

Prevalence of burnout risk and associated factors among nurses during the COVID-19 outbreak in Belgium

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Objectives

April 2020: What about nurses?

Assess the impact of the COVID-19 crisis on:

- The working conditions and the private life of nurses
- The risk of burnout (prevalence and risk factors)
- Management at work and social support from colleagues

Definition

In ICD-11, burnout is defined as follows:

"Burnout, or professional exhaustion, is a syndrome conceptualized as resulting from chronic stress at work that has not been properly managed."

Three dimensions characterize it

- a feeling of low energy or exhaustion
- withdrawal from work or feelings of negativity or cynicism related to work
- loss of professional efficiency

Instruments

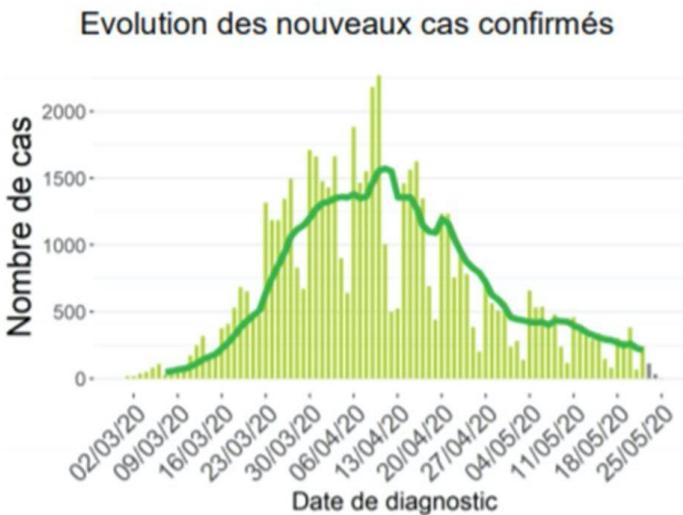
No biomarker could be identified to establish the diagnosis of burnout
→ The risk of burnout

- Maslach Burn-out Inventory (MBI)
- Used by the Belgian Health Care Knowledge Centre (KCE)
- 22-item self-report instrument to measure the subscales of **Burnout**.
 - Emotional Exhaustion (nine items)
 - Depersonalization (five items)
 - Personal Accomplishment (eight items)
- Calculated from a mean for each subscale
- Scored using a seven point fully anchored scale ranging from zero to six (*Never = 0* to *Every Day = 6*)

(Maslach, Jackson, Leiter, & Wilmar, 1996)

Methods

- The online questionnaire was disseminated via Belgian professional nursing associations, inpatient and outpatient health care services
- Dutch translation
- Between April 21 and May 04, 2020



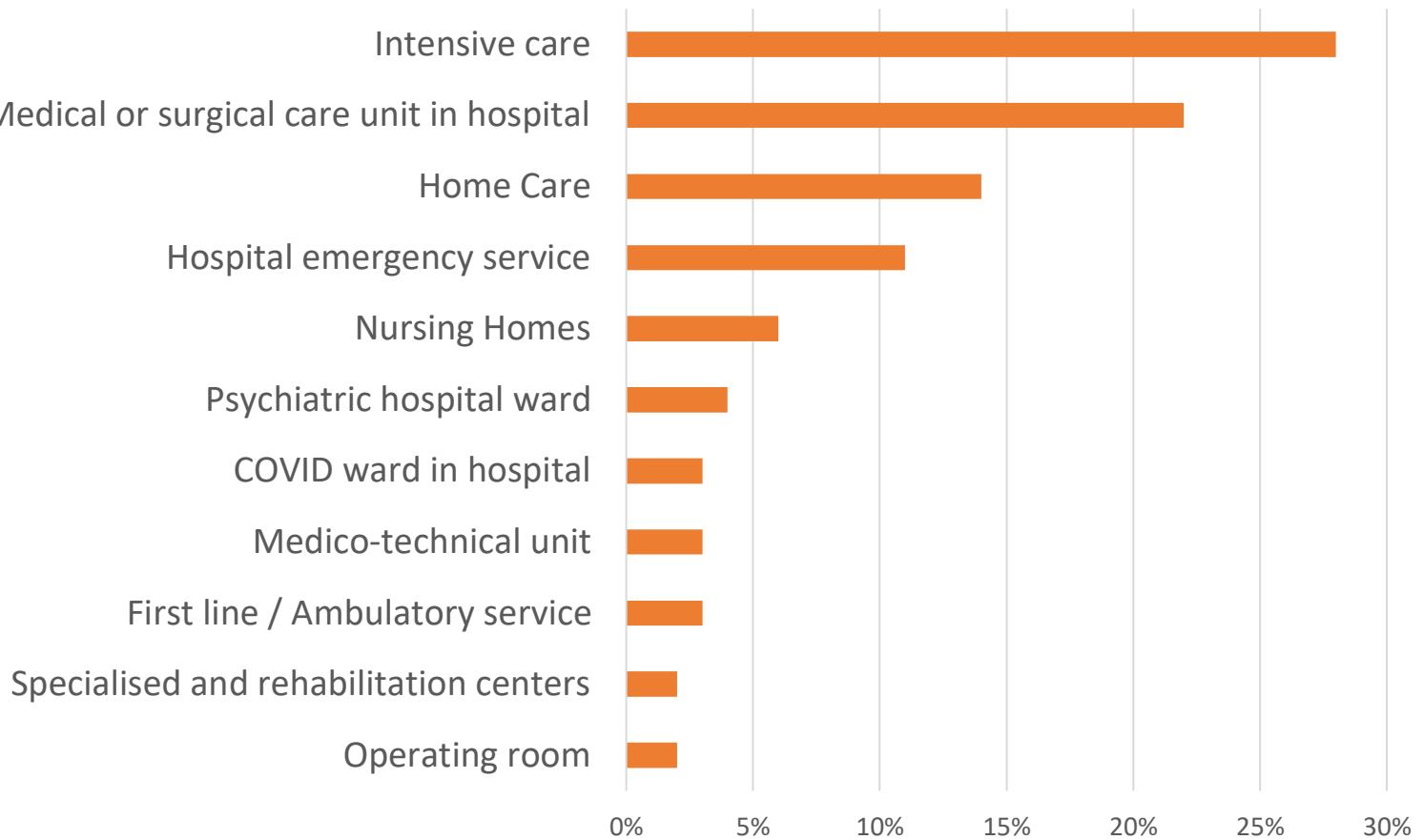
Source : Réseau des laboratoires cliniques et plateforme nationale



Source : Surveillance des hôpitaux (Sciensano)

Sample

- 4552 French-speaking nurses (low response rate with Dutch-speaking nurses)
 - 29% Brussels-Capital Region
 - 71% Walloon Region
- Diversified: represents the different health services in Belgium:

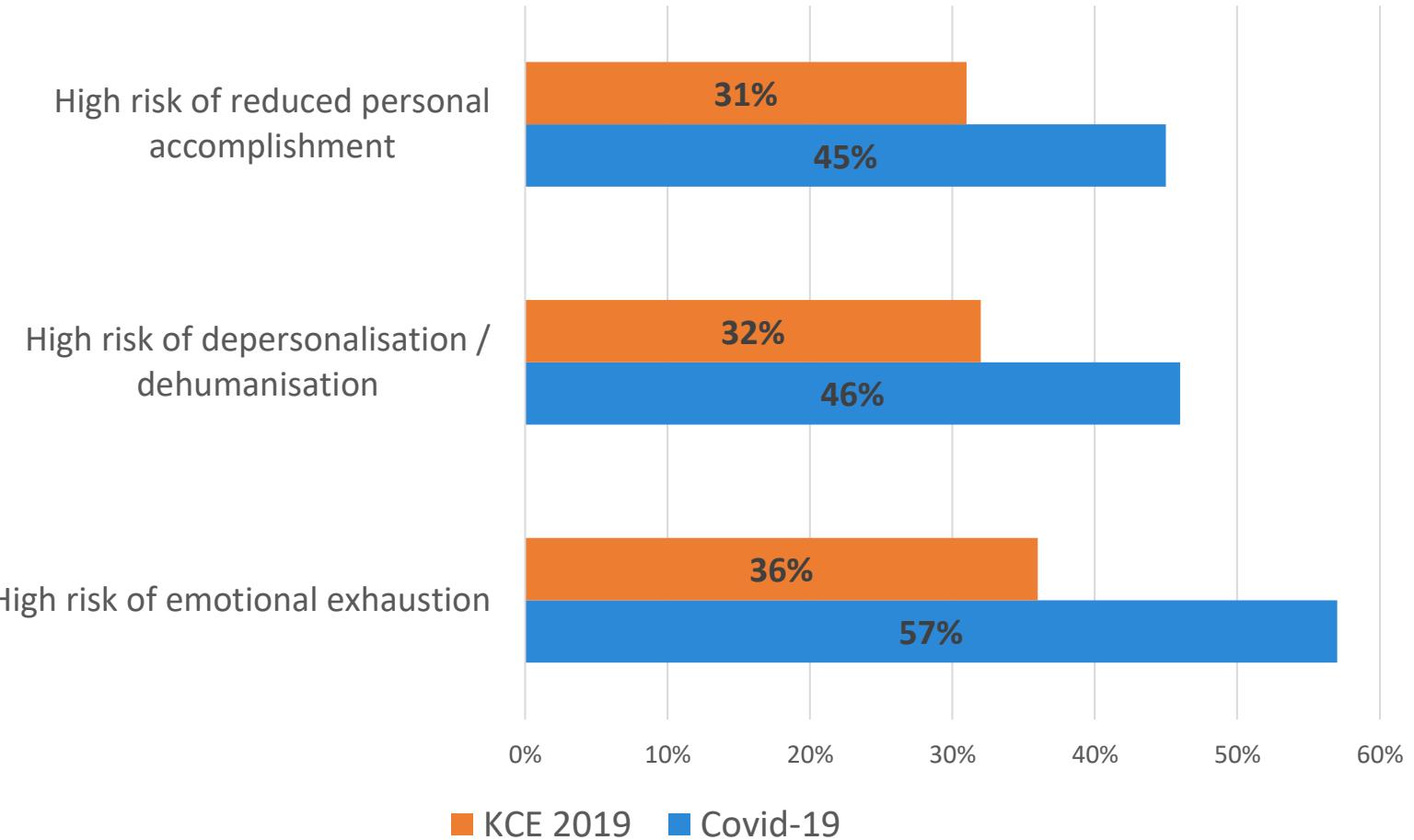


Study sample and characteristics

Variables	Results
Age, year, mean ± SD	39.7 ± 10.9
Gender, female, n (%)	3823 (84)
Seniority, year, mean ± SD	15.8 ± 11.1
The perceived workload during the COVID-19 epidemic was, n (%)	
• Lower	513 (14.3)
• The same	561 (15.6)
• Greater	2516 (70.1)
Having adequate and sufficient protective equipment for COVID-19, n (%)	
• Yes	1484 (39.6)
• No	2265 (60.4)
Number of COVID-19 patients in the ward over the last week, n (%)	
• None	500 (13.4)
• Less than 25% of patients	1070 (28.9)
• 25%-49% of patients	700 (18.9)
• 50%-75% of patients	480 (12.9)
• More than 75% of patients	958 (25.9)

Burnout assessment

Prevalence of burnout risk



Taking into account the three dimensions, **71%** of nurses who responded to the survey since April 21 were at risk of burnout

Some groups more at risk of burnout

- Younger nurses ($OR = 2,08, p < 0.01$)
- Nurses with less seniority, regardless of their age ($OR = 1,98, p < 0.01$)

**Warning ! Professional exhaustion of the young workforce
who should still have a long career ...**

- Compared to nurses in medical or chirurgical hospital ward:
 - Nurses in nursing homes ($OR = 1.37, p < 0.001$)
 - Nurses in Covid wards in hospitals ($OR = 1.32, p < 0.001$)
 - Nurses in hospital emergency services ($OR = 1.29, p < 0.01$)
 - Nurses in intensive care units ($OR = 1.25, p < 0.01$)

Risk factors for burnout

Increased workload since the covid-19 epidemic

- For 70% of nurses the workload increased following the covid-19 epidemic
- More present in some services ($\text{Khi}^2 = 608.4, p < 0.001$) :
 - Nursing homes: 91%
 - Intensive care units: 89%
 - Specialised and rehabilitation centers: 82%
 - Covid wards in hospitals: 77%
- Nurses who report an increase in their workload since the start of the Covid-19 epidemic are **81% more likely to be at risk of burnout** than nurses whose workload has remained the same ($p<0.001$)

Risk factors for burnout

Increase in working time beyond full time since the start of the Covid-19 pandemic

- The working time of 18% of nurses exceeds a full time since the start of the covid-19 epidemic
- More present in some services ($\text{Khi}^2 = 157.01, p < 0.001$) :
 - Home Care: 24%
 - Nursing homes: 22%
 - Intensive care units: 21%
 - Covid wards in hospitals: 21%
- Compared to nurses with 100% working time, nurses who have worked more than full time since the start of the covid-19 epidemic are **16% more likely to be at risk of burnout** ($p < 0.001$)

Risk factors for burnout

Not having adequate and sufficient protective equipment for Covid-19

- 61% of nurses declare that they do not have adequate and sufficient equipment in their service when faced with Covid-19 (March 2020)
- More present in some services ($\text{Khi}^2 = 145.64$, $p < 0.001$) :
 - Home Care: 81%
 - Psychiatric services: 77%
 - Specialised and rehabilitation centers: 73%
 - Nursing homes: 66%
- Compared to nurses who consider that they have enough adequate equipment, nurses who declare that they do not have it have are **51% more likely to be at risk of burnout** ($p < 0.001$)

Risk factors for burnout

Others risk factors for burnout

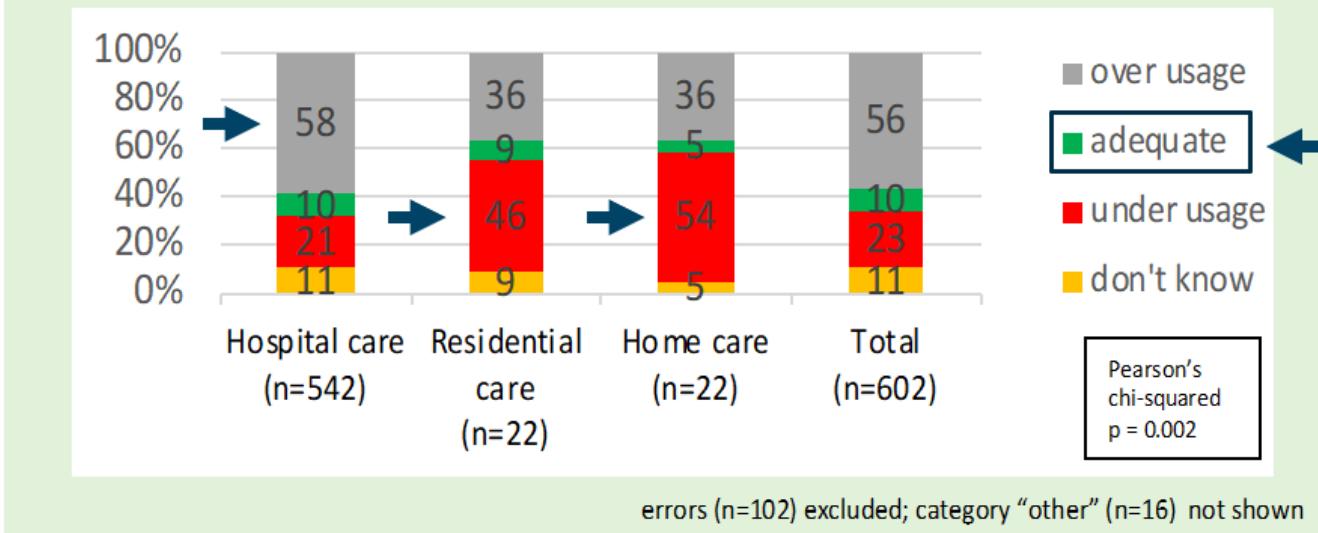
- Increase in patient / nurse ratio ($OR = 1.13, p < 0.01$): for detailed recommendations on this ratio in Belgium see the KCE 325B report
- Having an imposed schedule, with no possibility of choice, since the covid-19 epidemic: concerns 60% of nurses, 27% more likely to be at risk of burnout ($p < 0.001$)
- Number of Covid-19 patients to be treated and number of Covid-19 patient deaths: significantly associated with the risk of burnout and should also draw our attention to the risk of post traumatic stress disorder (PTSD)

And training?

PPE is more available than before but ...

- In June 2020, only 60% of nurses felt they had received sufficient additional **training** to provide care to COVID patients
- Knowledge of guidelines:

Knowledge test based on Sciensano guidelines concerning personal protective equipment usage by COVID caregivers (n=602)



Other risks for the profession...

Caregivers considering a job outside healthcare

Whole sample: **17.6 %** (9.5 in 2019 *)

	OR	95% CI
Having a master degree	1.70	1.07 – 2.70
Working with elderly patients	1.77	1.09 – 2.87
Having insufficient protective equipment	2.47	1.39 – 4.40
Working in emergency department	3.02	1.66 – 5.51
Having work related physical problems	3.38	2.46 – 4.64

Risk assessment of various influencing factors; logistic regression analysis;
OR: odds ratio; 95% CI: 95% confidence interval

KCE report 325 *

Occurrence, prevention, and management of the psychological effects of emerging virus outbreaks on healthcare workers: rapid review and meta-analysis

Steve Kisely,^{1,2,3,4} Nicola Warren,^{1,3} Laura McMahon,³ Christine Dalais,³ Irene Henry,¹ Dan Siskind^{1,2,5}

Recommendations to deal with psychological problems in healthcare workers in novel outbreaks

Individual factors	Service / system factors
Sufficient rest and time off	Workload: <ul style="list-style-type: none">• Appropriate work shift and regular breaks• Reducing the patient / nurse ratio• Redeployment of wards and human resources
Opportunities for reflection on the effects of stress (debriefing)	Access to adequate personal protective equipment
Training and education around infectious diseases	Practical and psychological support
	Clear communication (guideline, management, etc.)

Conclusions

7 nurses out of 10 who responded to the survey were at risk of burnout: the risks for nurses, patients and our health systems must not be overlooked!

What about now? In September resumption of hospital activity and postponed activities -> Increased workload -> November second Covid-19 wave

1) Act on risk factors (prevention): Short and long-term actions

- Act on all services, do not forget home care services, nursing homes, etc.
- Act on working conditions (i.e. sufficient equipment and training)
- Act on the workload (patient / nurse ratio), schedules and days of rest

2) Care for Caregivers (treatment):

- Implement psychological support interventions for caregivers (burnout, PTSD, etc.) in collaboration with **(1)** mental health professionals (psychiatrists, psychologists, etc.), **(2)** with employers, and **(3)** with experts (e.g. Doctors without borders)

Impact of the Covid-19 epidemic on the risk of burnout for nurses in Belgium

Prevalence
risk of burnout



71%
(KCE 2019, 36%)

Working beyond
full time (18%)
(OR = 1.16, p < 0.01)

Shortage of protective
equipment (61%)
(OR = 1.51, p < 0.01)

Increased
workload (70%)
(OR = 1.81, p < 0.01)

Younger nurses
(OR = 2.08, p < 0.01)

Risk factors !



- Online survey
- April 2020
- Maslach Burn-out Inventory (MBI) scale
- n = 4552

Increase in Covid-19
patient/nurse ratio
(OR = 1.13, p < 0.01)

Working in :

- Nursing homes
(OR = 1.37, p < 0.01)
- Covid wards
(OR = 1.32, p < 0.01)
- Emergency departments
(OR = 1.29, p < 0.01)
- Intensive care units
(OR = 1.25, p < 0.01)

- (1) Systematic assessment and screening
- (2) Prevent risk factors
- (3) Set up diagnostic and treatment programs

**Thank you
for
listening !**



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