

BURNOUT, ALEXITHYMIA AND JOB SATISFACTION IN AUTOPSY TECHNICIANS

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Abstract: *Aim.* Identify the presence of burnout syndrome among autopsy technicians working in Pathology and Forensic Pathology departments whilst relating the level of burnout subdomains with job satisfaction and alexithymia.

Material and methods. A self-administered questionnaire was created specifically for this research collecting socio-demographic data and job-related information. Also, three psychological instruments were applied to evaluate burnout syndrome, satisfaction with work and alexithymia: Maslach Burnout Inventory (MBI), Job Satisfaction Scale and Toronto Alexithymia Scale (TAS). Statistical analysis of data was performed using Statistical Package for Social Sciences (SPSS) version 21.

Results. A number of 26 autopsy technicians were included in the study with a mean (M) work experience of 16.39 ± 11.33 years. Low levels of burnout were identified for two of the subdomains emotional exhaustion and depersonalization; 28.6% of participants had low scores for personal-accomplishment subscale, 14.3% had moderate scores, and 57.1% had high scores and displayed high levels of job satisfaction. Most participants (77.3%) did not have alexithymia. Subjects who were confronted with critical events scored higher on alexithymia. 80% of the subjects consider that working with child victims disturb them the most. Subjects who faced events with a high emotional impact had higher scores on alexithymia compared to those who did not (M=33.20): t(20)=2.426, p=.025.

Conclusions. Facing events with children as victims determine autopsy technicians to be more prone to present higher scores on TAS. None of the participants contacted a specialist to face critical events or to find coping strategies coordinated by a specialist in case of job-related stress. Results related to alexithymia are important for both medical professionals and trainers to focus on the impact of various job-related events on alexithymia.

Keywords: autopsy technicians, pathology, forensic pathology, personality traits, burnout, alexithymia, job satisfaction.

INTRODUCTION

Morgue is a stressful working environment because of the exposure to dead bodies, which are sometimes mutilated, to unpleasant odours or to particular sounds (for example, the saw cutting the bones during autopsy), but also because of the interaction with the families of the victims, all of which can have a negative impact on the autopsy technicians' mental health [1, 2]. In addition to the risks of physical injuries (infections, intoxication, irradiation, mechanical injuries) [3, 4] that arise during the autopsy, the autopsy technicians also face the risks that result

from their daily professional activity on their mental health (chronic stress, depression, hostility, abnormal behavior or absenteeism) [5].

The consequences of the activity in the morgue on the mental health of the staff were studied mainly in the context of disasters or wars, the research suggesting the existence of a dose-response relationship between exposure to corpses and the symptoms of post-traumatic stress syndrome. To a lesser extent, these aspects were studied in the case of professional activity in the morgue under normal conditions [2, 6].

A study on people who manipulated human corpses during the operation Desert Storm showed

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that these people had significantly more intrusive and avoidant symptoms and a higher alcohol use than those who did not manipulate corpses [2].

Research shows that people who handle dead bodies have an increased risk of higher levels of anxiety concerning death, alongside developing symptoms associated with traumatic stress [1, 7, 8]. A study conducted in Turkey on 142 people working in the morgue (specialist forensic pathologists, resident forensic pathologists, autopsy technicians and other team members) showed that people working in this environment are at risk of developing psychological symptoms, such as burnout or post-traumatic stress, due to the stressors associated with their professional activity. In that study, the autopsy technicians showed more emotional exhaustion and symptoms of post-traumatic stress, while resident physicians showed a low level of personal fulfillment [9].

Meel (2001) conducted a questionnaire-based study on the staff working in a mortuary in South Africa which included six autopsy technicians. The study revealed that the autopsy technicians experienced a high level of psychological stress which triggered major depression, generalized anxiety disorders and substance abuse. The autopsy technicians were overwhelmed by the permanent feeling of fear of acquiring an infection, making them perform their activities under a form of chronic stress. A significant psychological pressure was also induced by the difficult conditions in which they had to perform their activities: lack of hygiene, insufficient amount of protective equipment, and working with decaying corpses, which was challenging to resist both visually and olfactory. These inconveniences made them resort to the consumption of alcohol (one of the mortuary personnel became a chronic alcohol consumer as a result of mortuary-working-related depression), and one of them started smoking cannabis. The same research showed that the autopsy technicians fear the risk of HIV infection and most of them acknowledge chronic stress because of working in morgue [5].

Burnout syndrome is a syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed. It is characterized by three dimensions: feelings of energy depletion or exhaustion; increased mental distance from one's job, or feelings of negativism or cynicism related to one's job; and reduced professional efficacy [10]. It decreases performance at the workplace, affecting the relationships with others and the quality of the individual's life. Burnout syndrome resembles depression in several ways: sleep

and digestive disorders [11], the feeling of exhaustion and the diminishing of professional performance, decreased capacity for dialogue and interaction with others, the feeling of emotional emptiness and the feeling that the professional life invades the private one [12-15].

According to Maslach *et al.* [16], burnout is represented by three dimensions: high emotional exhaustion and depersonalization, associated with low personal achievement. Burnout is strictly a result of work-related stressors and it is influenced by personality and social factors [17-19].

One of the main causes leading to the onset of burnout is the long-term exposure to stress. In healthcare professionals, burnout syndrome can determine decreased quality of care and, implicitly, decreased patient satisfaction, higher medical error rate and risk of malpractice; high risk of giving up the job; abuse and addiction to alcohol and/or drugs and even suicide. Therefore, the exhaustion of the medical staff is counter-productive for professionals and their families, for the patients and for healthcare providers [20, 21].

Alexithymia, a construct formulated in the early 1970s by Nemiah and Sifners, is characterized by an impaired ability to identify and process one's emotions. Clinically, people suffering from alexithymia have difficulties in identifying and verbalizing feelings and elaborating fantasies, as well as the tendency to amplify the somatic sensations that are associated with emotional arousal. People with alexithymia have difficulties in differentiating between affective states due to the impaired ability to recognize verbal and non-verbal emotional stimuli. They also have deficits in the mental representation of emotions and in the ability to regulate emotions through cognitive processes. There are two types of alexithymia: primary- which is a psychological trait that does not change in time and secondary- a coping style that appears in certain stressful situations (such as trauma, chronic illness, etc.) and disappears after the stressful situation no longer exists or changes [22, 23]. Alexithymia is associated with socio-demographic factors (such as: occupation, financial status, life satisfaction, health status and ability to work) and is strongly correlated with depression [24].

The aim of the study is to identify the presence of burnout and alexithymia in autopsy technicians working in forensic pathology and pathology departments. The second goal is to correlate the burnout subdomains with job satisfaction and alexithymia.

To our knowledge, this is the first study

in Romania investigating the burnout syndrome, alexithymia and job satisfaction in autopsy technicians. Previous studies pointed the presence of burnout syndrome among forensic physicians and medical professionals working in emergency departments in Romania. For example, research led by the present team point out that forensic physicians have lower scores in all burnout domains and total alexithymia compared to obstetrics and gynecology physicians or doctors working in emergency units. Also, regarding job satisfaction, higher scores were registered in forensic physicians than in obstetrics and gynecology doctors. Our previous research among different medical specialties showed that environmental factors (family-related aspects and professional tasks) and personality traits influence the scores for burnout subdomains and satisfaction with job [25-28].

MATERIALS AND METHODS

Participants

A number of 30 questionnaires were distributed among autopsy technicians working in 5 counties from Romania. The subjects were informed about the purpose of the study and voluntarily provided answers to the questionnaires. The participants were assured about the confidentiality of their data and had the option of withdrawing from the research at any time. The inclusion criterion was questionnaires returned before deadline. A total of 28 questionnaires were finally returned to the researchers but 26 of them respected the inclusion criteria (delivered before deadline), therefore they were considered for the study. The autopsy technicians in our study come from 5 counties in Romania: Iasi (26.9%), Bihor (23.1%), Buzau (23.1%), Maramures (19.2%), and Ilfov (7.7%). The total number of this professional category is extremely low in Romania. Only 41 autopsy technicians are working in these 5 counties (15 in Iasi, 8 in Bihor, Buzau and Maramures has 7 autopsy technicians each and Ilfov has 4). Therefore 68% of the total number of workers from this professional category were included in the present research.

Instruments

A questionnaire was elaborated by the authors in order to carry out this research. The questionnaire was self-administered and was divided in three parts. The first part gathered socio-demographic data (gender, age, department, job experience as an autopsy technician, marital status, the number of children in their family of origin, the number of their own children,

and the presence of a chronic disease). The second part included a series of questions regarding work experience and critical events. We considered that the critical events related to their job are those situations in which the autopsy technicians are confronted with accidents or crimes with multiple victims or cases with strong emotional impact (such as violent death in children or victims with multiple injuries, mutilated, or fragmented bodies). Moreover, situations in which autopsy technicians suffer a professional accident are also considered critical events with the potential of affecting their health, such as: pricking or cutting gloves with a sharp instrument or splashing the skin with the blood of the corpse, especially when the examined corpse carries a blood-transmitted disease (such as HIV, HCV, HBV, tuberculosis) or osteo-muscular or joint disorders that occur in autopsy technicians as a result of handling the corpses. The third part included three psychological instruments in order to measure the level of burnout, job satisfaction and alexithymia.

The Maslach Burnout Inventory (MBI) was used to determine the level of burnout (16). The instrument consists of 22 items divided into three subscales: emotional exhaustion (9 items)- details feelings of being emotionally exhausted and tired because of work; depersonalization (5 items)- refers to the insensible and impersonal responses addressed to the beneficiaries; personal accomplishment (8 items)- outlines feelings of working competently and successfully with other people. For the first two subscales, higher scores correspond to higher degrees of burnout and for the last subscale, lower scores correspond to higher degrees of burnout. High scores on the emotional exhaustion or depersonalization subscales are considered as evidence for at least one manifestation of professional burnout [29-31].

The Job Satisfaction Scale (JSS) [32] was used to evaluate satisfaction with one's job. The scale has 32 items divided into 4 factors related to job satisfaction: (a) payment and promotion (14 items)- the employees' dissatisfaction (low scores) or satisfaction (high scores) regarding the reward for their work (salary, other financial rewards, recognition or promotion opportunities); (b) management and interpersonal relationships (8 items)- the employees' dissatisfaction (low scores) or satisfaction (high scores) regarding the social climate and relationships with colleagues or with the superiors, as well as regarding a non-conflicting workplace atmosphere; (c) organization and communication (10 items)- the employees' dissatisfaction (low scores) or satisfaction (high scores)

with the organization and performance at work: defining tasks, effort, communication, feedback etc.; (d) general satisfaction- the extent to which the employees are satisfied with their work in terms of organization, rewards (material or moral) and interpersonal climate. The Toronto Alexithymia Scale (TAS-20) was used for assessing alexithymia. The TAS-20 is a 20-items instrument divided into 3 subscales: difficulty describing feelings (5 items), which measures difficulty in describing emotions; difficulty identifying feelings (7 items), measures difficulty in identifying emotions; externally-oriented thinking (8 items) measures the tendency of individuals to focus their attention externally. The cut off scores for TAS-20 are as follows: for non-alexithymia, scores equal to or less than 51; for total alexithymia, scores equal to or higher than 61; for possible alexithymia, scores ranging from 52 to 60 [33].

Statistical analysis of data

The analysis of data was performed by SPSS version 21. Mean and standard deviation (SD) were used for the descriptive analysis. Pearson's Spearman's correlations were performed in order to reveal associations between study variables. Independent samples t tests and Mann-Whitney U tests were used to compare the means of two independent groups in order to determine if these are significantly different (two-tailed p-value), depending on whether the data were normally distributed or not.

RESULTS

Socio-demographic data

A total of 26 autopsy technicians were included in the research. Most respondents were male (96.2%). Participants were aged $M = 45.15 \pm 10.84$, ranging from 25 to 60 years old. More than half of the participants work in the Forensic Pathology field (54.5%), while the rest of them (45.5%) in Pathology departments.

Concerning their studies, the majority of the participants graduated from high school (80%), a smaller percentage have university studies (8%) or a postgraduate degree (8%) and the rest of them graduated secondary school (4%).

Many investigated subjects are married (68%), while the rest are in a partnership (16%), divorced (8%) or not involved in a relationship (8%). Half of the participants declared that their partners work in the same field as them. The professions of the partners are as follows: nurse (72.7%), physician (9.1%), pharmacy assistant (9.1%) and dental technician (9.1%).

The participants come from families with three (32%), two (28%), one and four (16% each), six and nine (4% each) children. Concerning their own children, more than half (54.2%) declared they have two children, followed by those with one child (25%), no children (12.5%) and three children (8.3%).

Work-related data

The work experience of the participants ranged from one to 34 years ($M = 16.39 \pm 11.33$). The mean number of working hours per week was 35 ± 9.66 , with a minimum of 30 and a maximum of 70, with a mean of 3.20 ± 5.11 on-call shifts per month (minimum 0, maximum 14).

29.2% of the participants declared that they were confronted with critical events in the last 5 years. Most of the respondents (80%) were confronted with at least one event with a high emotional impact. More than 1/3 of the subjects considered that their job changed their view on life.

The events that disturbed them and the answers of autopsy technicians are presented in Table 1.

Burnout domains, job satisfaction and alexithymia

All (100%) subjects have scores on emotional exhaustion less than or equal to 16, resulting in a low level of this variable. Also, all (100%) subjects have depersonalization scores less than or equal to 6, resulting in a low level of this variable. However, in terms of personal accomplishment, 28.6% of the participants have low scores, 14.3% have moderate scores, and 57.1% have high scores.

The analysis of the scores for alexithymia shows that most participants (77.3%) did not have alexithymia, 18.2% probably had alexithymia, and 4.5% had alexithymia.

In the case of job satisfaction, the results showed a high level of job satisfaction for all subscales and the general scores (Table 2).

Correlation analysis

In order to perform the correlation analysis, we tested whether our variables are normally distributed by using the Kolmogorov-Smirnoff test for all the variables we investigated. According to the test, only two variables have a normal distribution: work experience ($K-S z = .147, p = .200$) and TAS ($K-S z = .122, p = .200$). However, the subscales of the TAS are not normally distributed: difficulty describing feelings ($K-S z = .193, p = .014$), difficulty identifying feelings ($K-S$

Table 1. Answers given by the autopsy technicians to the items concerning the events that disturbed them

Item	Yes %
I was confronted with critical events	29.2
I was confronted with at least one event with a high emotional impact.	80.0
I'm very impressed when:	
The victims are children	80
Sexual abuse on children	48
Physical abuse on children	48
Suicide	16
Decaying bodies	8
When faced with major events, I talk to:	
A colleague	56
A specialist	0
A family member	24
Nobody	27.3
Patients have been aggressive to me	4.2
I have insomnia	9.1
I have depression	0
I use pills to face stress	0
I have a chronic disease	27.3
The specialty I work in changed my view on life	35

Table 2. Scores for MBI, TAS-20 and JSS

Instruments	Domains	M ± St. dev (total)
MBI	emotional exhaustion	7.33±7.03
	personal achievement	35.38±11.30
	depersonalization	2.52±3.72
TAS-20	difficulty identifying feelings	12.20±5.14
	difficulty describing feelings	11.73±3.21
	externally orientated thinking	18.73±4.07
	total score on alexithymia	41.95±10.19
	payment and promotion	4.00±.87
JSS	management-interpersonal relationships	4.31±.43
	organization-communication	5.16±.69
	overall satisfaction	4.71±.70

$z=.260$, $p<.001$), and externally-oriented thinking (K-S $z=.230$, $p=.003$). Also, the rest of the variables do not follow a normal distribution: age (K-S $z=.211$, $p=.004$), number of children in the family of origin (K-S $z=.242$, $p=.001$), number of own children (K-S $z=.317$, $p<.001$), the number of working hours per week (K-S $z=.406$, $p<.001$), the number of shifts per month (K-S $z=.326$, $p<.001$), and the personal accomplishment subscale of the MBI (K-S $z=.230$, $p=.005$). Given these results, we performed Spearman correlations in order to identify the relationship between the variables. The results of the correlation analysis show no associations between the variables (Table 3).

Comparative analysis

We tested whether there are any statistically significant differences between participants' personal accomplishment and alexithymia (total score on TAS and its subscales: difficulty describing feelings,

difficulty identifying feelings, and externally-oriented thinking) taking into consideration the following variables: specialty, confrontation with critical events, confrontation with events with high emotional impact, events in which victims are children, events in which sexual abuse occurs on children, events in which physical abuse occurs on children, events in which sexual abuse occurs on women, events in which suicide occurs, working with decaying bodies, I discuss with a colleague, I discuss with a family member, I do not discuss with anyone, chronic diseases, change of vision on life. Personal accomplishment did not reveal any associations with any of the variables mentioned above.

Alexithymia (TAS-total score)

The results pointed out that participants who were confronted with critical events scored higher on alexithymia (M = 52.80) than those who were not

Table 3. Results of the correlation analysis

Variables	Personal accomplishment
Age	r = .197, p = .393
Work experience	r = .247, p = .323
Siblings	r = .016, p = .948
Children	r = .064, p = .795
Working hours/week	r = .249, p = .304
Shifts/Month	r = .669, p = .006
Alexithymia – total	r = -.391, p = .109
Difficulty Describing Feelings	r = .516, p = .008
Difficulty Identifying Feelings	r = -.400, p = .089
Externally-Oriented Thinking	r = -.274, p = .257

confronted with such events ($M = 38.73$): $t(18) = 3.069$, $p = .007$. Also, participants who faced events with a high emotional impact had higher scores on TAS ($M = 44.52$) compared to those who did not ($M = 33.20$): $t(20) = 2.426$, $p = .025$. Furthermore, participants who faced events with children as victims had higher scores on TAS ($M = 44.52$) compared to those who did not ($M = 33.20$): $t(20) = 2.426$, $p = .025$.

Difficulty describing feelings

The results pointed out that autopsy technicians who were confronted with events with high emotional impact have more difficulties describing feelings ($Mdn = 12$) compared to those who were not confronted with such events ($Mdn = 9$): $z = -2.210$, $p = .026$. The analysis also indicated that the participants who were confronted with events in which the victims are children have more difficulties describing feelings ($Mdn = 12$) compared to those who were not confronted with such events ($Mdn = 9$): $z = -2.210$, $p = .026$. The results showed that autopsy technicians who do not talk to colleagues when confronted with critical events have more difficulties describing feelings ($Mdn = 13$) compared to those who talk to their colleagues ($Mdn = 11$): $z = -2.069$, $p = .038$.

Difficulty identifying feelings

The results revealed that subjects who were confronted with critical events have more difficulties identifying feelings ($Mdn = 20$) compared to those who were not confronted with such events ($Mdn = 10$): $z = -2.808$, $p = .003$. The analysis pointed out that the participants in our study who were confronted with events with high emotional impact have more difficulties identifying feelings ($Mdn = 10.50$) compared to those who were not confronted with such events ($Mdn = 7$): $z = -2.257$, $p = .022$. The results showed that autopsy technicians who were confronted with events in which the victims are children have more difficulties identifying feelings ($Mdn = 10.50$) compared to those

who were not confronted with such events ($Mdn = 7$): $z = -2.257$, $p = .022$.

Externally-oriented thinking

The results pointed out that participants who were confronted with critical events are more externally-oriented in their thinking ($Mdn = 22$) compared to those who were not confronted with critical events ($Mdn = 18$): $z = -2.275$, $p = .021$.

DISCUSSION

The results of our study showed that there is no level of burnout subdomains for autopsy technicians working in Forensic Pathology and Pathology departments. These results are congruent with previous studies carried out on forensic physicians [25, 26], which showed that medical professionals working in this field scored lower for emotional exhaustion and depersonalization than their counterparts working in Emergency or Obstetrics and Gynecology units.

Despite the fact that forensic pathology is considered to be a field with high risks, the majority of studies proved that doctors, nurses or technicians working in forensic departments showed lower scores for burnout and most of the causes for stress related to the job proved to be determined more by institutional aspects than by job-related tasks [34]. These results could be sustained by the fact that doctors choose their medical specialty by taking into consideration personality traits, as well as their self-rated mechanism of coping with stress related to a certain specialty. In case of autopsy technicians, there is no relationship with patients but with corpses.

In our study, autopsy technicians display low levels of burnout and high levels of job satisfaction. It is difficult to compare results with others because the scientific literature is presenting poor results regarding these aspects among autopsy technicians. In a study

of Perron and Hiltz, a moderate inverse relationship between organizational satisfaction and burnout was found. The number of forensic workers or length of employment in the forensic field did not have a strong relationship with burnout [35]. A national research of Kömür *et al.* [9] which involved 24 technicians and 94 forensic doctors (including resident doctors) showed that autopsy technicians were more emotionally exhausted than resident doctors. The scientific literature lacks enough data related to job satisfaction and burnout among technicians working in morgue. As a result, future research is needed to cover this breakthrough in scientific information in this professional medical category.

The majority of the participants in our study declared that they faced an event with a high emotional impact on their life but results also showed that in case of a stressful event, autopsy technicians tend to reject professional help (which could be provided by psychologists, psychiatrists or social assistants) and share the event to colleagues or a family member. This proves that autopsy technicians are not used or trained to consult a specialist to cope with job-related events that cause distress and instead, they use other coping strategies.

Research showed that one of the ways in which professionals who work with corpses cope with the stressors associated with their work is by creating an emotional distance between them and corpses and by avoiding situations that “humanize” the corpses [6]. Other studies showed that professionals placed in a crisis (such as performing a particularly unpleasant autopsy) can resort to inappropriate coping mechanisms, maladaptive, self-defensive or neurotic. Therefore, individuals become vulnerable to similar problematic situations, having a low adapting level, and future stressful events can lead to a crisis [2].

Other studies show that alexithymia is a risk factor for life satisfaction in general and could lead to depression and burnout. Also, alexithymic traits were found to be predictors of difficulties with adjustment in individuals [36-38]. Alexithymic or borderline alexithymic people are more prone to experience difficulties in adapting to their jobs. The relationship between alexithymia and job satisfaction is particularly important for medical professionals. There are some medical specialties where physicians must exhibit more compassion, show more empathy and be more understanding about emotions. A study of Gleichgerrcht and Decety shows that doctors who had difficulties in identifying and describing emotions are more prone to

develop personal exhaustion [39]. Identifying emotions is a cornerstone in coping with professional stress and working in medical departments with critical events requires more alexithymic traits. The more present this alexithymia factor (difficulty in identifying feelings) is in a person’s structure, the higher the emotional exhaustion scores will be [28]. Difficulty in Identifying Feelings was the alexithymia component that best predicted distress, as showed by Orejuela-Dávila *et al.* [43].

It is not a new trend in medical education to promote professional alexithymia training. The purpose is to train future medical professionals to manage their emotion in their work. In the professional alexithymia, cognitive training should be doubled by emotional training in order to help the future healthcare professionals to cope with difficult patients and overwhelming situations [44, 45].

In order to support the professionals in the Forensic Pathology field, it is necessary to promote information about the effects of traumatic stress, psychological and cognitive strategies for stress reduction, skills needed to improve social support and interaction with grieving families. Preliminary results of the implementation of such a program suggest that it could lead to improved self-efficacy in stress management and to a better perspective on stressors [1, 2].

Strengths and limitations of the study

This study has some strengths and limitations. Referring to strengths, this study is the first one of this kind carried out in Romania so its results can fuel other studies in order to identify the medical professionals’ difficulties when working in morgues. The results complete those already identified in other medical specialties by the research team. Also, the results can be generalized since 68% of the total of autopsy technicians from all departments were included in the research.

The limitation of the study is represented by the low number of participants, but this problem is related to the fact that there is a small number of autopsy technicians working in Romania. However, the results of this study can be used as a basis for other studies on autopsy technicians working in forensic pathology and pathology morgues at a national level.

In conclusion, there are no high scores for burnout domains or job satisfaction among autopsy technicians working in morgues in Romania. However, two conclusions are important for medical professionals

working in this field: critical events that subjects face over the years had an impact on their life and on their satisfaction with work. Therefore, a stronger education focusing on alexithymia among healthcare professionals will help them cope with professional stress, deal with critical events and adjust better to their work. The autopsy technicians may also benefit from education on the effects of traumatic stress, and on psychological and cognitive strategies for stress reduction, skills which are necessary to improve social support and interaction with grieving families.

Conflict of interest

The authors declare that they have no competing interests.

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