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Original Article

Predictors of emotional exhaustion among physicians from Iraq - a descriptive cross-sectional multicentre study

Saad Ahmed Ali Jadoo[1]*, Ilker Dastan[2], Mustafa Ali Mustafa Al Samarrai[3], Shukur Mahmood Yaseen[4], Perihan Torun[1]

Abstract

Background: Doctors and paramedics in countries suffering from long-acting conflicts, including Iraq, are working in severe and exceptional conditions, putting them under severe physical and psychological pressure, therefore examining burnout is important when dealing with the quality of care and working conditions. This study aimed to assess the point prevalence and to explore factors associated with emotional exhaustion (EE) among medical doctors in Iraq.

Methods: Descriptive and a cross-sectional study was conducted (January to June 2014) among a randomly selected sample of medical doctors (n=576, 87.3% response rate) working in twenty large general hospitals and medical centers. In addition to EE, the self-administered questionnaire used was consisting of questions on sociodemographic, work-related characteristics, conflict-related variables, and job satisfaction. EE was measured using the emotional exhaustion subscale of the Maslach Burnout Inventory (MBI).

Results: The prevalence of EE reported by 60.0% of the respondents. In multiple linear regression analysis, the emotional burnout was higher among doctors who were married, female, bearing children, being threatened, displaced internally, non-specialist doctors, working more than 40 hours per week, experienced unsafe medical practice, disagreed with the way manager handle the staff and those who reported that the doctor-patient relationship as not excellent.

Conclusion: Our findings suggest that job dissatisfaction, conflict, and violence-related factors were significantly associated with a high level of emotional exhaustion among Iraqi physicians.

Keywords: Emotional exhaustion, burnout, workplace, doctors, job satisfaction, conflict, Iraq

Background

The burnout syndrome has widely discussed since its first time emerged in its three dimensions; emotional exhaustion, depersonalization, and low personal accomplishment [1]. Work-related burnout is becoming increasingly recognized as a serious problem affecting many people working in human services, especially healthcare workers [2]. Work-related burnout found to be directly related to a considerable list of adverse outcomes, including absenteeism from work, increased turnover, and poor job performance [3]. Burnout has shown to have an impact on physicians and their mental and physical health [4,5]. Moreover, Burnout may reflect on clinical performance and the quality of care [6,7]. These features have been regularly reviewed and recognized over the past fifty years [8]. Literature suggests that burnout is a common health problem among doctors in different countries globally [9-12]. However, despite such full recognition in Western societies, the subject of burnout has not received the required attention from the Middle East researchers until the beginning of the 21st century, and to our knowledge, there is a lack of national studies on burnout among Iraqi health workers. This is a particular problem in Iraq, where the health care system has suffered a long-standing catastrophic collapse since 1991 and has overloaded since that time [13].

Furthermore, after the US-led invasion of Iraq in 2003, the health system exposed to deliberate destruction of its infrastructure accompanied by a new exodus of brain drain, including the medical doctors [14]. The high level of violence

*Correspondence: drsaadalezzi@gmail.com
[1]Department of Public Health, Faculty of Medicine, Bezmialem Vakif University, Istanbul, Turkey
Full list of author information is available at the end of the article

in conflict zones such as Iraq produced chronic stress among health personnel, so that continuity in work became almost impossible [15]. Moreover, lack of services and the attempt of the government to spoil the doctor-patient relationship by directing the media to focus mainly on the performance of health care providers made them victims of unfortunate and unjustified incidents of different types of abuse [15,16]. Thus, the combination of lack of security, work, and violence-related and political factors has significantly contributed to raising the level of turnover intention and migration among Iraqi doctors. Consequently, the staying doctors, who are still working in Iraq, were not able to cope with the resultant weakness in the level of health service presented to the patients who already feel dissatisfied and carry a negative impression against this service [17-19]. As a result, the doctors are more likely to pass into a state of an inevitable physical and emotional exhaustion (EE) ending to an exaggerated motivation to leave the job and looking for a better opportunity outside their country [14-19].

This study aimed to predict the main factors related to emotional burnout among Iraqi doctors working in different health care centers during the eruption of armed conflict in 2014. The study focused on Job satisfaction, violence-related variables, work-related variables, and socio-demographic factors to investigate their interrelationships with EE.

Methods

Study design and subjects

This cross-sectional study was conducted among Iraqi medical doctors to test the impact of violence-related and workplace-related variables on the Overall EE. The present study is part of a larger research initiative [14,15], in which we recruited a multistage sampling technique to drew a random sample of 660 physicians from twenty large general hospitals and medical centers covering the main five geographically regions in Iraq (north, west, south, central, and the capital city). Design, sampling, and data collection have been reported in detail previously [14,15]. In the current analysis, responses received from 576 physicians (response rate of 87.3%). At the time of the survey, all Iraqi physicians working at the selected hospitals were included and received a copy of the self-administered questionnaire manually with a contact number and email of the data collector. The exclusion criteria included the chief medical officers (CMO), hospital managers, and their deputies.

Outcome variable

Emotional burnout assessed by nine items of EE subscale of the validated Maslach Burnout Inventory (MBI) [20-22]. EE answered in terms of frequency on a 7-point Likert scale ranging from 0 (never) to 6 (every day). The overall EE was measured by summing the scores of the nine items (in range of 0 to 54). A higher score indicated greater emotional exhaustion [3] and, accordingly, a higher emotional burnout. The Cronbach's alpha coefficient of the EE subscale reported in this study was 0.89.

Independent variables

Job satisfaction measured with the 10-item Warr-Cook-Wall (WCW) job satisfaction (seven-point Likert-type) scale ranging from 1 = "very dissatisfied" to 7 = "very satisfied". The overall job satisfaction was measured by summing the scores of the ten items (in range of 10 to 70).

The socio-demographic variables collapsed and coded as follows: age (more or less than 40 years old), gender (male or female), marital status (married or single), presence of children (yes or no), residency (Urban or rural). Variables of conflicts or war-related violence were collapsed and coded as either (1) "Yes" or (0) "No" in response to the following questions: "Because of war violence in Iraq, have you been lost a family member?"; "Have you been threatened?"; "Have you been displaced internally?"; "Do you think that medical practice is safe?" and "The doctor-patient-relationship is excellent?".

Individual work-related variables were categorized as follows: the current professional level (specialist or not); the working hours per week (more or less than 40 hours/week); the number of years spent at their work or the same facility (more or less than ten years); the type of employment (government only or dual in government and private); the training and educational opportunities (yes or no); The way the senior manager handles the staff is effective (agreed or disagreed).

Statistical analysis

The Statistical Package for Social Sciences (SPSS) version 16.0 used to analyze data in this study. A descriptive analysis of sociodemographic, conflict-related variables, work-related characteristics, and job satisfaction has performed. The nine items of emotional exhaustion subscale summed to obtain the total score (0 to 54). A high degree of emotional burnout determined based on the cut-off point of the emotional exhaustion subscale in the MBI (≥27) [3]. The test of normality of the total score of emotional exhaustion conducted, and the data presented as mean and standard deviation (SD).

Student's *t*-test used to compare the mean of emotional burnout score across demographic variables, work-related characteristics, conflict-related variables, and job satisfaction. Categorical data presented as numbers and percentages, and the chi-squared test used for statistical analysis. Multivariate linear regression using the "Backward" technique was employed to obtain factors associated significantly with emotional burnout scores. Variables that were significantly associated with burnout in the bivariate analysis included in the multivariate analysis. The accepted level of significance set below 0.05 ($P < 0.05$).

Results

Descriptive analyses

Table 1 shows the descriptive characteristics of the socio-demographic variables. The mean age (±SD) was 40.43 years (±8.59) (in range of 27-56). More than half of respondents (53.8%) were females, married (64.2%), living in urban regions (63.4%), and bearing children (51.2%). There was a significant difference in overall emotional exhaustion. Overall emotional exhaustion was higher among female doctors (95% CI = 0.79-3.16, p=0.001), married (95% CI = 0.99-3.46, p=<0.000), and those who are bearing children (95% CI = 0.59-2.96, p=0.003).

Table 1 Socio-demographic variables on overall emotional exhaustion (n=576)

Variable	Category	*N%*	Mean ± SD	t-test	P-value	95% CI Upper-Lower
Age	> or=40 years old	291(50.5)	28.73±7.46	1.355	0.176	0.37-2.02
	<40 years old	285(49.5)	27.90±7.12			
Gender	Female	310 (53.8)	29.23±7.81	3.262	0.001	0.79-3.16
	Male	266 (46.2)	27.26±6.51			
Marital status	Married	370 (64.2)	29.11±7.32	3.542	0.000	0.99-3.46
	Single	206(35.8)	26.89±7.05			
Presence of children	Yes	295(51.2)	29.18±6.96	2.935	0.003	0.59-2.96
	No	281(48.8)	27.41±7.55			
Residency	Urban	365 (63.4)	28.49±7.34	0.747	0.456	0.77-1.71
	Rural	211 (36.6)	28.02±7.24			

Emotional exhaustion (Burnout)

The mean (±SD) value on the total emotional exhaustion score was 28.72 (±7.30). Three hundred and forty-five respondents (60.0%) experienced a high level of emotional burnout (Table 2).

Table 2 Descriptive statistics of the nine items and overall emotional exhaustion scale

No.	Emotional Exhaustion (Burnout)	Mean	S.D.	Min.	Max.
1	I feel emotionally drained from the work	3.18	1.63	0	6
2	I feel used up at the end of the workday	3.26	1.69	0	6
3	I feel fatigued when I get up in the morning and have to face another day on the job	3.10	1.71	0	6
4	Working with people all day is really a strain for me	3.12	1.66	0	6
5	I feel burned out from the work	3.07	1.70	0	6
6	I feel frustrated by my job	3.25	1.69	0	6
7	I feel I'm working too hard on my job	3.00	1.72	0	6
8	Working with people directly puts too much stress on me	3.43	1.72	0	6
9	I feel like I'm at the end of my rope	2.90	1.68	0	6
10	Overall scale emotional exhaustion	28.72	7.30	0	54

Conflict-related variables on overall emotional exhaustion

In table 3, about one-fourth (26.6%) had lost one or more of their close relatives, 54.3% have threatened, 39.1% have internally displaced at least once, 66.8% experienced unsafe medical practice; however, 70.7% of them described their relationship with the patient as excellent. Most of the conflict or war-related variables showed a significant difference in overall emotional exhaustion. Overall emotional exhaustion was higher among doctors who have been threatened or kidnapped (95% CI = 0.75-3.13, p=0.000), internally displaced (95% CI = 1.50-3.91, p= <0.000), experienced unsafe medical practice (95% CI = 01.06-3.57, p=<0.000), and those who described the doctors-patients relationship was unwell (95% CI = 1.40-3.99, p=<0.000).

Work-related variables on overall emotional exhaustion

In table 4, the vast majority (73.3%) of respondents spent more than ten years in the same health facility and were not being specialist yet (60.2%); however, more than half of them (55.7%) have a dual job (government and private) and were satisfied with the available training and educational opportunities. Overall emotional exhaustion was higher among doctors who were not specialist (95% CI = 0.72-3.14, p=0.002), disagreed with the way manager handles the staff (95% CI = 0.72-3.14, p=0.003) and those who are working more than 40 hours per week (95% CI = 0.59-2.97, p=0.003).

Predictors of burnout

Table 5 shows the results of multiple linear regression analysis to identify the associated variables with emotional burnout. In backward elimination (or backward deletion), the multivariate linear regression analysis (after excluding non-contributing variables) was statistically significant, and overall, explained 24.8% of the variance in the overall emotional exhaustion, F (11, 16.845) = 680.670, P < .0005. The “Internally displaced" and the "doctor-patient relationship” appeared to be the strongest factors predicting the EE (Table 5).

Doctors who were internally displaced were more likely to have high EE (B = 0.269, P < .0005). Doctors who considered the doctor-Patient relationship is not excellent were more likely to have high EE (B = 0.267, P < .0005).

In general, the emotional burnout was higher among doctors who were married, female, bearing children, being threatened, displaced internally, non-specialist doctors, working more than 40 hours per week, experienced unsafe medical practice, disagreed with the way manager handle the staff and considered the doctor-patient relationship as not excellent.

Table 3 Conflict and war-related variables on overall emotional exhaustion (n=576)

Variable	Category	*N%*	Mean± SD	t-test	P-value	95%CI Upper-Lower
Loss of family member	No	423(73.4)	28.39±7.31	0.395	0.693	1.08-1.63
	Yes	153 (26.6)	28.12±7.29			
Exposure to threat or kidnapped	Yes	313(54.3)	29.20±7.33	3.207	0.001	0.75-3.13
	No	263(45.7)	27.26±7.13			
Internally displaced	Yes	225(39.1)	29.96±7.73	4.404	0.000	1.50-3.91
	No	351(60.9)	27.26±6.82			
Medical practice in Iraq is safe.	No	385 (66.8)	29.09±7.48	3.623	0.000	1.06-3.57
	Yes	191(33.2)	26.77±7.48			
The doctor-patient relationship is excellent	no	169(29.3)	30.22±7.02	4.096	0.000	1.40-3.99
	Yes	407(70.7)	27.53+7.27			

Table 4 Work-related variables on overall emotional exhaustion (n=576)

Variable	Category	*N%*	Mean± SD	t-test	P-value	95%CI Upper-Lower
Current professional level	Non-specialist	347(60.2)	29.08±6.97	3.124	0.002	0.72-3.14
	Specialist	229(39.8)	27.16±7.63			
Way managers handle staff.	Agreed (yes)	343(59.5)	27.56±7.37	3.034	0.003	0.66-3.07
	Disagreed (no)	233(40.5)	29.43±7.07			
Training and educational opportunities	Yes	316(54.9)	28.84±7.33	1.881	0.060	0.05-2.34
	No	260(45.1)	27.79±7.23			
Years of service	>10 years	422(73.3)	28.55±7.37	1.283	0.216	0.50-2.20
	< or = 10 years	154(26.7)	27.69±7.07			
Hours of work/week	>40 h	267(46.4)	29.27±7.21	2.941	0.003	0.59-2.97
	<or=40 h	309(53.6)	27.49±7.17			
Type of employment	Government and private	321(55.7)	28.58±7.43	0.977	0.329	0.60-1.80
	Government only	255(44.3)	27.98±7.13			

Table 5 Factors associated with emotional exhaustion in multiple linear regressions (n=576)

Variables	B	S.E.	Beta	t-test	Sig.	95% CI Lower-Upper	Tolerance	VIF
Constant	39.048	1.302	-	29.994	0.000	36.49-41.61	-	-
Overall job satisfaction	0.048	0.023	0.098	2.115	0.035	0.03-0.93	0.626	1.598
Working more than40 h/week	1.426	0.570	0.098	2.501	0.013	0.31-2.55	0.872	1.147
40 h/week or less						Reference		
Female	1.261	0.552	0.078	2.283	0.023	0.18-2.35	0.928	1.078
Male						Reference		
Non -Specialist	1.602	0.657	0.108	2.438	0.015	0.31-2.89	0.677	1.477
Specialist						Reference		
Not agree with way manger handle staff	1.482	0.549	0.100	2.700	0.007	0.41-2.56	0.970	1.031
Agree						Reference		
The doctor-patient relationship is not excellent	4.244	0.688	**0.267**	6.165	0.000	2.89-5.60	0.715	1.398
Excellent						Reference		
Displaced internally	4.398	0.624	**0.296**	7.052	0.000	3.17-5.62	0.759	1.317
Not						Reference		
Presence of Children	1.929	0.545	0.133	3.538	0.000	0.86-3.00	0.948	1.055
Not						Reference		
Married	2.924	0.682	0.193	4.287	0.000	1.58-4.26	0.661	1.514
Single, divorced, widow						Reference		
Have been threatened	1.928	0.582	0.132	3.314	0.001	0.79-3.07	0.838	1.193
Not						Reference		
Medical practice is Not safe	4.036	0.715	0.261	5.642	0.000	2.63-5.44	0.625	1.601
Medical practice is Safe						Reference		

Discussion

It was an interesting exercise to test several factors that may predict the EE among Iraqi doctors. However, it was not possible to capture all possible factors. Only 24.8% of the variation was explained; 75.2% of the variation remained unexplained, which indicated other factors might affect EE. In this study, the mean value of the total burnout score among Iraqi physicians found to be 28.72 (SD=7.3, range 0-54). Around 60% of the study participants revealed experiencing a high level of emotional burnout. This finding is consistent with other international studies. Elsewhere in the Middle East, burnout found to be quite common among health professionals in Tunisia [23]. In Saudi Arabia, a high prevalence of burnout among multinational health professionals has been reported [24]. A quarter of the health professionals had suffered from high levels of burnout in Egypt [25]. In contrast, a study conducted in Qatar found that only 12.6% of responding primary care physicians experienced burnout [26].

The first step in coping with burnout threats is to identify the most common causes. The results from previous studies show that among the doctors, burnout is the result of exposure to factors associated with both personal and work environments. Taking into consideration the conclusions from previous studies and the difference in the health system and culture in Iraq, in the current study, several factors (Table 1,2,3,4) were investigated for their association with burnout and aiming to reduce burnout among Iraqi doctors. Eleven of these factors maintained in the backward regression analysis. Thus, burnout is potentially multi-determined; therefore, any type of prevention or intervention will require multi-faceted approaches.

In our study, multivariate regression analysis of variables affecting burnout revealed that among the demographic factors, being female, having children or being married are significant predictors of burnout among the study population in Iraq. Regarding the role of gender in burnout, some papers found female doctors to be at a higher risk of burnout [27,28], which agrees with the findings of the present study. However, only a few studies reported burnout by sex, and a study conducted across Europe found burnout to be more prevalent amongst males [29]. In our study, married physicians and physicians having children expected to have a higher level of burnout than their counterparts. In a study in Turkey, the authors reported that problems with childcare were significantly associated with burnout [30]. Disequilibrium between family and work demands found to be one of the most critical factors contributing to burnout among Iraqi physicians [31]. In contrast, unmarried physicians found to have a higher level of burnout and more desensitization in a few other studies [32,33]. Physicians exposed to a variety of work-related factors that are important in creating burnout.

This study showed that the prevalence of burnout is higher in physicians reporting lower job satisfaction. The entire literature evaluating the correlation between job satisfaction and burnout has yielded the same result [34-38]. However, the majority of the literature is based on cross-sectional surveys as it does in this study, which makes it difficult to verify a causality. While the researchers suggest that low job satisfaction was a risk factor for burnout, it can be asserted that burnout is a risk factor for low job satisfaction, or poor job satisfaction may itself be a symptom of burnout. Further research is needed to clarify the negative relationship.

Among the work-related factors, work time and the doctor-patient relationship are two other factors that shown to be related to burnout in both this and previous studies [39-42]. Physicians in the current study who worked more than 40 hours per week or reported dissatisfaction with the doctor-patient relationship had significantly higher burnout rates. The Iraqi healthcare system has faced a catastrophic collapse since 1991. Iraqi doctors have left the country due to falling wages and worsening security conditions during the sanction years and after the 2003 invasion [43]. Even though the migration rates have slowed more recently, about half of the doctors have estimated to be already left Iraq after the 2003 invasion, and most healthcare providers have significant turnover intentions or to leave the country [44]. Additionally, the health care system has been rapidly changing in recent years, which has increased many doctors' responsibilities, as well as the demands of their patients. As a result, doctors are working longer hours and taking less time to communicate with patients, and medical disputes often occur caused by patient dissatisfaction. These combined effects have created an increasing conflict between patients and doctors and damaged the doctor-patient relationship [14]. Consequently, organizational interventions such as reducing long working hours and developing doctor-patient relationships should be considered in the new health care reforms. The doctor-patient relationship improved through the implementation of various measures, including malpractice insurance for physicians, and improving doctor-patient communication [45].

There is broad acceptance that work satisfaction and burnout levels are strongly affected by the leadership skills of senior managers. Previous studies have shown that relationship with managers is an important factor that affects burnout [46,47]. Poor relationships with managers can lead to feelings of exclusion and loneliness among physicians that can easily turn into burnout [20]. Our study reported similar results; physicians who reported low managerial skills of their immediate supervisors have higher rates of burnout. The findings in this study contribute to the understanding that high levels of managerial support and skills have positive effects on fighting with burnout. The reduction of occupational stress, the development of managerial skills of supervisors, and strengthening relationship with managers can decrease burnout and improve the quality of life of physicians, as seen in other studies [48] [50].

Further, non-specialist physicians found to be at high risk of burnout in our study group. Similar findings found in other studies, for example, in a Finnish study, the highest burnout scores were noted in general practitioners and non-specialists working in health centers, which may be related to heavy patient loads, long hours of work, low salaries, and professional identity issues [49]. Conflict-related factors and workplace violence have not systematically examined as a predictor of physician burnout except for a few studies. The present study results demonstrated that physicians who threatened, displaced

internally, or believed the medical practice was not safe were more likely to have higher burnout rates in our studied sample. Previous studies in Egypt, Poland, Turkey, and a meta-sample of seven studies from different regions also demonstrated that workplace violence, conflicts, personal threats, or incivility were positively associated with the psychological conditions of physicians, including burnout [25,50,51].

There are some limitations to this study. First of all, because the study design was cross-sectional, a causal relationship could not be established. Second, because we had no information about the non-respondents, response bias is a possible bias. Third, this study conducted during peak crises of conflict in 2014, which affected the accessibility to the hospitals and districts, and consequently, selection bias is another possible bias. Fourth, "Although we have test piloted the English version of the questionnaire, the language barrier could be a limitation because the native language of the respondent is Arabic".

Policy implication

The above findings may be applied to the design and implementation of burnout reduction programs in Iraq and facilitate the development of rational strategies. For example, the results showed burnout in physicians to be higher in females, married, or individuals with children. Therefore, we suggest that the target group of burnout reduction programs should primarily focus on these physicians. Intervention strategies may cover communication skill training, stress, and time management. Further, burnout found to be associated with work-related factors: job satisfaction, working hours, being non-specialist, poor relationships with managers and patients. Improving working conditions of Iraqi doctors should be an essential goal for their job satisfaction and low burnout levels. Policy reforms can address these factors contributing to burnout by reducing workload, reasonable welfare, a healthier working environment, and senior-junior support groups. Increasing compensation can be an effective method to help to attract and retain good doctors. A large percentage of patients affect the quality of care and the doctor-patient relationship, and thus the burning of doctors. A comprehensive health care reform is needed to strengthen primary health care intended to address the overutilization of hospitals, which may involve government hiring and training more staff. Conflict and violence-related factors found to be significantly associated with burnout of Iraqi physicians in the current study. Measures to prevent violence in the workplace against doctors are needed to reduce risk and negative consequences. Although health institutions, in general, have made considerable progress in the development of programs to prevent violence in Iraq, there are still shortcomings in the legislation prohibiting violence at work, and laws must be enacted to improve the medical environment and prevent violence at work. In order to effectively carry out these policies, government and health care organizations must develop, implement, and encourage a strong safety and security environment. [51].

Conclusion

A high level of emotional exhaustion detected in about two-third (60.0%) of participants. The findings of this study show that various socio-demographic, occupational, and conflict-related factors are important determinants of the burnout of Iraqi doctors. The results of this study would, therefore, be of great interest to Iraqi policymakers and health care managers seeking to reduce physician burnout levels. The importance of burnout in physicians should not be underestimated, and many of the associated factors identified may potentially be reversed. This study may serve as a guide for setting effective interventions and treatment. According to the results, the focus should not only be on providing financial incentives but also on extraordinary efforts to create a safe and acceptable work environment.

Abbreviations

EE: Emotional Exhaustion CMO: Chief Medical Officers WCW: Warr-Cook-Wall SD: Standard Deviation CI: Confidence Interval OR: Odds ratio WHO: World Health Organization GDP: Gross Domestic Product

Declarations

Acknowledgment

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Availability of data and materials

Data will be available by emailing drsaadalezzi@gmail.com.

Authors' contributions

SAAJ is the principal investigator of the study who designed the study and coordinated all aspects of the research, including all steps of the manuscript preparation. He is responsible for the study concept, design, writing, reviewing, editing, and approving the manuscript in its final form. ID, MA, SY, and PT contributed to the study design, analysis and interpretation of data, drafting the work, writing the manuscript and reviewed and approved the manuscript. All authors read and approved the final manuscript.

Ethics approval and consent to participate

We conducted the research following the Declaration of Helsinki, and the Ethics Committee of the Izmir University of Economics approved the protocol (Ref: B.30.2.IEU.0.05.05-020-014). Confidentiality was assured with signed informed consent.

Consent for publication

Not applicable

Competing interest

The authors declare that they have no competing interests.

Author Details

[1]Department of Public Health, Faculty of Medicine, Bezmialem Vakif University, Istanbul, Turkey. [2]Department of Economics, Izmir University of Economics, Izmir, Turkey. [3]Department of Public Health, Faculty of Medicine, Anbar University, Anbar, Iraq. [4]Department of

Medical Biology and Anatomy, Faculty of Medicine, Diyala University, Diyala, Iraq.

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