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Are Burnout Syndrome and Depression Predictors for Aggressive Behavior Among Mental Health Care Professionals?

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ABSTRACT

Aim: This study aims to examine the possible relation between depression and burnout as predictors to aggressive behaviors among mental healthcare professionals. **Methods:** For the purposes of this study 72 mental health care professionals were recruited and were evaluated in three questionnaires which were provided to them online. Firstly regarding depression, the Center for Epidemiologic Studies Depression Scale (CES-D) was administered, secondly, concerning burnout, Maslach Burnout Inventory (MBI) was applied and finally, regarding aggression, the Aggression Questionnaire (GAQ) was employed. Statistical data analysis was performed using the IBM SPSS Statistics Version 19. The level of statistical significance was set at up at 0.05. **Results:** The results showed that depression is considered to be a statistically significant predictor of aggressive behaviors. However, burnout was not found to be a statistically significant predictor of aggression. In addition, a statistically significant relationship was found between burnout and depression. **Conclusions:** It seems to be of essential importance for mental healthcare professionals to be provided with support and assistance in order to diminish the potential high-stress levels and in that way to overcome depression and burnout of those who work in mental health settings.

Keywords: aggression, burnout, depression, mental health care professionals.

1. 1. INTRODUCTION

Mental health services are related to a very demanding environment which involves a vast amount of stressful factors such as; the anger that the professionals may experience from their patients or an incident of suicide. Moreover, most of the time the supervisors do not provide mental health care professionals with the adequate support and guidance or even the proper education that is needed. The psychosocial model explains how high job demands with low control in a working environment contribute to burnout (1). Furthermore, high job demands and low control are factors that are linked with healthcare problems in the professionals who work in those environments (2, 3).

Healthcare professionals and especially nurses work in a very stressful environment and research has shown that they experience high levels of burnout and depression (4). Moreover, it seems that psychiatric sector is more vulnerable to burnout and mental health nurses have high-

er rates of burnout than the nurses who are working in different fields (5). In contradictory, other researchers found that professionals who work in the mental health community present higher levels of burnout than individuals who are working in hospital settings (6). Probably, workers in mental health community services are at higher risk for burnout than other occupations.

The symptomatology of burnout and depression had similar characteristics and the same dysphoric symptoms but are differentiated in a few points. Individuals who suffer from depression usually are lethargic, have listlessness and guilty thoughts. On the contrary, individuals who suffer from burnout have the tendency to express their complaints in a vigorous way, as well as they, express feelings of disappointment (7). Moreover, it is not rare for individuals with depression to involve in conflicts with their co-workers and this may have as a result for them to take wrong decisions after an intense argument. The lack of cooperation and

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a feeling of dissatisfaction usually arise after that, absenteeism and depression related and an increased amount of incidents are usually observed under these circumstances (8). On the other hand, depression and burnout have the same symptomatology and they are not two different entities (9).

Due to the difficulty that appears concerning the distinction between depression and burnout, more often than not, a health care professional may exhibit a depressive behavior that might be more related with burnout syndrome rather than depression. This might be due to the fact that burnout and depression seem to involve some similar cues in their symptomatology. In particular, burnout and depression can be defined by the same dysphoric symptoms but they are different from each other as disorders. Individuals with depression usually have listlessness and are more lethargic and have guilty feelings about their performance. On the other hand, individuals with burnout feel disappointed and aggrieved and express their complaints in a more vigorous way (7). In contrast, depression and burnout do not differ in their symptomatology and burnout is not distinguished from depression (9). In addition, other researchers supported that burnout and depression may co-exist but they are two different disorders. In any case, there seems to be an association between them; especially in the severe form of burnout, there is a higher probability of depression (10).

Healthcare professionals as a high-risk group have not only to face burnout and depression but also violence at work. Aggressive behaviors can occur not only from the patients but healthcare professionals may as well cross the boundaries and express aggression or violence to patients. There is a red line between the behaviors that can be considered as acceptable or unacceptable. By the term aggressive behaviors, we refer to physical or verbal violence, to nonverbal violence, when a person wants to harm another person (11). Moreover, another form of violence is the psychological violence for instance humiliation or workplace bullying. Signs that can lead us to detect aggressive behaviors could be; raising the tone of voice, inappropriate laughter starting hitting doors or throwing items, nervous movements and the position of the body especially when the aggressive individual approaching someone (12).

Nevertheless, the psychoanalytic school of thought has always supported the idea that the concepts of aggression and depression do not exist in separate universes, but instead are connected. Freud understood depression as aggression in disguise, specifically, he believed that unconscious aggressive impulses when do not reach the level of consciousness, then these impulses turn against the individual in the form of depression (13).

The purpose of the current research was to examine if higher scores of burnout and depression have a higher affinity for aggressive behaviors by mental health professionals. It is expected that higher scores on burnout and depression scales may relate to higher scores on aggressive behavior. In addition, a correlation analysis was conducted in order to investigate the possible relation-

ship between depression and burnout. The results of this research could shed more light on how aggressive behaviors generate in a working environment as well what is needed in order to minimize them. Aggressiveness from the mental health professionals to their patients and co-workers is a key point for this research while burnout and depression are disorders that are correlated with aggression. If they can predict and minimize after multiple interventions, probably, the aggression could also decrease.

2. METHODS

Design

This is a descriptive and analytic study. In this research, 72 Mental Health professionals (psychiatrists, nurses, psychologists, social workers) working at psychiatric hospitals, residential units for psychiatric patients, day centers for mental health users and community homes were recruited. Care workers, physiotherapists, speech therapists, participants occupied in centers for drug addicts, in centers for delinquent behavior and abused patients, were excluded. The study was conducted from June 2017- August 2017.

Measurements

Three questionnaires were used in order to measure aggressive behaviors, depression, and burnout.

(a) The Greek version of the Aggression Questionnaire (GAQ) which was translated and evaluated for its psychometric properties by Tsorbatzoudis 2006 (14). It is a 29-item questionnaire which consists of four dimensions of aggression, in particular, physical aggression (9 items), verbal aggression (5 items), anger (8 items), and hostility (8 items). Physical and verbal aggression, refer to causing pain and damage to others illustrate instrumental or motor part of behavior. Anger, which depicts physiological arousal and leads to aggression development, indicates the emotional or intuitive element of behavior. Hostility, which pertains to emotions of ill will and unfair treatment, refers to the cognitive component of behavior (14).

(b) The Greek version of the Center for Epidemiologic Studies Depression Scale (CES-D) (16). The CES-D is a short self-report instrument designed to evaluate depressive symptoms severity in the general population. It consists of 20 items rated on a 4-point Likert scale (from 0 = Rarely or none of the time to 3 = Most or all of the time) over the past week. In addition, noteworthy is the fact that there are four reversed items namely 4, 8, 12 and 16 which are phrased to reflect positive affect and behavior.

(c) The Greek version of Maslach Burnout Inventory (MBI) which was translated by Kokkinos (2006) (17). It has been utilized in several occasions and researchers have shown that its convergent validity appears to be satisfactory (17, 18). MBI consists of 22-items rated on a 7-point Likert scale (from 0= never to 6=every day) which corresponds to the frequency that participants experienced burnout in their work. Of the total 22-items, three subcategories are distinguished: emotional exhaustion (9 items), depersonalization (5 items) and personal achievement (8 items). In order to report burnout at

least, 2 of the 3 subcategories should present high levels. Demographic data were, also, recorded.

Procedure

The questionnaires were formed in an online format and specifically through Gmail (Google form) along with the information sheet. Concerning recruitment of participants, an online link was provided firstly to Mental Health professionals of an organization called EPAP-SY (Association for Regional Development and Mental Health) after permission was provided by the scientific responsible of the organization and then the recruitment was expanded to several Mental health groups via Internet. After completion of the questionnaires, the data were automatically transformed into Excel form and were collected by the researchers in order to process and analyze them via the IBM SPSS Statistics Version 19.

Ethical Considerations

In the information sheet, participants were informed that the anonymity of their participation will be preserved, that they can withdraw from participation anytime they wish, the e-mail and personal information of the researcher were provided in case that they want to contact with and if they want they can get the results after the completion of the research. It was explained to the participants that this research is conducted for academic purposes and the aim is to investigate the possible relation of aggressive behavior with depression and burnout among Mental Health professionals.

Statistical analysis

Quantitative variables were described using the means, standard deviations. Qualitative variables were described using the absolute (N) and relative (%) frequencies. In order to examine the hypothesis of this research, a multiple linear regression was calculated to predict aggressive behavior based on depression and burnout. Statistical data analysis was performed using the IBM SPSS Statistics Version 19. The level of statistical significance was set at up at 0.05.

3. RESULTS

The age range of participants was between 24 and 61 years of age ($M = 35.19$, $SD = 7.45$). Most of them were females ($n = 58$, 80%). In the first table (Table 1) descriptive statistics were obtained for each variable. The table (Table 1) below shows the descriptive statistics for all the variables that were explored. The results indicated that Total GAQ ($M = 71.40$, $SD = 10.62$) and Total MBI ($M = 61.77$, $SD = 13.30$) have higher mean score than Total CESD ($M = 13.12$, $SD = 8.92$).

	Mean	Std. Deviation	N
Total_GAQ	71,4028	10,62638	72
Total_CESD	13,1250	8,92210	72
Total_MBI	61,7778	13,30278	72

Table 1. Descriptive statistics of explored variables in our sample

In Table 2 the relationship between total GAQ and total CESD was found to be statistically significant, $r(70) = .369$, $p = .001$ indicating a positive moderate relationship between aggression and depression. Also, the relationship between total CESD and total MBI was

		Total_GAQ	Total_CESD	Total_MBI
Pearson Correlation	Total_GAQ	1,000	,369	,081
	Total_CESD	,369	1,000	,228
	Total_MBI	,081	,228	1,000
Sig. (1-tailed)	Total_GAQ	.	,001	,250
	Total_CESD	,001	.	,027
	Total_MBI	,250	,027	.
N	Total_GAQ	72	72	72
	Total_CESD	72	72	72
	Total_MBI	72	72	72

Table 2. Pearson Correlation from multiple linear analysis

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,369a	,136	,111	10,01951

a. Predictors: (Constant), Total_MBI, Total_CESD

Table 3. Model Summary

ANOVA ^b					
Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1090,376	2	545,188	5,431
	Residual	6926,944	69	100,390	,006 ^a
	Total	8017,319	71		

a. Predictors: (Constant), Total_MBI, Total_CESD

b. Dependent Variable: Total_GAQ

Table 4. Multiple regression ANOVA

found to be statistically significant, $r(70) = .228$, $p = .027$ indicating a positive small relationship between depression and burnout. Finally, the relationship between total MBI and total GAQ was not found to be statistically significant, $r(70) = .081$, $p = .250$ indicating that there is no relationship between burnout and aggression.

As can be seen from Table 3, the value of our R^2 is 0.136, which means that 13.6 percent of the total variance of aggression has been 'explained'.

Finally, in the Table 4 and Table 5 the results indicated that a significant regression was found ($F(2,69) = 5.431$, $p = .006$) with an R square of 0.14. Aggressive behavior was predicted to be equal to $65,791 + 0,440$ (Depression) $- 0,003$ (Burnout), where Depression is measured in

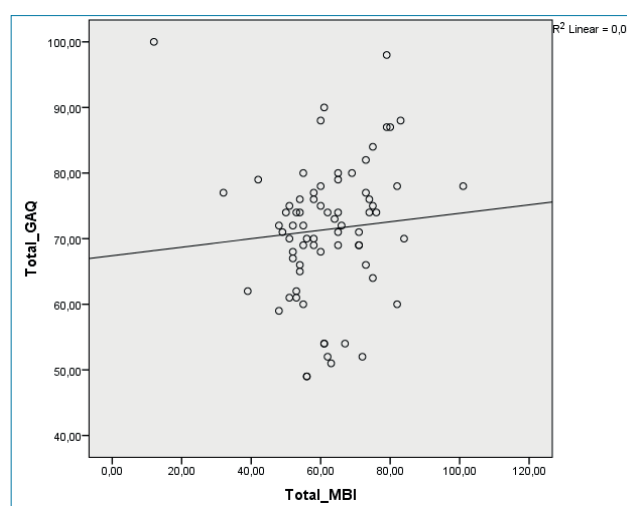


Figure 1. Total_GAQ with Total_CESD

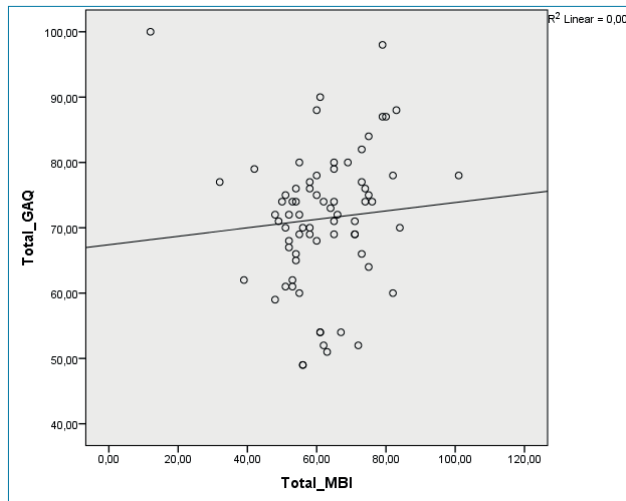


Figure 2. Total_GAQ with Total_MBI

a 4-point Likert scale in the Center for Epidemiologic Studies Depression Scale (CES-D) and Burnout is measured in a 7-point Likert scale in the Maslach Burnout Inventory (MBI). Aggressive behavior increased 0,440 units for each point of Depression and decreased -0,003 units for each point of Burnout. Therefore, only Depression was found to be a significant predictor of Aggressive behavior, $B=.440$, $t(70)=3.215$, $p=.002$, while Burnout was not detected as a significant predictor for aggression, $B=-.003$, $t(70)=-.029$, $p=.977$.

In Figure 1 it was observed that the values appeared to be uniformly distributed and more close to the mean and indicated that depression was a significant predictor of aggression.

In Figure 2 it was observed that the values appeared to not be so uniformly distributed or close to the mean and this indicated that burnout was not a significant predictor of aggression.

4. DISCUSSION

The aim of this research was to investigate how burnout and depression may lead to aggressive behaviors among mental health professionals. More specifically, the focus of this research was to examine if those two factors can be predictors for aggressive attitudes and behaviors. In order to examine the aforementioned hypothesis, multiple regression analysis was performed. Results showed that high score of depression is a significant contributor to aggressive behaviors. On the contrary, high score of burnout led to a relatively diminished aggressive behavior outcome. Therefore, high score of depression was a more accurate determinant for aggressive behaviors and thus the hypothesis of the current research was partly confirmed.

The results of this research showed that burnout is correlated with depression. Professionals and more specifically, nurses who are exposed to stressful conditions regarding the nature of their profession had as result to

suffer from depression and burnout and were at high risk to commit suicide (19). In contrast, other researchers found that burnout is a mediator factor regarding depressive symptoms as well high demands related to burnout, while depression was found to have the less strong association (20). The co-existence of burnout and depression is supported by a research (10) where it was showed that in the severe form of burnout there is a higher probability for development of depression but they distinguish the two disorders as different entities. Moreover, the correlation of depression and burnout was confirmed in this research which leads to the induction that as long as depression is treated adequately and in time, possibilities for mental health care professionals to have higher rates of burnout can be diminished and vice versa.

In addition, another factor that this research examined

Model		Coefficients ^a			t	Sig.	95,0% Confidence Interval for B	
		Unstandardized Coefficients		Standardized Coefficients			Lower Bound	Upper Bound
		B	Std. Error					
1	(Constant)	65,791	5,669		11,605	,000	54,481	77,102
	Total_CESD	,440	,137	,370	3,215	,002	,167	,713
	Total_MBI	-,003	,092	-,003	-,029	,977	-,186	,180
a. Dependent Variable: Total_GAQ								

a. Dependent Variable: Total_GAQ

Table 5. Coefficients of measured aggressive behaviour by two versions—CESD and MBI

was the relationship between burnout and aggression. The findings of this research showed that there is no correlation between burnout and aggression. It was expected that mental health professionals with higher rates of burnout would be more prone to develop aggressive behaviors. Professionals who work with elderly patients in home care are at high risk to experience aggressive behavior (21). The prolonged contact with aggressiveness has as result to increase the levels of burnout and, under these circumstances, the professionals are more vulnerable to develop depersonalization. Similarly, the increasing assaults may increase the levels of burnout and depersonalization and they concluded that burnout and aggression are cyclically interconnected (22).

According to the findings of current research, there is a correlation between depression and aggression. The relationship between depression and aggression is proven from previous researchers and, therefore, it can be concluded that it is possible for the individual to develop physical aggression, anger, and hostility when aggression comes from a depressive episode. Freud understood depression as aggression in disguise, and more specifically, he believed that unconscious aggressive impulses, which do not reach the level of consciousness, turn against the individual in the form of depression (13). It is important for mental health professionals to work in an environment which supports them and creating feelings of security and reassurance. Any sign of depression from their staff must activate the supervisors in order to provide them with the adequate support and more importantly a

recommendation for treatment to the professionals who suffer from depression.

This research did not reveal high scores in depression regarding mental health professionals. Participants had higher scores in the three of the four (physical aggression, verbal aggression, anger, and hostility) categories with the lower scores falling under verbal aggression. The above findings of this research are not supported by the literature review. Physicians have higher rates of depression during their career and they are more prone to commit suicide in relation to other occupations (23). Doctors have increased possibilities to develop health problems and depression due to the fatigue of a long time working hours in highly demanding shifts (24).

Depression, aggression, and burnout are factors that can be cyclic, and this research partially confirms that. It is proposed for the aforementioned variables to be administered in a more holistic approach rather than separately. Aggression exists in mental health professionals and is in a high necessity to be examined. Additionally, it is noteworthy to be mentioned that there is limited research which addresses the aggressiveness that professionals may express to their patients or to their co-workers.

Some limitations of this research could be the following; the male participants were less than female participants, and more specifically they were only the one-third of the total number so this cannot provide very accurate results regarding gender differences. Moreover, the decrement in aggressive behaviors based on burnout high score might be explained by the difficulty of participants to answer accurately on burnout assessment in contrast with depression which they seem to find more convenient to complete.

5. CONCLUSION

Therefore the implications of the current research may help professionals who are occupied in mental health settings to encounter such issues as well as to support them with useful guidelines in order to deal with depression and burnout. Hence, overcoming such problems in their working environment they can be more able to provide sufficient and efficient services to patients.

Finally, future research should be performed regarding burnout and aggressive behaviors as well as to be investigated if there is a differentiation among a different group of professionals. For instance, a research could be focused on an exclusive examination among psychiatrists or nurses. Moreover, it seems to be essential to observe how different demands that every group presents can affect the results. Hence, future research should be conducted in order to develop strategies that they could diminish the aggression, depression, and burnout in the mental health professionals.

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interpretation of data. VA, MT: Drafting the article and revising it for intellectual content. PT, SZ, MT: Final approval of the version to be published made by the first author.

REFERENCES

1. Schaufeli WB, Bakker AB. Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *J Organiz Behav*. 2004; 25(3): 293-315. doi: 10.1002/job.248.
2. Kivimäki M, Virtanen M, Elovainio M, Kouvonen A, Väänänen A, Vahtera J. Work stress in the etiology of coronary heart disease—a meta-analysis. *Scand J Work, Environ & Health*. 2006; 431-442. doi: 10.5271/sjweh.1049.
3. Belkic KL, Landsbergis PA, Schnall PL, Baker D. Is job strain a major source of cardiovascular disease risk? *Scand J Work, Environ & Health*. 2004; 85-128. doi: 10.5271/sjweh.769.
4. Aiken LH, Clarke SP, SloaneDM, Sochalski J, Silber, J. H. Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *JAMA*. 2002; 288(16): 1987-1993. doi: 10.1001/jama.288.16.1987.
5. Khamisa N, Oldenburg B, Peltzer K, Illic D. Work related stress, burnout, job satisfaction and general health of nurses. *Int J Environ Res Public Health*. 2015; 12(1): 652-666. doi: 10.3390/ijerph120100652.
6. Prose D, Johnson S, Kuipers E, Dunn G, Szmukler G, Reid Y, Bebbington G, Thornicroft G. Mental health, "burnout" and job satisfaction in a longitudinal study of mental health staff. *Soc Psychiatry Epidemiol*. 1999; 34(6): 295-300.
7. Liu PM, Van Liew DA. Depression and burnout. *Mental Health and Productivity in the Workplace: A Handbook for Organizations and Clinicians*. San Francisco: Jossey-Bass, 2003.
8. National Institute of Mental Health (NIMH) Retrieved Jun 20, 2017 <http://www.nimh.nih.gov/index.shtml>.
9. Bianchi R, Boffy C, Hingray C, Truchot D, Laurent E. Comparative symptomatology of burnout and depression. *J Health Psychol*. 2013; 18(6): 782-787.
10. Iacovides A, Fountoulakis KN, Kaprinis S, Kaprinis G. The relationship between job stress, burnout and clinical depression. *J Affect Disord*. 2003; 75(3): 209-221.
11. Stathopoulou HG. Violence and aggression towards health care professionals. *Health Science Journal*. 2007; (2).
12. Garnham P. Understanding and dealing with anger, aggression and violence. *Nurs Stand*. 2001; 16(6): 37-42. doi: 10.7748/ns2001.10.16.6.37.c3102.
13. Newman RS, Hirt M. The psychoanalytic theory of depression: Symptoms as a function of aggressive wishes and level of field articulation. *J Abnorm Psychol*. 1983; 92(1): 42.
14. Tsobatzoudis H. Psychometric evaluation of the Greek version of the Aggression Questionnaire. *Percep Mot Skills*. 2006; 102(3), 703-718. doi: 10.2466/pms.102.3.703-718.
15. Buss AH, Perry M. The aggression questionnaire. *J Pers Soc Psychol*. 1992; 63(3): 452.
16. Fountoulakis K, Iacovides A, Kleanthous S, Samolis S, Kaprinis SG, Sitzoglou K, Karpinis G, Bech P. Reliability, validity and psychometric properties of the Greek translation of the Center for Epidemiological Studies-Depression (CES-D) Scale. *BMC Psychiatry*. 2001; 1(1): 3. doi: 10.1186/1471-244X-1-3.
17. Kokkinos CM. Professional burnout in Greek primary school teachers: Cross cultural data on the Maslach Burnout Inventory (MBI). *Int J Psychol*. 2000; 35: 249.
18. Kokkinos CM. Factor structure and psychometric properties of the Maslach Burnout Inventory-Educators Survey among elementary and secondary school teachers in Cyprus. *Stress and Health*. 2006; 22(1): 25-33. doi: 10.1002/smi.1079.
19. Silva DDS, Tavares NVDS, Alexandre ARG, Freitas DA, Brêda MZ, Albuquerque M CDS, Melo Neto VLD. Depression and suicide risk among nursing professionals: an integrative review. *Revista da Escola de Enfermagem da USP*. 2015; 49(6): 1023-1031. doi:10.1590/S0080-623420150000600020
20. Ahola K, Honkonen T, Kivimäki M, Virtanen M, Isometsä E, Aromaa A, Lönnqvist J. Contribution of burnout to the association between job strain and depression: the health 2000 study. *Journal of Occupational and Environmental Medicine*. 2006; 48(10): 1023-1030. doi: 10.1097/01.jom.0000237437.84513.92.
21. Evers W, Tomic W, Brouwers A. Effects of aggressive behavior and perceived self-efficacy on burnout among staff of homes for the elderly. *Issues Ment Health Nurs*. 2001;22(4): 439-454. doi.org/10.1080/01612840118397.
22. Winstanley S, Hales L. A preliminary study of burnout in residential social workers experiencing workplace aggression: Might it be cyclical?. *Br J Soc Work*. 2014; 45(1): 24-33. doi.org/10.1093/bjsw/bcu036.
23. Giddings T. Understanding Doctors' Performance. *Annals of The Royal College of Surgeons of England*. 2007;89(3):331-332. doi: 10.1308/003588407X179080d.
24. Firth-Cozens J, Cording H. What matters more in patient care? Giving doctors shorter hours of work or a good night's sleep? *Qual Saf Health Care*. 2004; 13: 165-166. doi: 10.1136/qhc.13.3.165.