

## Aggression and violence towards health care providers, and effects thereof

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### Summary

**Objectives.** This study aims to examine the frequency of exposure of health care providers to aggression and violence at work, and the effective factors thereon, as well as the effects of violence on health care providers.

**Materials and Methods.** This cross-sectional type study has been conducted in Istanbul Training and Research Hospital (IEAH) (219) and Bayrampasa State Hospital (BDH) (64) in April 2010. The questionnaire prepared by researchers has been filled in through face-to-face meetings with a total of 283 health care providers, who accepted to take part in the study. The resulting data have been assessed and evaluated through SPSS 11.5 package program.

**Results.** 66.8% of the respondents reported that they had been exposed to violence and aggression during the recent one year, the most frequent type thereof being verbal violence (86.8%). 90.2% of the health care providers exposed to violence at work stated that the applicable current laws do not protect the staff against violence, and 88.3% thereof stated that their institution have not supported them upon an act of violence. A statistically significant difference in the frequency of exposure to violence has been detected between age, seniority at work, place of exposure to violence, and profession of the health care staff ( $p < 0.05$ ). Approximately half of the health care providers opine that their behavior towards patients has been negatively affected from violence. It is noted that such negative behavior change is even higher in females, staff with a frequency of violence  $> 5$ , assistants, and staff who believe that security at work is at risk in their institution ( $p < 0.05$ ).

**Conclusions.** Around 1/3<sup>rd</sup> of the health care providers have reported that they have been exposed to violence at least once during the recent one year, and half of those exposed to violence have stated that their behavior towards patients has been negatively affected therefrom.

violence / health care providers / psychiatry

### INTRODUCTION

Aggression is an important public health problem endangering the social peace in health care

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establishments and hospitals, just like many other sectors, in the recent years, and this has become a very serious problem for both health care providers and even for patients and patient relatives in the recent times. Although there are a lot of studies made on the topic of violence towards disabled or older patients, there are only a few studies about violence towards health care providers in the literature. In spite of all measures taken and all suggestions made in connection therewith, the aggression and aggression towards health care providers are gradually increasing more and more since years, and the health care providers are working under risk in terms of aggression [1, 2].

The definition of violence developed by a WHO working group in 1996 is as follows: "The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation." [3]. Aggression can be faced in three types as verbal, physical and sexual. Aggression at health care establishments and institutions comes up in the form of verbal aggression, physical assault and sexual assault/harassment by patients or patient relatives or any other individuals whomsoever they are [4]. The studies have revealed that 25 to 88% of healthcare providers have been exposed to verbal, physical or sexual assault or aggression during the recent one year [5, 6, 7, 8]. The multi-center studies conducted so far in connection therewith have demonstrated differences between on one hand the frequency of aggression and on the other hand the provinces, professions and workplace or unit of staff, or the workplace being a state hospital or a training and research hospital [8]. The committers of aggression are reported to be patient relatives most often, followed by patients jointly with patient relatives in the second rank, and patients themselves in the third rank [9].

The studies focused on the ways to prevent aggression have reported that it is possible to reduce the aggression risk by effective management of health care establishments and institutions, and through protection and prevention studies on aggression, as well as by training the health care staff on aggression-related matters such as predicting and detecting the risk situations in time or effective handling and management of risks [4, 6, 7, 10]. Another study has reported a reduction in both physical (OR 0.7, %95 GA 0.6–0.95), and non-physical (OR 0.5, %95GA 0.4–0.6) aggression through support of supervisory personnel [11].

This study has been carried out to determine the frequency of exposure of health care staff to aggression and aggression at Istanbul Training and Research Hospital and Bayrampaşa State Hospital, and to detect the effective factors thereof and the effects of aggression on the staff.

## MATERIALS AND METHODS

This cross-sectional type study has been conducted in April 2010 in state and training and research hospitals to study the exposure to aggression and the factors effecting them. In Turkey, state hospitals provide secondary health care. In state hospitals the daily polyclinic numbers per bed, emergency appeals and number of inpatients are busier comparing to the training and research hospitals which give tertiary healthcare service. Training and research hospitals give service to the specific patients and illnesses, and generally they serve to the ones who can not be treated in state hospitals and also to the patients whose illnesses could not be diagnosed. In Istanbul, there are both state and training as well as research hospitals. A training and research hospital and a state hospital have been randomly chosen. In those hospitals the information about the research has been given to the workers and the questionnaire has been applied to the ones who accepted to have on a total of 283 health care providers working in different professional groups (such as clinic chiefs, assistant chiefs, specialized doctors, residents, nurses, caregivers and receptions, etc.) in Istanbul Training and Research Hospital (342/219) and Bayrampaşa State Hospital (98/64), after getting their informed consent relating thereto.

The questionnaire consisted of 20 questions, prepared by the research team for health care providers through a literature scanning, was not an inventory but contained various questions on some certain socio-demographical particulars, such as whether the responding health care providers have suffered from any aggression during the recent one year or not, the attitude and behavior of hospital management, the reason or cause of aggression, and the post-aggression changes in behavior of victims of aggression.

**Limitation of the study:** The questionnaire was prepared specifically by researchers and a well-known inventory was not used.

**Ethics:** The participation in the study was voluntary and all participants gave their approval for the study. It was not necessary to obtain the agreement of an ethics committee for the study as this is a survey which was analyzed in an anonymous manner. The study was also approved by the institutions. Before data collec-

tion, the purpose of the study was explained and each member of the volunteered care giving staff signed a consent form. The participating institutions were told, prior to the study, that the study results would be published in a medical journal in an anonymous form, to which they gave their consent.

**Statistics:** The resulting data have been assessed and evaluated by SPSS 11.5 package program. Chi square test was employed for statistical analysis.  $p < 0.05$  was accepted and treated as statistically significant.

## RESULTS

Most of the responding health care providers (77.4%) (219) were working in the Training and Research Hospital, while 22.6% (64) thereof were working in the State Hospital. 58% of respondents were males, 43.1% (122) were below 30 years of age, and 45.6% (129) were working since less than 5 years (Tab. 1). Out of respondents, 91.1% (246/270) stated that the applicable current laws did not protect the staff against aggression, and 35.4% (91/257) categorized the security at hospital as bad / very bad, and 25.9%

(69/266) expressed that they did not approve the patient rights practices.

Nearly two out of three respondents (66.8%) (189/283) said that they had been exposed to aggression during the recent one year, and 73.1% (207/283) had witnessed aggression. No difference was found between institutions in terms of exposure to aggression and witnessing of aggression ( $p > 0.05$ ).

All of the general practitioners, 87.5% (56) of residents, 47.9% (23) of those in 40-49 age group, 58.1% (75) of the staff with a work seniority of less than 5 years, and 23.3% of the staff who categorize the security at their hospital as good / very good stated to had been exposed to aggression during the recent one year. Less exposure to aggression was detected among the 40 – 49 age group, the staff with a work seniority of less than 5 years, and the staff who categorize the security at their hospital as good / very good, while more exposure to aggression was detected in general practitioners and residents out of the professional groups ( $p < 0.05$ ) (Tab. 2). No statistically significant difference was detected between the institutions, marital status and sex of the health care providers on one hand, and their exposure to aggression during the recent one year on the other hand ( $p > 0.05$ ) (Tab. 2 – next page).

**Table 1.** Distribution of some demographic particulars of health care staff by health care institutions

Variables	Health care institutions		Total n=283 (%100)
	Training and research hospital (n=219) (%)	State hospital (n=64) (%)	
<b>Sex</b>			
Females	94 (42.9)	25 (39.1)	119 (42.0)
Males	125 (57.1)	39 (60.9)	164 (58.0)
<b>Professions</b>			
Clinic chief, assistant chief, Chief Intern	17 (7.8)	0 (0)	17 (6.0)
Specialized doctor	44 (20.1)	8 (12.5)	52 (18.4)
Caregiver	16 (7.3)	7 (10.9)	23 (8.1)
Nurse. + X-Ray/ lab. technicians	37 (16.9)	21 (32.8)	58 (20.5)
Receptionist, secretary and security officer	39 (17.8)	21 (32.8)	60 (21.2)
Residents	64 (29.2)	0 (0)	64 (22.6)
General practitioners	2 (0.9)	7 (10.9)	9 (3.2)
<b>Age</b>			
Below 30 years of age	94 (42.9)	28 (43.8)	122 (43.1)

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30–39	61 (27.9)	28 (43.8)	89 (31.4)
40–49	42 (19.2)	6 (9.4)	48 (17.0)
50 years of age and above	22 (10.0)	2 (3.1)	24 (8.5)
<b>Work seniority</b>			
0–4 years	97 (44.3)	32 (50.0)	129 (45.6)
5–9 years	50 (22.8)	16 (25.0)	66 (23.3)
10–14 years	25 (11.4)	12 (18.8)	37 (13.1)
15 years and above	47 (21.5)	4 (6.2)	51 (18.0)
<b>Marital status</b>			
Married	129 (63.2)	41 (67.2)	170 (64.2)
Single	75 (36.8)	20 (32.8)	95 (35.8)

**Table 2.** Frequency of exposure of health care staff to aggression by different variables

Variables	Exposure to aggression			p
	Aggression n:189 (%)	No aggression n: 94 (%)	Total n: 283 (%100)	
<b>Sex</b>				
Females	84 (70.6)	35 (29.4)	119 (42.0)	0.254*
Males	105 (64.0)	59 (36.0)	164 (58.0)	
<b>Professions</b>				
Clinic chief, assistant chief, chief intern	11 (64.7)	6 (35.3)	17 (6.0)	0.000*
Doctor	44 (72.1)	17 (27.9)	52 (18.4)	
Caregiver	14 (60.9)	9 (39.1)	23 (8.1)	
Nurse. + X-Ray/ lab. technicians	40 (69.0)	18 (31.0)	58 (20.5)	
Secretary and security officer, etc.	24 (40.0)	36 (60.0)	60 (21.2)	
Residents	56 (87.5)	8 (12.5)	64(22.6)	
<b>Age</b>				
Below 30 years of age	86 (70.5)	36 (29.5)	122 (43.1)	0.026*
30–39	63 (70.8)	26 (29.2)	89 (31.4)	
40–49	23 (47.9)	25 (52.1)	48 (17.0)	
50 years of age and above	17 (70.8)	7 (29.2)	24 (8.5)	
<b>Work seniority</b>				
0–4 years	75 (58.1)	54 (41.9)	129 (45.6)	0.036*
5–9 years	47 (71.2)	19 (28.8)	66 (23.3)	
10–14 years	29 (78.4)	8 (21.6)	37 (13.1)	
15 years and above	38 (74.5)	13 (25.5)	51 (18.0)	
<b>Marital Status</b>				
Married	116 (68.2)	54 (31.8)	170(64.2)	0.891*
Single	66 (69.5)	29 (30.5)	90(35.8)	
<b>Institutions</b>				
Training and research hospital	148 (67.6)	71 (32.4)	219(77.4)	0.651*
State Hospital	41 (64.1)	23 (35.9)	64(22.6)	
<b>Security at institution</b>				
Good / very good	22 (36.7)	38 (63.3)	60 (23.3)	0.000*
Fair	81 (76.4)	25 (23.6)	106 (41.1)	
Bad / very bad	81 (88.0)	11 n(12.0)	92 (35.7)	

\*Chi square

It was reported that during the recent one year 7.4% (11) of the staff of the Training and Research Hospital, and 24.4% (10) of the staff of the State Hospital had suffered from verbal and physical assaults. A statistically significant difference was found between institutions in terms of the types of aggression ( $p < 0.05$ ) (Tab. 3).

Out of the victims of aggression during the recent one year, 60.3% (114) had suffered from aggression committed by patient relatives, 47.6% had been exposed to aggression 2–4 times, and as for 42.1% (77), the causes underlying the aggression were long waits for examination or queue problems. No statistically significant difference

**Table 3.** Distribution of different aggression-related variables of health care staff victims of aggression by institutions

Variables	Health care institutions			p
	Training and research hospital n=148 (%)	State hospital n=41 (%)	Total n=189 (%100)	
<b>Type of aggression</b>				
Verbal	133 (89.9)	31 (75.6)	164 (86.8)	0.006*
Verbal and physical	11 (7.4)	10 (24.4)	21 (11.1)	
Physical	0 (0)	4 (2.7)	4 (2.1)	
<b>Frequency of aggression</b>				
At least once	32 (21.6)	12 (29.3)	44 (23.3)	0.272*
2–4 times	75 (50.7)	15 (36.6)	90 (47.6)	
5 times and more	41 (27.7)	14 (34.1)	55 (29.1)	
<b>Committers of aggression</b>				
Patients	23 (15.5)	11 (26.8)	34 (18.0)	0.175*
Patients and their relatives	31 (20.9)	5 (12.2)	36 (19.0)	
Patient relatives	89 (60.1)	25 (61.0)	114 (60.3)	
Other health care staff	5 (3.4)	0 (0)	5 (2.6)	
<b>Location of aggression</b>				
Emergency unit	74 (50.0)	33 (80.5)	107 (56.6)	0.000*
Service units	59 (39.9)	4 (9.8)	63 (33.3)	
Polyclinics and other Units	15 (10.1)	5 (9.7)	19 (10.1)	
<b>Reason of aggression</b>				
Negligence and lack of care	5 (3.5)	0 (0.0)	5 (2.7)	0.525*
Inadequate treatment	3 (2.1)	0 (0.0)	3 (1.6)	
Inappropriate demands	43 (29.9)	11 (28.2)	54 (29.5)	
Long wait for examination or queue problems	57 (39.6)	20 (51.3)	77 (42.1)	
Inadequate physical conditions or staff	26 (18.1)	7 (17.9)	33 (18.0)	

\*Chi square

It is further reported that 50% (74) of the staff of the Training and Research Hospital, and 80.5% (33) of the staff of the State Hospital have been exposed to aggression in emergency service. A statistically significant difference has been found between institutions in terms of the location of aggression ( $p < 0.05$ ) (see Tab. 3).

was found between institutions in terms of committers of aggression, frequency of aggression and reasons/causes of aggression ( $p > 0.05$ ) (see Tab. 3).

Out of the victims of aggression during the recent one year, 19% (36) stated that their hospital has initiated a post-aggression proceeding, and 50.8% (96) have reported a change in their post-aggression behavior towards patients. Post-

aggression proceedings were found as more frequent (31.7%) in the State Hospital, and negative effect of aggression on behavior of victim towards patients was found higher (58.8%) in the Training and Research Hospital ( $p < 0.05$ ) (Tab. 4).

in 59.5% (50) of women, 69.6% (39) of residents, 67.3% (37) of the staff who had suffered from aggression 5 times or more during the recent one year, and 64.2% (52) of the staff who categorized the security at their hospital as bad / very bad

**Table 4.** Distribution of post-aggression actions and effects of aggression by institutions

Variables	Health care institutions			p
	Training and research hospital n=148 (%)	State hospital n=41 (%)	Total n=189(%)	
<b>Is any action taken after aggression?</b>				
Yes	23 (15.5)	13 (31.7)	36 (19.0)	0.025*
No	125 (84.5)	28 (68.3)	153 (81.0)	
<b>Type of actions taken</b>				
Apologizing	11 (47.8)	2 (15.4)	13 (36.1)	0.261*
Conciliation	7 (30.4)	6 (46.2)	13 (36.1)	
Investigation is started about me	1 (4.3%)	0 (0.0)	1 (2.8)	
Incident is reported to juridical authorities	3 (13.0)	3 (23.1)	6 (16.7)	
Others	1 (4.3)	2 (15.4)	3 (8.3)	
<b>Have you received adequate support from management of your institution?</b>				
Yes	19 (13.8)	1 (3.0)	20 (11.7)	0.129*
No	119 (86.2)	32 (97.0)	151 (88.3)	
<b>Changes in post-aggression behavior towards patients</b>				
Negatively affected	87 (58.8)	9 (22.0)	96 (50.8)	0.000*
Not affected	61 (41.2)	32 (78.0)	93 (49.2)	
<b>Areas of negative effects</b>				
Reduction of time spent for patients	11(12.9)	2 (22.2)	13 (13.8)	0.644*
Avoiding to take medical risks	18 (21.2)	3 (33.3)	21 (22.3)	
Reduction of care or interest shown to patients	17 (20.0)	1 (11.1)	18 (19.1)	
Reduction of communications with patients and their relatives	39 (45.9)	3 (33.3)	42 (44.7)	

\*Chi square

Post-aggression proceedings or actions were mostly in the form of apologizing and conciliation (72.2%), and the negative effects were mostly in the form of a reduction in communications with patients and patient relatives (44.7%). No statistically significant difference was detected between institutions in terms of types of post-aggression proceedings and issues of negative effects ( $p > 0.05$ ) (see Tab. 4).

It is reported that post-aggression behavior of victims towards patients was affected negatively

(Tab. 5 – next page). Negative effects of aggression on post-aggression behavior of victims towards patients were reported more often in females, residents, and the staff who had suffered from aggression 5 times or more during the recent one year, and the staff who categorized the security at their hospital as bad / very bad ( $p < 0.05$ ) (Tab. 5). No statistically significant difference was found between on one hand the post-aggression changes of behavior of the health care providers towards patients and on the other hand the work seniority and age of staff and the location of aggression ( $p > 0.05$ ).

**Table 5.** Distribution of post-aggression behavior of health care staff victims of aggression towards patients by some variables

Variables	Behavior towards patients			P
	Negatively affected n: 96 (%)	Not affected n:93 (%)	Total n:189 (%)	
<b>Sex</b>				
Females	50 (59.5)	34 (40.5)	84 (44.7)	0.040*
Males	46 (43.8)	59 (56.2)	105 (55.3)	
<b>Professions</b>				
Clinic chief, assistant chief, chief intern	7 (63.6)	4 (36.4)	11 (5.8)	0.004*
Specialized doctor	15 (42.9)	20 (57.1)	35 (18.9)	
Caregiver	4 (28.6)	10 (71.4)	14 (7.4)	
Nurse. + X-Ray/ lab. technicians	21 (52.5)	19 (47.5)	40 (21.1)	
Secretary and security officer, etc.	6 (25.0)	18 (75.0)	24 (12.6)	
Residents	39 (69.6)	17 (30.4)	56 (29.5)	
General practitioners	4 (44.4)	5 (55.6)	9 (4.7)	
<b>Age</b>				
Below 30 years of age	46 (53.5)	40 (46.5)	86 (45.3)	0.921*
30–39	31 (49.2)	32 (50.8)	63 (32.2)	
40–49	11 (47.8)	12 (52.2)	23 (12.6)	
50 years of age and above	8 (47.1)	9 (52.9)	17(8.9)	
<b>Work seniority</b>				
0–4 years	43 (57.3)	32 (42.7)	75 (40.0)	0.330*
5–9 years	19 (40.4)	28 (59.6)	47 (24.7)	
10–14 years	14 (48.3)	15 (51.7)	29 (15.3)	
15 years and above	20 (52.6)	18 (47.4)	38 (20.0)	
<b>How many times</b>				
At least once	17 (38.6)	27 (61.4)	44 (23.5)	0.010*
2–4 times	41 (46.6)	47 (53.4)	88 (47.1)	
5 times and more	37 (67.3)	18 (32.7)	55 (29.4)	
<b>Workplace</b>				
Emergency unit	55 (51.9)	51 (48.1)	106 (56.3)	0.132*
Service units	31 (49.2)	32 (50.8)	63 (33.2)	
Polyclinics	9 (69.2)	4 (30.8)	13 (6.8)	
Other units	1 (14.3)	6 (85.7)	7 (3.7)	
<b>Security</b>				
Good / very good	5 (22.7)	17 (77.3)	22 (12.4)	0.001*
Fair	36 (44.4)	45 (55.6)	81 (43.8)	
Bad / very bad	52 (64.2)	29 (35.8)	81 (43.8)	

**DISCUSSION**

In this study, the 67.6 % (148) of the staff of training and research hospital and 64.1 % (41) of state hospital staff stated to be exposed to aggression. The gap between the hospitals

about the frequency being exposed to aggression has not been found statistically significant. However, while the percentage has been more in training and research hospitals in terms of being exposed to this verbal aggression (89.9

%) in state hospitals both verbal and physical aggression has been much more...? ( $p < 0.05$ ) In our country, in the case of emergency, state hospitals' emergency rooms, which provide secondary health care, are mostly appealed. The patients who are brought here get a medical care as much as the hospital's capabilities allow. The complicated cases, who can not be treated there, are sent to the training and research hospitals. The emergency patient and the relatives of him, who have the impact of the event, argue to the hospital staff. Hence, in our study the 80.5 % of the staff who were exposed to aggression in the state hospitals stated that they were exposed at the emergency room. According to our research, there were no statistically significant differences between the frequency of being exposed to aggression and the reasons of being exposed to aggression.

From the point of action taken after aggression, aggression is happening in research and training hospitals, but less action after aggression is taken there. Therefore, aggression is not accepted as a hazard. They are aware of aggression problem in state hospitals and take precautions and tighten the security ( $p < 0.05$ ).

In the study, it was reported that 70.6% of women, 64.0% of men and 66.8% of all staff have been exposed to aggression during the recent one year. The studies have revealed that 25 to 88% of healthcare providers had been exposed to verbal, physical or sexual assault or aggression during the recent one year [5, 8]. The frequency of exposure of all staff to aggression, detected in this study, is coherent with the findings and results of other studies.

The studies of aggression towards health care providers and staff have reported different results as to frequency of aggression in different sexes. Accordingly, aggression towards males was more frequent in some studies [6, 12, 13], while it was more frequent in females in some others [10, 14, 15]. In our study, though frequency of exposure to aggression is slightly more in females, this difference has not been found significant ( $p > 0.05$ ).

In the following study, all of the general practitioners and 87.4% of the residents reported to had been exposed to aggression during the recent one year. In some other studies, the frequency of exposure to aggression is more fre-

quent among nurses, followed by general practitioners, and then by specialized medical doctors and other groups of staff [9]. However, in a multi-center study conducted in various different health care establishments in Eskişehir, Ankara and Kütahya in 2002, the frequency of exposure to aggression was ranked as most frequent in general practitioners (67.6%), followed by nurses (58.4%), and then by faculty members (36.7%) and other professional groups (32.7%), and the differences between professional groups have been found significant ( $p < 0.001$ ) [8]. In our study, the ranking of professional groups in terms of exposure to aggression is parallel to the results of the aforementioned multi-center study.

In the study, it is demonstrated that the health care providers who categorize the security at their hospital as good / very good are less exposed to aggression, and show a less negative behavior towards patients upon aggression. Another study has revealed that one in every five emergency services takes no action or measure so as to protect its staff against committers of aggression, and to this end, a security plan is suggested to be developed, together with standards for security personnel [16]. By improving the security actions and measures in hospitals, both the exposure of health care staff to aggression, and the negative effects of aggression on behavior of the staff towards patients may be reduced.

When the types of aggression were compared out of the victims of aggression during the recent one year, 86.8% (164) have suffered from verbal, 11.1% (21) from both physical and verbal, and 2.1% from only physical aggression and assault, and no sexual assault/harassment has been reported. In another study, the frequency of verbal aggression is reported to be higher than that of physical aggression [5]. Again in other studies, verbal aggression is reported to be between 46% and 98%, physical aggression is reported to be between 11% and 38.5%, and sexual assault is reported to be less [9, 17, 18, 19]. Distribution of the types of aggression and the high frequency of verbal aggression are in coherence with the literature data. However, it is unequivocal that verbal aggression occurs more often than all other types of aggression.

We noticed that emergency service staff are suffering from aggression more frequently 56.6%

( $p < 0.05$ ). Both in studies covering all units of the hospital, and in studies conducted only in emergency units, the frequency of aggression is indicated to be higher in emergency services than any other units of a hospital [5, 8, 20]. Emergency services, being the loci of emergency interventions at all times, are full of stress for both emergency service staff and patients and their relatives. That is why acts of aggression are more frequently reported in emergency services than other units. In our study, the location of aggression and the frequency/rate of exposure to aggression were compliant with the findings and results of previous studies.

In the study, 42.1% (77) of the victims of aggression have suffered from aggression because of long waits for examination or queue problems, while 18% thereof have suffered from aggression because of lack of adequate physical conditions or spaces or health care personnel. Disrespectful behavior to patients, violence towards clients of health care settings especially in psychiatric institutions and not caring about the rule that first priority for health care providers is to protect rights of the patients, are present among the other reasons of violence towards health care providers. In a study on nurses, as for the causes of aggression, 67.4% of the responding nurses have mentioned about inadequate number of staff, and 40.0% thereof have cited the reason as failure to spend sufficient time for patients [21]. In a study covering pediatricians, the cause of aggression was stated as inadequate number of staff by 87.1% of the respondents [22]. On our side, the rate of the "inadequate number of staff" was lower than other studies among the causes of aggression. This may be due to the improvements in the physical conditions and spaces and the number of personnel in the state hospitals thanks to the recent policies of the Ministry of Health.

If we compare the committers of the aggression 60.3% of victims of aggression have suffered from aggression committed by patient relatives, 18% by patients and 2.6% by other health care providers. The committers of aggression are reported to be patient relatives most often, followed by patients jointly with patient relatives in the second rank, and patients themselves in the third rank [9, 23]. In a study conducted in Great Britain, 23% of victims of aggression among the

public hospital staff have been threatened behaviorally by patients, and 15.5% by patient relatives [24]. In our study, the health care staff reported that they have been exposed to aggression originating mostly from patient relatives.

In our study group, though 66.8% of the health care staff has been exposed to aggression during the recent one year, only 19% of them reported that their institution has taken some actions or initiated some proceedings upon aggression. The most commonly reported action (72.2%) is apologizing / conciliation. In another study, it was stated that only a small percentage of the acts of aggression in health care establishments is reported, and only severe incidents, such as injuries, are perceived and considered as aggression, and others are not reported at all [25]. In our study, actions have been taken only for 1/5<sup>th</sup> of the victims of aggression, and great majority of such actions have been in the form of unrecorded apologizing and conciliation. This may be said to be related directly to affirmation and acceptance of aggression as a way of handling and resolution of problems in our social setting, and to failure in taking adequate dissuasive measures against aggression.

Negative effects of aggression on post-aggression behavior of victims towards patients are reported more often in females, residents, and the staff who have suffered from aggression 5 times or more during the recent one year, and the staff who categorize the security at their hospital as bad / very bad ( $p < 0.05$ ). As negative effects, the health care staff have mentioned most commonly (44.7%) about reduction in their communications with patients and their relatives. In a study on nurses, as post-aggression effects, 74.7% of the respondents have mentioned about dispirit- edness, 63.5% about intensive stress, and 51.6% about fall in job productivity and efficiency, and 32.6% about negative effects on nursing care [21]. These results reveal a serious reduction in job productivity and efficiency and motivation of health care providers upon exposure to aggression at work.

## CONCLUSIONS

Around 1/3<sup>rd</sup> of the health care providers reported that they had been exposed to aggres-

sion at least once during the recent one year, and half of those exposed to aggression stated that their behavior towards patients has been negatively affected therefrom. As a conclusion, reduction of waiting time for examination, increase of number of personnel, improvement of physical conditions and security measures, and training of health care providers on their legal rights and on methods of protection from negative effects of aggression and aggression will surely make positive contributions to fall of the frequency of aggression at work and to resolution of this problem.

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## QUESTIONNAIRE

1. Name and Surname:
2. Gender: a) female b) male
3. Age:
4. Professional groups: a) chief, assistant chief b) chief resident c) specialized doctor  
d) resident e) general practitioner f) nurse g) caregiver h) technician i) receptionist j) other
5. Institution: a) training and research hospital b) state hospital
6. Total working period in profession: a) 60 months and below b) 61–120 months  
c) 121–180 months d) 181 months and above
7. Where did you mostly work in the recent one year? a) emergency room b) inpatient service c) polyclinic d) other
8. Were you exposed to verbal, physical or sexual aggression in recent one year in the institution you are working? a) yes b) no
9. If your reply is “yes” to above question, what was the type of aggression you were exposed to?  
a) verbal b) physical c) sexual
10. Have you witnessed that any of your colleagues exposed to aggression? a) yes b) no
11. If your reply is “yes” to the above question, what was the type of aggression your colleague was exposed to? a) verbal b) physical  
c) sexual
12. Who was the committer of aggression? a) patient b) patient and their relatives c) patient relatives d) other health care staff
13. Location of aggression? a) emergency room b) service units c) polyclinics and other units
14. Frequency of exposure to aggression? a) At least one time b) 2–5 times c) 6–10 times d) 11 and more
15. How do you evaluate the security in your institution? a) good/very good b) fair c) bad/very bad
16. Have you received adequate support from management of your institution? a) yes b) no
17. Is any action taken after aggression? a) yes b) no
18. What type of actions are taken? a) apologizing b) conciliation c) investigation is started about me d) Incident is reported to juridical  
authorities e) others
19. Are there any changes in your post-aggression behavior towards patients? a) negatively affected b) not affected
20. If your reply is “yes” to the above question, what is it? a) reduction of time spent for patients b) avoiding taking medical risks c) reduction  
of care or interest shown to patients d) reduction of communications with patients and their relatives