



ORIGINAL ARTICLE

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

E. NENA¹, Z. FASOULAKIS², G. TRYPSIANIS³, T.C. CONSTANTINIDIS¹, E. KONTOMANOLIS²¹ Laboratory of Hygiene and Environmental Protection, Medical School, Democritus University of Thrace Alexandroupolis, Greece;² Department of Obstetrics and Gynecology, Medical School, Democritus University of Thrace Alexandroupolis, Greece; ³ Laboratory of Medical Statistics, Medical School, Democritus University of Thrace, Alexandroupolis, Greece

Keywords

Medical doctors • Occupational relations • Quality of life • Workload

summary

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. Aim of the present study was to assess the attitudes towards working conditions and personal life and to explore quality of life, as well as disorders in physical condition, sleep, mood and their predictors, among doctors working or being trained in a tertiary hospital of NE Greece.

Methods. Included were 133 medical students and doctors of all ranks (61.7% males) practicing medicine in a university tertiary hospital in Greece. All of them answered a 31-item questionnaire regarding their working conditions, and personal life, daytime activities and sleeping habits.

Results. In general, the majority reported dissatisfaction with the

work 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.

Introduction

The ongoing financial crisis in Greece, which started about 10 years ago, has affected not only the income of citizens in the country, but also quality of life, social and occupational relationships. Several studies have reported the adverse impact of the current financial crisis on healthcare and population health [1]. 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. In addition, 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

life, positive or negative attitude, as well as disorders in sleep, mood, and physical condition and to explore independent variables that predict those among doctors working or being trained in a tertiary hospital of NE Greece.

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

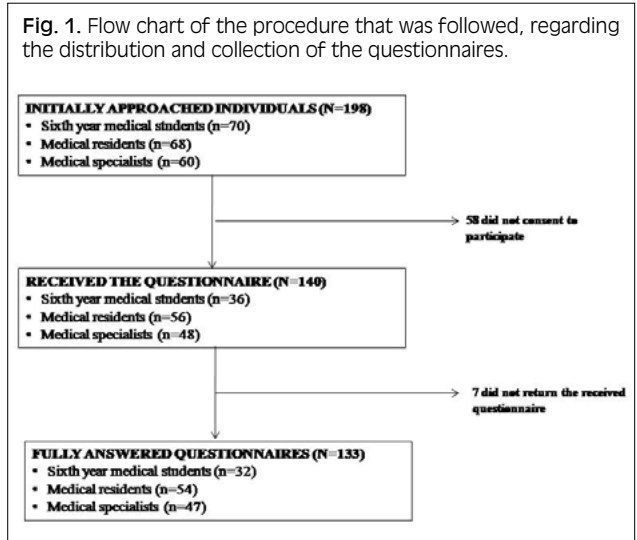
Statistical analysis of the data was performed using IBM Statistical Package for the Social Sciences (SPSS), version 19.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics (expressed as % percentages for qualitative values and as mean ± SD for quantitative values) were used. Comparisons between different 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 R2 and adjusted odds ratios (OR) with their 95% confidence intervals (CI) were estimated as the measure of the above associations. Cronbach’s α 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,



Tab. I. General and demographic characteristics of the participants.

	N	%
Sex		
Male	82	61.7
Female	51	38.3
Family status		
Married	50	37.6
Single or divorced	83	62.4
Occupational rank		
Medical student	32	24.1
Medical resident	54	40.6
Specialist	47	35.3
Medical specialty		
Surgical	51	50.5
Medical	50	49.5
Weekly workload		
< 40 hour	0	0
40-49 hours	22	16.5
50-59 hours	25	18.8
60-79 hours	54	40.6
≥ 80 hours	32	24.1

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 198%). 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

Tab. II. Attitudes towards their life and profession (whole sample, unless otherwise indicated).

	N	%
Experience excessive workload	91	68.4
Satisfied with their work environment	43	32.3
Satisfied with their salary (students excluded)	20	19.8
Have the opportunity for continuous medical education	60	59.4
Believe that their quality of life is worse than that of general population	73	54.9
Believe that their quality of life is worse than that of patients	61	45.9

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 revealed any difference [1.96 ± 0.94 for females and 1.72 ± 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

Tab. III. Comparison between males and females in rating with a 5-point Likert scale, activities, feelings and attitudes (0 = not at all - 5 = totally).

	Females	Males	p
Everyday activities	2.49 ± 1.22	2.15 ± 1.23	0.118
Ability to be satisfied	2.80 ± 1.22	2.88 ± 1.34	0.743
Positive feelings	2.55 ± 1.32	2.57 ± 1.47	0.924
Negative feelings	2.84 ± 1.12	2.73 ± 1.28	0.611
Socialization	2.82 ± 1.49	2.72 ± 1.24	0.665
Team work	2.98 ± 1.17	2.88 ± 1.26	0.641

Tab. IV. Comparison between males and females in reported symptoms and medication use.

	Females	Males	p
	N (%)	N(%)	
Excessive daytime sleepiness	25 (49%)	45 (54.9%)	0.511
Use of medication to be more energetic and fulfill daily activities	26 (51%)	58 (70.7%)	0.022
Use of sleep-promoting medication	25 (49%)	48 (58.5%)	0.284
Experienced anxiety in an intense way	30 (58.8%)	40 (48.8%)	0.259
Headache or other physical pain	24 (47.1%)	32 (39%)	0.362
Fatigue, weakness	28 (54.9%)	47 (57.3%)	0.785
Change in body weight	20 (39.2%)	37 (45.1%)	0.503
Normal sex life	22 (43.1%)	29 (35.4%)	0.370

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 α resident ($\beta = -0.344$, $p = 0.001$, R^2 change = 3.3%) and b) being α specialist ($\beta = -0.431$, $p < 0.001$, R^2 change = 3.0%).
- Independent determinants of shorter sleep duration were a) being α resident ($\beta = -0.457$, $p < 0.001$, R^2 change = 5.5%) and b) being α specialist ($\beta = -0.364$, $p = 0.001$, R^2 change = 8.3%).

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

5a: Comparison in activities, feelings and attitudes				
	Student	Resident	Specialist	p
Everyday activities	2.81 ± 1.03	1.98 ± 1.31	2.26 ± 1.17	0.009
Ability to be satisfied	3.31 ± 1.12	2.33 ± 1.34	3.13 ± 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	2.63 ± 1.41	2.36 ± 0.82	< 0.001
Team work	3.13 ± 1.07	2.93 ± 1.34	2.77 ± 1.18	0.444
5b: Comparison in reported symptoms and medication use				
	N (%)	N(%)	N(%)	
Excessive daytime sleepiness	19 (59.4%)	32 (59.3%)	19 (40.4%)	0.114
Use of medication to be more energetic and fulfill daily activities	22 (68.8%)	35 (64.8%)	27 (57.4%)	0.562
Use of sleep-promoting medication	14 (43.8%)	27 (50%)	32 (68.1%)	0.026
Experienced anxiety in an intense way	16 (50%)	29 (53.7%)	25 (53.2%)	0.942
Headache or other physical pain	17 (53.1%)	16 (29.6%)	23 (48.9%)	0.051
Fatigue, weakness	25 (78.1%)	24 (44.4%)	26 (55.3%)	0.010
Change in body weight	11 (34.4%)	24 (44.4%)	22 (46.8%)	0.523
Normal sex life	14 (43.8%)	21 (38.9%)	16 (93.4%)	0.680
How do you rank the quantity of your sleep? (In a 5-point Likert scale: 0 = no sleep, 5 = too much)				
	2.44 ± 0.62	1.54 ± 0.97	1.7 ± 0.99	0.001
	Student vs. resident			< 0.001
	Student vs. specialist			0.002
	Resident vs. specialist			0.634

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
6a:			
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 ± 1.34	0.023
Negative feelings	2.96 ± 1.26	2.73 ± 1.28	0.611
Socialization	2.76 ± 1.28	2.25 ± 1.00	0.030
Team work	2.48 ± 1.29	3.22 ± 1.14	0.003
6b			
Excessive daytime sleepiness	28 (56%)	23 (45%)	0.273
Used a medication to be more energetic and to fulfill your daily activities	22 (44%)	40 (78.4%)	< 0.001
Used sleep-promoting medication	18 (36%)	41 (80.4%)	< 0.001
Experienced anxiety in an intense way	28 (56%)	26 (51%)	0.613
Headache or other physical pain	19 (38%)	20 (39.2%)	0.900
Fatigue, weakness	22 (44%)	28 (54.9%)	0.273
Change in body weight	25 (50%)	21 (41.2%)	0.373
Normal sex life	19 (38%)	18 (35.3%)	0.778
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	1.16 ± 0.83	< 0.001

- 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-

ta = -0.360, $p < 0.001$, R^2 change = 12.9%), b) of lower ability of positive attitude (beta = -0.227, $p = 0.023$, R^2 change = 5.1%), c) of lower ability of socialization (beta = -0.217, $p = 0.030$, R^2 change = 4.7%), d) of shorter sleep duration (beta = -0.474, $p < 0.001$, R^2 change = 22.4%), a e) of better feeling of belonging in a team (beta = 0.337, $p < 0.001$, R^2 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 medication 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 child care. 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 hos-

pital 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.

Acknowledgements

Funding sources: this research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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.

References

- [1] Kentikelenis A, Karanikolos M, Papanicolas I, Basu S, McKee M, Stuckler D. Health effects of financial crisis: omens of a Greek tragedy. *Lancet* 2011;378:1457-8. [https://doi.org/10.1016/S0140-6736\(11\)61556-0](https://doi.org/10.1016/S0140-6736(11)61556-0).
- [2] Ifanti AA, Argyriou AA, Kalofonou FH, Kalofonos HP. Financial crisis and austerity measures in Greece: their impact on health promotion policies and public health care. *Health Policy* 2013;113:8-12. <https://doi.org/10.1016/j.healthpol.2013.05.017>
- [3] Abebe DS, Tøge AG, Dahl E. Individual-level changes in self-rated health before and during the economic crisis in Europe. *Int J Equity Health* 2016;15:1 <https://doi.org/10.1186/s12939-015-0290-8>
- [4] Kondilis E, Giannakopoulos S, Gavana M, Ierodiakonou I, Waitzkin H, Benos A. Economic crisis, restrictive policies, and the population's health and health care: the Greek case. *Am J Public Health* 2013;103:973-94. <https://doi.org/10.2105/AJPH.2012.301126>
- [5] Caroli E, Godard M Does job insecurity deteriorate health? *Health Econ* 2016 25:131-47. <https://doi.org/10.1002/hec.3122>
- [6] Skoufi GI, Lialios GA, Papakosta S, Constantinidis TC, Galanis P, Nena E. Shift work and quality of personal, professional, and family life among health care workers in a rehabilitation center in Greece. *Indian J Occup Environ Med* 2017;21:115-20. https://doi.org/10.4103/ijoem.IJOEM_74_17
- [7] Nena E, Katsaouni M, Steiropoulos P, Theodorou E, Constantinidis TC, Tripsianis G. Effect of shift work on sleep, health, and quality of life of health-care workers. *Indian J Occup Environ Med* 2018;22:29-34. https://doi.org/10.4103/ijoem.IJOEM_4_18
- [8] Bohrer T, Koller M, Schlitt HJ, Bauer H; German Society of Surgery Workload and quality of life of surgeons. Results and implications of a large-scale survey by the German Society of Surgery. *Langenbecks Arch Surg* 2011;396:669-76. <https://doi.org/10.1007/s00423-011-0791-x>
- [9] Kerasidou A, Kingori P, Legido-Quigley H. "You have to keep fighting": maintaining healthcare services and professional-

- ism on the frontline of austerity in Greece. *Int J Equity Health* 2016;15:118. <https://doi.org/10.1186/s12939-016-0407-8>
- [10] Msaouel P, Keramaris NC, Tasoulis A, Kolokythas D, Syrmos N, Pararas N, Thireos E, Lionis C. Burnout and training satisfaction of medical residents in Greece: will the European Work Time Directive make a difference? *Hum Resour Health* 2010;8:16. <https://doi.org/10.1186/1478-4491-8-16>
- [11] Schwarz L, Sippel S, Entwistle A, Hell AK, Koenig S. Biographic characteristics and factors perceived as affecting female and male careers in academic surgery: the tenured gender battle to make it to the top. *Eur Surg Res* 2016;57:139-154. <https://doi.org/10.1159/000446874>
- [12] Busireddy KR, Miller JA, Ellison K, Ren V, Qayyum R, Panda M. Efficacy of interventions to reduce resident physician burnout: a systematic review. *J Grad Med Educ* 2017;9:294-301. <https://doi.org/10.4300/JGME-D-16-00372.1>

Received on October 3, 2017. Accepted on December 17, 2019.

Correspondence: Evangelia Nena, Laboratory of Hygiene and Environmental Protection Medical School, Democritus University of Thrace, University Campus, Dragana 68100, Alexandroupolis, Greece - Tel. +30 2551030638 - E-mail: enena@med.duth.gr

How to cite this article: Nena E, Fasoulakis Z, Trypsianis G, Constantinidis TC, Kontomanolis E. Attitudes and thoughts of medical practitioners towards their profession in the era of financial crisis in Greece. *J Prev Med Hyg* 2020;61:E60-E65. <https://doi.org/10.15167/2421-4248/jpmh2020.61.1.839>

© Copyright by Pacini Editore Srl, Pisa, Italy

This is an open access article distributed in accordance with the CC-BY-NC-ND (Creative Commons Attribution-Non-Commercial-NoDerivatives 4.0 International) license. The article can be used by giving appropriate credit and mentioning the license, but only for non-commercial purposes and only in the original version. For further information: <https://creativecommons.org/licenses/by-nc-nd/4.0/deed.en>