. As displayed in this Table, doctors practicing internal medicine reported sleeping more in a 5-point Likert scale (<0.001), and they rated better their ability to perform in everyday activities (<0.001), their positive attitude (\(p = 0.023\)), socialization (\(p = 0.030\)). On the other hand, surgeons reported using more frequently medication to stay active (<0.001) or to promote sleep (<0.001). However, surgeons rated better their feeling of belonging in a team (\(p = 0.003\)).

**Factors that predict attitudes/thoughts towards the profession**

Finally, multivariate linear regression analyses, which were performed with participants’ attitude as the dependent variable, revealed the following:

- Independent determinants of the ability to perform in everyday activities were: a) being resident (standardized coefficient beta = -0.332, \(p = 0.002\), R\(^2\) change = 4.0%) and b) being specialist (beta = -0.217, \(p = 0.045\), R\(^2\) change = 2.9%).
- Independent determinant of the ability to be satisfied was being a resident (beta = -0.341, \(p < 0.001\), R\(^2\) change = 11.6%).
- Independent determinant of negative feelings was age (beta = -0.209, \(p = 0.016\), R\(^2\) change = 4.4%).
- Independent determinants of socialization were a) being \(\alpha\) resident (beta = -0.344, \(p = 0.001\), R\(^2\) change = 3.3%) and b) being \(\alpha\) specialist (beta = -0.431, \(p < 0.001\), R\(^2\) change = 3.0%).
- Independent determinants of shorter sleep duration were a) being \(\alpha\) resident (beta = -0.457, \(p < 0.001\), R\(^2\) change = 5.5%) and b) being \(\alpha\) specialist (beta = -0.364, \(p = 0.001\), R\(^2\) change = 8.3%).
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- Independent determinants of higher use medication to be more energetic and fulfill daily activities were a) male gender (aOR = 2.58, 95% CI = 1.22-5.48, p = 0.013) and b) being single or divorced (aOR = 2.14, 95% CI = 1.01-4.54, p = 0.049).
- Independent determinant of higher use of sleep-promoting medication was being married (aOR = 2.40, 95% CI = 1.15-5.00, p = 0.020).
- Independent determinant of higher prevalence of headache or other physical pain was a) being student or b) specialist (aOR = 2.44, 95% CI = 1.17-5.06, p = 0.017).
- Independent determinant of higher prevalence of fatigue and/or weakness was being student (aOR = 3.64, 95% CI = 1.45-9.18, p = 0.006).

Multivariate linear regression analysis revealed also that surgical specialty remained an independent determinant of a) lower ability to perform in everyday activities (be-

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**Tab. V.** Comparison between occupational ranks rating with a 5-point Likert scale activities, feelings and attitudes. (0 = not at all - 5 = totally).

|                      | Student | Resident | Specialist | p      |
|----------------------|---------|----------|------------|--------|
| Everyday activities  | 2.81 ± 1.03 | 1.98 ± 1.31 | 2.26 ± 1.17 | 0.009  |
| Ability to be satisfied | 5.31 ± 1.12 | 2.33 ± 1.34 | 3.15 ± 1.04 | <0.001 |
| Positive feelings    | 2.31 ± 1.47 | 2.59 ± 1.57 | 2.70 ± 1.16 | 0.478  |
| Negative feelings    | 2.88 ± 1.26 | 2.94 ± 1.12 | 2.51 ± 1.28 | 0.179  |
| Socialization        | 3.56 ± 1.52 | 2.65 ± 1.41 | 2.36 ± 0.82 | <0.001 |
| Team work            | 3.15 ± 1.07 | 2.95 ± 1.34 | 2.77 ± 1.18 | 0.444  |

**Tab. VI.** Comparison between doctors practicing medical vs. surgical specialties in rating with a 5-point Likert scale (0 = not at all - 5 = totally) in activities, feelings and attitudes (6a) and in reported symptoms and medication use (6b).

|                      | Medical | Surgical | p      |
|----------------------|---------|----------|--------|
| Everyday activities  | 2.56 ± 1.07 | 1.67 ± 1.26 | <0.001 |
| Ability to be satisfied | 2.46 ± 1.16 | 2.94 ± 1.33 | 0.056  |
| Positive feelings    | 2.96 ± 1.38 | 2.33 ± 1.54 | 0.023  |
| Negative feelings    | 2.96 ± 1.26 | 2.73 ± 1.28 | 0.611  |
| Socialization        | 2.76 ± 1.28 | 2.25 ± 1.00 | 0.050  |
| Team work            | 2.48 ± 1.29 | 3.22 ± 1.14 | 0.003  |

**6a:**
- Excessive daytime sleepiness: 28 (56%) versus 23 (45%), p = 0.273
- Used a medication to be more energetic and to fulfill your daily activities: 22 (44%) versus 40 (78.4%), p = 0.001
- Used sleep-promoting medication: 18 (36%) versus 41 (80.4%), p = 0.001
- Experienced anxiety in an intense way: 28 (56%) versus 26 (51%), p = 0.613
- Headache or other physical pain: 19 (38%) versus 20 (39.2%), p = 0.900
- Fatigue, weakness: 22 (44%) versus 28 (54.9%), p = 0.273
- Change in body weight: 25 (50%) versus 21 (41.2%), p = 0.373
- Normal sex life: 19 (38%) versus 18 (35.3%), p = 0.778

**6b:**
- How do you rank the quantity of your sleep? (In a 5-point Likert scale: 0 = no sleep, 5 = too much): 2.08 ± 0.90 versus 1.16 ± 0.85, p = 0.001
ta = -0.360, p < 0.001, R2 change = 12.9%), b) of lower ability of positive attitude (beta = -0.227, p = 0.023, R2 change = 5.1%), c) of lower ability of socialization (beta = -0.217, p = 0.030, R2 change = 4.7%), d) of shorter sleep duration (beta = -0.474, p < 0.001, R2 change = 22.4%), e) of better feeling of belonging in a team (beta = 0.337, p < 0.001, R2 change = 8.5%).

Finally, after controlling for all potential confounders, multivariate logistic regression analysis, revealed that surgical specialty remained an independent determinant of a) higher use medicine to be more energetic and fulfill daily activities (aOR = 4.63, 95% CI = 1.94-11.05, p = 0.001) and of b) higher use of sleep-promoting medication (aOR = 7.86, 95% CI = 3.08-20.02, p < 0.001).

Discussion

The present study provides a view of the current situation in Greece regarding the attitudes and opinions of doctors towards their professional life and their quality of life in general. Literature in this topic is scarce, especially among doctors in Greece [9].

A study conducted in the early years of crisis aiming at investigating the prevalence and different associations of medical residents’ burnout reported the following: a substantial proportion of medical residents were dissatisfied with the overall quality of training, as well as with menial tasks accompanying their medical duties [10]. As shown also in our study, older age was an important parameter which affected attitude towards peer interactions and excessive workload of menial tasks (scutwork). In the work of Msaouel et al, surgical residents were less likely to report satisfaction with peer interactions compared to other groups. On the contrary, in our study sample, surgeons ranked better in team work, in comparison to doctors practicing internal medicine. Still, they rated their ability to socialize and their positive attitude with lower. Participants in our study reported increased workload, which is a significant hindrance in practicing medicine, especially for surgical specialties [11] and is strongly associated with burnout [12]. Indeed, all participants reported that their weekly workload exceeded 40 hours, while 64.75 of the participants reported working more than 60 hours/week.

No difference was observed between males and females in the reported answers. In fact, males reported at a higher degree the use of energy promoting medication. This finding is in contrast with previous publications, where female gender, along with childcare, was found to be associated less with career advancement [11].

Certainly, there are limitations in the present study. For example, no data was available regarding marital status and childcare. Additionally, burnout syndrome was not explored in depth with the use of a validated questionnaire. Finally, although participants were divided into medical and surgical specialists, no further information regarding their sub-specialty is available.

Nevertheless, this study depicts the current views of students and doctors practicing medicine in a tertiary hospital in Greece in the context of financial crisis, demonstrating a more negative attitude from the residents and specialist and a more positive and optimistic attitude from the medical students.

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Conflict of interest statement

The authors declare no conflict of interest.

Authors’ contributions

EN drafted the manuscript, ZF and EK conceived and designed the study protocol, GT and TCC critically revised the manuscript all authors gave their final approval for the submission.

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