

# Anxiety and depression symptoms in family members of ICU patients

Síntomas de ansiedad y depresión en familiares de pacientes en la UCI

Sintomas de ansiedade e depressão em familiares de pacientes na UCI

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## Abstract

**Objective:** This study investigated symptoms of anxiety and depression in relatives of patients admitted in the Intensive Care Unit and determined whether these symptoms were associated to the seriousness of the patients' condition.

**Methodology:** A total of 102 patients' relatives were surveyed during the study. They were given a self-report questionnaire in order to assess demographic data, anxiety and depression symptoms. The symptoms of anxiety and depression were evaluated with the *Hospital Anxiety and Depression Scale (HADS)*. Patient's condition was evaluated with *A.P.A.C.H.E II Score*.

**Results:** More than 60% of patients' relatives presented severe symptoms of anxiety and depression. No relation was found between symptoms of anxiety and depression of the relatives of patients and patients' condition of health. On the contrary, these feelings used to exist regardless of the seriousness of patient's condition.

**Conclusions:** The assessment of these patients is recommended in order serious problems of anxiety and depression to be prevented.

**Descriptors:** Anxiety; Depressive Disorder; Intensive Care Units; Visitors to Patients (source: DECS BIREME).

## Resumen

**Objetivo:** El presente estudio se propuso investigar los síntomas de ansiedad y depresión en familiares de pacientes que fueron admitidos en la Unidad de Cuidados Intensivos y se determinó si estos síntomas se asociaron con la gravedad de la condición del paciente.

**Metodología:** Durante este estudio se encuestó un total de 102 familiares de pacientes, a quienes se les solicitó diligenciar un cuestionario auto-administrado para estimar aspectos sociodemográficos y síntomas de ansiedad y depresión. Los síntomas de ansiedad y depresión fueron evaluados con la *Hospital Anxiety and Depression Scale (HADS)*. La condición del paciente fue evaluada con el *A.P.A.C.H.E II Score*.

**Resultados:** Más del 60% de los familiares encuestados presentaron síntomas severos de ansiedad y depresión. No se encontró relación entre los síntomas de ansiedad y depresión de los familiares de los pacientes y el estado de salud de éstos. Por el contrario, aquellas sensaciones solían darse con independencia de la gravedad de la condición del paciente.

**Conclusiones:** Se recomienda la evaluación de estos pacientes para evitar problemas serios de ansiedad y depresión.

**Descriptores:** Ansiedad; Trastorno Depresivo; Unidades de Cuidados Intensivos; Visitas a Pacientes (fuente: DECS BIREME).

## Resumo

**Objetivo:** O presente estudo pesquisou os sintomas de ansiedade e depressão em familiares de pacientes que foram admitidos na Unidade de Terapia Intensiva e se determinou se esses sintomas se associaram com a gravidade da condição do paciente.

**Metodologia:** Durante este estudo se inquiriu um total de 102 familiares de pacientes, a quem se solicitou diligenciar um questionário auto-administrado, para estimar aspectos sociodemográficos e sintomas de ansiedade e depressão. Os dados sobre sintomas de ansiedade e depressão foram processados usando a *Hospital Anxiety and Depression Scale (HADS)*. A condição do paciente foi avaliada com o *A.P.A.C.H.E II Score*.

**Resultados:** Mais de 60% dos familiares questionados apresentaram sintomas severos de ansiedade e depressão. Não se encontrou relação entre os sintomas de ansiedade e depressão dos familiares dos pacientes e o estado de saúde deles. Pelo contrário, essas sensações com frequência se apresentavam com independência da gravidade da condição do paciente.

**Conclusões:** Recomenda-se a avaliação destes pacientes para evitar problemas sérios de ansiedade e depressão.

**Descritores:** Ansiedade; Transtorno Depressivo; Unidades de Terapia Intensiva; Visitas a Pacientes (fonte: DECS BIREME).

## Background

It is generally accepted that hospitals are places where emotions of anxiety, depression and sometimes aggressiveness can be expressed both by health care professionals and patients or their relatives (1). It is also understood that patients who are admitted in specific wards of the hospital, such as Intensive Care Units and Operating Rooms, are more likely to develop these feelings. However, ICU is probably the only place where patients' relatives seem to suffer more, not only because of the critical ill's condition, but also because of the fact that relatives must represent the patient and, in some cases, may need to take a decision for him (2).

Researches have shown that in half of the cases, people who visit ICU patient and they are close to him/her have difficulties in understanding doctors' information about prognosis, diagnosis and results of the cure (3), so anxiety and depression symptoms may occur to those relatives quite often (4, 5). In both cases relatives make efforts to share with ICU staff the burden of decisions related to quality and sometimes length of life of their beloved persons (6).

Aim of this study was to examine the presence of anxiety and depression symptoms in relatives of ICU patients that admitted in the Intensive Care Unit of a General Public Hospital in Athens, Greece, and whether such feelings are connected to the critical ill's condition.

## Methods

A total of 151 questionnaires were given to the family members of ICU patients from August 2008 to September 2010. Finally, 102 of them were enrolled in this study—62 females and 40 males—. The criteria for the participants were as follows: a) to have visited the ICU patient at least two times in a row (7); and b) that the patient to be intubated for 48 hours at least (8). HADS (*Hospital Anxiety and Depression Scale*) (9) was distributed to the family members of the patients, after visiting the patient and being informed about his condition from the doctor in charge.

Data collection occurred from August 2008 to September 2010, after being approved by the Review Board of the hospital where the study took place. Two measurements took place: The first one, 7-10 days from the admission of the patient in the ICU (10-12) and the second one, after 15-20 days from the admis-

sion—7-10 days after first measurement— (11). For each measurement, questionnaires were given to the same relative and always after doctors' information about patient's condition.

The supplementation of the questionnaires was anonymous and each one had a code number in order to be recoded and used for the purposes of the study. Relatives that completed the first questionnaire and their patient died between the two data collection point, were after excluded from the study. Patient's condition was evaluated with A.P.A.C.H.E II (*Acute Physiology And Chronic Health Evaluation II*) score. The score was calculated for each patient before the delivery of the questionnaires to his relatives and relatives were unknown of this score. The higher the score was getting, the more the patient's condition was deteriorating.

We devised a questionnaire to obtain demographic information on age, gender, relationship between family member and patient—husband, wife, son, daughter, brother, sister, mother, father—, prior relationship with ICU as a family member, place of staying and frequency of communication with ICU patient. The questionnaire also included the *Hospital Anxiety and Depression Scale* (HADS), which presented high internal consistency; Cronbach's  $\alpha$  coefficient was 0,91—0,863 for anxiety and 0,855 for depression—. The validation of the scale in the Greek population is included in the study of Michopoulos *et al.* (13) and the Greek translation has been done by Mystakidou *et al* (14).

This scale consists of two subscales, being one for anxiety (HADS-Anxiety) and other one for depression (HADS-Depression). Each subscale has seven multiple choice questions. There are four answer choices for each question, each with a score that varies from 0 to 3. The total HADS score varies from 0 to 21 points—being 0 to 21 for anxiety and 0 to 21 for depression—. Interpretation of the HADS scores was performed according to the methodological reference adopted (9).

As such, a score between 0 and 7 was interpreted as *no case* of depression or anxiety, scores between 8 and 10, as a *possible case* and scores from 11 to 21, as a *probable case*. *Possible* means something that has a chance of being or happening and the word *probable* means something that can be proven or that appears to be true (15).

Statistical analysis of the data was performed with the use of the statistical program *Statistical Package for Social Sciences (SPSS) Version 18.0*. The sample characterization data were analyzed descriptively and independent *t* test and *chi* square test were used for the comparative analysis between variables. The adopted level of significance was  $< 0,05$ .

## Results

*Demographic and clinical variables.* Demographic characteristics of the participants are given in Table 1. From the statistical analysis with *chi-square*, tests occurred that, in both measurements, women seem to suffer more than men from anxiety symptoms ( $p < 0,05$ ) but no correlation was found between gender and symptoms of depression ( $p > 0,05$ ) (see Table 2).

Generally, over 60% of the relatives in first measurement and almost half of them in the second measurement had strong anxiety and depression symptoms. Scores over 11 in subscales of Hospital Anxiety and Depression Scale (HADS) showed severe symptoms of these feelings (3), whose results are given in Table 3.

According to Table 3, during first measurement, it was observed that 22,5% relatives were possible cases and 61,8% were probable cases of anxiety. Moreover, according to the same table, 22,5% relatives were possible cases and 49,1% were probable cases of depression. From the same table, it can be also seen that during the second measurement, 18,7% possible cases of anxiety and 61,5% probable cases of anxiety were identified as well as 22% possible cases and 53,8% probable cases of depression.

The A.P.A.C.H.E II score for the majority of the ICU patients fluctuated between 0 and 19 and consequently the possibilities of death for those patients were smaller than 25% (16). The same results occurred from the second measurement too (see Table 4).

Mean scores of *Hospital Anxiety and Depression Scale* and possibilities of death, according to A.P.A.C.H.E II score, were assessed by using independent-samples *t* test. No statistically a significant difference was observed to symptoms of anxiety and depression between relatives whose patient was more likely to live—lower A.P.A.C.H.E II score—and to those whose patient was in a more critical condition ( $p > 0,05$ ). In both measurements, the members of the patient's family seemed to feel very anxious and depressed either patient was doing better or not, according to *chi square* tests (see Table 5 and Table 6).

## Discussion

In this study, we aimed to investigate the existence of anxiety and depression symptoms to family members

of patients that were admitted in the Intensive Care Unit of a general hospital in Athens, Greece, and to find out whether such symptoms are associated to critical patient's condition. Consequently, mean anxiety and depression scores are very high to all relatives, regardless of patient's condition.

The HADS-Anxiety scores indicated that almost 62% of the participants faced severe symptoms of anxiety in both measurements. The same results also occurred in other studies (17-18), according to which 73% of the family members suffered from anxiety during the hospitalization of their beloved in ICU and after their discharge of it. In the same studies (17-18), depression symptoms occurred in a lower degree, about 35% of the relatives, comparative to those with anxiety symptoms. In our study, relatives with severe symptoms of depression were fewer comparative to relatives with symptoms of anxiety.

In another study (19), anxiety symptoms occurred in more than 70% of family members, while those with depression symptoms were not more than 40%. Prevalence in women—compared with men—was 69,4% ( $p = 0,06$ ) in first measurement, and 71,4% in second one ( $p = 0,015$ ) for symptoms of anxiety, while no correlation was found between symptoms of depression and gender. These prevalence were similar to those found earlier, as far as the symptoms of anxiety were concerned (20, 19, 6). In the same studies, among family members, women were the most likely to face severe symptoms of depression.

Results found in this study are similar to those found with the utilization of HADS, where the researchers found that 69,1% of family members had anxiety and 35,4% had depression (6). Maruiti *et al.* (15) found that 43,6% of relatives suffer from anxiety and 35,9% suffer from depression, by using the same scale in the family members of ICU patients, in the Intensive Care Unit of Hospital Albert Einstein in Sao Paulo, Brazil.

Anxiety can be identified as a feeling of apprehension and constitutes an individual experience, usually as a consequence of a new situation or experience. This situation or experience can be either pleasant, such as the birth of a child, or unpleasant such as the admission of a beloved person in the ICU (15). The relation between the appearance of anxiety and depression symptoms with unpleasant and stressful events was found in other studies too (6, 21). Depressive symptoms are associated with difficulties in sleep, loss of weight, reduced energy and difficulties to think or concentrate.

Patients' condition assessed with the A.P.A.C.H.E II scale and scores varied from 0 to 19, meaning that the possibilities of death for those patients were lower than 25%

**Table 1.** Descriptive characteristics of the family members

Family members	Percentages
Men	39,2%
Women	60,8%
Prior relationship with ICU as a family member	29,4%
Place of staying (same house with patient)	52%
Frequency of communication with ICU patient > once a week	78,4%
Staying in town where the hospital is	81%

**Table 2.** Correlation between relatives' gender and symptoms of anxiety and depression

Gender	Symptoms of anxiety		Symptoms of depression	
	1 <sup>st</sup> measurement	2 <sup>nd</sup> measurement	1 <sup>st</sup> measurement	2 <sup>nd</sup> measurement
Men	50%	45,7%	40% (16)	40%
Women	69,4%	71,4%	54,8% (34)	62,5%
	$p = 0,06$	$p = 0,015$	$p = 0,25$	$p = 0,091$

**Table 3.** Percentage of relatives with anxiety and depression symptoms during the two measurements

HADS-Anxiety score	% of relatives		HADS-Depression score	% of relatives	
	1 <sup>st</sup> measurement	2 <sup>nd</sup> measurement		1 <sup>st</sup> measurement	2 <sup>nd</sup> measurement
0-7	15,7	19,8	0-7	28,4	24,2
8-10	22,5	18,7	8-10	22,5	22,0
≥ 11	61,8	61,5	≥ 11	49,1	53,8
<b>Total</b>	<b>100</b>	<b>100,0</b>	<b>Total</b>	<b>100,0</b>	<b>100,0</b>

**Table 4.** Percentage of ICU patients in each category of A.P.A.C.H.E II score and the possibilities of death, during the two measurements

A.P.A.C.H.E II score	Possibility of patient's death (%)	% of ICU patients	
		1 <sup>st</sup> measurement	2 <sup>nd</sup> measurement
0-19	0-25	62,7	67,0
20-29	25-55	25,5	22,0
30-34	55-75	9,8	5,5
> 34	> 75	2,0	5,5
	<b>Total</b>	<b>100,0</b>	<b>100,0</b>

**Table 5.** Relation between anxiety and depression symptoms to patient’s relatives and patient’s possibility of death, during first measurement

1 <sup>st</sup> measurement											
		HADS - Anxiety score			% of ICU relatives			HADS- Depression score			% of ICU relatives
		0-7	8-10	≥ 11				0-7	8-10	≥ 11	
Possibility of patient’s death according to APACHE II score	0-25%	15,6%	17,2%	67,2%	100%	Possibility of patient’s death according to APACHE II score	0-25%	20,3%	28,1%	51,6%	100%
	25%-55%	15,4%	26,9%	57,7%	100%		25%-55%	38,5%	15,4%	46,2%	100%
	55%-75%	15,7%	41,7%	41,7%	100%		55%-75%	50%	8,3%	41,7%	100%
Percentage of icu relatives		15,7%	22,5%	61,8%	100%	Percentage of icu relatives		28,4%	22,5%	49%	100%
<i>p</i> = 0,259						<i>p</i> = 0,127					

**Table 6.** Relation between anxiety and depression symptoms to patient’s relatives and patient’s possibility of death, during the second measurement

2 <sup>nd</sup> measurement											
		HADS- Anxiety score			% of ICU relatives			HADS- Depression score			% of ICU relatives
		0-7	8-10	≥ 11				0-7	8-10	≥ 11	
Possibility of patient’s death according to APACHE II score	0-25%	14,8%	16,4%	68,4%	100%	Possibility of patient’s death according to APACHE II score	0-25%	26,2%	21,3%	52,5%	100%
	25%-55%	35%	15%	50%	100%		25%-55%	25%	25%	50%	100%
	55%-75%	20%	40%	40%	100%		55%-75%	10%	20%	70%	100%
Percentage of icu relatives		15,7%	22,5%	61,8%	100%	Percentage of icu relatives		15,7%	22,5%	61,8%	100%
<i>p</i> = 0,108						<i>p</i> = 0,806					

(16). However, the A.P.A.C.H.E II scale failed to correlate with symptoms of anxiety and depression in family members, indicating that these symptoms exist during the whole patient's staying in the ICU, regardless to the seriousness of the patient's condition. In another study (6), researchers used the *Simplified Acute Physiology Score II* (SAPS II), in order to evaluate patient's condition, and no correlation was found between SAPS II and symptoms of anxiety and depression to the relatives.

Consequently, it could be said that relatives of patients that admitted in an ICU, face severe symptoms of anxiety and depression (22-24, 5) during the entire hospitalization of the patient and the majority of these relatives needs further help from specialists in Psychology and Psychiatry. The nurses who work in the ICU and have direct contact with patients and relatives too (6, 25, 26) need to recognize these symptoms and adopt ways of minimize them.

All these symptoms can be transmitted from relatives to patients interfere in their health conditions and change their clinical situation (27). Holden *et al.* (28) have shown that development of relationships between critical care nurses and close relatives demands time and energy, but it can also help to reduce stress for all concerned. Physicians should also be committed to caring not only for the patients but for their families too and more studies establishing the clinical impact of anxiety and depression symptoms are necessary to be done (29).

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