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ORIGINAL ARTICLE

Excessive workload and insufficient night-shift remuneration are key elements of dissatisfaction at work for French neonatologists

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Abstract

Aim: Neonatologists are exposed to ethical issues and unplanned emergencies that require 24-h in-house coverage. These elements may affect quality of life at work, which we surveyed.

Methods: This was a self-administered, voluntary and anonymous cross-sectional survey of French neonatologists. An online questionnaire was sent to members of the French Society of Neonatology from June to October 2022.

Results: Of approximately 1500 possible responses, 721 were analysed, with a response rate of 48%. Respondents were mostly women (77%), aged 35–50 years (50%), and hospital practitioners (63%). Reported weekly working time was over 50 h for 80%. Among the 650 neonatologists with on-call duty, 47% worked ≥5 shifts per month. For 80% of practitioners, on-call duty was perceived to have a negative impact on personal life; 49% indicated having sleep disorders. The mean satisfaction score at work was 5.7 ± 1.7 on a scale of 0–10. The main reasons for dissatisfaction were excessive working hours and insufficient remuneration for on-call duty.

Conclusion: This first evaluation of the quality of life at work of French neonatologists showed high workload. The working conditions and specificities of NICU activity may have significant consequences for their mental health.

KEYWORDS
burnout, neonatologists, quality of life, well-being, workload

Abbreviations: NICU, neonatal intensive care unit; OR, odds ratio.

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1 | INTRODUCTION

The survival and development of neonates admitted to neonatal intensive care units (NICUs) highly rely on their families and caregivers and require complex care. However, because of the high level of empathy necessary for care and the complexity of the relationship with families, the work in these services is very specific.[1] The work is compounded by the staggered working hours, situations raising ethical questions, such as disability or end of life, and prognostic uncertainty, such as extreme prematurity and severe congenital anomalies. Other particularities are the highly technical nature of the care provided; the daily exposure to the physical and psychological suffering of the neonates and their families and emergency situations, which are by definition unpredictable.[2] Caregivers working in NICUs are exposed to stress through their work and are therefore at risk of developing pathologies, such as burnout syndrome or depression,[3] secondary traumatic stress[4] or moral distress.[2] Working in the NICU is part of a particular emotional context. The first moments of life are supposed to be among the happiest. The daily confrontation with end of life and ethical dilemmas at birth or at the early onset of life reinforces the uniqueness of this work.

Several teams have investigated the consequences of NICU caregivers' burnout on patient care. Caregivers' reports of tiredness and perceived overwork are positively related to the rate of nosocomial infections: odds ratio 1.15, 95% confidence interval: 1.04–1.28.[5] Resuscitation manoeuvres at birth in an extremely preterm infant at the limit of viability are less likely to be performed if the neonatologist has a high disillusion score assessed by the Link Burnout Inventory test.[6] In adult or paediatric intensive care, burnout rate among caregivers was found associated with patient safety. This association is explained, among other things, by the deterioration of teamwork.[7] However, awareness of being in a highly emotional environment may also allow caregivers to practice and make decisions more humanely.[2] Accepting moral discomfort in the interest of patients must be accompanied by measures to reduce its negative impact.[2]

For French physicians of all specialties, the main factor contributing to burnout is the repetition of night work in the form of in-house on-call duty, with the total number of hours worked per week being a risk factor for severe burnout.[8] In 2018, a survey using the Maslach Burnout Inventory test was performed in seven French type III NICUs. Overall, 15% of health professionals were at high risk of burnout, with a large disparity, particularly according to profession: 22.6% among physicians and 11.6% among nurses.[9]

In view of these data and the large number of vacant positions in French neonatal units, the French Society of Neonatology performed an assessment of the working conditions and quality of life at work of French neonatologists. The perceived work condition and quality of life were compared by satisfaction status to assess the most important contributing elements.

Key notes

- An assessment of the working conditions and quality of life at work of French neonatologists is needed as large number of vacant positions is observed in French neonatal units.
- Among 721 neonatologists, the reported working time exceeded legal requirements by 80%.
- The main reasons for dissatisfaction were excessive working hours and insufficient remuneration for on-call duty.

2 | MATERIALS AND METHODS

Our study population included all neonatologists currently practicing in France in a public or private hospital, whether or not they continued to have on-call duty. The administered questionnaire was not intended for interns or residents. We conducted a multicentre, self-reported cross-sectional survey in which neonatologists were asked to complete a questionnaire entitled Neonatologists' Quality of Life at Work. It was adapted from a questionnaire designed to study the quality of life of French gynaecological surgeons.[10] The adapted questionnaire contained 100 multiple-choice questions, divided into 8 topics. The topics were general information such as sex, age, and type of facility; type of activity such as delivery room, intensive care unit and on-call duty; workload; recognition and discrimination at work; work-related emotional distress; family status; non-professional activities; and overall professional satisfaction. The questionnaire was anonymous, and the response was voluntary. An email with a link to the questionnaire was sent in June 2022 to all members of the French Society of Neonatology, with two reminders sent until October 2022. A link to the questionnaire was also available on the society's website during the same period. The questionnaire was filled out online. The estimated number of paediatricians working in neonatology in France is approximately 1500. Treatment of personal data complied with the current European regulation on data protection. Institutional review board approval was not required.

We first conducted a univariate descriptive analysis of the data. Quantitative variables are described with mean and standard deviation. Categorical variables are described with numbers and percentages. The number and rate of missing data are reported for all variables. We then conducted bivariate analyses to compare the responses by satisfaction status. All analyses were performed with SAS v9.4 (SAS Institute).

3 | RESULTS

From June to October 2022, we collected 721 of 1500 complete responses for an estimated response rate of 48%. Overall, 77.5% of respondents were women, half were from 35 to 50 years old, 87.0% had a partner and 87.5% had at least one child. One quarter of respondents lived in the Paris-Ile de France region. Experience in neonatology exceeded 10 years for 71.0% and most of the respondents worked in a department with an intensive care unit. In all, 80% of respondents had

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delivery room duties. Most respondents had teaching duties in their unit or at a university and 30.1% had research activities (Table 1).

In total, 75.3% of respondents reported working more than 50 h a week (Table 2). For one third of participants, the overall workload was reported as high and difficult to manage. The number of night or active on-call shifts was more than three per month for almost all senior neonatologists. The duration of active on-call duty was mostly 24 h, especially during weekends. Almost all the respondents considered that off-hour duties negatively affected their quality of life. Of 647 respondents with off-hour duties, 37.6% wanted to stop off hours shifts and 48.8% wished to limit their number.

The reported work-related emotional burden included stress when managing life-threatening emergencies often to always, 40.5%, and difficulty in disconnecting from work stress after working hours (Table 2). Symptoms related to emotional exhaustion such as "I feel emotionally drained" and "I'm breaking down" were frequently cited. In total, 17.2%, of respondents reported burnout or work-related depression, and half, 49.4% declared having sleep problems; 6.2% declared using psychotropic substances other than tobacco or alcohol.

Whereas 20.5% of respondents often thought of changing their job, only 18.9% were considering changing their choice of specialty (Table 2). The mean professional satisfaction score was 5.7 ± 1.7 on a scale of 0–10. Overall, 21.1% of neonatologists perceived global remuneration as very unsatisfactory, whereas 57.2% were very dissatisfied with on-call remuneration.

The demographic and professional characteristics of the respondents did not differ by satisfaction status, except for the main place of work (Table 3). Neonatologists working in private hospitals were more satisfied than those working in public hospitals. The reported workload differed significantly between the two groups ($p < 0.01$). Neonatologists working more than 75 h/week or more than three weekends per month were more frequently dissatisfied. A total of 89.3% of dissatisfied neonatologists had the feeling of insecurity at work. Perceptions of a too-high workload were more frequent among dissatisfied than satisfied neonatologists. Neonatologists who felt valued by parents and colleagues were more frequently satisfied at work than others ($p < 0.01$). Sleep disorders, previous burnout symptoms and difficulty disconnecting from work after working hours were more frequent in the dissatisfied than the satisfied group. The perception of insufficient remuneration was also more frequent in the group dissatisfied than satisfied with their quality of work life.

TABLE 1 Population characteristics among the 721 respondants.

	n/N	%
Sex: woman	559/721	77.5
Age (years)		
<35	167/716	23.3
35–50	350/716	48.9
>51	199/716	27.8
Living with a partner	580/667	87.0
Number of children: ≥1	525/675	87.5
Experience in NICU: >10 years	394/555	71.0
Status: Permanent staff	484/717	67.5
Part-time work	124/706	17.6
Main duties in patient care		
Delivery room	592/721	80.1
Well-born nursery (postpartum maternity ward)	447/721	62.0
Special care unit	548/721	76.0
NICU	538/721	74.6
Neonatal transportation	144/721	20.0
Follow-up	447/721	62.0
Teaching duties within neonatal unit	619/706	87.7
Teaching duties at university	392/706	55.5
Research duties	212/705	30.1
Institutional duties	155/706	22.0
Work at 2 different centers	103/719	14.3
Main place of work		
Universitary public center	384/720	53.3
Non universitary public center	260/720	36.1
Private center	76/720	10.6
Level of care provided in NICU (main place of work)		
Level I or IIA	99/718	13.7
Level IIB	124/718	17.3
Level III	495/718	68.9
Annual number of deliveries (main place of work)		
<2500	154/661	23.3
2500–4000	349/661	52.8
>4000	158/661	23.9

Abbreviation: NICU, neonatal intensive care unit.

4 | DISCUSSION

This study provides, for the first time, quantified data on the quality of life at work of French neonatologists by examining various factors that may influence it, such as reported working time, feelings of insecurity, and remuneration. The mean job satisfaction score was 5.7 ± 1.7 on a scale of 0–10. The main reasons for dissatisfaction were excessive weekly working hours and insufficient remuneration for on-call duty. In comparison, job-related satisfaction among Israeli neonatologists in 2012 was high, with a high level of overall work satisfaction: mean 140.28 ± 22.37, median 136; range 83–189.[11]

Professional dissatisfaction was found associated with increased overall dissatisfaction, burnout, reduced commitment to clinical practice and departure of the most experienced professionals.[12,13] This is not without consequences, including for the patients themselves. Patients receiving treatment from physicians who were satisfied with their professional quality of life were more satisfied with the care they receive.[14] Several factors may explain this phenomenon,

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TABLE 2 Workload among the 721 respondants.

	n/N	%
Declared workload		
Global workload (hours/week)		
<35	19/703	2.7
35–50	155/703	22.0
50–75	439/703	62.5
>75	90/703	12.8
Off-hours duty (night shifts, weekends)	651/703	92.6
Average number of off-hours shifts per month		
0–2	87/704	12.4
3–4	310/704	44.0
≥5	307/704	43.6
Number of working weekends per month		
0	57/703	8.1
1–2	522/703	74.2
3–4	124/703	17.6
Compensatory rest periods after off hours shifts: Never/sometimes[a]	119/649	18.3
Work during evenings after official work hours		
Never	104/686	15.2
Rarely	380/686	55.4
Often	202/686	29.5
Work during weekends beside weekend shifts		
Never	432/687	62.9
Rarely	239/687	34.8
Often	16/687	2.3
Available by phone after official work hours: Often/Always	234/685	43.5
Perceived workload and consequences		
Perceived workload		
Light/moderate	32/687	4.7
Heavy but manageable	454/687	66.1
Heavy and difficult to manage	201/687	29.3
Feels overworked		
Never/rarely	86/705	12.2
Sometimes	312/705	44.2
Often/always	307/705	43.6
'Off hours shifts impact negatively my quality of life'[a]		
Strongly disagrees	11/645	1.7
Partly agrees	123/645	19.1
Fully agrees	511/645	79.2
Wishes to stop off hours shifts[a]		
No opinion	21/647	3.2
No	67/647	10.4
Wish to limit their number	316/647	48.8
Yes	243/647	37.6
Can you think of anything else than work when you leave the hospital?		
Hardly	124/685	18.1
Moderately	382/685	55.8
Easily	179/685	26.1
Are you able to cope with the psychological burden related to your work?		
Hardly	8/684	1.2
Moderately	411/684	60.1
Easily	265/684	38.7
Work-related sleep problems	331/670	49.4
Ever experienced burnout symptoms	116/673	17.2
Do you ever feel like you are breaking down because of your work?		
Never/few times a year	429/683	62.0
More than one time a month	172/683	25.2
More than one time a week	82/683	12.0
Ever thought about changing your job?		
Never	202/678	29.8
Sometimes	337/678	49.7
Often	139/678	20.5
If you had to choose again, would you consider another specialty than paediatrics?: yes	105/557	18.9
Are you satisfied with your quality of life at work?		
No	372/678	54.9
Yes	217/678	32.0
Did not answer	89/678	13.1
Remuneration		
Are you satisfied with your global remuneration?		
Not at all	142/672	21.1
Moderately	395/672	58.8
Completely	135/672	20.1
Are you satisfied with off-hours remuneration?		
Not at all	375/655	57.2
Moderately	228/655	34.8
Completely	52/655	7.9
Quality of life assessment		
On a scale of 0 to 10, how would you rate your quality of life at work? (mean, SD)	5.7	1.7

[a]Questions asked only to practitioners that declared off-hours activity ($N = 651$).

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TABLE 3 Satisfaction at work.

	Dissatisfied, N=372		Satisfied, N=217		
***N*=589**	**Mean**	**SD**	**Mean**	**SD**	
On a scale of 0 to 10, how would you rate your quality of life at work?	4.6	1.5	7.3	0.8	<0.001
	n	**%**	***N***	**%**	***p***
Sex: woman	292/372	78.5	160/217	73.7	0.19
Age (years)					
<35	80/368	21.8	54/217	24.9	0.35
35–50	199/368	54.1	97/217	44.7	
>51	89/368	24.2	66/217	30.4	
Experience in NICU: >10 years	197/292	67.5	122/165	73.9	0.15
Status: Permanent staff	255/370	68.9	148/217	68.2	0.86
Part-time work	67/370	18.1	31/217	14.3	0.23
Work at 2 different centers	61/372	16.4	24/217	11.1	0.08
Main place of work					
Universitary public center	213/372	57.3	108/217	49.8	0.005
Non universitary public center	133/372	35.8	76/217	35.0	
Private center	26/372	7.0	33/217	15.2	
Level of care provided in NICU (main place of work): Level III	266/371	71.7	147/217	67.7	0.31
Annual number of deliveries (main place of work)					
<2500	73/349	20.9	45/196	23.0	0.69
2500–4000	185/349	53.0	106/196	54.1	
>4000	91/349	26.1	45/196	23.0	
Declared workload					
Global workload (hours/week)					
<35	10/368	2.7	6/217	2.8	<0.01
35–50	65/368	17.7	60/217	27.6	
50–75	234/368	63.6	135/217	62.2	
>75	59/368	16.0	16/217	7.4	
Off-hours duty (night shifts, weekends)	342/370	92.4	203/217	93.5	0.61
Average number of off-hours shifts per month					
0–2	44/372	11.8	28/217	12.9	0.06
3–4	154/372	41.4	109/217	50.2	
≥5	174/372	46.8	80/217	36.9	
Number of working weekends per month					
0	29/372	7.8	17/217	7.8	0.02
1–2	262/372	70.4	173/217	79.7	
3–4	81/372	21.8	27/217	12.4	
Compensatory rest periods after off hours shifts[a]: Never/sometimes	63/344	18.3	33/202	16.3	0.56
Work during evenings after official work hours					
Never	48/368	13.0	42/216	19.4	0.02
Rarely	200/368	54.3	124/216	57.4	
Often	120/368	32.6	50/216	23.1	

(Continues)

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TABLE 3 (Continued)

	n	%	N	%	p
Work during weekends beside weekend shifts					
Never	222/369	60.2	150/217	69.1	0.09
Rarely	136/369	36.9	63/217	29.0	
Often	11/369	3.0	4/217	1.8	
Available by phone after official work hours: Often/always	242/367	66.0	129/217	59.4	0.12
Perceived workload and consequences					
Perceived workload					
Light/moderate	8/370	2.2	20/216	9.2	<0.001
Heavy but manageable	205/370	55.4	174/216	80.6	
Heavy and difficult to manage	157/370	42.4	22/216	10.2	
Feels overworked					
Never/rarely	12/369	3.2	61/217	28.1	<0.001
Sometimes	133/369	36.0	116/217	53.5	
Often/always	224/369	60.7	40/217	18.4	
'Off hours shifts impact negatively my quality of life'[a]					
Strongly disagrees	1/343	0.3	9/202	4.5	<0.001
Partly agrees	38/343	11.1	71/202	35.1	
Fully agrees	304/343	88.6	122/202	60.4	
Wishes to stop off hours shifts[a]					
No opinion	8/344	2.3	9/203	4.4	<0.001
No	22/344	6.4	38/203	18.7	
Wish to limit their number	160/344	46.5	105/203	51.7	
Yes	154/344	44.8	51/203	25.1	
Would you stop off hours shifts due to work-related strain?[a]	291/344	84.6	154/203	75.9	0.01
Would you stop off hours shifts due to insufficient remuneration?[a]	196/344	57.0	88/203	43.3	<0.01
Do you feel you have recognition of parents?					
Strongly disagrees	13/368	3.5	2/215	0.9	<0.001
Partly agrees	198/368	53.8	74/215	34.4	
Fully agrees	157/368	42.7	139/215	64.7	
Do you feel you have recognition of your colleagues?					
Strongly disagrees	24/355	6.8	3/212	1.4	<0.001
Partly agrees	205/355	57.7	77/212	36.3	
Fully agrees	126/355	35.5	132/212	62.3	
Can you think of anything else than work when you leave the hospital?					
Hardly	81/372	21.8	26/217	12.0	<0.001
Moderately	224/372	60.2	102/217	47.0	
Easily	67/372	18.0	89/217	41.0	
Are you able to cope with the psychological burden related to your work?					
Hardly	4/372	1.1	1/217	0.5	<0.001
Moderately	252/372	67.7	104/217	47.9	
Easily	116/372	31.2	112/217	51.6	
Work-related sleep problems	213/365	58.4	71/215	33.0	<0.001

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TABLE 3 (Continued)

	n	%	N	%	p
Ever experienced burnout symptoms	76/368	20.7	22/215	10.2	<0.01
Do you feel emotionally drained by your work?					
Never/few times a year	97/372	26.1	130/217	59.9	<0.001
More than one time a month	140/372	37.6	64/217	29.5	
More than one time a week	135/372	36.3	23/217	10.6	
Do you ever feel like you are breaking down because of your work?					
Never/few times a year	184/372	49.4	185/217	85.3	<0.001
More than one time a month	112/372	30.1	29/217	13.4	
More than one time a week	76/372	20.4	3/217	1.4	
Do you feel you work too hard at your job?					
Never/few times a year	65/372	17.5	116/217	53.4	<0.001
More than one time a month	137/372	36.8	69/217	31.8	
More than one time a week	170/372	45.7	32/217	14.8	
Remuneration					
Are you satisfied with your global remuneration?					
Not at all	115/370	31.1	16/214	7.5	<0.001
Moderately	200/370	54.1	131/214	61.2	
Completely	55/370	14.9	67/214	31.3	
Are you satisfied with off-hours remuneration?					
Not at all	228/359	63.5	97/210	46.2	<0.001
Moderately	110/359	30.6	86/210	41.0	
Completely	21/359	5.8	27/210	12.9	

[a]Questions asked only to practitioners that declared off-hours activity.

including that satisfied physicians were more likely to provide quality information and to be responsive to their patients' needs.[15] Physician workload in 15 level III NICUs in Germany was analysed over 60 days in early and late shifts. A total of 550 h of main tasks and 100 h of secondary tasks were recorded, on average 9 h daily. The most time-consuming activity was communication for 3 h/day, followed by indirect care or administration for 2 h/day and direct patient care for 1.5 h/day. Communication mainly consisted of discussions with colleagues. Communication with parents was not analysed.[16] The average time spent on communication was negatively correlated with neonatologists' job satisfaction.[16] Caregivers are also particularly sensitive to the atmosphere at work. In Israel, a randomised simulation study showed that exposure to parental verbal aggression during resuscitation had negative effects on quality of care both in terms of diagnosis and interprofessional communication.[17]

A European Court of Justice ruling of 14 May 2019 sets the average working time for each 7-day working period at a maximum of 48 h, including overtime, over a standard 4-month reference period. In our study, 80% of the neonatologists declared working more than 50 h/week. In a survey of French gynaecological surgeons in 2019, 69.6% reported working 50 to 75 h/week.[10] In practice, the working time of hospital physicians varied widely among European countries and has been renegotiated locally following these directives.[18]

The rate of burnout among French physicians is two to three times higher than in the general population. In 2019, burnout affected 49%, from 28% to 73%, of physicians in all specialties, with higher rates among physicians practicing emergency medicine.[8] The number of night shifts was correlated with a higher burnout rate, mainly for one of the three dimensions of burnout: personal accomplishment. In our survey, 17% of neonatologists reported having experienced symptoms of burnout or depression related to work. This result is very close to that from a previous survey that assessed burnout symptoms using the Maslach Burnout Inventory: 22% of French neonatologists working in level III NICUs had burnout.[9] Internationally, this rate varied widely: 60% to 65% among Italian neonatologists[6] and 17% to 19% in the United States.[5]

Dissatisfaction due to a high number of patients per caregiver and an income level considered insufficient was previously described in the United States and Israel.[11] The income level considered insufficient reflects a lack of financial reward and recognition for the work done. There is a need to reflect on a new working model that takes into account a reduction in the workload and, in particular, administrative tasks. The aim is to increase the time spent with each patient and their family, to improve job satisfaction and the attractiveness of paediatric careers.

Workplace is also important. Working in a private or in a non-university public centre seems to increase job satisfaction. This

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factor was studied previously in other countries. In New Zealand, almost 2000 registered specialists were asked to rate sources of satisfaction and dissatisfaction; the response rate was 47%. Overall satisfaction was higher, and dissatisfaction scores were lower in the private sector, with a mean dissatisfaction score of 2.4 out of 5, than in the public sector, with a mean score of 3.1 out of 5.[19] The public system was valued for its opportunities for training and career development. However, the main sources of dissatisfaction were workload pressure, mentally demanding work and managerial interference. In the private sector, professionals valued the opportunity to work independently and apply their own ideas. One study examined the motivations of 60 specialists working in both private and public practice in southeast England.[20] Reasons for engaging in private practice included greater clinical autonomy and strategic influence and a greater sense of being valued.[20] In Finland, a cross-sectional survey of 5000 physicians conducted in 2006, with a response rate of 57%, found that factors explaining higher satisfaction in the private than public sector were organisational justice and job control, organisational commitment and work ability as well as lower levels of psychological distress and sleep problems.[21] Of note, private practice in neonatology in France is limited to non-intensive care activity because level III NICUs are all located in public hospitals, most being university hospitals. This different working environment may contribute to the differences we observed.

To provide appropriate care to patients and their families while maintaining a certain degree of compassion, physicians need to be in a favourable psychological state. Psychological distress in physicians causes multiple personal and professional problems such as reduced productivity and quality of care, absenteeism, use of toxic substances, and stress in the interpersonal relationships. Because quality of life at work is a determining factor in the care provided, the institutions have a fundamental role to play to improve it. The conclusions of this survey will be presented at meetings with those responsible for the organisation of healthcare in France such as the General Directorate for Health Care Provision and the Regional Health Agency. The president of the French Society of Neonatology has submitted a summary of this work to them.

Similar work could be done for paramedics and other healthcare providers such as physiotherapists working in the NICU because the emotional and psychological burdens are identical. Despite identical working time legislation, care organisations differ among European countries. The same questionnaire could be distributed in several countries to evaluate the satisfaction of healthcare providers and correlate the score with different indicators of patients' health.

This study is the first to provide quantitative data on the quality of work life of French neonatologists, a population exposed to several risk factors for burnout. The number of responses to this self-administered questionnaire was high, but the completeness rate is difficult to estimate because of lack of an exact number of paediatricians practicing in neonatology in France. In addition, many paediatricians have a mixed practice in private practice and in maternity wards. This questionnaire allowed for exploring several dimensions of the assessment of quality of life at work, although its self-reporting nature could be considered a limitation.

5 | CONCLUSION

This first assessment of French neonatologists' quality of life showed a mean job satisfaction score of 5.7 ± 1.7 on a scale of 0–10. The main reasons for dissatisfaction were excessive weekly working hours and insufficient remuneration for on-call duty. The working conditions and specificities of NICU activity may have substantial consequences on the mental health of practitioners. A strong physician workforce that is deeply engaged to care is essential for delivering quality care. At a time when the number of neonatologists is decreasing, we must highlight the difficulties of this profession to allow public authorities to act on the most frequent reasons for dissatisfaction.

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CONFLICT OF INTEREST STATEMENT

The authors have no conflict of interest to declare.

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REFERENCES

1. Buckley L, Berta W, Cleverley K, Medeiros C, Widger K. What is known about paediatric nurse burnout: a scoping review. Hum Resour Health. 2020;18(1):9. doi:10.1186/s12960-020-0451-8
2. Prentice TM, Gillam L, Davis PG, Janvier A. Always a burden? Healthcare providers' perspectives on moral distress. Arch Dis Child Fetal Neonatal Ed. 2018;103(5):F441-F445. doi:10.1136/archdischild-2017-313539
3. Tawfik DS, Phibbs CS, Sexton JB, et al. Factors associated with provider burnout in the NICU. Pediatrics. 2017;139(5):e20164134. doi:10.1542/peds.2016-4134
4. Favrod C, Jan du Chêne L, Martin Soelch C, et al. Mental health symptoms and work-related stressors in hospital midwives and NICU nurses: a mixed methods study. Front Psychiatry. 2018;9:364. doi:10.3389/fpsyt.2018.00364
5. Tawfik DS, Sexton JB, Kan P, et al. Burnout in the neonatal intensive care unit and its relation to healthcare-associated infections. J Perinatol. 2017;37(3):315-320. doi:10.1038/jp.2016.211
6. Bellieni CV, Righetti P, Ciampa R, Iacoponi F, Coviello C, Buonocore G. Assessing burnout among neonatologists. J Matern Fetal Neonatal Med. 2012;25(10):2130-2134. doi:10.3109/14767058.2012.666590

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7. Garcia C, Abreu L, Ramos J, et al. Influence of burnout on patient safety: systematic review and meta-analysis. Medicina. 2019;55(9):553. doi:10.3390/medicina55090553
8. Kansoun Z, Boyer L, Hodgkinson M, Villes V, Lançon C, Fond G. Burnout in French physicians: a systematic review and meta-analysis. J Affect Disord. 2019;246:132-147. doi:10.1016/j.jad.2018.12.056
9. Basset A, Zana-Taïeb E, Bénard M, et al. Nurses and physicians at high risk of burnout in French level III neonatal intensive care units: an observational cross-sectional study. J Perinatol. 2022;42(5):669-670. doi:10.1038/s41372-021-01266-5
10. Cathelain A, Merlier M, Estrade JP, et al. Assessment of the quality of life of gynecologic surgeons: a national survey in France. J Gynecol Obstet Hum Reprod. 2020;49(8):101791. doi:10.1016/j.jogoh.2020.101791
11. Moshe M, Perry ZH, Salzer L, Zemora E, Toker A. Work satisfaction, quality of life, and leisure time of neonatology fellows and senior neonatologists in Israel. Isr J Health Policy Res. 2012;1(1):50. doi:10.1186/2045-4015-1-50
12. Kravitz RL. Physician job satisfaction as a public health issue. Isr J Health Policy Res. 2012;1(1):51. doi:10.1186/2045-4015-1-51
13. Shanafelt TD, West CP, Sinsky C, et al. Changes in burnout and satisfaction with work-life integration in physicians and the general US working population between 2011 and 2017. Mayo Clin Proc. 2019;94(9):1681-1694. doi:10.1016/j.mayocp.2018.10.023
14. Haas JS, Cook EF, Puopolo AL, Burstin HR, Cleary PD, Brennan TA. Is the professional satisfaction of general internists associated with patient satisfaction? J Gen Intern Med. 2000;15(2):122-128. doi:10.1046/j.1525-1497.2000.02219.x
15. Nazzari S, Grumi S, Ciotti S, Merusi I, Provenzi L, Gagliardi L. Determinants of emotional distress in neonatal healthcare professionals: an exploratory analysis. Front Public Health. 2022;10:968789. doi:10.3389/fpubh.2022.968789
16. Börner N, Mache S, Scutaru C, Metze B, Bührer C. Communication in the clinical routine of neonatologists. Z Für Geburtshilfe Neonatol. 2019;223(2):92-98. doi:10.1055/a-0651-5162
17. Riskin A, Erez A, Foulk TA, et al. The impact of rudeness on medical team performance: a randomized trial. Pediatrics. 2015;136(3):487-495. doi:10.1542/peds.2015-1385
18. Clavier C, Hassenteufel P, Moreno Fuentes JF, Schweyer FX. Les limites de la convergence du temps de travail des médecins hospitaliers en Europe (Allemagne, Danemark, Espagne, Lituanie, Royaume-Uni). Rev Fr Aff Soc. 2011;1(2):226-251. doi:10.3917/rfas.112.0226
19. Ashton T, Brown P, Sopina E, Cameron L, Tenbensel T, Windsor J. Sources of satisfaction and dissatisfaction among specialists within the public and private health sectors. N Z Med J. 2013;126(1383):9-19.
20. Humphrey C, Russell J. Motivation and values of hospital consultants in south-East England who work in the national health service and do private practice. Soc Sci Med. 2004;59(6):1241-1250. doi:10.1016/j.socscimed.2003.12.019
21. Heponiemi T, Kuusio H, Sinervo T, Elovainio M. Job attitudes and well-being among public vs. private physicians: organizational justice and job control as mediators. Eur J Public Health. 2011;21(4):520-525. doi:10.1093/eurpub/ckq107

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