Influence of exposure to patient aggression and professional experience on the psychological condition of various groups of healthcare workers

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ABSTRACT

Purpose: To analyze the relationship between the psychological condition of representatives from various professional groups of healthcare workers, the degree of their exposure to patient aggression, as well as with the duration of their professional experience.
Materials and methods: Study participants (n=1498) were employed at open and closed healthcare units within Podlaskie province: 493 nurses, 504 midwives and 501 physicians. The Work Features Evaluation Questionnaire and General Health Evaluation Questionnaire GHQ28 were applied, and the psychological condition of medical staff was examined based on a 30-question survey
Results: When analyzing all of the groups of medical personnel, the mean level of exposure to patient aggression fell within the moderate range. The highest level of aggression was experienced amongst nurses, while the lowest – amongst midwives. The analyzed groups did not differ significantly in terms of the level of their psychological condition. With the exception of physicians, no significant association was observed between levels of patient aggression and the psychological condition of the medical personnel. Amongst physicians, individuals who experienced lower levels of aggression were characterized by significantly higher psychological condition values when compared to personnel exposed to moderate or high levels of patient aggression. No significant linear correlations between psychological condition levels and the frequency of patient aggression or duration of professional experience were noted in any of the analyzed professional groups.
Conclusions: A moderate level of exposure to patient aggression is not the main factor affecting the psychological condition of medical personnel.
Key words: aggression, stress, nurse, midwife, physician

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Received: 4.07.2015
Accepted: 21.11.2015
Progress in Health Sciences
Vol. 5(2) 2015 pp 99-104

INTRODUCTION

It is only in recent years that we have realized the consequences of exposure to aggression in the workplace. According to the definition adopted by the European Commission, workplace aggression refers to: "all situations when a worker is offended, threatened or attacked in conditions directly related to his/her job and when these situations directly or indirectly endanger his/her safety, welfare and health" [1]. Aggression may originate from all individuals involved in the functioning of a given organization, including external and internal customers, among them superiors, co-workers and subordinates [2].

Exposure to aggression is relatively frequent amongst professionals who work under strong psychological pressure, among them – healthcare workers. The harmful occupational factors which this group is exposed to include: stress (resulting from being responsible for the health and lives of patients), shift work, interaction with demanding patients and their relatives, as well as unfavorable socioeconomic conditions [3-5]. It is not surprising therefore that the International Labour Organization ranked medical personnel second in regards to their exposure to violence in the workplace [6].

From the viewpoint of organizations, aggression in the workplace may be reflected by a decrease in the quality of offered services. This problem is particularly salient for healthcare units, since the exposure of personnel to aggression may lead to a decline in the quality of patient care, and in extreme situations, even to health- and life-threatening medical mistakes [7,8].

Additionally, exposure to aggression in the workplace negatively influences the psychophysical condition of personnel. According to literature, a relationship may exist between the frequency of exposure to aggression in medical personnel and the occurrence of fatigue, stress, and the lack of work satisfaction [7,9,10]. However, no systematic studies have been performed thus far on the association between one's exposure to aggression and one's psychological condition.

Consequently, the aim of this study was to analyze the relationship between the psychological condition of representatives from various professional groups of healthcare workers, the degree of their exposure to patient aggression, as well as with the duration of their professional experience.

MATERIALS AND METHODS

This study was performed between January 2008 and December 2009 in Podlaskie Voivodeship (North-eastern Poland). The survey included 1498 healthcare workers, among them: 493 nurses, 504 midwives and 501 physicians. The detailed characteristics of study participants are summarized in Table 1. The professional subgroups differed significantly in terms of their mean age and professional experience, as well as their distributions of gender and their employment at open or closed healthcare units.

Table 1. Characteristics of study participants

Parameter	Nurses (n=493)	Midwives (n=504)	Physicians (n=501)	P value
Women	481 (97.57%)	502 (99.60%)	281 (56.09%)*	<0.001
Age (years)	37.58±7.51	39.46±6.42*	39.47±9.38*	<0.001
Professional experience (years)	15.41±8.02	16.81±7.27*	13.61±9.45**	<0.001
Opened healthcare	167 (33.87%)	75 (14.88%)*	102 (20.36%)**	<0.001

Pearson's chi-square test or Fischer's exact test: *,** - significant differences between subgroups

Participation in this study was voluntarily and all of the procedures were accepted by the Local Bioethical Committee of the Medical University of Bialystok.

Respondents were asked to complete the Work Features Evaluation Questionnaire and General Health Evaluation Questionnaire GHQ28. Exposure to eight forms of patient aggression was assessed including: 1) using a raised voice, 2) threats, 3) blackmail, 4) attempts to strike, 5) dangerous attitudes, 6) aggression in the presence of medical personnel, 7) aggression in the presence of other patients, and 8) use of direct physical violence. The frequency of exposure to particular forms of aggression was expressed in points based on the following scale: 0 – never, 5 – several times a year, 10 – several times a month, 15 – several times a week, and 20 – everyday. The sum of the points for all forms of aggression was considered to constitute the overall intensity of aggression

experienced from patients. The maximal level of exposure, corresponding to daily exposure to all eight analyzed forms of aggression, could theoretically reach 160 points.

The psychological condition of medical staff was examined based on a 30-question survey pertaining to general their satisfaction with work, relationships at the workplace, and the psychological status of participant.

The overall exposure to aggression and the psychological condition of the examined personnel were analyzed in regards to the professional group and the duration of their professional experience. The mean values of psychological condition were also compared amongst three subgroups of personnel characterized by different levels of exposure to patient aggression. Based on a quartile distribution of this latter variable, the participants were classified into three classes: those with low (0-3 points, lower quartile), moderate (4-30 points, interquartile range) and high (more than 30 points, higher quartile) levels of exposure.

Continuous variables were presented as arithmetic means and their standard deviations (SD). The normality of distribution was tested with the Shapiro-Wilk test. Arithmetic means amongst the groups were compared using ANOVA and the Tukey post-hoc test. Distributions of qualitative variables were compared by means of the Pearson's chi-square test of Fischer's exact test. Associations between continuous variables were tested with Spearman's rank coefficient of correlation (r). Calculations were performed using Statistica 7 (StatSoft®, Tulsa OK, United States) software, with statistical significance defined as $p \leq 0.05$.

RESULTS

When analyzing all of the groups of medical personnel, the mean level of exposure to patient aggression fell within the moderate range. The highest level of aggression was experienced amongst nurses, while the lowest – amongst midwives (Table 2).

Table 2. Average levels of exposure to patient aggression in various groups of medical personnel

Professional group	n	mean	95% CI	P value
Nurses	493	26.81	24.96-28.65	<0.001
Physicians	501	18.57*	16.94-20.20	
Midwives	504	12.04**	10.50-13.58	
Total	1498	19.08	18.07-20.10	-

ANOVA: *,** - significant differences between subgroups (Tukey post-hoc test)

Distribution analysis revealed that more than half of the participants were exposed to a moderate level of patient aggression. However, the fraction of personnel who were exposed to a high level of patient aggression differed significantly between the analyzed professional groups. This fraction was highest amongst nurses and the lowest amongst midwives (Table 3).

Table 3. Distribution of exposure levels to patient aggression amongst various groups of medical personnel

Professional group	Exposure to aggression level			P value
	Low	Moderate	High	
Nurses	68 (13.8%)	236 (47.9%)	189 (38.3%)	<0.001
Physicians	118 (23.6%)*	289 (57.7%)	94 (18.8%)*	
Midwives	219 (43.5%)**	244 (48.4%)	41 (8.1%)**	
Total	405 (27.0%)	769 (51.3%)	324 (21.6%)	-

Pearson's chi-square test or Fischer's exact test: *,** - significant differences between subgroups

The analyzed groups did not differ significantly in terms of the level of their psychological condition (expressed in points) (Table 4).

Table 4. Average levels of psychological condition in various groups of medical personnel

Professional group	n	mean	95% CI	P value
Nurses	493	136.46	134.46-138.46	0.161
Physicians	499	136.01	133.80-138.22	
Midwives	503	133.78	131.73-135.82	
Total	1495	135.41	134.20-136.61	-

ANOVA: differences between groups insignificant (p>0.05)

With the exception of physicians, no significant association was observed between levels of patient aggression and the psychological condition of the medical personnel. Amongst physicians, individuals who experienced lower levels of aggression were characterized by significantly higher psychological condition values when compared to personnel exposed to moderate or high levels of patient aggression (Table 5).

Table 5. Average (± standard deviation) levels of psychological condition in various groups of medical personnel stratified by exposure levels to patient aggression

Professional group	Exposure to aggression level			P value
	Low	Moderate	High	
Nurses	134.59±22.90	136.20±22.42	137.45±22.81	0.652
Physicians	137.96±22.29*	130.37±24.31	131.79±19.52	0.002
Midwives	134.99±26.82	136.75±24.54	135.01±25.14	0.745
Total	136.53±23.78	134.56±23.97	136.03±23.15	0.348

ANOVA: *significant differences between groups (Tukey post-hoc test)

However, no significant linear correlations between psychological condition levels and the frequency of patient aggression or duration of professional experience were noted in any of the analyzed professional groups (Table 6).

Table 6. Spearman's coefficients of linear correlation between the frequency of exposure to patient aggression or duration of professional experience and the levels of psychological condition in various groups of medical personnel

Professional group	Exposure		Experience	
	r	p	r	P value
Nurses	0.077	0.089	0.017	0.715
Physicians	-0.083	0.063	0.026	0.563
Midwives	-0.084	0.061	-0.024	0.599
Total	-0.013	0.615	-0.002	0.931

DISCUSSION

This study revealed that medical personnel were predominantly exposed to moderate levels of patient aggression. However, particular professional groups from amongst the medical staff differed significantly in terms of the levels of aggression experienced.

Nurses were found to experience patient aggression more frequently than the other professional groups. In the Polish tradition, the medical personnel of this professional group are wrongly considered to be „lower", and their authority amongst patients is markedly lower compared to that of physicians. The authority of nurses is also weakened by the attitude of some physicians. Moreover, it should be remembered that nurses are the professional group with whom patients interact the most. Consequently, nurses are addressed with most of the patient's frustrations, frustrations which sometimes result from the quality of healthcare being improper [11]. This

latter hypothesis was confirmed by a previous study of ours which revealed significant differences in exposure to aggression between nurses employed in open and closed healthcare systems. The level of exposure in this latter group was significantly higher, resulting from the fact that open healthcare patients contacted nurses less frequently compared to hospitalized patients [12]. Studies from other countries confirmed that nurses are exposed to the highest levels of patient aggression [10,13,14].

Physicians who took part in this study experienced significantly lower levels of patient aggression than nurses, however, these levels were still higher than the levels of patient aggression experienced by midwives. In Western European countries, physicians were exposed to the lowest levels of patient aggression when compared to all healthcare workers [13,15]. It should be mentioned, however, that the authority of Polish physicians faced a serious crisis due to the collapse of the entire healthcare system. High profile cases of corruption amongst physicians were also publicized by the media. According to literature, the exposure of physicians to patient aggression is inhomogeneous and related to their specialty and employment. Exposure to violence is significantly higher amongst personnel working with psychiatric and geriatric patients as well as in emergency units [9,10,14-17]. Unfortunately, the design of our study did not allow for the comparison of physicians working in various specializations.

The exposure of midwives to lower levels of patient aggression observed in this study seems to have a complex etiology. Usually, patients contact midwives during the perinatal period. Therefore, this contact is planned and expected, and the pregnant woman and her spouse have more time to prepare for it. Moreover, it is more frequent nowadays that the midwife present during birth is known to the patient, sometimes having been employed by the patient during a previous pregnancy [18]. Finally, it should be remembered that women constitute the majority of midwifery patients, and according to many studies, the level of aggression represented by this gender is significantly lower than by males [10]. There is a lack of published data in regards to the exposure of midwives to patient aggression in other countries. Therefore, it is likely that the problem of patient aggression towards midwives is of marginal importance outside of Poland as well.

As previously mentioned, the results of sporadic studies suggest the presence of an association between the frequency of exposure to patient aggression and the occurrence of fatigue, stress, and work dissatisfaction amongst medical personnel [7,9,10]. In this study, however, no significant relationships were observed between levels of aggression experienced by medical personnel and their psychological condition personnel (besides the physician subgroup). This finding seems to be the result of two factors. Firstly, these are physicians who are mainly responsible for the patient's health. The psychological pressure which results from this responsibility may act synergistically with episodes of patient aggression, decreasing the psychological condition levels in this professional group [19]. In Poland, these two stressors are strengthened by the unfavorable economic situation of the public healthcare system, which forces physicians to search for multiple job positions. Secondly, physicians interact with patients much less frequently than nurses or midwives, especially in closed healthcare units [20]. It is plausible that since they interact with patients less frequently, physicians are less accustomed to the demanding behaviors of patients. As such, their exposure to this form of patient aggression may influence their psychological condition more severely.

However, the relationship between the frequency of patient aggression and levels of psychological condition was not strong even amongst physicians, and its linear character was not confirmed during correlation analysis. These findings are possibly related to the fact that the medical personnel in this study were exposed to predominantly moderate levels of patient aggression. It is very likely that a strong linear relationship between the studied variables would be observed if a sufficiently large sample of medical personnel exposed to high levels of patient aggression was analyzed (personnel employed in emergency or psychiatric units).

CONCLUSIONS

This study revealed that a moderate level of exposure to patient aggression is not the main factor affecting the psychological condition of medical personnel. Nevertheless, further research is needed in regards to this aspect in order to explain the relationship between the exposure of medical staff to aggression and their mental status, specifically when dealing with demanding patients.

Conflicts of interest

The authors have declared no conflicts of interest.

Financial Disclosure/Funding

The study connected with this article has been financed by Medical University of Bialystok (statutory work number 4-108-13-P).

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