

The prevalence of burnout among oncology professionals: oncologists are at risk of developing burnout

S. Eelen^{1*}, S. Bauwens^{1,2,3}, C. Baillon^{2,3}, W. Distelmans², E. Jacobs¹ and A. Verzelen¹

¹Cédric Hèle instituut vzw, Mechelen, Belgium

²Universitair Ziekenhuis Brussel, Oncologisch Centrum, Dienst Supportieve en Palliatieve Zorg, Brussels, Belgium

³Universitair Ziekenhuis Brussel, Dienst Klinische Psychologie, Brussels, Belgium

*Correspondence to:

Cédric Hèle instituut vzw, Bruul
52/4, Mechelen, 2800 Belgium.

E-mail: sofie.eelen@cedric-
heleinstituut.be

Abstract

Objective: International research shows that oncology staff suffers more from burnout than other healthcare professionals.

Burnout is common among oncologists. The prevalence of emotional exhaustion, depersonalization, and low personal accomplishment appears to be significantly higher among physicians. Detecting burnout is highly relevant, because it affects the personal well-being and quality of life of the healthcare professional.

A national study on the prevalence of burnout in oncology was never conducted in Flanders (Dutch-speaking part of Belgium).

Methods: The Cédric Hèle institute spread anonymous questionnaires among 923 healthcare workers in oncology (physicians, social workers, psychologists, nurses, and specialist-nurses) in Flanders.

The questionnaire consisted of two parts. The first part contained questions concerning demographic and job features.

The second part included the Dutch version of the Maslach Burnout Inventory.

Results: Five hundred and fifty subjects participated in the survey (response rate of 59.5%).

Of the medical oncologists, 51.2% suffered from emotional exhaustion, 31.8% from depersonalization, and 6.8% from a lack of personal accomplishment.

Multivariate analysis of variance suggested a significantly elevated level of emotional exhaustion and depersonalization in oncologists compared with other professionals.

Logistic regression indicated that the following variables have predictive value on risk of burnout: gender, profession, and combining work in a university hospital with work in a private hospital.

Conclusion: The CHi research showed a significantly increased level of burnout-components in professionals working in oncology, especially in medical oncologists. These results should have an impact on the daily clinic of oncology, and could be guidance for further research.

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Introduction

Burnout is a psychological state of exhaustion, related to stress at work. Maslach describes burnout as ‘a psychological syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who work with other people in some capacity’ [1].

Emotional exhaustion can be described as a feeling of being ‘empty’. Depersonalization causes a cynical, negative attitude towards others. A reduced feeling of personal accomplishment consists of low feelings of productivity, adequacy, and successfulness [1,2].

Situational and individual factors play a role in the development of burnout.

Experiencing workload and time pressure are consequently related to burnout, just like a lack of support and emotional challenges of the work [3].

Considering individual factors, less effect size is found, even though significant influence is found for age and gender. Burnout appears to be more of a risk at the beginning of one’s career. Men often score higher on cynicism [3].

Organizational factors, such as reward, fairness, and corresponding values, influence burnout [3]. Research shows that increases in job demands such as overload, emotional demands, and work-home interference and decreases in job resources such as social support, autonomy, opportunities to learn, and feedback predict burnout. This, in turn, predicts future depression [4–7].

Burnout affects the personal well-being and quality of life of the healthcare professional. It is associated with an increased risk of suicidal ideation, job withdrawal, and absenteeism [7–9]. Burnout also impairs the quality of patient care. It is linked with a poorer quality of care, increased medical errors, and lawsuits [10,11]. Work-

related well-being predicts general well-being in the long term [4,12].

Oncology staff suffers from stress and burnout [13–34]. Burnout is prevalent among oncologists [13–18]. In the random survey of 1000 oncologists, of Whippen *et al.*, 56% of the respondents reported experiencing burnout [14]. Grunfeld *et al.* showed that the prevalence of emotional exhaustion, depersonalization, and low personal accomplishment is significantly higher among physicians than among support staff in oncology [15]. Lissandre *et al.* examined the risk of burnout of a population of healthcare professionals in oncology. The risk of burnout is defined as the prevalence of a high score on at least one of the burnout-components. At risk were 40% of the physicians and 31% of the nurses [16]. A study of Blanchard *et al.* showed a burnout prevalence of 44%, defined as a severely abnormal level of either emotional exhaustion or depersonalization [17].

Joinson introduced ‘compassion fatigue’ in a study concerning emergency nurses [35]. She suggested that empathic nurses are at risk to absorb the stress of the patients they work with. Later studies observed the presence of compassion fatigue in oncology [36,37].

The main focus of this study is to investigate the risk of burnout of oncology professionals in Flanders. The second point of interest is identifying the demographic and job characteristics that influence burnout of the professionals in oncology.

Considering the international research in oncology, no significant research in the experience of stress and burnout among social workers and psychologists in oncology was found.

A national study on the prevalence of burnout among oncology nurses, paramedics or oncologists was never conducted in Flanders.

The Cédric Hèle institute, Flemish institute for psychosocial oncology (short CHI), examined the prevalence of burnout in oncology professionals in Flanders.

Methods

Subjects

Five hundred and fifty subjects participated in the survey. The Chi distributed 1078 questionnaires among healthcare workers in oncology in Flanders (the Dutch-speaking part of Belgium), by post and by mail. One hundred and fifty-five questionnaires returned to sender, because the professional left the specialty. One hundred and thirty-two medical oncologists, 77 radiotherapists, 123 psychologists, 108 social workers, and 483 nurses in oncology (in total 923 oncological professionals) received a questionnaire. The survey was strictly confidential and anonymous.

Data collection

The first part of the questionnaire consisted of questions to determine demographic features of the participants (gender, age, marital status, oncology experience, average work

hours/week, job time for research, location of employment (private or academic hospital) and state/region of employment). We also asked the respondents to rate their job satisfaction on a Likert scale from 1 (low) to 10 (high).

In the second part, the Dutch version of the Maslach Burnout Inventory (MBI) was used, version Human Services Survey. This version is developed for professionals with high interpersonal contact (such as healthcare professionals).

The Maslach Burnout Inventory was translated in Dutch by Schaufeli and called ‘Utrecht Burnout Scale’ (Utrechtse Burnout Schaal – UBOS) [2]. UBOS is a valid and reliable instrument to measure burnout. The MBI is a self-reporting scale. It consists of 20 questions, divided in three subscales (emotional exhaustion, depersonalization, and personal accomplishment). Each item is to be rated on a 7-point scale, according to how often a feeling is experienced, ranging from ‘never’ to ‘every day’. The average score of each subscale is categorized as ‘very low’, ‘low’, ‘average’, ‘high’, or ‘very high’, according to predetermined cut-off scores based on normative data from a sample of 10.552 Dutch healthcare professionals [2]. High and very high scores on the subscales are considered as problematic scores. These predict a risk at burnout.

Statistical analysis

All data were entered in an excel spreadsheet and analyzed by using SPSS for Windows (version 19, IBM Corp., New York, USA). Descriptive statistics were used to characterize the overall sample.

Multivariate analysis of variance was used to compare MBI subscale scores (emotional exhaustion, depersonalization, and personal accomplishment) between healthcare disciplines, and the effect of demographic and job characteristics.

Logistic regression analysis was conducted to examine whether any of the demographic and job characteristic factors were associated with the risk of burnout.

The descriptive statistics of the symptoms of burnout were examined. All mean values on the subscales of the MBI were average values compared with a normative group of healthcare professionals.

Results

Population characteristics and response rate

Five hundred and fifty professionals filled out and returned the questionnaire. A response rate of 59.5% was achieved. The responses of 77 physicians in oncology (45 medical oncologists, 21 radiotherapists, and 11 other specialists), 88 psychologists, 72 social workers, 36 specialist-nurses, 266 nurses, and of 11 other oncology professionals were included in the statistical analysis.

The demographic characteristics of the subjects are presented in Table 1; 80.3% of all respondents were women,

Table 1. The demographic characteristics of the subjects

Characteristics	Physicians (N)	Psychologists (N)	Social workers (N)	Specialist-nurses (N)	Nurses (N)	N	%
Gender							
Male	40	10	10	0	46	108	19.7
Female	37	78	62	36	218	440	80.3
Age							
20–30	0	37	18	3	28	88	16
30–40	29	26	24	9	86	178	32.4
40–50	32	20	19	13	91	178	32.4
50–60	13	4	9	10	60	99	18
>60	3	1	2	0	0	6	1.1
Marital status							
Single	4	12	11	1	30	59	10.7
Cohabiting	9	34	12	4	44	105	19.1
Married	20	11	21	15	84	152	27.6
Married with children	41	25	25	16	93	204	37.1
Widow(er)	0	0	1	0	1	2	0.4
Divorced	3	6	2	0	14	28	5.1
Oncology experience							
<5	9	47	22	13	50	144	26.3
5–10	22	27	24	10	80	165	30.2
10–20	29	9	17	5	90	156	28.5
>20	15	5	9	8	45	82	15
Location of employment							
Academic hospital	22	23	14	6	53	122	22.6
Private hospital	48	58	54	30	193	389	72.2
Both	6	4	4	0	13	28	5.2
Average work hours/week							
<20	0	9	6	4	13	33	6
20–30	1	16	16	11	55	103	18.8
30–40	4	51	46	9	144	259	47.3
40–50	17	11	4	11	48	92	16.8
>50	55	1	0	1	4	61	11.1
Job time for research							
0%	22	42	40	7	97	211	40.6
0–25%	52	43	25	26	135	285	54.8
25–50%	1	0	0	1	15	18	3.5
50–75%	1	0	1	0	0	2	0.4
>75%	0	1	0	0	2	4	0.8

whereas the majority of physicians were men. The most respondents were between 30 and 50 years old, and were married. Psychologists were younger.

The majority of respondents worked in private hospitals (72.2%). Their experience varied between less than 5 years and more than 20 years, with an equal distribution. In the total population 47.3% of the respondents worked between 30 and 40 h per week, whereas the physicians in the population worked more than 50 h per week. Concerning job time for research the study showed 40.6% of the respondents had no job time for research, 54.8% had 0 to 25% time for research, 4.7% had more than 25% time for research.

Burnout cases

Twelve subjects reported all symptoms of burnout; this is 2% of the research population. All of them were women. One was oncologist, two psychologists, one social worker,

and seven nurses. Five burnout cases had between 5 and 10 years of experience, seven worked between 30 and 40 h per week, and eight worked in a private setting.

The study showed that 38.9% of the physicians in oncology (medical oncologists, radiotherapists, and other specialists), 13.8% of the psychologists, 20.9% of the social workers, 22.2% of the specialist-nurses, and 20.8% of the nurses suffered from a problematic level of emotional exhaustion; 27.6% of the physicians, 21.5% of the nurses, 16.4% of the social workers, 11.6% of the psychologists, and 8.3% of specialist-nurses had a high level of depersonalization; 17.6% of the nurses, 14.9% of the social workers, 9.6% of the psychologists, 6.7% of the physicians, and 5.7% of the specialist-nurses reported a problematic level of personal accomplishment.

The scores of the medical oncologists showed the most elevated scores (Figure 1); 51.2% of the oncologists suffer from an elevated level of emotional exhaustion,

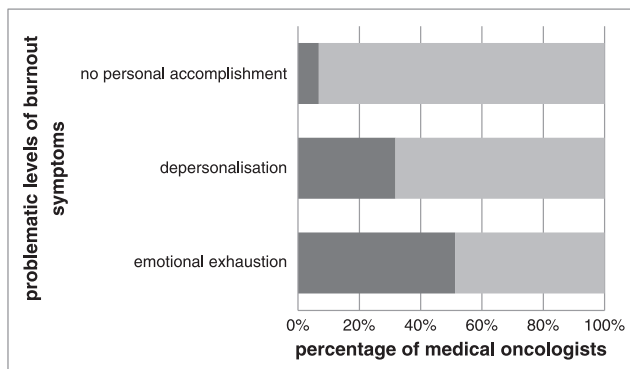


Figure 1. Problem cases in medical oncologists, compared to the comparison group 'healthcare professionals'

and 31.8% suffer from an elevated level of depersonalization (Figure 1).

Differences between professionals in burnout symptoms

The multivariate effect (multivariate analysis of variance) was significant by healthcare disciplines (Wilks $\lambda = 0.89$; $F(12, 1283.5) = 4.84$; $p < 0.001$). Follow-up univariate F -tests showed that there were significant differences across healthcare disciplines on emotional exhaustion ($F(4, 487) = 5.08$; $p < 0.001$), depersonalization ($F(4, 487) = 7.23$; $p < 0.001$), and personal accomplishment ($F(4, 487) = 3.83$; $p < 0.01$) (Table 2).

Post hoc comparisons using the Least Significant Difference (LSD) test revealed that physicians show significantly higher mean scores on emotional exhaustion compared with psychologists, social workers, specialist-nurses, and nurses. Physicians have also significantly higher mean scores on depersonalization compared with psychologists, social workers, specialist-nurses, and nurses. Nurses have significantly higher mean scores on depersonalization compared with psychologists and specialist-nurses. For personal accomplishment, the LSD post hoc test showed that nurses

suffer significantly more from problematic levels of personal accomplishment compared with physicians and specialist-nurses. Social workers suffer significantly more from problematic levels of personal accomplishment compared with psychologists and specialist-nurses (Table 2).

Logistic regression

The risk of burnout seemed to be directly associated with gender ($p = 0.02$): women have a greater risk of burnout. Also, profession ($p = 0.03$) seemed to be associated with the risk of burnout: psychologists and specialist-nurses are less at risk in comparison with physicians. The risk of burnout is associated with location of employment ($p = 0.04$): working in a university hospital combined with working in a private hospital elevates the risk compared with professionals only working in a university hospital (Table 3).

Discussion

In general

This study was the first study performed in Belgium to investigate burnout in oncology.

This research showed a problematic level of burnout-components in professionals in oncology, especially in medical oncologists.

When comparing these findings with those of other international studies, a remarkably higher level of emotional exhaustion in medical oncologists was observed. The level of depersonalization in Flanders was also high, compared with the most other studies [13–34].

Moreover, oncologists suffered significantly more of burnout symptoms than any other discipline.

Concerning the level of personal accomplishment, reverse results were found. Only 6.8% of the Flemish oncologists experience a low level of personal accomplishment, whereas in other studies, much more problematic levels of personal accomplishment are observed [13–34].

Table 2. Comparisons of burnout symptoms between professionals ($n = 492$)

Healthcare disciplines								
	Physicians ($n = 70$)	Nurses ($n = 247$)	Specialist-nurses ($n = 35$)	Social workers ($n = 60$)	Psychologists ($n = 80$)	$F(4, 487)$	Partial η^2	LSD post hoc
EE	$M = 2.06$ $SD = 1.12$	$M = 1.58$ $SD = 0.95$	$M = 1.45$ $SD = 0.95$	$M = 1.49$ $SD = 0.89$	$M = 1.52$ $SD = 0.81$	5.08**	0.040	PH > PSY/SW/SpN/N
DEP	$M = 1.12$ $SD = 0.66$	$M = 0.83$ $SD = 0.63$	$M = 0.59$ $SD = 0.51$	$M = 0.74$ $SD = 0.60$	$M = 0.67$ $SD = 0.56$	7.23**	0.056	PH > PSY/SW/SpN/N N > PSY/SpN
PA	$M = 4.69$ $SD = 0.65$	$M = 4.43$ $SD = 0.79$	$M = 4.87$ $SD = 0.55$	$M = 4.48$ $SD = 0.72$	$M = 4.55$ $SD = 0.70$	3.83*	0.030	N < PH/SpN SW < PSY/SpN

Least Significant Difference (LSD) post hoc test differences significant at the 0.05 level (two-tailed). PH = physician; N = nurses; SpN = specialist-nurses; SW = social worker; PSY = psychologist. EE = emotional exhaustion; DEP = depersonalization; PA = personal accomplishment.

* $p < 0.001$.

** $p < 0.01$.

Table 3. logistic regression to predict risk of burnout

Demographic characteristics	Risk of burnout N (%)		Logistic regression	
	No	Yes	OR (95% CI)	p
Gender				
Male	32 (33)	65 (67)		
Female	152 (62.2)	250 (37.8)	2.11 (1.16–3.83)	0.02
Age				
20–30	53 (67.9)	25 (32.1)		0.55
30–40	108 (64.7)	59 (35.3)	0.92 (0.42–1.10)	0.83
40–50	96 (58.9)	67 (41.1)	1.37 (0.58–3.20)	0.47
50–60	55 (63.2)	163 (36.8)	0.86 (0.32–2.29)	0.76
>60	3 (100)	0 (0)		
Marital status				
Single	34 (66.7)	17 (33.3)		0.50
Cohabiting	58 (59.2)	40 (40.8)	1.74 (0.78–3.86)	0.17
Married	82 (60.7)	53 (39.3)	1.44 (0.66–3.13)	0.36
Married with children	122 (64.9)	66 (35.1)	1.08 (0.50–2.30)	0.85
Widow(er)	2 (100)	0 (0)	/	/
Divorced	17 (68)	8 (32)	0.78 (0.24–2.46)	0.66
Oncology experience				
<5	89 (69)	40 (31)		1.18
5–10	89 (58.9)	62 (41.1)	1.46 (0.79–2.68)	0.23
10–20	92 (64.8)	92 (35.2)	0.84 (0.42–1.67)	0.61
>20	43 (57.3)	43 (42.7)	1.45 (0.63–3.33)	0.38
Location of employment				
Academic hospital	79 (69.9)	34 (30.1)		0.04
Private hospital	220 (62.9)	130 (37.1)	1.43 (0.85–2.99)	0.18
Both	10 (37)	17 (63)	3.78 (1.36–10.51)	0.01
Average work hours/week				
<20	22(73.3)	8 (26.7)		
20–30	68 (70.1)	29 (29.9)	0.97 (0.32–2.89)	0.95
30–40	145 (63)	85 (37)	1.31 (0.47–3.67)	0.61
40–50	52 (60.5)	34 (39.5)	1.98 (0.65–6.08)	0.23
>50	27 (49.1)	28 (50.9)	2.55 (0.60–10.88)	0.21
Job time for research				
0%	114 (57.6)	84 (42.4)		0.07
0–25%	172 (68)	81 (32)	0.55 (0.35–0.85)	0.007
25–50%	8 (44.4)	10 (55.6)	1.29 (0.42–3.96)	0.65
50–75%	2 (100)	0 (0)	/	/
>75%	3 (75)	1 (25)	/	/
Profession				
Physician	35 (50)	35 (50)		0.03
Nurse	150 (61.2)	95 (38.8)	0.68 (0.26–1.76)	0.43
Social worker	37 (61.7)	23 (38.3)	0.59 (0.19–1.79)	0.35
Specialist-nurse	26 (74.3)	9 (25.7)	0.24 (0.07–0.85)	0.03
Psychologist	61 (76.3)	19 (23.8)	0.29 (0.10–0.90)	0.03

Our study showed that other disciplines in oncology also have to cope with high levels of emotional exhaustion and depersonalization.

In a recent study on burnout in oncology, performed in Turkey [13], the level of emotional exhaustion in nurses was significantly higher than the emotional exhaustion of physicians.

Our study showed an opposite effect of profession on the risk at burnout. Medical oncologists are more at risk than nurses. A French study showed the same effect [17].

Burnout in social workers or in psychologists working in oncology appears to be never studied before.

The risk of burnout in oncology: links with personal characteristics?

Other studies showed effects of personal characteristics on the risk of burnout: age [13,17,18] and work experience [13], having a hobby or physical activity, religious affiliation, and living with a companion [17,18].

This study showed that the risk of burnout is directly associated with gender. Women are more at risk. The large proportion of women in the study could partially explain the risk of burnout of the oncological professionals in this study.

However, this could not explain the risk of burnout of medical oncologists, because the majority of this part of the population were men.

Maslach proved that men often score high on depersonalization. We could interpret the high scores of the medical oncologists in this study on depersonalization as a result of the large number of men in this part of the population.

Younger persons are more at risk, according to international research. This effect was not found within this study. Neither were significant effects of work experience and marital status found.

Many professionals in oncology perform their work with a high sense of caring for others, in confrontation with high physical and emotional suffering. Being compassionated is a daily part of their job. In a chronic confrontation, this might lead to compassion fatigue. This could be an explanation of the high presence of burnout symptoms in oncologists and in the psychosocial professionals [35–37].

The risk of burnout in oncology: links with job characteristics?

The effect of occupational variables on burnout was examined. Two job variables appeared to be significant: the opportunity to perform research and the type of employment place (private or academic). Other studies integrated different variables in the research design, such as vacation time [18], type of practice, reimbursement issues [14,21], clinical work load [14,17,21], and lack of continuing education [21].

Consulting comparable studies, some hypotheses were put forward in an attempt to comprehend these results.

Borritz *et al.* [38] suggested that psychosocial work characteristics are relevant in the explanation of burnout symptoms. Low possibilities for development, high meaning of work, low predictability, high quality of leadership, low role clarity, and high role conflicts predicted burnout at 3-year of follow-up. These constructs might explain the problems we observed in the results of the nurses, social workers, and psychologists in this study.

Grunfeld *et al.* [39] studied stress and job satisfaction in oncology. The professionals reported that the patient contact was the main source of job satisfaction. The heavy and increasing workload was reported to be the main source of job stress. These findings might explain why oncologists experience more symptoms of burnout, assuming oncologists have a large number of patient contacts per day, a very high workload, and the least time of all professionals to spend on personal contact with their patients.

Studies showed the link between job demands and the risk of burnout [4–7,40,41].

The high levels of burnout symptoms in oncologists could also be comprehended as a high prevalence of job demands for these professionals, assuming they have a large population of patients to treat, have less supportive contact with the multidisciplinary team, high workload, and constant time pressure.

Specialist-nurses experienced lower levels of emotional exhaustion and depersonalization, and higher levels of personal accomplishment than the other professionals in oncology. Specialist-nurses have several contacts with one patient throughout their treatment. This might have a protective effect for the specialist-nurses, considering the conclusions of Grunfeld citing patient contact as the main source of job satisfaction [39].

These specialist-nurses usually work in a good defined and coordinated clinical path, in a multidisciplinary team, and in a defined role with patients, a role that is commonly highly appreciated. These job components are possible job resources and could have a protective role in the development of burnout. They do have high workload and emotional demands in their daily job (job demands), but this seemed to be in balance with the resources.

The protective role of teamwork is assumed, although some studies show that burnout symptoms cross over from one nurse to another [42,43]. The predominant mechanism could not be defined within this study.

In a study of Cashavelly *et al.*, an important conclusion was that personal accomplishment of professionals declined with the duration of their employment [44]. The majority of the specialist-nurses in this study have not more than 5 years of experience. The profession is relatively new in Belgium. This can be part of the explanation of the high level of personal accomplishment.

Limitations

Although the study provided a number of important and new results, the study had some methodological limitations. CHi only questioned professionals in Flanders. So the population of the survey was not representative for the total Belgian population.

The prevalence of burnout and the impact of demographic and job variables was investigated, but no conclusions concerning the possible causes of these burnout symptoms,

neither conclusions concerning the prevention of burnout in oncology, can be drawn based on this study. More research should be performed on the factors that can cause and prevent burnout.

Despite these limitations, the study had several strengths. This is the first multicentre study in Belgium on burnout in oncology. The response rate was very high. A wide variety of oncology professionals (physicians, psychologists, social workers, nurses, and specialist-nurses) participated in the study, which shows the impact of discipline on the development of burnout.

Conclusions

These findings have an impact on the daily clinic of oncology. More attention should be paid to early indications of burnout in care givers. The prevalence of burnout characteristics in the research sample highlights the need for action to be taken in prevention and treatment of burnout symptoms in oncology staff.

Management of hospitals and policy makers need to be aware that oncology professionals have much endure and should think about prevention and support of burnout symptoms. International studies show that training and education in communication and other psychosocial skills in oncology is an efficient tool in the prevention of burnout [17,21,45,46]. Also, the effects of a team-based intervention program, combining staff support group with participatory action research approach, have been proven [10,47,48].

The contagious effect of burnout should be taken into account [42,43].

The support and training should differ for the different disciplines. The study of Kovács showed that to achieve results in an intervention program for nurses, the focus should be on stressors and emotional dissonance [49], whereas for physicians, interventions should aim on coping with work requirements and on display and regulation of negative emotions.

Interventions can also be focused on job engagement, the positive antithesis of burnout [50].

It would also be very interesting to examine the prevalence of symptoms of the post-traumatic stress syndrome in oncology. The consequent confrontation with cancer and with the suffering and dying could cause vicarious traumatization [8,51,52]. Little research is performed on this subject, none in Flanders or Belgium.

Appendix A

Maslach Burnout Inventory Scales

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