College voor Intensieve Zorg – College de Soins Intensifs

The Quality of Life of the Belgian Intensivist in 2009

Report by P. Ferdinande
On behalf of the IC College

Version 2 : 02/2009

Addenda

1. Demographic data and workload
2. Work-life balance
3. General health questionnaire — SF 12
4. Symptom checklist of depression — CES D
5. Burnout — MASLACH
6. Alcohol abusus — AUDIT
7. Occasionally used drugs
8. Sleep quality
9. Top stressors for intensivists

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Introduction

Intensive Care Medicine is directed towards the most critically ill patients in the hospital. It is an environment that imposes high demands on the health care personnel. The daily struggle between death and life, between hope and despair and the limited resources for so many patients exert not only a high psychological but also an important physical demand on ICU nurses and intensive care physicians . The intensive care unit is relatively secluded entity with many undiscovered mysteries for the outside world.

Mostly doctors tend to study the problems of the patients they care for. Hardly ever the medical staff itself is the object of a scientific analysis. The working group on Quality of life of the Belgian intensivists made a first attempt to uncover a part of this mystery in this group of important players in the field of intensive care medicine. Several questions were addressed. Besides the collection of demographic data an attempt was made to obtain information on the working hours, organisation and frequency of the duties, type and size of the ICU they work in or manage. In a second part a generic list of work-life balance questions is developed and used in this enquiry. Part three deals with a number of validated questionnaires on general health, incidence of depression, burnout, alcohol and substance abuse and sleep quality. The last and fourth chapter tries to unravel the principal stressors for intensivists. Chapter five compares these data with data from the literature from other countries .

Content of the survey and general principles

Chapter 1. Demographic data and workload			(Addendum 1)
Chapter 2. Work-life balance : 14 statements			(Add 2)
Chapter 3. Validated questionnaires			
• General health questionnaire	SF 12	12 items	(Add 3 a+b)
• Symptom checklist of depression subscale	CES D	20 items	(Add 4 a+b)
• Burnout	MASLACH	22 items	(Add 5 a+b)
• Alcohol abuse	AUDIT	10 items	(Add 6 a+b)
• Occasionally used drugs			(Add 7 a+b)
• Sleep quality			(Add 8 a+b)
Chapter 4. Top stressors for intensivists			(Add 9 a+b)

General principles

A letter of invitation to participate to the questionnaire on the quality of life of the intensivist was sent to the 645 Belgian doctors known to have once obtained the professional title in Intensive Care Medicine. The letter contained a personal log-in and a password. On the website the participants were able to select a French or a Dutch version of the enquiry according to their mother tongue. The translations of the questionnaires offered were officially validated. The participation was on a voluntary basis and no remuneration or reward was offered. A commitment to anonymity and of absolute confidentiality was made at any stage of entry and analysis of the data. The enquiry was launched from July 1st 2008 and closed by the end of September 2008. The response rate was 221 of the estimated 400 still active intensivist in Belgium (55 %). The drop-out percentage was maximally 6.6 % for some questions. The total time to fill up the questionnaire took 15 minutes.

Results : all data are presented as the median (P25 – P75) unless otherwise stated.

Chapter 1 : Demographic data and workload

Age, gender, marital status, partner.

The overall response rate to the questionnaire is estimated to be 55 percent . Median age of the responders was 44 years (39-5), with 96 percent between 30 and 59 years. The largest was the age group between 40 and 49 years. Eighty percent were male. The vast majority was married or lived as a couple (87.3 %). Singles represented 5.9 % and divorced participants 6.36 %.
For those with children at home the median number was 2 (1-3) and in 28.9 percent of the participants the profession of the partner was also a doctor (fig.1+2).

Fig. 1

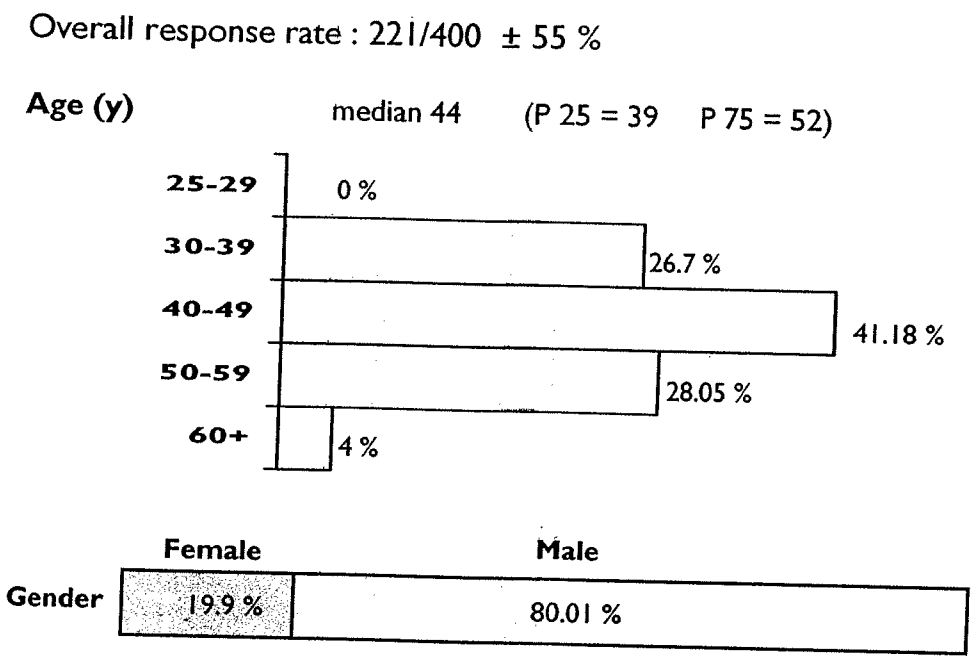
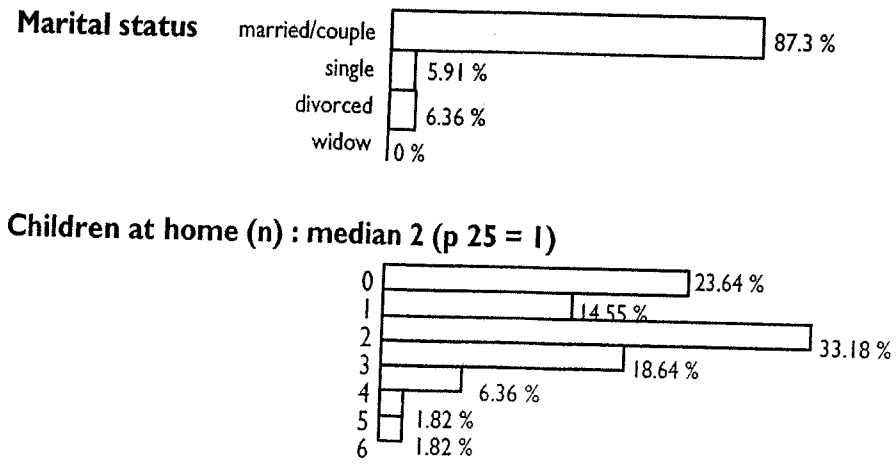


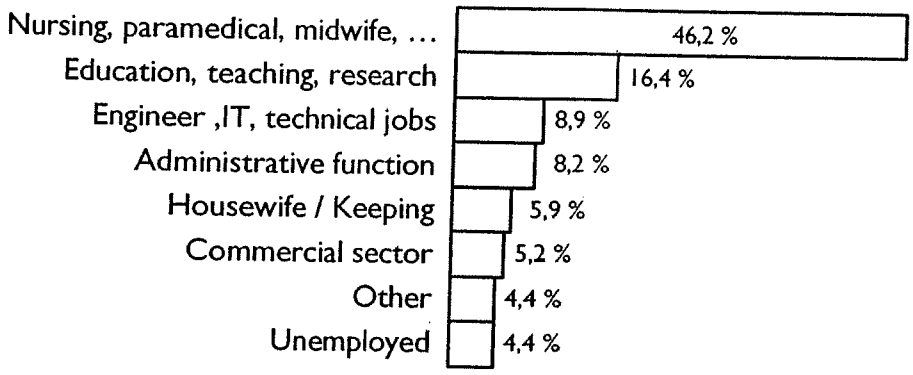
Fig 2.



If the partner was not a physician the biggest group of partners (46.2 %) was involved in paramedical activities (nursing, physiotherapist, midwife), followed by education and teaching, research professionals (16.4 %), engineers and technical jobs (8.9 %) and administrative functions (8.2 %) (fig.3).

Fig. 3.

Professional occupation of the partner (if not MD) = 71,03 %

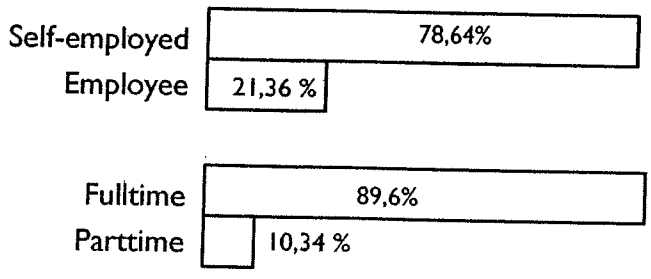


Professional status, employment, basic medical speciality, professional experience

Seventy eight percent of the responders reported to be self-employed and the rest (21,36 %) was contracted as employee. A full-time activity is reported by 89.6 %. A little more than ten percent works part-time being on average 70 %. (fig.4)

Fig. 4.

Professional status

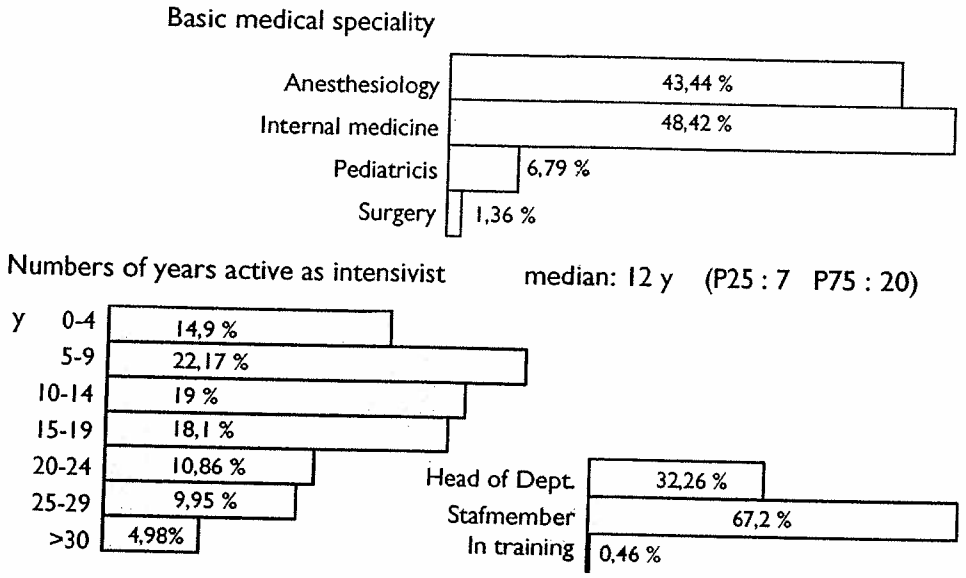


Part-time on average : 70 %

Total 21
- 2 < 50 %
- 5 50-74 %
- 14 > 75 %

10 have a second professional activity other than intensivist.

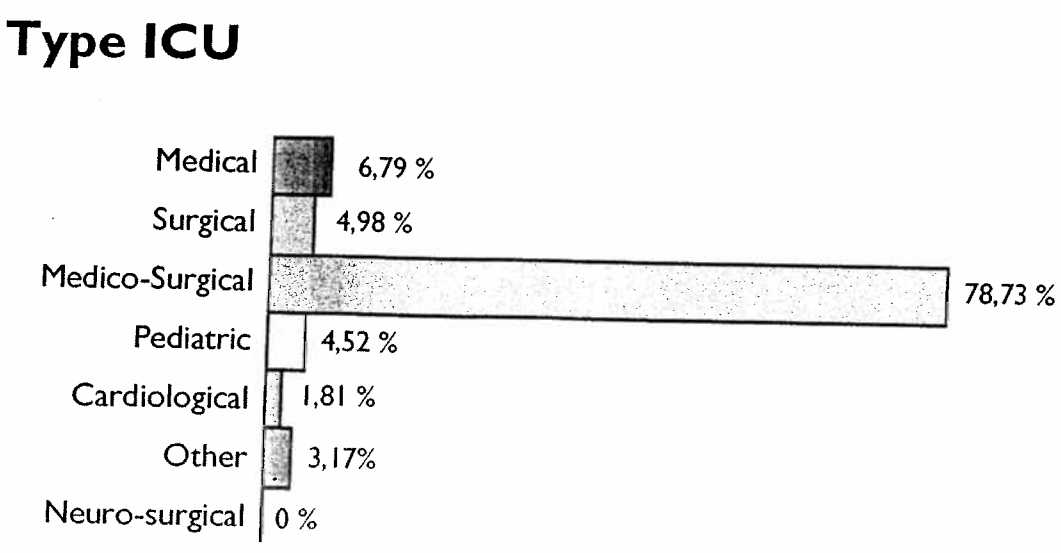
Internal medicine (48.42 %), anaesthesiology (43.44 %) precede largely pediatrics (6.79 %) and surgery (1.36 %) as primary specialty. The responders were active as intensivist for a median of 12 years (7-20). The largest group being between 5 and 19 years. Thirty-two percent reported to be head of the ICU department, 67.2 % function as ICU staff member and almost no intensivists in training (0.46 %) participated to the questionnaire. Fig. 5.



Type of ICU were responders work

The participants work for 78.7 % in mixed medical-surgical ICU's. More than half of the responders (54.09 %) work in a training center.
The concerned ICU's have a median of 12 beds (9-24) and a bed occupancy rate (%) of 85 median (80-90). During daytime the medical continuity is assured by a median of 2 (1.5-4) intensivists and during duties by 1 (1-1). (fig.6+7)

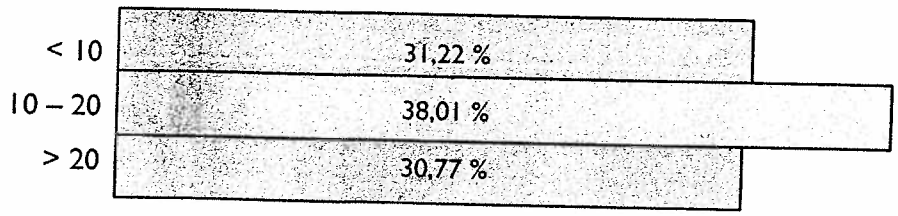
Fig. 6.



Training center ? Yes = 54,09 %

Fig. 7.

Number of ICU beds (n) : median 12 (P25 = 9 P75= 24)



Bed occupancy rate (%) : median 85 (P25 = 80 P75 = 90)

Intensivists during daytime (n) median : 2 (P25 = 1,5 P75 = 4)
on duty (n) median : 1 (P25 = 1 P75 = 1)

Workload – duties

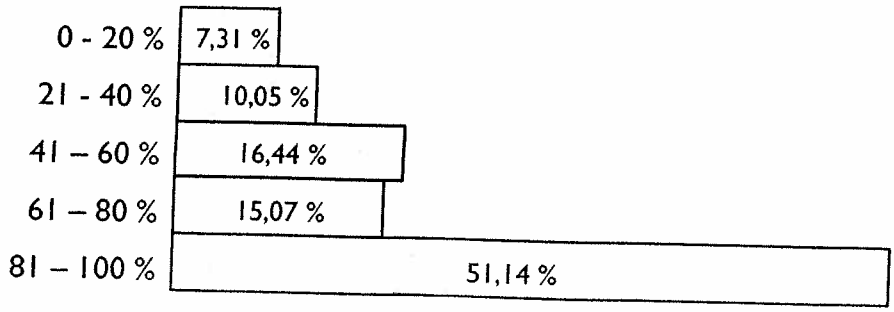
The responders report to have been professionally active during the last week for a median of 62.06 hours (52-70) including duties of which 51 percent report to have spent 81 to 100 percent of their time on ICU.(fig.8)

Fig. 8.

How many hours did you work during the last week?

62,06 hrs (P25=52 P75 = 70) (duties inclusive)

Time spent on ICU



The duration of a normal working day excluding duty hours is to reported to be of a median of 9.67 hours (9 – 10.5). The normal workload is a median of 6 ICU beds (5-9) per ICU staff member.

Fig. 9.

- ICU workload during daytime

  1 ICU stafmember / median 6 beds (P25=5 P75 = 9)

- Duration of a "normal working day w/o duty"

  median 9,67 hrs (P25 = 9 P75 = 10,5)

The normal frequency of duties per month on weekdays is 4 (median) per month (2-4.5) serving 11 (8-18) ICU beds per intensivist on duty spending 10 hours (3-18) of patient contact per duty period. During weekend days the figures are respectively 2 (1-2), 11 (7-18) and 12 hours (6-20) per day. Less than forty percent of the responders reports to have assistance of trainees during the week or weekend (39.8 % and 34.4 %)

Fig. 10.

- ICU workload during duties : median (P25-75).

	frequency/month	number of ICU beds	hrs of patientcontact/day
weekdays	4 (2 – 4,5)	11 (8 – 18)	10 (3 – 18)
weekenddays	2 (1 – 2)	11 (7 – 18)	12 (6 – 20)

- trainee present during duties

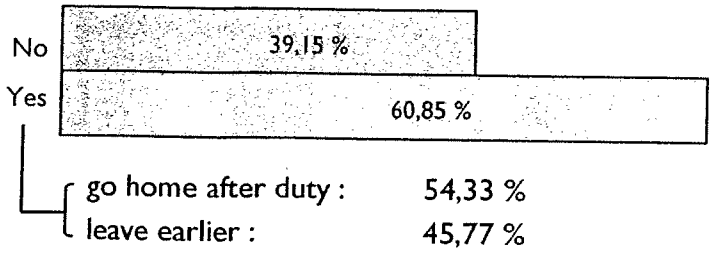
week	39,81 %	yes
weekend	34,43 %	yes

Thirty-nine percent of the responders have no recovery period after the duty periods. Of the 60.8 % with recovery more than half (54.23 %) goes home immediately after the on call period and the rest leaves earlier (45.77). In almost 2/3 of the respondents (64.9 %)

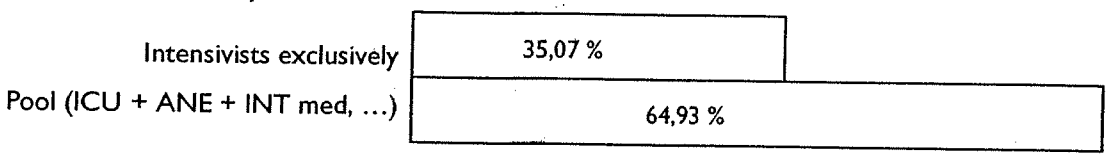
the duties are organised by a pool of specialists (intensivists, anesthesiologists, internal medicine). In 35.07 % the on call system is assured exclusively by intensivists (fig .11).

Fig. 11.

- recovery on the day after duties :



- duties by :



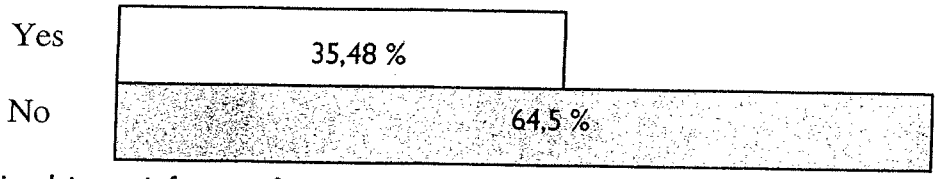
Holidays – continuing education

The median number of official holidays per year is 30 (25-35) and corresponds with the effective holidays 30 (25-36).
On the other hand only 35.48 % of the respondents does report that continuing education is scheduled in the time table. Sixty-four percent report it is not scheduled. For the responders with a scheduled opportunity for continuing education only 44 % report that the time period foreseen for this goal is sufficient.

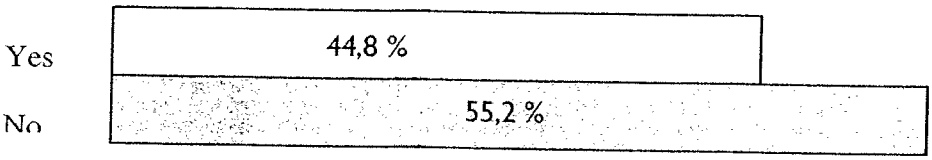
Fig. 12.

- number of official holidays per year (d)
  median : 30 (P25 = 25 P75= 35)
- number of effective holidays per year (d)
  median : 30 (P25 = 25 P75 = 36)

- continuing education calculated in the time schedule?



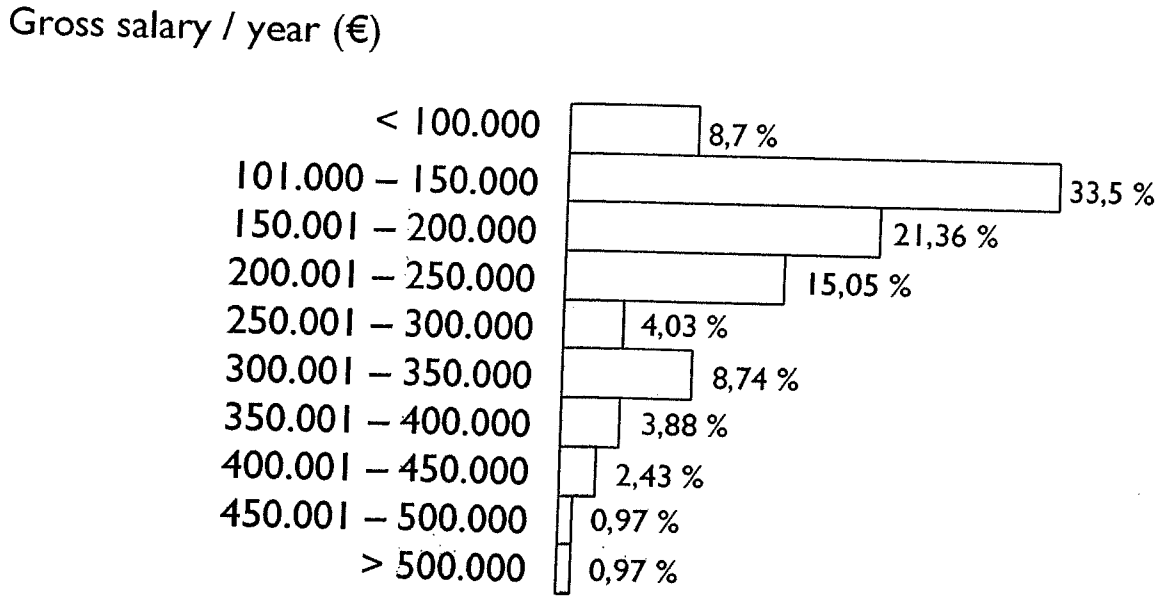
- if yes, is this satisfactory?



Salary

Participants were asked to estimate their gross annual salary (before taxes, costs, social contributions, overhead and so on ...). More than 78 percent to have gross annual salaries below 250.000 € per year.
The distribution is given in figure 13.

Fig. 13.



Chapter 2 : Work-life balance of the Belgian intensivist

Introduction

The working group conceived 14 generic statements dealing with work-life balance (see addendum 2). The respondents had five possibilities to answer (see fig 14). Both the percentage of respondents per answer as the weighed mean calculated by the formula given in fig 14 are reported. The mathematic mean is 3 for all questions.

Fig. 14.

14 statements

completely disagree	rather disagree	neutral or no opinion	rather agree	strongly agree
1	2	3	4	5

$$\text{Weighed mean} = \frac{n_1 \times 1 + n_2 \times 2 + n_3 \times 3 + n_4 \times 4 + n_5 \times 5}{n_{1+2+3+4+5}}$$

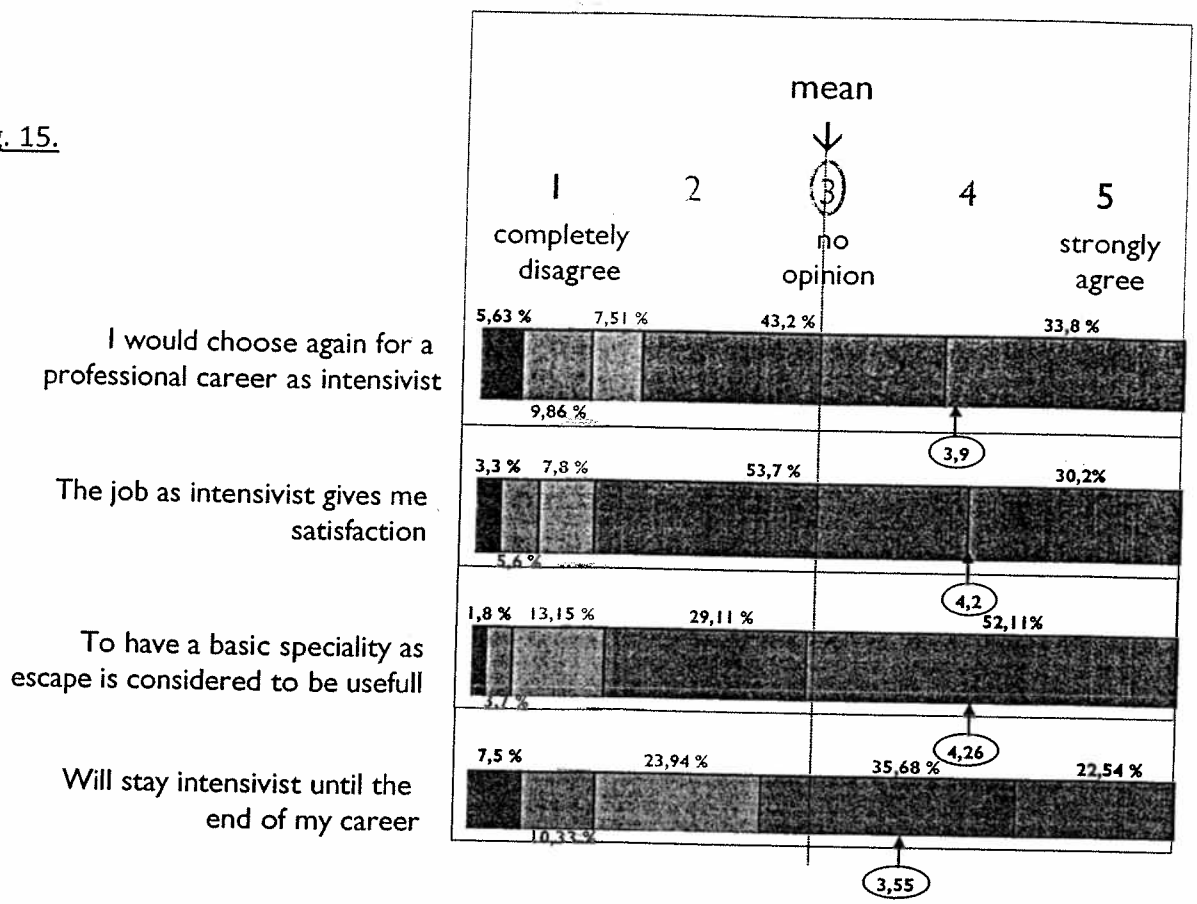
Job orientation, satisfaction, usefulness basic specialty (fig.15)

A first series of questions deals with job orientation, basic specialty and perspectives for the coming years .

The vast majority of the participants would again choose for a career as intensivist (weighed mean 3.9). The job as intensivist gives satisfaction to almost 84 % (weighed mean of 4.2). The decision to stay intensivist until the end of their career is less convincing but still positive (weighed mean of 3.55).

More important is the statement that more than 81 % of the respondents report that they find it useful to have a basic specialty as means of escape (weighed mean 4.26). This information may be useful when rethinking of the training of intensivists becomes a breakpoint in the future.

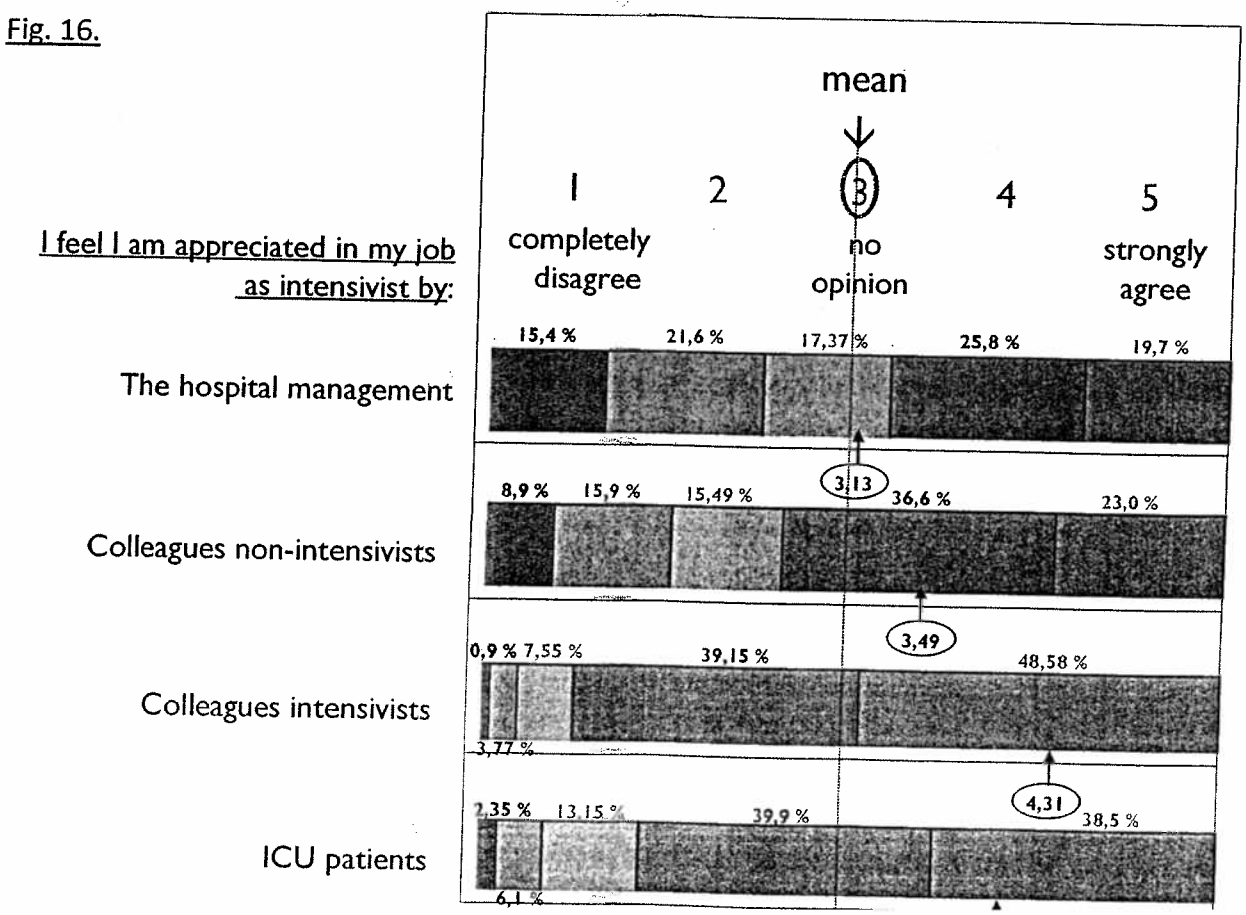
Fig. 15.



Appreciation by professionals and patients (fig.16)

Most respondents feel a high degree of appreciation in their professional role as intensivist by fellow intensivists (weighed mean 4.31) and patients (weighed mean of 4.06). This appreciation goes a step downward when approaching colleagues – non intensivists (weighed mean 3.49) or even more by the hospital management (weighed mean 3.13).

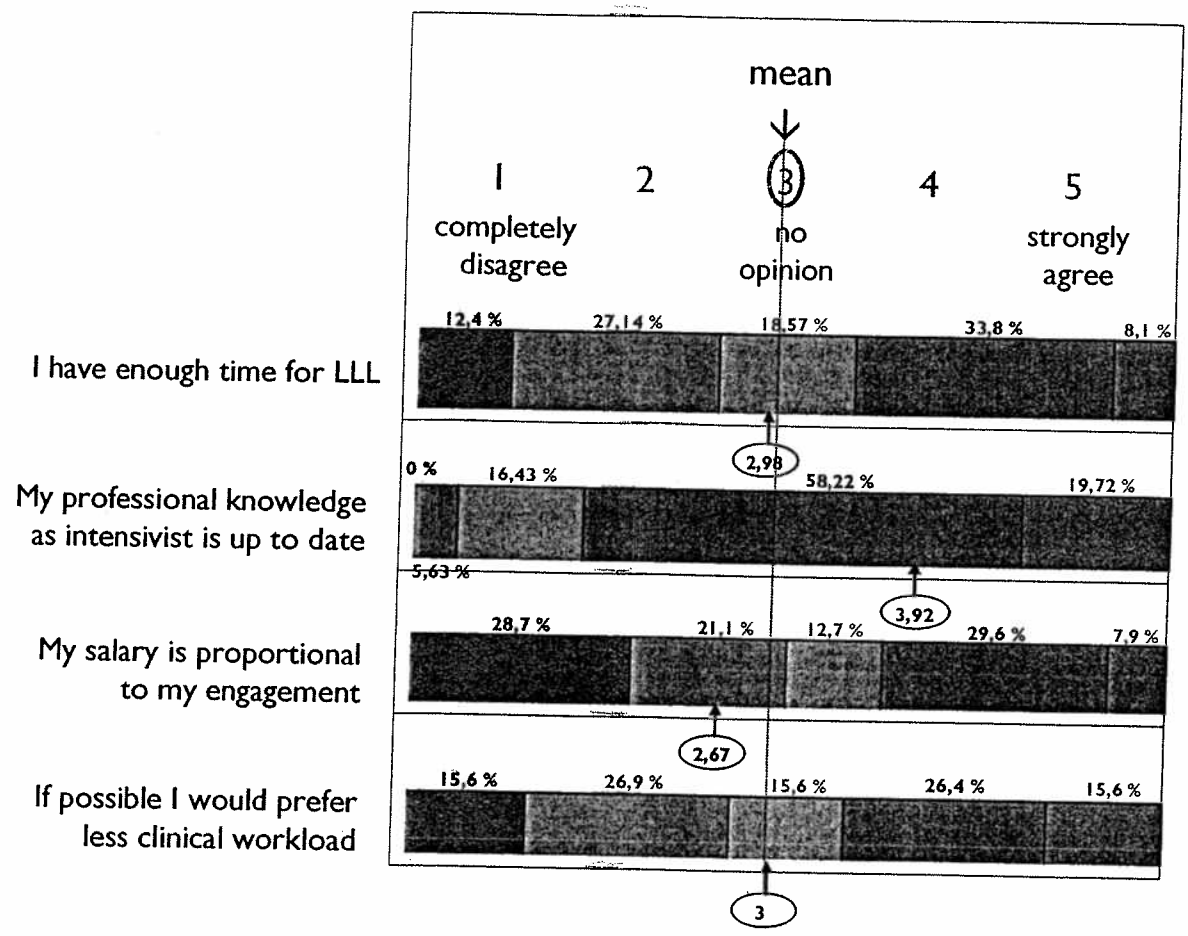
Fig. 16.



Life long learning, salary, clinical workload (fig .17)

A small majority of the participants estimates that there is not enough time for continuing education (w.m. 2.98) although the professional knowledge as intensivist is estimated to be up to date (w.m. 3.92).
A bigger group states that the salary is proportionally to low for their engagement. (w.m. 2.67) but the clinical workload is appreciated to be fair (w.m. 3).

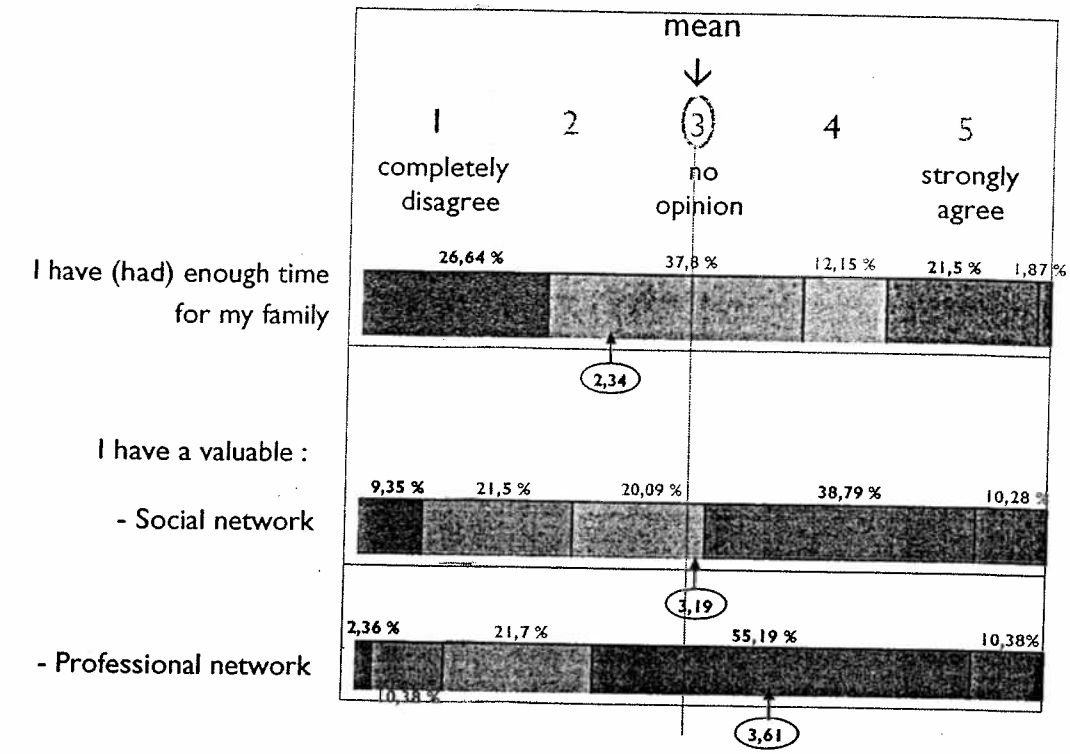
Fig. 17.



Family life, social and professional network (fig.18)

More than 63 % of the respondents state that they have not enough time for their family (w.m. 2.34). The social network (w.m. 3.19) and especially the professional network (w.m. 3.61) are slightly more positively evaluated.

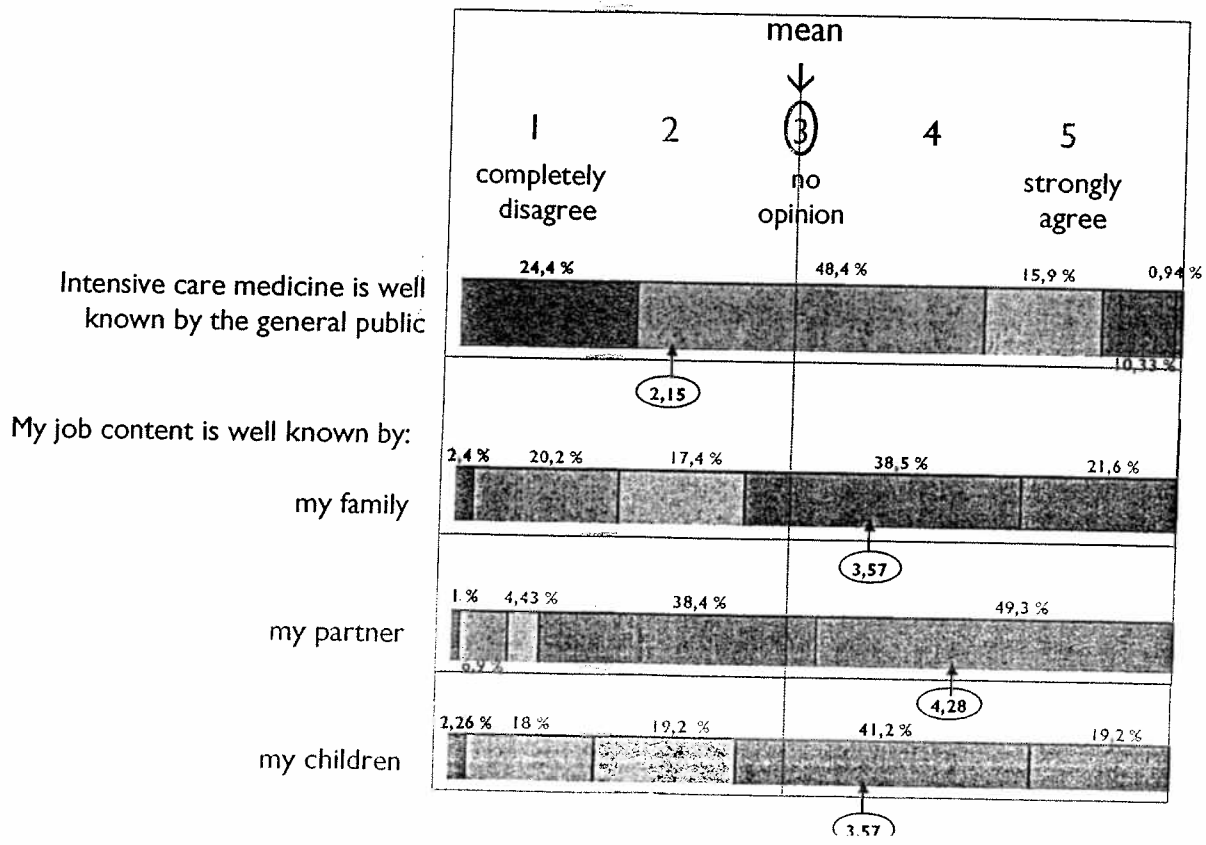
Fig. 18.



Visibility of Intensive Care Medicine (fig.19)

The vast majority is convinced that intensive care medicine is not well known by the general public (w.m. 2.15). On the other hand the responders estimate that their job content is well known – although not fully – by their partner (w.m. 4.28) followed by their family (w.m. 3.57) as well as by their children (w.m. 3.57)

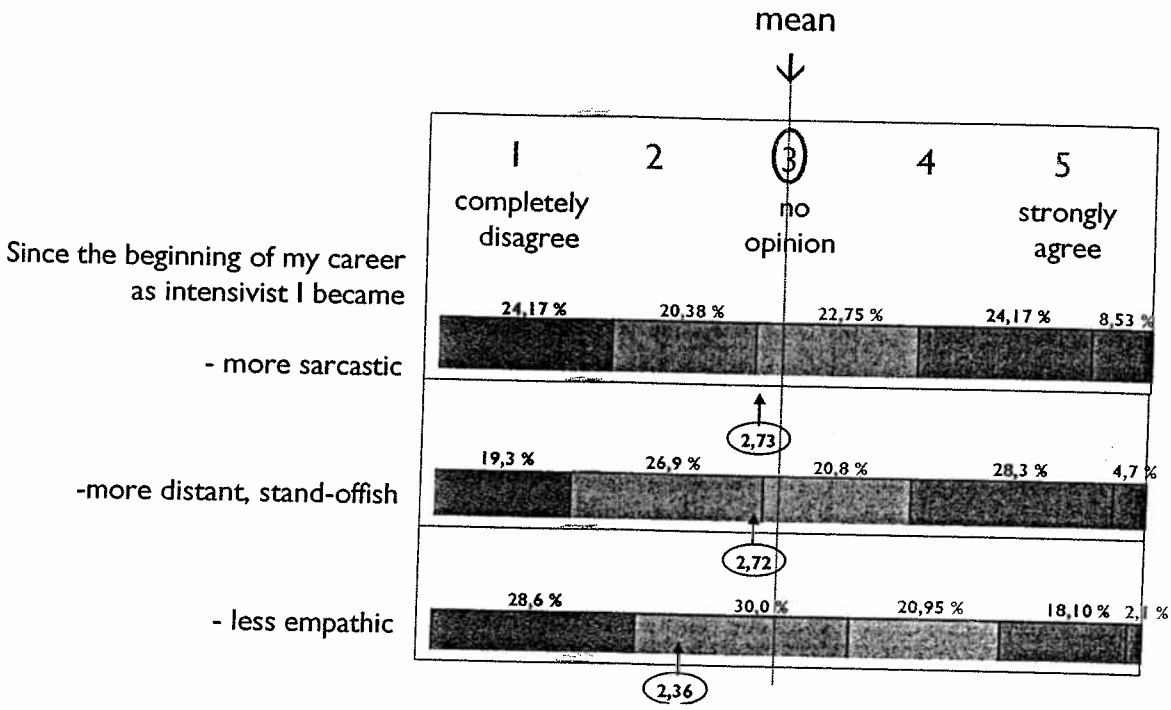
Fig. 19.



Change in attitude : Burn out ? (fig.20)

Somewhat in contrast with later findings (see burn out questionnaire) the Belgian intensivist does on average not agree that since the beginning of his/her career as intensivist he/she became more sarcastic (w.m. 2.73), more standoffish (w.m. 2.72) nor less empathic (w.m. 2.36).

Fig. 20.



Chapter 3 : Validated questionnaires

Introduction

In this part we report the answer on a number of validated questionnaires. The questionnaires were not announced to the participants in terms of their final goals (eg. your general health or tendency to depression.. will be evaluated ...). Moreover in most of the questionnaires questions on a certain domain are mixed with other domains.

General Health Questionnaire SF12 (see addendum 3)

The SF12 is a SF36 derived and validated auto questionnaire permitting to obtain two scores : one on the quality of mental health and another score on the quality of physical health.

The SF12 covers 8 domains and interrogates the respondent on his experiences of the last four weeks. Without going too much into detail the most striking results are reported (see fig .21).

- The general health status is reported to be quite or really bad by 11.6 % of the respondents.
- 17.3 % report that they had performed less than planned due to physical shortcomings.
- 15.25 % report that they had performed less than planned due to emotional shortcomings
- 14 % report moderate to a lot of bodily pain during normal activities at home or at work.
- Limitation of physical functioning in moderate to average activities is reported by 17 % (moderate to a lot).
- 15 % report to have often to very often problems with psychological functioning (depressed, tense).
- Lack of vitality is reported to be often to always present by 31 %;
- 12 % respondents report to suffer often to always from problematic social functioning (due to emotional or physical problems).

Fig. 21

3.1. General Health Questionnaire SF 12

8 domains (during the last 4 weeks.....)

		% of the respondants (n=214)	
1.	General health status	11,6	(quite bad + really bad)
2.	Physical shortcomings (did you perform less than planned by ...)	17,3	(yes)
3.	Emotional shortcomings (did you perform less than planned by ...)	15,25	(yes)
4.	Bodily pain (during normal activities at home or at work)	14	(moderate to a lot)
5.	Limitation of physical functioning in moderate to average activities	17	(moderate to a lot)
6.	Problems with psychological fuctioning (depressed, tense)	15	(often to very often)
7.	Lack of vitality	31	(often to always)
8.	Problematic social functioning (due to emotional or physical problems)	12	(often to always)

Global SF 12 to be calculated !

Symptom checklist of depression subscale CES D (see ADD 4)

The CES (Center of Epidemiologic Studies Depression) D scale is developed to screen a population for potential cases of depression and to evaluate the actual intensity of the symptoms of depression. It is composed of 20 items scoring from 0 to 3 so that the total score range is from 0-60. Five axis of symptoms of depression are explored : depressive mood, feelings of guilt, psychomotor slowing, loss of appetite and sleeping disorders.
For the simplicity of this report we quote only global results. Ten of the 221 respondents were excluded due to missing values (211 = 100 %).
Eleven or 5.2 % of the participants had a global score of 16 meaning they exhibited symptoms of depression. Thirty seven or 17.5 percent scored between 17 and 23 pointing to "possible" depression. Eighteen participants or 8.59 % scored more than 23 meaning that they had "likely" depression. This last figure represents the triple of the point prevalence of depression in a general population. An astonishing cumulative number of 55/211 participants (26.8 %) scored positive for "possible" or "likely" depression.

Fig. 22.

3.2. Symptom checklist of depression subscale – CES D

20 questions score 0 – 3 per question total score range 0 – 60

Total score CES D

16	= symptoms of depression	11/211*=	5,2 %
17-23	= possible depression	37/211 =	17,5 %
>23	= likely depression	18/211 =	8,53 %

3 x the point prevalence of depression in a general population

(*10 excluded : missing values)

Burnout MASLACH burnout inventory

Burnout has been described by Maslach and coworkers as a condition in which professionals "lose all concern, all emotional feeling for the people they work with, and to treat them in a detached or even dehumanized way". (1) *(Maslach C., Jackson SE., Leiter MP., Maslach Burnout Inventory Manual. 3rd ed. Palo Alto, Ca : Consulting Psychologists Press 1996).*
Professional burnout is a psychological syndrome arising in response to chronic interpersonal stressors on the job. (2) *(Maslach C., Schaufeli WB., Leiter MP. Job Burnout. Ann Rev Psychol 2001; 52 : 397-422).*
Burnout is a problem that is specific to the work context, in contrast to depression, which tends to pervade every domain in a person's life. Physical illness, emotional problems, increased turnover, absenteeism and poor job performance and negative attitudes in general are some of the problems on a long list of difficulties that have been associated with burnout. Moreover burnout could affect the quality of patient care.(3) *(Parker PAKJ. Burnout, self- and supervisor-rated job performance, and absenteeism among nurses. J Behav Med 1995; 18 : 581-599)*
The MASLACH burnout inventory is an instrument developed by Maslach and Jackson (1981) for auto-testing of the own level of burnout. It covers three subdomains : emotional exhaustion (A), loss of empathy (B) and professional satisfaction (C). By combining the sum of positive answers on domain (A + B) with the number of negative answers on domain C a global burnout score is obtained.

Results
In the observed study group of Belgian intensivists the scores for emotional exhaustion worrisome : (average 30.34 % severe 55.22 %) as for loss of empathy (average 30.76 %, severe 50.96 %). For professional satisfaction only 11.76 % of the respondents demonstrated average burnout and none of them severe burnout. This explains why in the compound global score 0 % severe burnout but 75.7 % of the respondents fit into the average burnout category (score 8-16).

Fig. 24.

3.3. MASLACH burnout score

Explores 3 domains

1. Emotional exhaustion (n = 201)

< 4	low	29/201	14,42 %
4 – 6	average	61/201	30,34 %
> 6	severe	111/201	55,22 %

2. Loss of empathy (n = 208)

< 2	low	38/208	18.26 %
2 – 3	average	64/208	30,76 %
≥ 4	severe	106/208	50,96 %

3. Professional satisfaction (n = 204)

< 3	low	180/204	88,23 %
3 – 5	average	24/204	11,76 %
≥ 6	severe	0	0 %

Fig. 25.

3.3. MASLACH burnout score

Global Burnout score (n = 194)

< 8	low burn out	47/194	24,2 %
8 – 16	average	147/194	75,7 %
> 16	severe	0/194	0 %

A more detailed analysis of the scores (from 0 to 6) given per domain and the individual calculation per participant resulted in following findings.
For Emotional exhaustion : using a cut-off point of > 27 15.4 % of the participants demonstrated severe emotional exhaustion.
Loss of empathy (cut-off > 10) was severe in 38.2 % of the interrogated intensivists.
There was a severe loss of professional accomplishment (cut-off ≤ 33) in 32.4 % of the participants (fig.26).
Integrated in the global Maslach burnout score one third of the responding – intensivists exhibit a high burnout (score -8 → +34), thirty percent moderate burnout (score -9 → -21) and thirty six percent show low or no burnout (score -22 → - 45) (fig.27).

Fig. 26.

3.3. MASLACH burnout score : 3 domains

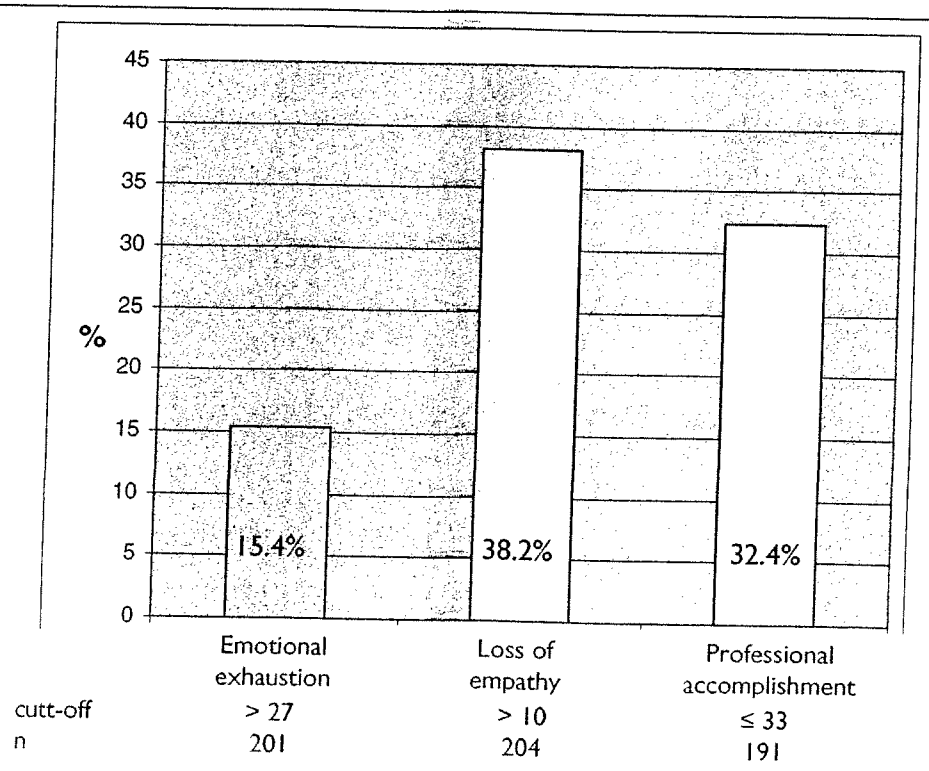
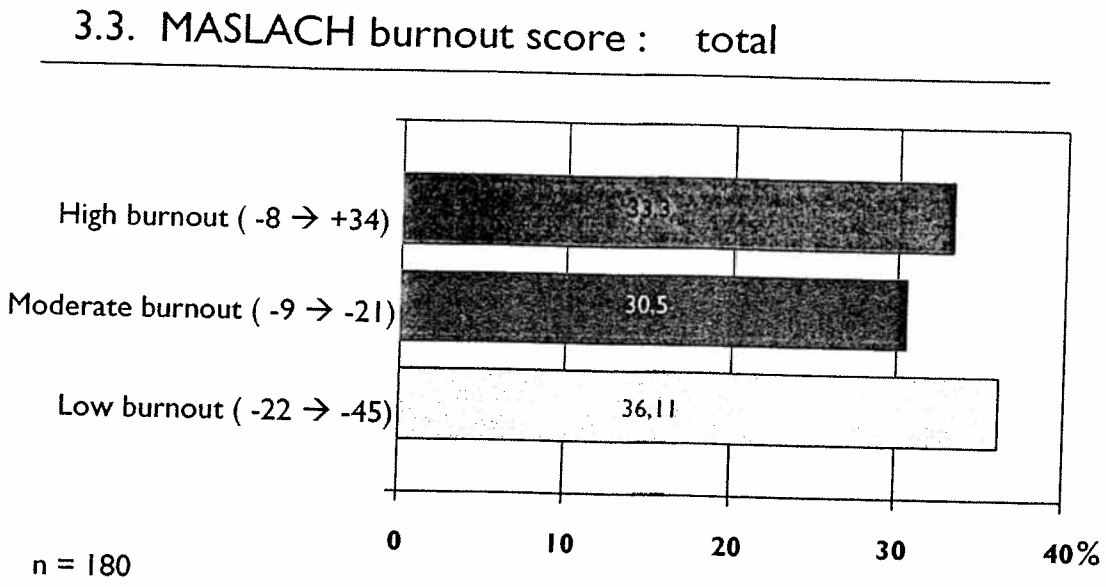


Fig. 27.



Alcohol abuse AUDIT score (Addendum 6)

The AUDIT (Alcohol Use Disorder Identification Test) is an auto questionnaire developed by the World Health Organisation to screen a population on the problems caused by the use of alcohol. It contains 10 questions exploring three domains : excessive alcohol consumption, alcohol addiction and occasional pathologically high alcohol intake. Technically a Likert scale of five points is used. The AUDIT is more performant when used over a recent period (past 12 months) as was done in present study.

Results

Fourteen respondents were discarded in the final score because of partial or total lack of valid data.

In the first domain "Excessive use of alcohol" 81 participants on 210 responded positive to all three question representing 38.5 %.

For "Alcohol addiction" thirty respondent (14.42 %) responded positive on 1 of the three questions. None of the respondents answered positive on 2 or 3 of the three questions.

Finally for "Occasional pathological high alcohol consumption" none of the respondents responded positive on 4 of the four questions, 0.9 % (3 on 4 +), 3.8 % (2/4+) and 26 % (1/4+) (fig.28).

The total AUDIT score was positive in 32/207 (15.4 %)using a cut off point of 8 and in 8/207 (3.86 %) with a cut off point of 11. (sensitivity 30-40 % specificity 96-97 %). Only 9/207 or 4.34 % scored negative on all questions (fig .29).

Fig. 28.

3.4. Alcohol abuse AUDIT

Explores 3 domains (n = 207)

1.	Excessive use of alcohol	(3/3 q+)	81/210	38,5 %
2.	Alcohol addiction	(1/3 q+)	30/208	14,42 %
		(2/3 q+)	-	0 %
		(3/3 q+)	-	0 %
3.	Occasionally pathological high intake of alcohol	(1/4 q+)	54/207	26 %
		(2/4 q+)	8/207	3,8 %
		(3/4 q+)	2/207	0,9 %
		(4/4 q+)	-	0 %

Fig. 29.

3.4. Alcohol abuse AUDIT

Total score Audit :

Cut off	> 8	32/207	15,4 %
	> 11	8/207	3,86 %
	0 questions positive	9/207	4,34 %

Occasional drug abuse

Here the participants were asked whether they used either never , once in a lifetime or during the last 12 months some categories of drugs.
The use of these subclasses of drugs during the last 12 months is indicative for more recent active abuse.

The general use of hallucinogens, sniffs of cocaine is rare. Within the population the use of stimulants, hypnotics and sedatives and cannabis was quite popular in the past. To some extent it is worrisome to see that 3.6 % of the respondents report the recent use of opioids, while the use of hypnotics and sedatives is wide spread.

Fig. 30.

Occasional drug abuse

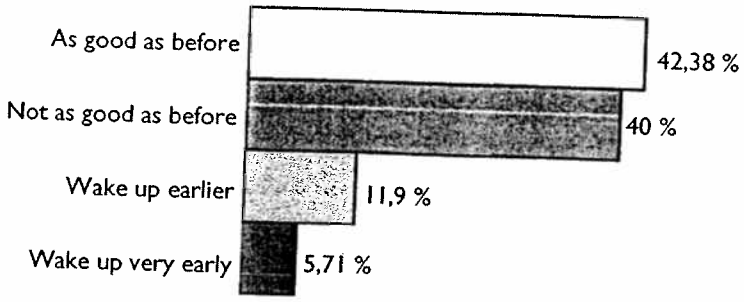
	Never	Once in a lifetime	During last 12 months
– Opioids	93,7 %	2,7 %	3,6 %
– Stimulants	91,8 %	6,9 %	1,36 %
– Hypnotics and sedatives	54,7 %	24,43 %	20,81 %
– Hallucinogens	99,1 %	0,45 %	0,45 %
– Sniffs (cocaine)	97,7 %	1,81 %	0,45 %
– Cannabis	85,5 %	13,1 %	1,36 %

Sleep qualityy

The sleep quality was tested with a part of the Beck depression Inventory. The participants could indicate 4 possible choices. Only 42.3 % reports to sleep "as before" and the rest has moderate (40 %) to more severe problems with sleep quality (11.4 % and 5.71 %) (fig .31).

Fig. 31.

3.5. Sleep quality



Chapter 4 : Top stressors for intensivists

Here the working group composed a generic set of possible stressors for intensivists. The participants could indicate whether they found them either not stressful at all(1), to some part(2), moderately(3), very(4), very highly stressful(5). For the simplicity of the analysis the results are reported as not stressful at all(1), moderately stressful (category 2+3), very stressful (category 4+5).

Results

The items are ranked to their degree of not being stressful at all with the higher stressors on top and the more easy going experiences at the bottom.
Not surprisingly the administrative overload takes the lead closely followed by the effect of workload on personal/family life and the inability to function normally by excessive workload. Then comes the worrisome inability to deliver top quality of care and equally worrying are thoughts on the loss of quality of the nursing staff. Classical stressors as shortage of ICU beds and problems of bed allocation plus the fear to make wrong decisions or mistakes in treatment or technical acts follow. Decisions on futility of care score less high than expected. The cooperation with the hospital management follows with cooperation with colleagues non-intensivists on row ten and eleven. Although cooperation with the hospital management is very stressful for 23.5 % of the responding intensivists. Closing the group is done by situations such as confrontation with the patient's family and end of life decisions. The least stressful in this series is to work with own buddies (intensivists) (fig.32,33,34).

Fig. 32.

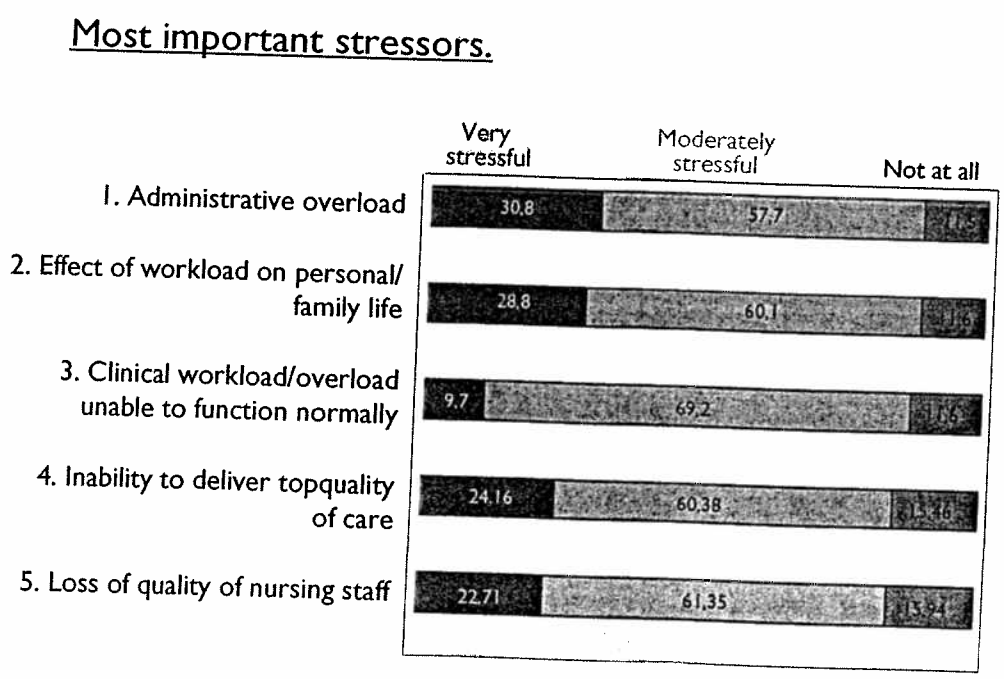


Fig. 33.

Most important stressors.

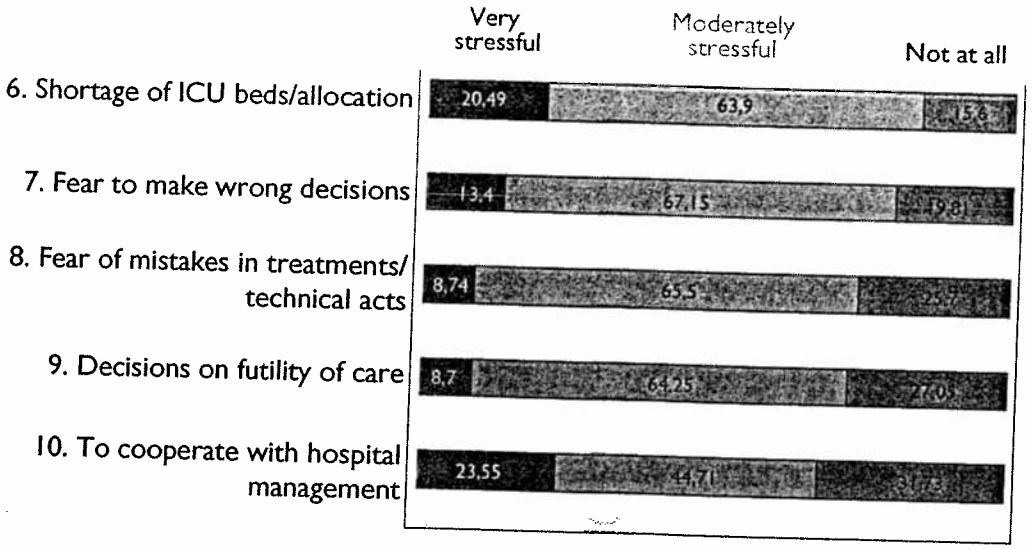
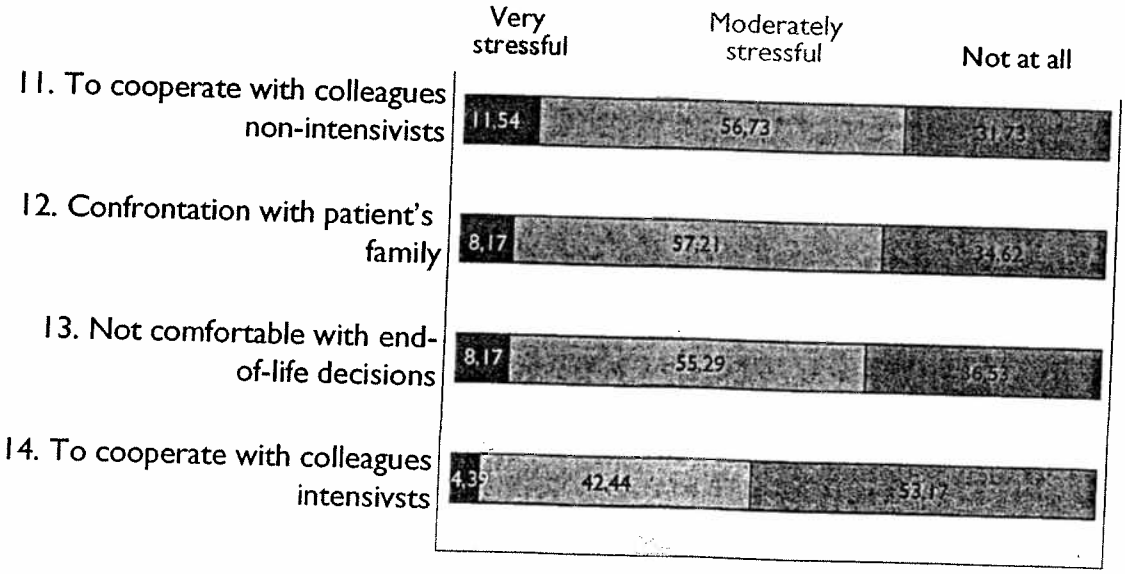


Fig. 34.

Most important stressors.



Chapter 5 : Discussion

The demographic data reveal that the average Belgian intensivist is middle aged, male, married and father of two children. Goodfellow and co-workers found that having a partner and having children appear to act as a buffer against the stress of work . This may be because work is a welcome escape from home life, or because having multiple roles (colleague ,partner,parent, supervisor etc.;) protects against stress in any role . *(4) (Goodfellow A,Varnam R,Rees D,Shelly MP. Staff Stress on the Intensive Care unit ; a comparison between doctors and nurses .Anaesthesia 1997;52:1037-1041)*
He mostly works as self-employed full-time intensivist with roots in internal medicine or anaesthesiology. His professional experience varies from 5 to 19 years and he works in a mixed ICU of 12 beds.
The fact that more than half of the responders were active in a training centre may have an influence on the results (to optimistic?).

The intensivist makes long days and weeks and spends at least 4 weekdays and two weekend days on call per month in the hospital. A bit more than half the respondents return home immediately after duties.
Holidaywise there are 30 official and 30 effective holidays. There is some concern on the possibilities for continuing education. The salary is not to bad but not sky high.

Professionally the intensivist would probably (43.2 + 33.8 = 77%) again make the choice to become an intensivist, the job gives a certain satisfaction (53.7 + 30.2 + = 83.9%)* but an escape route to the basic specialty is still welcome. The Belgian intensivist is not convinced that he will end his career as intensivist (18 % disagree).
*Thirty percent of British intensivists report to be extremely satisfied with their job (5) *(Coomber S, Todd C, Park G, Baxter P, Firth-Cozens J, Shore S. Stress in UK ICU doctors. Br J Anaesth 2002 ; 89 : 873-881)*
for 30.2 % in this study ("I strongly agree that the job as intensivist gives me satisfaction).
In the study of Embriaco and Azoulay 39.5 % of the intensivists wanted to leave their job. This percentage was higher (51.4 %) for the intensivists exhibiting a high level of burnout. (6) *(Embriaco N, Azoulay E, Barrau K, Kentish N, Porhoid F, Lomidou A, Papazian L. High level of burnout in Intensivists Am J Resp Crit Care med 2007;175:686-692).*

The external appreciation for the job of intensivist is rather good apart from the hospital management.
Some raise severe concerns for the possibilities of Life Long Leaning and a salary proportional to their perceived engagement . The workload seems to be OK.
The impact of work on personal, family and social life is worrisome. Intensive Care is not well known to the general public.
As a first estimate the intensivist thinks there is little or no problem of burnout.

The results in several domains in the general health questionnaire indicate that some colleague intensivists struggle with mental and physical problems of certain severity.

This finding is underscored by the results of the CES D scale indicating a threefold increase of likely depression in intensivists compared to a general population.

About one on four of the responding Belgian intensivists has "possible" or "likely" depression.
In the study of Azoulay and coworkers symptoms of depression were identified in 24 % of the intensivists and 80 % of the intensivists exhibiting symptoms of depression presented a high level of burnout. (6) *(Embriaco N, Azoulay E, Barrau K, Kentish N, Porhoid F, Lomidou A, Papazian L. High level of burnout in Intensivists Am J Resp Crit Care med 2007;175:686-692).*
Coomber and coworkers report depression with the CES D questionnaire in 12 % of the UK intensivists. Three percent of the respondents were bothered by suicidal thoughts.(5) *(Coomber S, Todd C, Park G, Baxter P, Firth-Cozens J, Shore S. Stress in UK ICU doctors. Br J Anaesth 2002 ; 89 : 873-881)*

The Burnout score shows that three quarters of the intensivist suffer from average burnout (and should seek help).
Burnout appears to be common among practicing physicians with rates ranging from 25 to 60 % .
(7) *(Ramirez AJ, Graham J, Richards MA, Cull A, Gregory WM, Leaning MS, Snashall DC, Thimothy AR. Burnout and psychiatric disorder among cancer clinicians. Br J Cancer 1995; 71 : 1263-1269.*
(8) *(Grassi L, Magnani K. Psychiatric morbidity and burnout in the medical profession : an Italian study of general practitioners and hospital physicians. Psychiather Psychosom 2000; 69 : 329-334).*
There is a common perception that intensivists are particularly exposed to stress because lives are literally in their hands.
Coomber and coworkers report that approximately one third of UK intensive care unit doctors appeared distressed and 12 % reported depressive symptoms.
(5) *(Coomber S, Todd C, Park G, Baxter P, Firth-Cozens J, Shore S. Stress in ICU doctors. Br J Anaesth 2002; 89 : 873-881).*
Most of the attention has been focused on junior doctors and their long working hours.
However there have also been reports of distress among senior hospital doctors.
More recently a report on burnout was published by the group of Azoulay in France.
(6) *(Embriaco N, Azoulay E, Barrau K, Kentish N, Porhoid F, Lomidou A, Papazian L. High level of burnout in Intensivists).*
In a total of 189 participating French ICU's 978 respondents 46.5 % reported severe burnout, 30.2 % moderate and 23.3 % low or no burnout. Comparing this with our results the study population of the Belgian Intensivists had less severe burnout ("only 33.5 %) and more respondents had low or no burnout (36,1 %).

Focussing on the burnout subdomains: severe emotional exhaustion was more frequent in the French intensivist population 19 % (versus 15.4 % Belgium versus 26 % in UK intensivists, Italy 36 %).
(9) *(Guntupalli KK, Fromm RE Jr. Burnout in the internist intensivist. Intensive Care Med 1996 ; 22 : 625-630.)*

(10) *(Raggio R, Malacarne P. Burnout in Intensive Care Unit. Minerva Anesthesiol 2007 ; 73 : 195-200).*
Loss of empathy is as frequent in present Belgian study 38.2 % versus 37 % in French intensivists, 34 % in UK intensivists, 56 % for Italian intensivists.
On the other hand more French intensivists have a low professional accomplishment score (39 %) versus 32.4 % in the Belgian, 19 % in the UK study, 28 % in Italy. (10) *(Raggio R, Malacarne P. Burnout in Intensive Care Unit. Minerva Anesthesiol 2007 ; 73 : 195-200).*
The study of Embriaco and Azoulay (6) demonstrated by ordinal logistic regression that female sex, workload (number of night shifts per month), a long period from a non-working week, night shifts before the survey, impaired relationships and a lower degree of experience were all associated with burnout.
Surprisingly severity of illness of the patients, withholding and withdrawing of treatment and mortality were not associated with burnout. In contrast a good relationship with head nurses and nurses is associated with a low MASLACH burnout score.

Changing the working conditions and managing professional conflicts are essential for dealing with burnout. Improvement of working environment organisation (eg.presence of skilled assistance in the operating theatre) is the most important factor leading to reduced burnout. (11) *(Kluger MT, Townsend K, Laidlaw T. Job satisfaction, stress and burnout in Australian specialist anaesthetists. Anaesthesia 2003 ; 58 : 339-345).*

According their own perception (see above) Belgian Intensivists underestimate the problem of burnout .
A more in dept and detailed analysis of the MASLACH burnout score shows high burnout with emotional exhaustion in 15.4 %, loss of empathy in 38.2 % and very low professional accomplishment in 32.4 % of the responding intensivists. The compound MASLACH burnout score reveals high burnout in 33.3% (should seek help) and moderate burnout in 30.5 % of the Belgian intensivists.

To take away all these troubles about 4 on 10 intensivists regularly has a drink but few of them are really addicted to alcohol and use only very occasionally pathological high dose of alcohol.
Other drugs are also used but to much less extent with hypnotics/sedatives, opioids, cannabis and stimulants being the favorites.

Up to 10 to 15 %of the physicians develop a substance abuse problem during their careers .A simple summary of the DSM-IV criteria for substance abuse is " repeated use of a mood altering chemical , despite adverse consequences from previous use".
Substance abuse is a maladaptive pattern of a chemical substance within a 12 month period that significantly interferes with the person's life . (12)*(Diagnostic and statistical manual of mental disorders.DSM-N-TR.4th edition.Washington (DC) American Psychiatric Association 2000;199).* The incidence of known discovered drug abuse (= controlled substances: hypnotics,narcotics,benzodiazepines or other mood altering substances used in anesthesiological practice) is 1 percent among faculty members and 1,6 percent among residents in anaesthesiology training centers in the US during the period between 1991 and 1997 .(13)*(Booth JV,Grossman D,Moore J,Lineberger C,Reynolds JD, reves JG*

,Sheffield D. Substance abuse among physicians.A survey of academic anesthesioogy programs. AnestH Analg 2002;95:1024-1030)
The combination of the above results in sleeping habits "as before" in about only 4 on 10 intensivists.

There is no lack on stressors in an Intensive Care environment : the administrative overload taking the front lead followed by the excessive workload although there is some contradiction here (see fig. 17). The main other concerns are quality of nursing staff, quality of care and shortage of ICU beds or allocation.
Five stressors "Lack of recognition of one's own contribution by others"; "too much responsibility at times"; "effect of stress on personal/family life"; "keeping up to date knowledge" and "making the right decisions alone" are reported to be predict mental health problems by Coomber S and coworkers (5) *(Coomber S, Todd C, Park G, Baxter P, Firth-Cozens J, Shore S. Stress in ICU doctors. Br J Anaesth 2002; 89 : 873-881).*
Health care workers appear to suffer particular strains from occupational stress.(14) *(Rees D, Cooper CL .Occupational stress in health care workers in the UK .Stress Medicine 1992;8:79-90)*
There is a perception that health workers face unusually high levels of stress at work particularly related to clinical duties , death and dying and that the intensive care environment is especially stressful . The clinical aspects of health care are however almost always absent from the list of major stressors reported by nurses and doctors .Organizational and interpersonal factors are consistently cited as the most stressful aspects of working in health service . (14) *(Rees D, Cooper CL ;Occupational stress in health care workers in the UK .Stress Medicine 1992;8:79-90).*(15) *(Firth-Cozens J .Stress in medical undergraduates and house officers .British Medical Journal 1989 ;41:161-164)*

Finally there is a shoulder to weep on for the intensivist namely his fellow intensivist.

To take this research further several correlations must be made between different factors s.a. workload, professional experience on one hand and others s.a. incidence of depression, burnout ... . This may potentially lead to suggestions to correct the adverse effects on the quality of life of the intensivist .

The grey zone in present study is the 45 % of the Belgian intensivist population that did NOT respond to the questionnaire. As it can be argued that non response is associated with "burn-out" and "stress". Thus the level of morbidity detected may be a conservative estimate. However such a conjecture needs further investigation.

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