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Suicidal behavior in a nationwide cross-sectional study of veterinarians in Norway (The NORVET study): individual and work-related factors

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TITLE PAGE:**TITLE**

Suicidal behavior in a nationwide cross-sectional study of veterinarians in Norway (The NORVET study): individual and work-related factors

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ABSTRACT

Objectives: To investigate the self-reported level, contributing factors and independent factors associated with suicidal behavior among veterinarians in Norway.

Design: Cross-sectional, nationwide survey.

Participants: Of the eligible sample of 3464 veterinarians, 2596 responses were received (response rate: 75 %).

Main outcome measure: Paykel's five-item questionnaire about suicidal behavior.

Results: In total, 27 % of veterinarians in Norway felt that life was not worth living during the last year, 5 % had serious suicidal thoughts, and 0.2 % had attempted suicide. Female veterinarians reported significantly higher levels of suicidal feelings and thoughts than their male colleagues. For example, women had nearly twice the level of serious suicidal thoughts as their male colleagues (6.1 % vs. 3.6 %, chi-square 6.5, $p < 0.001$). Independent factors associated with serious suicidal thoughts were being single (OR = 1.76, 95 %CI 1.14-2.71, $p < 0.05$), negative life events (OR = 1.43, 95 %CI 1.22-1.67, $p < 0.001$), and the presence of mental distress (OR = 2.75, 95 %CI 2.11-3.44, $p < 0.001$). The veterinarians related their serious suicidal thoughts to work and personal problems, and a lesser degree to family, social, and other problems. Nearly twice as many women (53 %) as men (28 %) reported work problems as the most important contributing factor to their serious suicidal thoughts (chi-square: 4.99, $p = 0.03$). A total of 4 % reported work problems as the only factor of importance.

Conclusions: Veterinarians in Norway have relatively high levels of suicidal feelings and thoughts, including serious suicidal thoughts. In the multivariate analyses, the individual factors were more important than the work-related ones, while work problems were the most reported contributing factor to serious suicidal thoughts by the veterinarians themselves. The role of gender and specific work-related factors should be further investigated to better understand the complexity of suicidal behavior among veterinarians.

Keywords: Veterinarians – suicidal behavior – mental distress – personality traits –

ARTICLE SUMMARY – STRENGTHS AND LIMITATIONS OF THIS STUDY

Strengths:

- Nationwide study of suicidal behavior in veterinarians, in all main fields of work.
- High response rate (75 %).
- Extensive questionnaire.

Limitations:

- Cross-sectional design.
- Possible limited generalizability, due to differences in organization of work life in other countries.

INTRODUCTION

Several studies have shown increased suicide rates among veterinarians. A review from 2010 found elevated suicide rates in all but one of the 15 studies published at the time.¹ Recent studies have also indicated increased raised suicide rates in the profession.²⁻⁴ Furthermore, three recent studies found a higher prevalence of suicidal ideation among veterinarians than the general population.⁵⁻⁷

There is little knowledge about the contribution of individual and work-related factors to suicidal behavior in veterinarians. In a systematic review from 2012, which included 52 papers, the authors highlighted the paucity of research that investigated the factors that contribute to suicide among veterinarians, and that many of the studies were of poor quality.⁸ In an interview study with veterinarians with a history of suicidal behavior, Platt et al. found that being a veterinarian contributed to their suicidal behaviour; they emphasized patient issues, responsibility, and poor work/life balance.⁹ It has been suggested that suicidal ideation among veterinarians is linked to the demanding nature of their work.¹⁰ Dealing with bereaved clients (i.e. animal owners) has been shown to impact the mental health of veterinarians,¹¹ and an interview study found that attachment loss and trauma contributed to both depression and suicidality.¹² A recent qualitative study investigating occupational stress among veterinarians found that preoccupation, self-doubt, conflicting responsibilities (care of animals/human clients/financial demands), and insufficient support were important factors of job stress.¹³ When searching for independent work-related factors that may be associated with suicidal behavior, it is important to control for known individual factors linked to such behavior. These include having no partner,^{14 15} negative life events,¹⁶ anxiety symptoms, depressive symptoms,^{15 17} personality problems,^{18 19} and the problematic use of alcohol.¹⁷

The gender balance among veterinarians has changed significantly over the past decades, from 66 % male veterinary students in Norway in 1980 to only 16 % in 2020 (personal communication, Ann Kristin Egeli, and Norwegian University of Life Sciences, June 22nd, 2021). As of June 2021, 69 % of veterinarians holding authorization in Norway were women (personal communication, Bente N. Reve, and The Norwegian Food Safety Authority, July 12th 2021). The gender shift in the profession corresponds to that in several other countries.²⁰⁻²² Studies have shown that being female and of younger age increases the risk of serious psychological distress as a veterinarian.^{7 8 11} The prevalence of psychological distress, such as anxiety symptoms and depressive symptoms, is also higher among female veterinarians.^{5 11 23}

Furthermore, there is substantial evidence that certain personality traits may increase the risk of suicide.^{19 24} Reality weakness, a deviant trait including chronic illusions, paranoid traits, identity-insecurity, and relational problems,²⁵ has demonstrated predictive validity in Norwegian medical

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3 doctors regarding the aggravation of suicidal ideation.¹⁸ Reality weakness is a significant predictor of
4 serious suicidal ideation in other occupational groups as well.^{26 27}
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7 Over the last decades, the veterinary profession has turned from agriculture and food-producing
8 animal medicine to an increasing proportion working with companion animals. Two US studies have
9 found a higher suicide rate among companion animal practitioners compared to other
10 specializations,^{3 28} and it has been shown that veterinarians in this field more often reported suicidal
11 thoughts than other veterinarians.²⁹ Thus, attention is required in the different fields of veterinary
12 medicine.
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18 Few studies have investigated the direct association and contribution of individual and work-related
19 factors to suicidal behavior. Therefore, we investigated the following questions:
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- 22 (1) What is the level of suicidal behavior among veterinarians in Norway, and are there any gender
23 differences?
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25 (2) What do veterinarians in Norway regard as contributing factors to their serious suicidal thoughts?
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27 (3) What are the independent individual and work-related predictors for serious suicidal thoughts?
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32 **METHODS**

33 **Sample**

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35 The sample included all veterinarians in Norway, holding valid authorization as of May 2020 (n = 4256),
36 according to information retrieved from the Norwegian Food Safety Authority. We excluded
37 veterinarians for the following reasons: no residential address in Norway (n = 527), current address
38 unknown (n = 196), those working abroad (n = 62) and those who were deceased (n = 7). This resulted
39 in an eligible sample of 3464 veterinarians.
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48 **Questionnaire**

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50 A questionnaire of 12 pages, an information sheet and a reply-paid envelope were distributed by
51 surface mail in November 2020. The information sheet included contact information to a psychiatrist
52 in the research group and the colleague-support of the Norwegian Veterinary Association. Two
53 reminders were sent in January and February 2021, respectively. Five gift cards from a sports shop
54 were placed in a draw for respondents as incentives to increase the response rate. An external
55 company managed both the data collection and prize awards. Respondents returned their
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3 questionnaires in a sealed envelope, and the identities of the respondents were unknown to the
4 researchers throughout.
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7 The Regional Committee for Medical and Health Research Ethics South-East C (132704), and the
8 Norwegian Centre for Research Data (674793) approved this study.
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11 12 13 14 **Instruments – dependent variable**

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16 Paykel's questionnaire about suicidal thoughts and attempts was the dependent variable in this
17 study.³⁰ It is a five-item instrument developed to study suicidal feelings in the general population.
18 The items represent increasing severity, from unspecific suicidal feelings to actual suicide attempt.
19 Previous studies on several professions in Norway have validated this instrument.^{14 15 26 27 31} The five
20 items have the following wording: 1. 'Have you ever felt that life was not worth living?'
21 2. 'Have you ever wished you were dead – for instance, that you could go to sleep and not wake up?'
22 3. 'Have you ever thought of taking your life, even if you would not really do it?' 4. 'Have you ever
23 reached the point where you seriously considered taking your life, or perhaps made plans how you
24 would go about doing it?' 5. 'Have you ever made an attempt to take your life?' Question four was
25 slightly altered in the Norwegian translation, to: "... and even made plans...", reinforcing the
26 seriousness in this statement.¹⁵ The responses to each question were never, hardly ever, sometimes
27 or often. The preceding year's suicidal thoughts and attempts were investigated in the present study.
28 For questions 4. and 5., an additional question was asked: 'To what extent do you think the following
29 factors influenced you to consider taking your life', with five response categories.
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44 **Independent variables – individual factors**

45 The personality trait *reality weakness* was measured using the nine-item reality weakness dimension
46 of Torgersen's Basic Character Inventory (BCI).³² Each item had a dichotomous ('agree'/'do not
47 agree') response, with a total sum score from 0 to 9. BCI-Reality weakness is an original, deviant trait
48 related to perceptions and ideations on the borderline between reality and fantasy; this dimension
49 also measures chronic illusions, paranoid traits, and traits related to severe personality disorders.^{25 33}
50 Examples of items are 'I feel lonely most of the time' and 'Sometimes I feel I am not myself'. This
51 measure has previously been validated to predict emotional disturbance, such as serious suicidal
52 thoughts, severe depression, and lack of help-seeking among physicians.³³
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3 The Norwegian Centre for Research Data claimed the use of age intervals to keep the data as
4 unidentifiable as possible. Therefore, *age* was reported in the following intervals: 20-25, 26-30 (...) up
5 to 66-70 and >70 years. In this study, *marital status* was dichotomized into married/cohabitant and
6 single/divorced/separated/widow(er) (coded 0 and 1, respectively).
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10 *Life events during the last 12 months* were measured by 17 items, previously used by among others,
11 Tyssen et al.,^{15 34} and adapted to veterinarians. The adaptations were mainly linguistic and included
12 the removal of items specific to physicians. All items were coded as 0 or 1, and the variable
13 comprised the sum score of all items. To test the effects on serious suicidal thoughts, we used the
14 weighted total score of all items significantly associated with such thoughts.
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20 *Mental distress (anxiety symptoms and depressive symptoms)* in the last 14 days was measured using
21 SCL-5, a five-item version of the Symptom Check List-25.³⁵ This five-item version is based on a factor
22 analysis by Tambs and Moum,³⁶ and contains questions about how much one is bothered by the
23 following: 1. 'Feeling fearful', 2. 'Nervousness or shakiness inside', 3. 'Feeling hopeless about the
24 future', 4. 'Feeling blue', 5. 'Worrying too much about things'. Each item was measured on a scale
25 from 1 to 5 from 'not at all' to 'very much'. The sum score is used to indicate the level of mental
26 distress. This version has been validated in medical students and physicians in Norway.^{37 38}
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32 *Alcohol to cope* was measured by a single item originally used in national surveys in the USA.³⁹ The
33 item is: 'When you feel worried, tense, or nervous, do you ever drink alcoholic beverages to help you
34 handle things?' The alternatives were 'never', 'seldom', 'now and then' and 'often'. In the analyses,
35 responses were dichotomized into 0 'Never' and 1 'Any frequency', as validated in previous
36 Norwegian studies.⁴⁰⁻⁴² The reason for dichotomizing the response was for cultural purposes and we
37 wanted a clear distinction between drinking to cope with tension or not, as accounted for in detail
38 elsewhere.⁴⁰
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48 **Independent variables – work-related factors**

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50 *The main fields of work* were reported as 'companion animal practice', 'production animal practice',
51 'mixed clinical practice', 'equine practice', 'aquaculture', 'public administration',
52 'academia/researcher', 'pensioners' and 'others'. Those who classified themselves as pensioners
53 were excluded from the logistic regression analyses, because work-related factors were included in
54 the model.
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3 *Job stress* was measured by a modified version of Cooper's Job Stress Questionnaire,^{43 44} with minor
4 adaptations to veterinarians' work conditions. These adaptations were mainly linguistic, but some
5 items specific to the veterinary profession were added (as 'cross pressure between economy/animal
6 welfare/ethics'). A factor analysis (principal component with varimax rotation, including scree plot
7 evaluation) identified three job stress factors: *emotional demands*, *work/life balance*, and *fear of*
8 *complaints/criticism*. The first factor, *emotional demands* (Cronbach's alpha=0.87), contained six
9 items: 1. 'Daily contact with dying and critically ill animals', 2. 'Taking care of terminally ill animals
10 and their owners', 3. 'Taking care of suffering animals', 4. 'Requests about animals from friends and
11 family', 5. 'Requests about animals from relatives', and 6. 'Emotional involvement with patients'. The
12 second factor, *work/life balance* (Cronbach's alpha=0.86), consisted of five items: 1. 'Work affects
13 family life', 2. 'Managing a balance between work and personal life', 3. 'Work affects social life', 4.
14 'Time pressure', and 5. 'Interruptions and nagging at work'. The third factor, *fear of*
15 *complaints/criticism* (Cronbach's alpha=0.88), consisted of three items: 1. 'Worries about complaints
16 from animal owners/customers', 2. 'Animal owners/customers do not appreciate your work', and 3.
17 'Dealing with challenging animal owners/customers'.
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32 **Patient and Public Involvement**

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34 The Norwegian Veterinary Association appointed a reference group for this project consisting of
35 seven veterinarians from each of the professional subgroups: Small Animal-, Equine-, Production
36 Animal and Aquaculture Veterinary Association, and the Association of Veterinarians in Public Health
37 Medicine, the Veterinary Students' association and the Pensioners' Association. These veterinarians
38 contributed with valuable input both to the design of the questionnaire, hypotheses, and aims of the
39 present study.
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48 **Statistics**

49 SPSS version 27 and StataSE 16 were used for the statistical analyses. The χ^2 test was used to test for
50 group differences. Simultaneous effects were analyzed through hierarchical logistic regression with
51 blockwise analyses to separate the effects of individual and work-related factors. The level of
52 significance was set at 0.05. To investigate gender-specific effects, we entered two-way interaction
53 terms between gender and the other independent variables in separate analyses with the main
54 effect included in the equations. Missing values were coded as 'system missing'.
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RESULTS

Demographics

Of the 3464 eligible participants, we received 2596 responses, resulting in a response rate of 75 %.

The most frequently reported age category was 41 – 45 years of age. The age varied between genders, with a higher proportion of younger women, and the majority of men were older than 50 years (Figure 1). In total, 69 % were female and 31 % male (Table 1), which is an accurate reflection of the actual gender distribution of veterinarians in Norway.

Insert Figure 1 (age distribution) about here.

Table 1 – Description of sample

Variable	Range of values	Frequency (%)	Mean (SD)
Gender			
Female		1776 (69.6 %)	
Male		776 (30.4 %)	
Age			
20-30		274 (10.8 %)	
31-40		697 (27.4 %)	
41-50		667 (26.2 %)	
51-60		432 (16.9 %)	
61-70		318 (12.5 %)	
>70		159 (6.2 %)	
Marital status			
Married/cohabiting		1962 (78 %)	
Single/divorced/widow(er)		552 (22 %)	
Life events	0-9		0.54 (0.89)
SCL-5	1-5		2.00 (0.98)

Reality weakness	0-9		1.38 (1.85)
Alcohol to cope			
Never		1769 (71 %)	
Any frequency		722 (29 %)	
Main field of work			
Companion animal practice		802 (31.8 %)	
Public administration		402 (15.9 %)	
Mixed clinical practice		268 (10.6 %)	
Academia/research		202 (8.0 %)	
Production animal practice		177 (7.0 %)	
Aquaculture		121 (4.8 %)	
Equine practice		102 (4.0 %)	
Other		250 (9.9 %)	
Pensioner		198 (7.9 %)	
Job stress			
Emotional demands	6-30		11.9 (4.7)
Work/life-balance	5-25		13.3 (4.9)
Fear of complaints	3-15		9.2 (3.5)
Connection to work-life			
Employed		1561 (63.0 %)	
Self-employed		573 (23.1 %)	
Other		217 (8.8 %)	
Two or more connections to work life		127 (5.1 %)	
Position type			
Permanent position		2023 (88.1 %)	
Temporary position		70 (3 %)	

Temporary educational position		50 (2.2 %)	
Other		153 (6.7 %)	
Working full-time		1922 (81.1 %)	
Frequency of working overtime (weekly or bi-weekly)		1550 (67.9 %)	

Level of suicidal behavior during the last year

27 % of the veterinarians reported that they felt that life was not worth living, 20 % had thought of suicide, even though they knew that they would not do it, 5 % reported that they had serious suicidal thoughts, and six persons (0.2 %) had attempted suicide (Table 2). Female veterinarians reported significantly higher levels of suicidal feelings and thoughts than male colleagues. This gender difference remained throughout all items; for serious suicidal thoughts; women had nearly twice as high levels as their male colleagues (6.2 % vs. 3.6 %, chi-square: 6.5, p=0.011).

Table 2 – Prevalence of suicidal feelings and thoughts among veterinarians in Norway according to gender

Item	All	Men	Women	Total n for each item	χ^2 and p-value
^{1.} Felt life was not worth living	682 (26.6 %)	148 (19.3%)	522 (29.7%)	2567	29.4, p<0.001
^{2.} Wished you were dead	498 (19.4 %)	96 (12.5%)	394 (22.5%)	2565	33.6, p<0.001
^{3.} Thoughts of taking life	503 (19.6 %)	102 (13.3%)	391 (22.3%)	2565	26.9, p<0.001

4.	Seriously considered taking your life	139 (5.4 %)	28 (3.6%)	108 (6.2%)	2562	6.5, p=0.011
5.	Made a suicide attempt	6 (0.2 %)	1 (0.1%)	5 (0.3%)	2537	NA

Not all veterinarians reported gender (n=2554). This leads to a difference in total sum for men + women compared to "all."

Self-reported factors contributing to serious suicidal thoughts

Among the veterinarians reporting serious suicidal thoughts (n=139), work problems were the most frequently reported contributing factor (48 %), followed by personal problems (37 %) (Table 3). The only significant gender difference was regarding work problems, with nearly twice as many women (53 %) as men (28 %) reporting work problems as the most important contributing factor to their serious suicidal thoughts (chi-square: 4.99, p = 0.03, Fisher's exact), and 4.3 % reported work problems as the only factor of importance.

Table 3 - Contributing factors to serious suicidal thoughts among veterinarians in Norway

	Not at all + A little + Somewhat			Quite a bit + Very much			Total n
	N (%)			N (%)			
	Total	Men	Women	Total	Men	Women	
Personal problems	84 (63.2%)	17 (65.4%)	67 (63.8%)	49 (36.8%)	9 (34.6%)	38 (36.2%)	133
Family problems	91 (68.4%)	19 (79.2%)	72 (67.9%)	42 (31.6%)	5 (20.8%)	34 (32.1%)	133
Social problems	108 (81.2%)	21 (84.0%)	86 (81.1%)	25 (18.8%)	4 (16.0%)	20 (18.9%)	133
Work problems	70 (51.9%)	18 (72.0%)	51 (47.2%)	65 (48.1%)	7 (28.0%)	57 (52.8%)	135

Other problems	90 (72.6%)	20 (83.3%)	70 (71.4%)	34 (27.4%)	4 (16.7%)	28 (28.6%)	124
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Item four of Paykel's questionnaire was answered by n= 2562 veterinarians (men=766, women=1754). The question was answered positively by n=139 (see Table 1).

Multiple logistic regression of predictors of serious suicidal thoughts

Being single, negative life events, anxiety symptoms and depressive symptoms, reality weakness, use of alcohol to cope, and the three job stress factors were significant unadjusted (crude) predictors (see Table 4). In the adjusted model, the significant predictors were being single, negative life events, and mental distress. There was no gender effect. No significant effect was found within the different fields of work or any of the three job stress factors in the adjusted model (Table 4).

An additional multivariate analysis was conducted, similar to the multivariate analysis in the previous sub-section, but without the variables *reality weakness* and *mental distress*. When processing the individual and work-related factors without the two variables of reality weakness and mental distress, the significant predictors were being single, negative life events, use of alcohol to cope with tension, and all three job stress factors: *emotional demands*, *work/life balance*, and *fear of complaints/criticism* (OR = 2.17, 95 % CI 1.44-3.27 for single status, OR = 1.61, 95 %CI 1.39-1.86 for negative life events, OR = 1.52, 95 % CI 1.02-2.27 for alcohol to cope, OR = 1.05, 95 %CI 1.00-1.10 for emotional demands, OR = 1.08, 95 % CI 1.03-1.13 for work/life balance, and OR = 1.08, 95 %CI 1.00-1.16 for fear of complaints). This means that all the job stress factors were probably confounded by mental distress and reality weakness, and they may explain both job stress and serious suicidal thoughts. (Table 4).

Table 4 – Predictors of serious suicidal thoughts among veterinarians in Norway

	Crude		Adjusted	
	OR	95 % CI	OR	95 % CI
Female	1.55	0.999 to 2.401	0.88	0.49 to 1.57
Age	0.93	0.86 to 1.00	1.11	0.996 to 1.235
Single	2.38***	1.65 to 3.43	1.76*	1.13 to 2.72
Negative life events ¹	1.78***	1.55 to 2.04	1.43***	1.22 to 1.68
SCL-5	3.08***	2.61 to 3.64	2.75***	2.14 to 3.52
Reality weakness	1.47***	1.37 to 1.59	1.10	0.99 to 1.22
Alcohol to cope	2.14***	1.51 to 3.04	1.09	0.72 to 1.67
Main field of work (ref. category=				

mixed clinical practice)				
Companion animals	1.38	0.74 to 2.57	1.01	0.50 to 2.06
Production animals	1.28	0.56 to 2.94	1.97	0.77 to 5.05
Equine practice	1.21	0.45 to 3.28	1.02	0.32 to 3.26
Aquaculture	1.01	0.37 to 2.73	1.07	0.32 to 3.61
Public administration	1.08	0.53 to 2.20	1.15	0.49 to 2.71
Academia/research	1.12	0.49 to 2.56	1.07	0.39 to 2.99
Other	0.82	0.35 to 1.91	0.70	0.24 to 2.02
Job stress				
Emotional demands	1.12***	1.08-1.16	1.02	0.97 to 1.07
Work/life-balance	1.13***	1.09-1.17	1.00	0.95 to 1.05
Fear of complaints	1.18***	1.11-1.25	1.01	0.93 to 1.09

¹The variable life events was entered into the model as a weighted variable ('Negative life events'), comprising the sum score of life events that was significant in a univariate model with the dependent variable.

*P<0.05

**P<0.01

***P<0.001

We found significant interactions between gender and negative life events ($p = 0.015$), with clearly steeper gradients for females. There was also an interaction between gender and work/life balance ($p = 0.026$), and the increase in suicidal thoughts with higher work/life imbalance was stronger among males than among females.

DISCUSSION

The main finding of this study was that more than one-fourth of the veterinarians in Norway felt that life was not worth living during the last year, 5 % had serious suicidal thoughts, and 0.2 % had attempted suicide. Female veterinarians reported significantly more suicidal feelings and thoughts than their male colleagues. Independent factors associated with serious suicidal thoughts were being single, negative life events, and mental distress. The veterinarians considered their serious suicidal thoughts mainly as work and personal problems, and to a lesser degree, family, social, and other problems.

Furthermore, veterinarians reported both suicidal feelings and serious suicidal thoughts more frequently (26.6 % and 5.4 %, respectively) than physicians (16.6 % and 2.6 %, respectively),¹⁴ and police (8.9 % and 1.7 %, respectively)²⁶ in Norway. Furthermore, veterinarians regarded work problems as the most important contributing factor, which suggests that work factors play a more important role in suicidal thoughts in veterinarians than in physicians. A previous study found that physicians most frequently regarded personal and family problems as the most important factors.¹⁴

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3 Regarding suicide attempts, veterinarians had levels (0.2%) comparable to those of physicians and
4 police (0.3% and 0.1%, respectively).^{14 26}
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7 The relatively high levels of suicidal feelings and thoughts concur with findings among veterinarians
8 in other countries. Two studies used "National Survey of Psychiatric Morbidity",^{5 45} an item originally
9 sourced from Paykel's instrument.³⁰ These items use the same wording for items one and three,
10 which makes comparison possible. Suicidal feelings among veterinarians in Norway were slightly
11 higher (26.6%) than among those in the UK (23.0%)⁴⁵ and Canada (17.9%),⁵ whereas suicidal thoughts
12 were at the same level (19.6%, 21.3%, and 19.4%, respectively). However, veterinarians in Canada
13 reported higher levels (17.0%) of serious suicidal thoughts than in Norway (5.4%), which is probably
14 due to the reporting period in the Canadian survey being 'since the start of veterinary education',
15 while in the present study, the reporting period was the preceding year.
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23 Moreover, like female physicians,¹⁴ female veterinarians had higher levels of suicidal feelings and
24 thoughts than their male colleagues. Gender differences were present in the contributing factors, as
25 female veterinarians reported work problems more frequently than men. Veterinarians consider
26 work problems more important than physicians. It may be speculated that this, in part, may be
27 explained by the fact that veterinarians in Norway have less undergraduate training in
28 communication, psychology and coping skills, and experience more professional isolation.
29 Additionally, animal health care poses a cost issue (in Norway, human health care costs are funded
30 by tax revenues), resulting in cross pressure for veterinarians at the intersection of animal welfare,
31 costs, and ethics. Conflicting responsibilities in the veterinary profession may be an overarching
32 theme contributing to significant stress among veterinarians.¹³
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41 Today, approximately 70 % of veterinarians in Norway are female, and this proportion is expected to
42 increase. There was no significant effect of gender in the adjusted model. This may be because age
43 was highly correlated with the female gender. Females reported significantly higher levels of suicidal
44 behavior than males. Furthermore, females regarded work problems as the factor that contributes
45 the most to their serious suicidal thoughts. Being single and experiencing negative life events
46 predicted serious suicidal thoughts in the present study (76 % and 43 % higher odds, respectively).
47 These findings are consistent with studies on physicians and others.^{14 15 18} In contrast to physicians,
48 where family and relationship issues were the most significant negative life events,¹⁴ economic
49 problems (OR = 10.88, 95 % CI 5.20-22.78, p<0.001) were the most significant negative life event for
50 veterinarians. This also supports the hypothesis that there are other factors associated with suicidal
51 thoughts among veterinarians than with physicians and that economic concerns are more important
52 with veterinarians. In fact, in a recent qualitative study from Australia, veterinarians were asked what
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3 they would do if they could change something in the profession, and the most common response
4 was to remove money from the decision-making process.¹³ Contrary to the findings in a recent
5 review,¹⁶ experiencing negative life events had a greater impact on serious suicidal thoughts among
6 women than among men. Furthermore, work/life balance had a greater impact on serious suicidal
7 thoughts among men than among women. These findings warrant further research.
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12 Research on veterinarians and alcohol use is scarce,^{8,46} and the finding that the use of alcohol to cope
13 with tension was significant in the univariate model warrants further research. In a study examining
14 drug-caused deaths in Australia, veterinarians were the group with the highest prevalence of alcohol
15 detected in post-mortem examinations.⁴⁷ Another recent study found that veterinarians who turned
16 to alcohol to cope with their work-related stress were more likely to have suicidal thoughts.¹⁰
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21 There was no significant effect on serious suicidal thoughts regarding the main field of work, neither
22 in the univariate nor in the adjusted model. Subsequently, all job stress factors were significantly
23 associated with serious suicidal thoughts in the univariate model, but not in the adjusted model.
24 However, in the additional analyses, the use of alcohol to cope with tension and all three job stress
25 factors remained significant before entering reality weakness and mental distress in the model.
26 Although previous studies have suggested that work-related stress influences suicide risk in
27 veterinarians,⁴⁸ longitudinal research design may further elaborate on the role of mediating and
28 confounding effects. The findings of *emotional demands*, *work/life balance*, and *fear of*
29 *complaints/criticism* as important job stress factors concur with previous research. It has been
30 suggested that work conditions that are emotionally exhausting for veterinarians may foster suicidal
31 thoughts,¹⁰ and that poor work/life balance contributes to suicidal behavior.⁸ Moreover, the fear of
32 complaints or litigation has been reported as one of the greatest contributors to stress for
33 veterinarians in a previous study.⁴⁹
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44 Contrary to previous research,^{18,26,27} the personality trait, reality weakness, was not significant in the
45 adjusted model. This may be explained by the high correlation between mental distress and reality
46 weakness. The significance of mental distress on suicidal thoughts was high, with nearly three times
47 increased odds for each step on the item scale. The importance of mental distress, anxiety
48 symptoms, and depressive symptoms with respect to suicidal ideation is consistent with other
49 research, both among medical doctors and others.^{15,17}
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Strengths and limitations

To our knowledge, this is the only nationwide study of suicidal behavior in veterinarians, incorporating all authorized veterinarians, in all main fields of work. A major strength was the high response rate (75 %), making multivariate analyses feasible, and reducing the effect of selection and response biases. Additionally, the questionnaire was quite extensive, allowing the use of a comprehensive predictor model and controlling for several variables. An important limitation is the cross-sectional design, which restricts conclusions about causality. The generalizability of the results may also be limited due to differences in the organization of work life, including workload, in other countries. Nevertheless, we believe the findings are representative of veterinarians in Northern Europe. The study was conducted during the coronavirus-pandemic of 2019 (Covid-19), which may have affected the results. The survey was planned before the pandemic, and any potential effects of Covid-19 (e.g., redundancy, and economic effects in the practices) were not accounted for.

CONCLUSION

In summary, the level of suicidal behavior among veterinarians in Norway is relatively high, and both individual and work-related factors contribute to serious suicidal thoughts. In the multivariate analyses, the individual factors, and particularly mental distress, played a more important role than the work-related factors, while veterinarians themselves regarded work problems as the most contributing factor to their suicidal thoughts. The roles of gender and specific work-related factors should be further investigated to better understand the complexity of suicidal behavior among veterinarians.

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AUTHOR'S CONTRIBUTION TO THE MANUSCRIPT

HSD, RT, and EH designed the study and analyzed the data. HSD wrote the first draft of the manuscript. All authors revised the manuscript and approved the final version of the manuscript. The corresponding author attests that all listed authors meet authorship criteria and that no others meeting the criteria have been omitted. HSD and EH acts as a guarantor.

DATA AVAILABILITY STATEMENT

Data are available upon reasonable request.

COMPETING INTERESTS STATEMENT

None declared.

FIGURE LEGENDS

Figure 1: Age distribution according to gender.

FUNDING STATEMENT

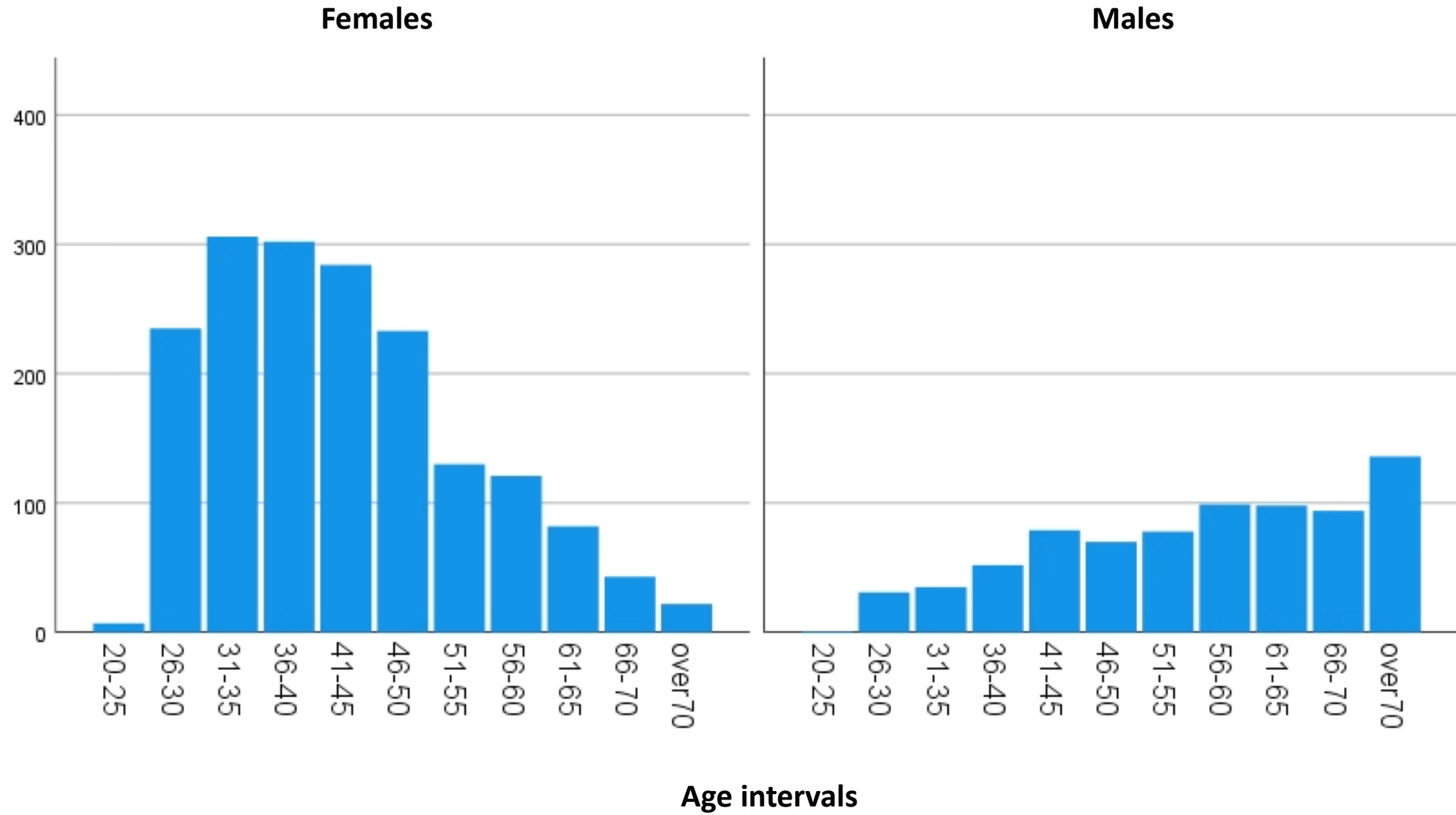
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Gjerdrum, July 23rd 2021

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23 **To Editor-in-Chief Adrian Aldcroft**

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25 We hereby submit the article entitled "Suicidal behaviour in a nationwide cross-sectional study of
26 veterinarians in Norway (The NORVET study): individual and work-related factors" to be considered
27 for publication as original research in BMJ Open.
28

29 Several studies have shown increased suicide rates in veterinarians, but less is known about
30 factors contributing to suicidal behaviour in this profession. The present manuscript is the first based
31 on a nationwide survey among veterinarians. An extensive questionnaire was distributed to all
32 authorized veterinarians in Norway, and the response rate was exceptionally high (75%).
33

34 The manuscript has not been considered for publication nor is it currently under
35 consideration for publication by any other journal.
36

37 The authors received no funding for preparing the manuscript. The authors declare that they
38 have no competing interests. All authors have contributed to the manuscript and approved the final
39 version submitted.
40

41 We hope that this manuscript is of interest for BMJ Open, and we are looking forward to your
42 response.
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47 Sincerely yours,
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STROBE 2007 (v4) Statement—Checklist of items that should be included in reports of *cross-sectional studies*

Section/Topic	Item #	Recommendation	Reported on page #
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	1
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	3
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	5
Objectives	3	State specific objectives, including any prespecified hypotheses	6
Methods			
Study design	4	Present key elements of study design early in the paper	6
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	6
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection of participants	6
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	7-9
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	7-9
Bias	9	Describe any efforts to address potential sources of bias	6
Study size	10	Explain how the study size was arrived at	9
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	7-9
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	9
		(b) Describe any methods used to examine subgroups and interactions	9
		(c) Explain how missing data were addressed	9
		(d) If applicable, describe analytical methods taking account of sampling strategy	NA
		(e) Describe any sensitivity analyses	NA
Results			

Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	NA
		(b) Give reasons for non-participation at each stage	NA
		(c) Consider use of a flow diagram	NA
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	9-10
		(b) Indicate number of participants with missing data for each variable of interest	9-13
Outcome data	15*	Report numbers of outcome events or summary measures	9-13
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	13
		(b) Report category boundaries when continuous variables were categorized	NA
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	NA
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	12
Discussion			
Key results	18	Summarise key results with reference to study objectives	14
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	16
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	14-16
Generalisability	21	Discuss the generalisability (external validity) of the study results	16
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	4

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at www.strobe-statement.org.

BMJ Open

Prevalence and individual and work-related factors associated with suicidal thoughts and behaviors among veterinarians in Norway: a cross-sectional, nationwide survey-based study (the NORVET study)

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Primary Subject Heading:	Epidemiology
Secondary Subject Heading:	Mental health, Occupational and environmental medicine
Keywords:	EPIDEMIOLOGY, MENTAL HEALTH, OCCUPATIONAL & INDUSTRIAL MEDICINE, Suicide & self-harm < PSYCHIATRY

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3 1 **TITLE PAGE:**

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5 2 **TITLE**

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7 3 Prevalence and individual and work-related factors associated with suicidal thoughts and
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9 4 behaviors among veterinarians in Norway: a cross-sectional, nationwide survey-based study
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59 30 references)
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1 **ABSTRACT**

2 Objectives: Several studies have shown increased suicide rates among veterinarians. We investigated
3 the self-reported prevalence of suicidal thoughts and behaviors and contributing and independent
4 factors associated with suicidal thoughts and behaviors among veterinarians in Norway.

5 Design: Cross-sectional, nationwide survey.

6 Participants: 2596 veterinarians in Norway (response rate: 75 %).

7 Main outcome measure: Paykel's five-item questionnaire.

8 Results: In total, 27 % (n=682/2657) of veterinarians in Norway felt that life was not worth living
9 during the last year, 5 % (n=139/2562) had serious suicidal thoughts, and 0.2 % (n=6/2537) had
10 attempted suicide. Female veterinarians reported significantly higher prevalence of suicidal feelings
11 and thoughts than males. For serious suicidal thoughts, women had nearly twice the prevalence as
12 their male colleagues (6.2 % (n=108/1754) vs. 3.6 % (n=28/766), chi-square 6.5, p=0.011).
13 Independent factors associated with serious suicidal thoughts were being single (OR = 1.76, 95 %CI
14 1.13-2.72, p<0.05), negative life events (OR = 1.43, 95 %CI 1.22-1.68, p<0.001), and the presence of
15 mental distress (OR = 2.75, 95 %CI 2.14-3.52, p<0.001). The veterinarians related their serious
16 suicidal thoughts to work and personal problems, and a lesser degree to family, social, and other
17 problems. Nearly twice as many women (53 %, n=57/108) as men (28 %, n=7/25) reported work
18 problems as the most important contributing factor to their serious suicidal thoughts (chi-square:
19 4.99, p=0.03). 4 % (n=6/139) reported work problems as the only factor of importance.

20
21 Conclusions: Veterinarians in Norway have relatively high prevalence of suicidal feelings and
22 thoughts, including serious suicidal thoughts. In multivariable analyses, the individual factors were
23 more important than work-related ones, while work problems were the most reported contributing
24 factor to serious suicidal thoughts by the veterinarians themselves. The role of gender and specific
25 work-related factors should be further investigated to better understand the complexity of suicidal
26 behavior among veterinarians.

27
28 Keywords: Veterinarians – suicidal behavior – mental distress – personality traits –
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3 1 **Strengths and limitations of this study**
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- 5
6 2 • Strengths of our study is the high response rate (75 %), in a nationwide study of suicidal
7 3 behavior in veterinarians, in all main fields of work.
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9 4 • An extensive questionnaire was used, making multivariable analysis feasible.
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11 5 • This is a cross-sectional study, which limits any conclusions regarding causality.
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13 6 • The study possibly has limited generalizability, due to differences in organization of work life
14 7 in other countries.
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For peer review only

1 INTRODUCTION

2 Several studies have shown increased suicide rates among veterinarians. A review from 2010 found
3 elevated suicide rates in all but one of the 15 studies published at the time.¹ Recent studies have also
4 indicated increased suicide rates in the profession.²⁻⁴ Furthermore, three recent studies found a
5 higher prevalence of suicidal ideation among veterinarians than the general population.⁵⁻⁷

6 There is little knowledge about the contribution of individual and work-related factors to suicidal
7 behavior in veterinarians. In a systematic review from 2012, which included 52 papers, the authors
8 highlighted the paucity of research that investigated the factors that contribute to suicide among
9 veterinarians, and that many of the studies were of poor quality.⁸ An interview study found that
10 patient issues, responsibility, and poor work/life balance contributed to suicidal behavior among
11 veterinarians.⁹ It has been suggested that suicidal ideation among veterinarians is linked to the
12 demanding nature of their work.¹⁰ Dealing with bereaved clients (i.e. animal owners) has been shown
13 to impact the mental health of veterinarians,¹¹ and attachment loss and trauma can contribute to
14 both depression and suicidality.¹² Preoccupation, self-doubt, conflicting responsibilities (care of
15 animals/human clients/financial demands), and insufficient support were important factors of job
16 stress among veterinarians in a qualitative study.¹³ When searching for independent work-related
17 factors associated with suicidal behavior, it is important to control for known individual factors.
18 These include having no partner,^{14 15} negative life events,¹⁶ anxiety symptoms, depressive
19 symptoms,^{15 17} personality problems,^{18 19} and the problematic use of alcohol.¹⁷

20 The gender balance among veterinarians has changed significantly over the past decades, from 66 %
21 male veterinary students in Norway in 1980 to only 16 % in 2020 (personal communication, Ann
22 Kristin Egeli, and Norwegian University of Life Sciences, June 22nd, 2021). As of June 2021, 69 % of
23 veterinarians holding authorization in Norway were women (personal communication, Bente N.
24 Reve, and The Norwegian Food Safety Authority, July 12th, 2021). The gender shift in the profession
25 corresponds to that in several other countries.²⁰⁻²² Studies have shown that being female and of
26 younger age increases the risk of serious psychological distress as a veterinarian.^{7 8 11} The prevalence
27 of psychological distress, such as anxiety symptoms and depressive symptoms, is also higher among
28 female veterinarians compared to that among male veterinarians.^{5 11 23}

29 Furthermore, there is substantial evidence that certain personality traits may increase the risk of
30 suicide.^{19 24} Reality weakness is a deviant personality trait including chronic illusions, paranoid traits,
31 identity-insecurity, and relational problems.²⁵ This trait has demonstrated predictive validity in
32 Norwegian medical doctors regarding the aggravation of suicidal ideation.¹⁸ It is a significant
33 predictor of serious suicidal ideation in other occupational groups as well.^{26 27}

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3 1 Over the last decades, the veterinary profession has turned from agriculture and food-producing
4 2 animal medicine to an increasing proportion working with companion animals. Two US studies have
5 3 found a higher suicide rate among companion animal practitioners compared to other
6 4 specializations,^{3,28} and it has been shown that veterinarians in this field more often reported suicidal
7 5 thoughts than other veterinarians.²⁹ Thus, attention is required in the different fields of veterinary
8 6 medicine.

9 7 Few studies have investigated the direct association and contribution of individual and work-related
10 8 factors to suicidal thoughts and behavior. Therefore, we investigated the following questions:

- 11 9 (1) What is the prevalence of suicidal thoughts and behavior among veterinarians in Norway, and are
12 10 there any gender differences?
13 11 (2) What do veterinarians in Norway regard as contributing factors to their serious suicidal thoughts?
14 12 (3) What are the independent individual and work-related predictors for serious suicidal thoughts?
15 13

16 14 **METHODS**

17 15 **Sample**

18 16 The sample included all veterinarians in Norway, holding valid authorization as of May 2020 (n = 4256),
19 17 according to information retrieved from the Norwegian Food Safety Authority. We excluded
20 18 veterinarians for the following reasons: no residential address in Norway (n = 527), current address
21 19 unknown (n = 196), those working abroad (n = 62) and those who were deceased (n = 7). This resulted
22 20 in an eligible sample of 3464 veterinarians.
23 21

24 22 **Questionnaire**

25 23 A questionnaire of 12 pages, an information sheet and a reply-paid envelope were distributed by
26 24 surface mail in November 2020. The information sheet included contact information to a psychiatrist
27 25 in the research group and the colleague-support of the Norwegian Veterinary Association. Two
28 26 reminders were sent in January and February 2021, respectively. Five gift cards from a sports shop
29 27 were placed in a drawing for respondents as incentives to increase the response rate. An external
30 28 company managed both the data collection and prize awards. Respondents returned their
31 29 questionnaires in a sealed envelope, and the identities of the respondents were unknown to the
32 30 researchers throughout. The complete questionnaire in Norwegian can be found as a supplementary
33 31 file ("Supplementary file 1 – Full questionnaire NORVET.pdf").
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3 1 The Regional Committee for Medical and Health Research Ethics South-East C (132704), and the
4
5 2 Norwegian Centre for Research Data (674793) approved this study.
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4 **Instruments – dependent variable**

11
12 5 Paykel's questionnaire about suicidal thoughts and attempts was the dependent variable in this
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14 6 study.³⁰ It is a five-item instrument developed to study suicidal feelings in the general population.
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16 7 The items represent increasing severity, from unspecific suicidal feelings to actual suicide attempt.
17
18 8 Previous studies on several professions in Norway have validated this instrument.^{14 15 26 27 31} The five
19
20 9 items have the following wording: 1. 'Have you ever felt that life was not worth living?'
21
22 10 2. 'Have you ever wished you were dead – for instance, that you could go to sleep and not wake up?'
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24 11 3. 'Have you ever thought of taking your life, even if you would not really do it?' 4. 'Have you ever
25
26 12 reached the point where you seriously considered taking your life, or perhaps made plans how you
27
28 13 would go about doing it?' 5. 'Have you ever made an attempt to take your life?' Question four was
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30 14 slightly altered in the Norwegian translation, to: "... and even made plans...", reinforcing the
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32 15 seriousness in this statement.¹⁵ The responses to each question were never, hardly ever, sometimes
33
34 16 or often. Responses were dichotomized into never (0) and any frequency (1) according to Paykel's
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36 17 original work. The preceding year's suicidal thoughts and attempts were investigated in the present
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38 18 study. For questions 4. and 5., an additional question was asked: 'To what extent do you think the
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40 19 following factors contributed to your consideration of taking your life', with the following factors: 1.
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42 20 Personal problems, 2. Family problems, 3. Social problems, 4. Work problems, 5. Other problems.
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44 21 Each of the factors had five response categories from 'not at all' (1) to 'very much' (5).
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46 22

23 **Independent variables – individual factors**

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48 24 The personality trait *reality weakness* was measured using the nine-item reality weakness dimension
49
50 25 of Torgersen's Basic Character Inventory (BCI).³² Each item had a dichotomous ('agree'/'do not
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52 26 agree') response, with a total sum score from 0 to 9. BCI-Reality weakness is an original, deviant trait
53
54 27 related to perceptions and ideations on the borderline between reality and fantasy; this dimension
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56 28 also measures chronic illusions, paranoid traits, and traits related to severe personality disorders.^{25 33}
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58 29 Examples of items are 'I feel lonely most of the time' and 'Sometimes I feel I am not myself'. This
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60 30 measure has previously been validated to predict emotional disturbance, such as serious suicidal
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32 thoughts, severe depression, and lack of help-seeking among physicians.³³

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3 1 The Norwegian Centre for Research Data claimed the use of age intervals to keep the data as
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5 2 unidentifiable as possible. Therefore, *age* was reported in the following intervals: 20-25, 26-30 (...) up
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7 3 to 66-70 and >70 years. In this study, *marital status* was dichotomized into married/cohabitant and
8
9 4 single/divorced/separated/widow(er) (coded 0 and 1, respectively).

10
11 5 *Life events during the last 12 months* were measured by 17 items, previously used by among others,
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13 6 Tyssen et al.,^{15 34} and adapted to veterinarians. The adaptations were mainly linguistic and included
14
15 7 the removal of items specific to physicians. Examples of life events were 'serious disease or accident',
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17 8 'death of a relative/close friend' and 'serious economical problems'. All items were coded as 0 or 1,
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19 9 and the variable comprised the sum score of all items. To test the effects on serious suicidal
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21 10 thoughts, we used the weighted total score of all items significantly associated with such thoughts.

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23 11 *Mental distress (anxiety symptoms and depressive symptoms)* in the last 14 days was measured using
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25 12 SCL-5, a five-item version of the Symptom Check List-25.³⁵ This five-item version is based on a factor
26
27 13 analysis by Tambs and Moum,³⁶ and contains questions about how much one is bothered by the
28
29 14 following: 1. 'Feeling fearful', 2. 'Nervousness or shakiness inside', 3. 'Feeling hopeless about the
30
31 15 future', 4. 'Feeling blue', 5. 'Worrying too much about things'. Each item was measured on a scale
32
33 16 from 1 to 5 from 'not at all' to 'very much'. The sum score is used to indicate the level of mental
34
35 17 distress. This version has been validated in medical students and physicians in Norway.^{37 38}

36
37 18 *Alcohol to cope* was measured by a single item originally used in national surveys in the USA.³⁹ The
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39 19 item is: 'When you feel worried, tense, or nervous, do you ever drink alcoholic beverages to help you
40
41 20 handle things?' The alternatives were 'never', 'seldom', 'now and then' and 'often'. In the analyses,
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43 21 responses were dichotomized into 0 'Never' and 1 'Any frequency', as validated in previous
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45 22 Norwegian studies.⁴⁰⁻⁴² The reason for dichotomizing the response was for cultural purposes and we
46
47 23 wanted a clear distinction between drinking to cope with tension or not, as accounted for in detail
48
49 24 elsewhere.⁴⁰

25 26 **Independent variables – work-related factors**

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28 27 *The main fields of work* were reported as 'companion animal practice', 'production animal practice',
29
30 28 'mixed clinical practice', 'equine practice', 'aquaculture', 'public administration',
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32 29 'academia/researcher', 'pensioners' and 'others'. Those who classified themselves as pensioners
33
34 30 were excluded from the logistic regression analyses, because work-related factors were included in
35
36 31 the model.

1
2
3 1 *Job stress* was measured by a modified version of Cooper's Job Stress Questionnaire,^{43 44} with minor
4 2 adaptations to veterinarians' work conditions. These adaptations were mainly linguistic, but some
5 3 items specific to the veterinary profession were added (as 'cross pressure between economy/animal
6 4 welfare/ethics'). The veterinarians were asked how much different situations/factors made them
7 5 stressed, with the response alternatives being reported by a five-point Likert type rating scale
8 6 ranging from no stress at all (1) to a source of extreme stress (5). A factor analysis (principal
9 7 component with varimax rotation, including scree plot evaluation) identified three job stress factors:
10 8 *emotional demands*, *work/life balance*, and *fear of complaints/criticism*. The first factor, *emotional*
11 9 *demands* (Cronbach's alpha=0.87), contained six items: 1. 'Daily contact with dying and critically ill
12 10 animals', 2. 'Taking care of terminally ill animals and their owners', 3. 'Taking care of suffering
13 11 animals', 4. 'Requests about animals from friends and family', 5. 'Requests about animals from
14 12 relatives', and 6. 'Emotional involvement with patients'. The second factor, *work/life balance*
15 13 (Cronbach's alpha=0.86), consisted of five items: 1. 'Work affects family life', 2. 'Managing a balance
16 14 between work and personal life', 3. 'Work affects social life', 4. 'Time pressure', and 5. 'Interruptions
17 15 and nagging at work'. The third factor, *fear of complaints/criticism* (Cronbach's alpha=0.88),
18 16 consisted of three items: 1. 'Worries about complaints from animal owners/customers', 2. 'Animal
19 17 owners/customers do not appreciate your work', and 3. 'Dealing with challenging animal
20 18 owners/customers'.

20 **Statistical analysis**

21 SPSS version 27 and StataSE 16 were used for the statistical analyses. Table analyses and the χ^2 test
22 22 were used to test for differences in categorical variables. Controlled effects were reported as odds
23 23 ratios, analyzed through hierarchical logistic regression. The following variables were used as
24 24 predictors of serious suicidal thoughts: gender, age, civil status, negative life events, mental distress,
25 25 reality weakness, use of alcohol to cope, main field of work, and job stress. Initially all independent
26 26 variables were analyzed bivariately with the dependent variable (crude ORs). In the adjusted model,
27 27 all independent variables were entered simultaneously in a logistic regression (adjusted ORs). In
28 28 order to study possible mediating or confounding effects of mental distress and reality weakness, we
29 29 performed an additional multiple regression with leaving out the variables mental distress and reality
30 30 weakness. The level of significance was set at 5 % ($p < 0.05$). To investigate gender-specific effects, we
31 31 entered two-way interaction terms between gender and the other independent variables in separate
32 32 analyses with the main effect included in the equations. Missing values were coded as 'system
33 33 missing'.

1 Patient and Public Involvement

2 The Norwegian Veterinary Association appointed a reference group for this project consisting of
 3 seven veterinarians from each of the professional subgroups: Small Animal-, Equine-, Production
 4 Animal and Aquaculture Veterinary Association, and the Association of Veterinarians in Public Health
 5 Medicine, the Veterinary Students' association and the Pensioners' Association. These veterinarians
 6 contributed with valuable input both to the design of the questionnaire, hypotheses, and aims of the
 7 present study.

9 RESULTS

10 Demographics

11 Of the 3464 eligible participants, we received 2596 responses, resulting in a response rate of 75 %.

12 The most frequently reported age category was 41 – 45 years of age. The age varied between
 13 genders, with a higher proportion of younger women, and the majority of men were older than 50
 14 years. In total, 69 % were female and 31 % male (Table 1), which is an accurate reflection of the
 15 actual gender distribution of veterinarians in Norway. Descriptive statistics for the veterinarians with
 16 serious suicidal thoughts is included as a supplementary file (Supplementary File 2 – Descriptives for
 17 veterinarians with serious suicidal thoughts).

19 Table 1 – Description of sample

Variable	Range of values	Frequency (%)	Mean (SD)
Gender			
Female		1776 (69.6 %)	
Male		776 (30.4 %)	
Age			
20-30		274 (10.8 %)	
31-40		697 (27.4 %)	
41-50		667 (26.2 %)	

	51-60		432 (16.9 %)	
	61-70		318 (12.5 %)	
	>70		159 (6.2 %)	
Marital status				
	Married/cohabiting		1962 (78 %)	
	Single/divorced/widow(er)		552 (22 %)	
Life events	0-9			0.54 (0.89)
SCL-5	1-5			2.00 (0.98)
Reality weakness	0-9			1.38 (1.85)
Alcohol to cope				
	Never		1769 (71 %)	
	Any frequency		722 (29 %)	
Main field of work				
	Companion animal practice		802 (31.8 %)	
	Public administration		402 (15.9 %)	
	Mixed clinical practice		268 (10.6 %)	
	Academia/research		202 (8.0 %)	
	Production animal practice		177 (7.0 %)	
	Aquaculture		121 (4.8 %)	
	Equine practice		102 (4.0 %)	
	Other		250 (9.9 %)	
	Pensioner		198 (7.9 %)	
Job stress				
	Emotional demands	1-5		1.98 (0.79)
	Work/life-balance	1-5		2.67 (0.97)
	Fear of complaints	1-5		3.06 (1.17)

Connection to work-life			
Employed		1561 (63.0 %)	
Self-employed		573 (23.1 %)	
Other		217 (8.8 %)	
Two or more connections to work life		127 (5.1 %)	
Position type			
Permanent position		2023 (88.1 %)	
Temporary position		70 (3 %)	
Temporary educational position		50 (2.2 %)	
Other		153 (6.7 %)	
Working full-time		1922 (81.1 %)	
Frequency of working overtime (weekly or bi-weekly)		1550 (67.9 %)	

Prevalence of suicidal thoughts and behavior during the last year

27 % of the veterinarians reported that they felt that life was not worth living, 20 % had thought of suicide, even though they knew that they would not do it, 5 % reported that they had serious suicidal thoughts, and six persons (0.2 %) had attempted suicide (Table 2). Female veterinarians reported significantly higher prevalence of suicidal feelings and thoughts than male colleagues. This gender difference remained throughout all items; for serious suicidal thoughts; women had nearly twice the prevalence as their male colleagues (6.2 % vs. 3.6 %, chi-square: 6.5, $p=0.011$).

1
2
3 1 Table 2 – Prevalence of suicidal feelings and thoughts among veterinarians in Norway according to
4
5 2 gender
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Item	All	Men	Women	Total n for each item	χ^2 and p- value
1. Felt life was not worth living	682 (26.6 %)	148 (19.3%)	522 (29.7%)	2567	29.4, p<0.001
2. Wished you were dead	498 (19.4 %)	96 (12.5%)	394 (22.5%)	2565	33.6, p<0.001
3. Thoughts of taking life	503 (19.6 %)	102 (13.3%)	391 (22.3%)	2565	26.9, p<0.001
4. Seriously considered taking your life	139 (5.4 %)	28 (3.6%)	108 (6.2%)	2562	6.5, p=0.011
5. Made a suicide attempt	6 (0.2 %)	1 (0.1%)	5 (0.3%)	2537	NA

3 Not all veterinarians reported gender (n=2554). This leads to a difference in total sum for men + women compared to "all."
4
5

6 **Self-reported factors contributing to serious suicidal thoughts**

7 Among the veterinarians reporting serious suicidal thoughts (n=139), work problems were the most
8 frequently reported contributing factor (48 %), followed by personal problems (37 %) (Table 3). The
9 only significant gender difference was regarding work problems, with nearly twice as many women
10 (53 %) as men (28 %) reporting work problems as the most important contributing factor to their
11 serious suicidal thoughts (chi-square: 4.99, p=0.03, Fisher's exact), and 4.3 % reported work problems
12 as the only factor of importance.
13
14
15

1 Table 3 - Contributing factors to serious suicidal thoughts among veterinarians in Norway

	Not at all + A little + Somewhat			Quite a bit + Very much			Total n
	N (%)			N (%)			
	Total	Men	Women	Total	Men	Women	
Personal problems	84 (63.2%)	17 (65.4%)	67 (63.8%)	49 (36.8%)	9 (34.6%)	38 (36.2%)	133
Family problems	91 (68.4%)	19 (79.2%)	72 (67.9%)	42 (31.6%)	5 (20.8%)	34 (32.1%)	133
Social problems	108 (81.2%)	21 (84.0%)	86 (81.1%)	25 (18.8%)	4 (16.0%)	20 (18.9%)	133
Work problems	70 (51.9%)	18 (72.0%)	51 (47.2%)	65 (48.1%)	7 (28.0%)	57 (52.8%)	135
Other problems	90 (72.6%)	20 (83.3%)	70 (71.4%)	34 (27.4%)	4 (16.7%)	28 (28.6%)	124

2 Item four of Paykel's questionnaire was answered by n= 2562 veterinarians (men=766, women=1754). The question was
 3 answered positively by n=139 (see Table 1).

5 **Multiple logistic regression of predictors of serious suicidal thoughts**

6 Being single, negative life events, mental distress, reality weakness, use of alcohol to cope, and the
 7 three job stress factors were significant unadjusted (crude) predictors (Table 4). In the adjusted
 8 model, the significant predictors were being single, negative life events, and mental distress. There
 9 was no gender effect. No significant effect was found within the different fields of work or any of the
 10 three job stress factors in the adjusted model (Table 4).

11 Post hoc, and in order to investigate any confounding or mediating effect of mental distress and
 12 reality weakness on the job stress-variables, we conducted an additional multivariable analysis. This
 13 was similar to the multivariable analysis in the previous sub-section, but without the variables *reality*
 14 *weakness* and *mental distress*. When processing the individual and work-related factors without the
 15 two variables of reality weakness and mental distress, the significant predictors were being single,

1 negative life events, use of alcohol to cope with tension, and all three job stress factors. The results
 2 from the additional analysis can be found in the supplementary material (Supplementary File 3 –
 3 Additional analysis predictor model).

4
 5 Table 4 – Predictors of serious suicidal thoughts among veterinarians in Norway

	Crude		Adjusted ²	
	OR	95 % CI	OR	95 % CI
Female	1.55	0.999 to 2.401	0.88	0.49 to 1.57
Age	0.93	0.86 to 1.00	1.11	0.996 to 1.235
Single	2.38***	1.65 to 3.43	1.76*	1.13 to 2.72
Negative life events ¹	1.78***	1.55 to 2.04	1.43***	1.22 to 1.68
SCL-5	3.08***	2.61 to 3.64	2.75***	2.14 to 3.52
Reality weakness ³	1.47***	1.37 to 1.59	1.10	0.99 to 1.22
Alcohol to cope	2.14***	1.51 to 3.04	1.09	0.72 to 1.67
Main field of work (ref. category= mixed clinical practice)				
Companion animals	1.38	0.74 to 2.57	1.01	0.50 to 2.06
Production animals	1.28	0.56 to 2.94	1.97	0.77 to 5.05
Equine practice	1.21	0.45 to 3.28	1.02	0.32 to 3.26
Aquaculture	1.01	0.37 to 2.73	1.07	0.32 to 3.61
Public administration	1.08	0.53 to 2.20	1.15	0.49 to 2.71
Academia/research	1.12	0.49 to 2.56	1.07	0.39 to 2.99
Other	0.82	0.35 to 1.91	0.70	0.24 to 2.02
Job stress				
Emotional demands	1.12***	1.08-1.16	1.02	0.97 to 1.07
Work/life-balance	1.13***	1.09-1.17	1.00	0.95 to 1.05
Fear of complaints	1.18***	1.11-1.25	1.01	0.93 to 1.09

¹The variable life events was entered into the model as a weighted variable ('Negative life events'), comprising the sum score of life events that was significant in a univariate model with the dependent variable.

*P<0.05

**P<0.01

***P<0.001

²In the adjusted model, all listed variables were adjusted for, i.e., gender, age, civil status, negative life events, SCL-5, reality weakness, use of alcohol to cope, main field of work and the three job stress factors.

³There was a high correlation between SCL-5 and reality weakness (Pearson's R=0.6).

We found significant interactions between gender and negative life events (OR=0.65, 95 % CI 0.46 – 0.92, p=0.015), with clearly steeper gradients for females. There was also an interaction between gender and work/life balance (OR=1.11, 95 %CI 1.01 – 1.22, p=0.026), and the increase in suicidal thoughts with higher work/life imbalance was stronger among males than among females. A figure illustrating the interaction analysis can be found as a Supplementary file (Supplementary file 4-1 and Supplementary File 4-2).

1 DISCUSSION

2 The main finding of this study was that more than one-fourth of the veterinarians in Norway felt that
3 life was not worth living during the last year, 5 % had serious suicidal thoughts, and 0.2 % had
4 attempted suicide. Female veterinarians reported significantly more suicidal feelings and thoughts
5 than their male colleagues. The veterinarians considered their serious suicidal thoughts mainly as
6 work and personal problems, and to a lesser degree, family, social, and other problems. Independent
7 factors associated with serious suicidal thoughts were being single, negative life events, and mental
8 distress.

9 Furthermore, veterinarians reported both suicidal feelings and serious suicidal thoughts more
10 frequently (26.6 % and 5.4 %, respectively) than physicians (16.6 % and 2.6 %, respectively),¹⁴ and
11 police (8.9 % and 1.7 %, respectively)²⁶ in Norway. Furthermore, veterinarians, especially females,
12 regarded work problems as the most important contributing factor to their suicidal thoughts. A
13 previous study found that physicians most frequently regarded personal and family problems as the
14 most important factors for serious suicidal thoughts,¹⁴ which may suggest that self-reported work
15 factors play a more important role in suicidal thoughts in veterinarians than in physicians. Regarding
16 suicide attempts, veterinarians had a prevalence (0.2%) comparable to those of physicians and police
17 (0.3% and 0.1%, respectively).^{14 26}

18 The relatively high prevalence of suicidal feelings and thoughts concurs with findings among
19 veterinarians in other countries. Two studies used “National Survey of Psychiatric Morbidity”,^{5 45} an
20 item originally sourced from Paykel’s instrument.³⁰ These items use the same wording for items one
21 and three, which makes comparison possible. The prevalence of suicidal feelings in the past year
22 among veterinarians in Norway was slightly higher (26.6%) than among those in the UK (23.0%)⁴⁵ and
23 Canada (17.9%),⁵ whereas suicidal thoughts the past year were at the same level (19.6%, 21.3%, and
24 19.4%, respectively). However, veterinarians in Canada reported higher prevalence (17.0%) of serious
25 suicidal thoughts than in Norway (5.4%), which is probably due to the reporting period for serious
26 suicidal thoughts in the Canadian survey being ‘since the start of veterinary education’, while in the
27 present study, the reporting period was the preceding year.

28 Moreover, like female physicians,¹⁴ female veterinarians had higher levels of suicidal feelings and
29 thoughts than their male colleagues. Gender differences were also present in the self-reported
30 contributing factors, as female veterinarians reported work problems more frequently than men.
31 According to our own results and those of others’,¹⁴ work problems are more often considered a
32 contributing factor to suicidal thoughts by veterinarians than by physicians. The perceived impact of
33 work-factors on serious suicidal thoughts may be partly influenced by the fact that veterinarians in

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3 1 Norway have less undergraduate training in communication, psychology and coping skills, and
4 2 experience more professional isolation. Additionally, animal health care poses a cost issue (in
5 3 Norway, human health care costs are funded by tax revenues), resulting in cross pressure for
6 4 veterinarians at the intersection of animal welfare, costs, and ethics. Conflicting responsibilities in
7 5 the veterinary profession may be an overarching theme contributing to significant stress among
8 6 veterinarians.¹³

9
10 7 Today, approximately 70 % of veterinarians in Norway are female, and this proportion is expected to
11 8 increase. There was no significant effect of gender in the adjusted model. This may be because age
12 9 was highly correlated with the female gender. Being single and experiencing negative life events
13 10 predicted serious suicidal thoughts in the present study (76 % and 43 % higher odds, respectively).
14 11 These findings are consistent with studies on physicians and others.^{14 15 18} In contrast to physicians,
15 12 where family and relationship issues were the most significant negative life events,¹⁴ economic
16 13 problems (OR = 10.88, 95 % CI 5.20-22.78, p<0.001) were the most significant negative life event for
17 14 veterinarians. This also supports the hypothesis that there are other factors associated with suicidal
18 15 thoughts among veterinarians than with physicians and that economic concerns are more important
19 16 with veterinarians. In an Australian qualitative study, veterinarians were asked what they would do if
20 17 they could change something in the profession, and the most common response was to remove
21 18 money from the decision-making process.¹³ Contrary to the findings in a recent review,¹⁶
22 19 experiencing negative life events had a greater impact on serious suicidal thoughts among women
23 20 than among men. Furthermore, work/life balance had a greater impact on serious suicidal thoughts
24 21 among men than among women. These findings warrant further research.

25
26 22 Bivariately, drinking to cope was a significant predictor for serious suicidal thoughts, but not in the
27 23 multivariate model. Previous research indicates that alcohol use is a risk factor for suicidal behavior.¹⁷
28 24 Research on veterinarians and alcohol use is scarce.^{8 46} In a study examining drug-caused deaths in
29 25 Australia, veterinarians were the group with the highest prevalence of alcohol detected in post-
30 26 mortem examinations.⁴⁷ Another study found that veterinarians who turned to alcohol to cope with
31 27 their work-related stress were more likely to have suicidal thoughts.¹⁰ In a recent study examining
32 28 different occupational groups in the US Army, there was no significant difference in problem drinking
33 29 in veterinarians, physicians and dentists.⁴⁸ The impact of alcohol regarding to mental health among
34 30 veterinarians warrants further research.

35
36 31 There was no significant effect on serious suicidal thoughts regarding the main field of work, neither
37 32 in the bivariate nor in the adjusted model. Subsequently, all job stress factors were significantly
38 33 associated with serious suicidal thoughts bivariately, but not in the adjusted model. However, in the

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3 1 additional analyses, the use of alcohol to cope with tension and all three job stress factors remained
4 2 significant without reality weakness and mental distress included in the model. The findings of
5 3 *emotional demands, work/life balance, and fear of complaints/criticism* as important job stress
6 4 factors concur with previous research.^{10 8 49} Although previous studies have suggested that work-
7 5 related stress influences suicide risk in veterinarians,⁵⁰ longitudinal research design may further
8 6 elaborate on the role of mediating and confounding effects.

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14 7 Contrary to previous research,^{18 26 27} the personality trait reality weakness, was not significant in the
15 8 adjusted model. This may be explained by the high correlation between mental distress and reality
16 9 weakness. The impact of mental distress on suicidal thoughts was high, with a nearly three times
17 10 increase in odds for each step on the 1-5 scale. The direction of causality obtaining between job
18 11 stress and mental health in this study cannot be unequivocally assessed. On the assumption that job
19 12 stress actually is an effect of mental distress and reality weakness, our results would indicate that the
20 13 effect of job stress factors probably was confounded by mental distress and reality weakness.
21 14 However, if job stress is defined as the underlying causal factor, as posited above, our results would
22 15 indicate that mental distress and reality weakness mediate the effect of job stress. Previous studies
23 16 have found that psychosocial factors in the workplace may play a role for mental health,⁵¹ and that
24 17 individual factors such as stress are related to the way people perceive their jobs.⁵² The importance
25 18 of mental distress with respect to suicidal ideation is consistent with other research, both among
26 19 medical doctors and others.^{15 17}

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37 20 To our knowledge, this is the only nationwide study of suicidal behavior in veterinarians,
38 21 incorporating all authorized veterinarians, in all main fields of work. A major strength was the high
39 22 response rate (75 %), making multivariable analyses feasible, and reducing the effect of selection and
40 23 response biases. Additionally, the questionnaire was quite extensive, allowing the use of a
41 24 comprehensive predictor model and controlling for several variables. An important limitation is the
42 25 cross-sectional design, which restricts conclusions about causality. The generalizability of the results
43 26 may also be limited due to differences in the organization of work life, including workload, in other
44 27 countries. Nevertheless, we believe the findings are representative of veterinarians in Northern
45 28 Europe. The study was conducted during the coronavirus-pandemic of 2019 (Covid-19), which may
46 29 have affected the results. The survey was planned before the pandemic, and any potential effects of
47 30 Covid-19 (e.g., redundancy, and economic effects in the practices) were not accounted for.

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1 2 3 1 **CONCLUSION**

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5 2 In summary, the level of suicidal behavior among veterinarians in Norway is relatively high, and both
6 3 individual and work-related factors contribute to serious suicidal thoughts. In the multivariable
7 4 analyses, the individual factors, and particularly mental distress, played a more important role than
8 5 the work-related factors, while veterinarians themselves regarded work problems as the most
9 6 contributing factor to their suicidal thoughts. The roles of gender and specific work-related factors
10 7 should be further investigated to better understand the complexity of suicidal behavior among
11 8 veterinarians.
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22
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24 12 Animal Veterinary Association, The Aquaculture Veterinary Association, and Oslo & Akershus
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26 14 to collect data for this study. Professors Magne Thoresen and Torbjørn Moum have made substantial
27 15 input to the statistical analyses.
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38 18 **AUTHOR'S CONTRIBUTION TO THE MANUSCRIPT**

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40 19 HSD, RT, and EH designed the study and analyzed the data. HSD wrote the first draft of the
41 20 manuscript. All authors revised the manuscript and approved the final version of the manuscript. The
42 21 corresponding author attests that all listed authors meet authorship criteria and that no others
43 22 meeting the criteria have been omitted. HSD and EH acts as a guarantor.
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51 24 **DATA AVAILABILITY STATEMENT**

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53 25 Data are available upon reasonable request.
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3 1 **COMPETING INTERESTS STATEMENT**
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6 2 None declared.
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11 4 **FIGURE LEGENDS**
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14 5 Supplementary File 4-1 (Interaction between life events and gender): Illustration of the two-way
15 6 interaction between gender and life events (weighted). The life events scale has been divided into
16
17 7 four categories to improve readability of the graph. The gradient is significantly steeper for females
18
19 8 than males.

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21 9 Supplementary File 4-2 (Interactions between work/life-balance and gender): Illustration of the two-
22
23 10 way interaction between gender and work/life-balance. The increase in suicidal thoughts with higher
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25 11 work/life imbalance was significantly stronger among males than among females.
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43 19 no role in the collection, analysis, and interpretation of data, in the writing of the report, and in the
44
45 20 decision to submit the paper for publication. The authors had full access to all the data in this study
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47 21 and take complete responsibility for the integrity of the data and the accuracy of the data analyses.
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NORVET-undersøkelsen

Arbeid, trivsel og mental helse hos veterinærer i Norge

På de fleste spørsmålene skal du angi svar ved å sette et kryss i en rute slik .
Vennligst benytt en penn og sett krysset tydelig i ruten.

Noen steder skal du sette tall eller bokstaver i en eller flere ruter, slik eller slik .

Skjemaene vil bli lest maskinelt, derfor er det viktig at du skriver tydelig i rutene.

Det er svært viktig at du velger å merke av bare ett svaralternativ, der ikke annet fremgår av teksten.
Hvis to alternativer synes like dekkende, bes du velge det ene. Dette vil jevne seg ut på gruppenivå.

Selv om det kanskje er noen spørsmål du synes er mindre viktige, ber vi deg svare likevel.
Det vil bidra til å styrke undersøkelsen.

Det vil være en del spørsmål som blir gjentatt flere ganger i skjemaet. Dette skyldes at de utgjør en integrert del av standardiserte måleinstrumenter. Noen ganger spørres det også om opplysninger for ulike tidsperioder. Dette gjøres for å kunne foreta pålitelige sammenligninger med flere andre grupper, nasjonalt og internasjonalt.

LYKKE TIL, OG PÅ FORHÅND TUSEN TAKK FOR INNSATSEN!

A. BAKGRUNNSOPPLYSNINGER

A1 Kjønn:

- Kvinne
 Mann
 Annen kjønnsidentitet

A3 Nåværende sivilstatus

- Ugift Separert
 Samboende Skilt
 Gift Enke/enkemann

A2 Alder:

- 20-25 26-30 31-35 36-40 41-45 46-50 51-55 56-60 61-65 66-70 >70

Partner

A4 Har du fast partner (kjæreste/samboer/ektefelle)?

- Nei
 Ja

A5 Hvis JA, er din partner i arbeid?

- Nei
 Ja

A6 Hvis JA, er din partner veterinær?

- Nei
 Ja

Barn og familie

A7 Hvor mange barn har du?

- Ingen 1 barn 2 barn 3 eller flere barn

HAR DU I LØPET AV DE SISTE 12 MND. OPPLEVD NOE AV DET FØLGENDE?

- | | | | |
|---|--------------------------|--|--------------------------|
| A8 En alvorlig sykdom eller ulykke | <input type="checkbox"/> | A18 Samlivsproblemer | <input type="checkbox"/> |
| A9 Skilsmisse/separasjon med samboer eller kjæreste | <input type="checkbox"/> | A19 Flyttet fra foreldre | <input type="checkbox"/> |
| A10 Giftet deg/flyttet sammen med samboer | <input type="checkbox"/> | A20 Permisjon | <input type="checkbox"/> |
| A11 Fått barn | <input type="checkbox"/> | A21 Sykefravær 21 dager eller mer | <input type="checkbox"/> |
| A12 Dødsfall familie/nære venner | <input type="checkbox"/> | A22 Du selv har vært involvert i tilsynssak fra tilsynsmyndigheter | <input type="checkbox"/> |
| A13 Andre vansker hos nær familie | <input type="checkbox"/> | A23 Alvorlig sykdom hos et nærtstående familiemedlem (partner/barn/foreldre) | <input type="checkbox"/> |
| A14 Alvorlige økonomiske problemer | <input type="checkbox"/> | A24 Andre alvorlige hendelser Spesifiser: | <input type="checkbox"/> |
| A15 Ektefelle har vært arbeidsløs/permittert | <input type="checkbox"/> | | |
| A16 Alvorlige bomessige problemer | <input type="checkbox"/> | | |
| A17 Du selv, eller noen i nær familie, har vært utsatt for, eller innblandet i, alvorlig lovbrudd | <input type="checkbox"/> | | |

B. ARBEIDSFORHOLD OG ARBEIDSBELASTNING

Hovedstilling

B1 Hvilken tilknytningsform har du til arbeidslivet?

Ansatt Selvstendig næringsdrivende Annet, spesifiser: _____

B2 Har du en lederrolle?

Ja Nei

B3 Hva slags hovedstilling har du nå?

Smådyrpraksis

Produksjonsdyrpraksis

Kombinertpraksis

Hestepraksis

Akvakultur

Offentlig forvaltning

Akademia/forskning

Pensjonist

Annet, eventuelt spesifiser: _____

B3a Hva slags stilling er dette?

Fast stilling

Tidsbegrenset utdanningsstilling

Vikariat Hvis vikariat, fyll inn antall mnd

Annet (samlet lengde)

B3b Jobber du i

Bedrift som er del av kjede Frittstående bedrift

B4 Hvor mange måneder har du vært i din nåværende stilling? I ca. måneder

Arbeidstidsforhold

B5 Hvor mange prosent er din hovedstilling?

Angi prosent:

%

B6 Hvor lang er din fastlagte arbeidstid i timer per uke i din hovedstilling?

timer og minutter pr uke

B7 Hvor mange timer jobber du faktisk i gjennomsnitt pr. uke (inkludert alle stillinger)?

timer

B8 I en gjennomsnittlig arbeidsuke, inkludert ev. bistilling(er), omtrent hvor mange timer pr. uke bruker du på:

1.1 Klinisk arbeid	<input type="text"/> <input type="text"/> timer	1.2 Møtevirksomhet	<input type="text"/> <input type="text"/> timer
1.3 Papirarbeid	<input type="text"/> <input type="text"/> timer	1.4 Telefoner/e-post	<input type="text"/> <input type="text"/> timer
1.5 Reisetid	<input type="text"/> <input type="text"/> timer	1.6 Totalt	<input type="text"/> <input type="text"/> timer

B9 Hvor mange timer overtid har du i gjennomsnitt i din hovedstilling i en vanlig arbeidsuke? (Ikke forlenget arbeidstid eller utrykning på vakt, kun tilfeldig overtid.)

Betalt:

Ubetalt:

timer pr. uke

timer pr. uke

B10 Hvor ofte har du overtidarbeid/forlenget arbeidstid (betalt eller ubetalt)?

- Aldri
- Sjeldnere enn en gang i måneden
- Minst en gang i måneden
- Omtrent annenhver uke
- Hver uke

Bistilling

B11 Har du noen fast bistilling eller ekstrajobb i tillegg til din hovedstilling?

- Nei
- Ja

B12 Hvis du har en bistilling, hvor mange arbeidstimer utgjør denne stillingen gjennomsnittlig pr. uke?

timer pr. uke

Vakter som veterinær

B13 Hvis du har faste vakter ut over normal arbeidstid i din hovedstilling, hva slags vaktordning har du nå?

- Tar ikke faste vakter * 9-delt **Gå til spørsmål B18*
- 2-3-delt 10-delt
- 4-5-delt 11-delt
- 6-7-delt >12-delt
- 8-delt

B14 Hvilken type vaktordning deltar du i?

- Offentlig vakt Privat vakt

B15 Hvis du tar faste vakter ut over normal arbeidstid i din hovedstilling, hvor lange er vaktene?

- Ca 1/2 døgn
- Ca. 1 døgn
- Mer enn 1 døgn
- Annet; hva _____

B16 Ca. hvor mange timer av dine faste vakter tilbringer duAktiv: timer

Har du

Hvilende: timer tilstedevakt eller hjemmevaktSovende: timer**B17 Hvis du har faste vakter, cirka hvor lenge arbeider du dagen etter vakt?** Arbeider ikke rett etter vakt 1-3 timer 4-6 timer 7 timer eller mer**B18 Hvis du har vakter som en del av en bistilling, cirka hvor mange timer av disse vaktene tilbringer du***Hvis du ikke har vakt som del av bistilling, gå til B19*Aktiv: timerHvilende: timer

Har du

Sovende: timer tilstedevakt eller hjemmevakt**B19 Cirka hvor mange avspaseringsuker pr. halvår benytter du til ikke-faglig aktivitet?** Ingen uke 1 uke 2 uker 3 uker 4 uker 5 uker 6 uker eller flere**B20 Dersom du jobber i klinisk praksis, hvor mange avlivinger utfører du omtrent på en vanlig uke?** 0-4 5-9 10-14 15 eller fler

Belastningsfaktorer

I hvilken grad gjør de følgende situasjoner/faktorer deg belastet (stresset)?

Sett ett kryss i den ruten som passer best for deg.

	Ikke noen belastning	Litt belastning	Endel belastning	Mye belastning	Svært mye belastning
B21 Kritikk av veterinærer i media	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B22 Kundene/dyreeierne setter ikke pris på det du gjør	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B23 Bekymring over klager fra kunder/dyreeiere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B24 Å ha ansvar for dyrenes liv 24 timer i døgnet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B25 Telefoner, sykebesøk og utrykning om natten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B26 Å ta seg av vanskelige veterinærmedisinske problemstillinger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B27 Å ta seg av vanskelige kunder/dyreeiere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B28 Krysspress mellom økonomi og dyrevelferd/etikk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B29 Bekymringer knyttet til egen økonomi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B30 Bekymringer knyttet til bedriftens økonomi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B31 Sykejournaler og annet papirarbeid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B32 Kirurgiske inngrep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B33 Arbeidsmiljøet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B34 Tidspress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B35 Jobben går ut over familieliv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B36 Jobben går ut over sosialt liv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B37 Daglig kontakt med døende og kritisk syke dyr	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B38 Å ta seg av dødssyke dyr og deres eiere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B39 Forespørsler om dyr fra venner og bekjente	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B40 Forespørsler om dyr fra slektninger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B41 Være i generell beredskap	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Ikke noen belastning	Litt belastning	Endel belastning	Mye belastning	Svært mye belastning
B42 Følelsesmessig engasjement i dyrene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B43 Forventninger om at veterinæren også skal hjelpe med ikke-medisinske problemer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B44 Avbrytelser og mas i arbeidssituasjonen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B45 Å ta seg av lidende dyr	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B46 Konflikt med kolleger/medarbeidere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B47 Å få til en balanse mellom arbeid og privatliv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Forhold til kolleger

	Ingen grad				I svært høy grad			
B48 I hvilken grad trives du i det store og det hele blant dine kolleger?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B49 I hvor stor grad har du følt deg ivaretatt av dine veterinærkolleger?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Stemmer helt		Stemmer ganske bra		Stemmer ikke særlig bra		Stemmer ikke	
B50 Det er rolig og behagelig stemning på min arbeidsplass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B51 Det er godt samhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B52 Mine arbeidskolleger stiller opp for meg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B53 Det er forståelse for at jeg kan ha en dårlig dag	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B54 Jeg kommer godt overens med mine overordnede*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B55 Jeg trives bra med mine arbeidskolleger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Besvares bare dersom du har en overordnet.

B56 Når du føler deg bekymret, engstelig eller nervøs - drikker du noen gang alkohol for å klare situasjonen bedre?

Aldri Sjelden Av og til Ofte

Vedrørende ditt arbeid

		Meget sjelden eller aldri	Nokså sjelden	Av og til	Nokså ofte	Meget ofte eller alltid
B57	Er det fastsatt klare mål for din jobb?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B58	Vet du hva som er ditt ansvarsområde?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B59	Vet du nøyaktig hva som forventes av deg i jobben?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B60	Må du gjøre ting du mener burde vært gjort annerledes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B61	Får du oppgaver uten tilstrekkelig hjelpemidler og ressurser til å fullføre dem?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B62	Mottar du motstridende forespørsler fra to eller flere personer?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B63	Fordeler din nærmeste sjef arbeidsoppgaver rettferdig og upartisk?*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B64	Behandler din nærmeste sjef de ansatte rettferdig og upartisk?*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B65	Er forholdet mellom deg og din nærmeste sjef en kilde til stress for deg?*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Besvares bare dersom du har en overordnet.

		Ja, ofte	Ja, noen ganger	Nei, sjelden	Nei, så godt som aldri
B66	Krever arbeidet ditt at du arbeider meget raskt?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B67	Krever arbeidet ditt at du arbeider meget hardt?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B68	Krever arbeidet ditt for stor arbeidsinnsats?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B69	Har du tilstrekkelig tid til å utføre arbeidsoppgavene dine?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B70	Forekommer det ofte motstridende krav i arbeidet ditt?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B71	Får du lære nye ting i ditt arbeid?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B72	Krever ditt arbeid dyktighet?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B73	Krever ditt arbeid oppfinnsomhet/kreativitet?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B74	Innebærer ditt arbeid at du gjør samme ting om og om igjen?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B75	Har du frihet til å bestemme hvordan ditt arbeid skal utføres?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B76	Har du frihet til å bestemme hva som skal utføres i ditt arbeid?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C HELSE

Nedenfor finner du en oppstilling av plager som man av og til har.

Les nøye gjennom dem, en for en, og angi deretter hvor mye hvert enkelt problem har plaget deg eller vært til besvær i løpet av de siste 14 dagene

	Ikke i det hele tatt	Litt	Måtelig	Ganske mye	Veldig mye
C1 Nervøsitet, indre uro	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C2 Stadig redd eller engstelig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C3 Følelse av håpløshet med tanke på fremtiden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C4 Mye bekymret eller urolig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C5 Nedtrykt, tungsindig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C6 Hvis du har hatt psykiske problemer i løpet av det siste året, har du da søkt/fått hjelp for dette?

- Ikke hatt psykiske problemer av betydning* *Gå til spørsmål C13
- Har ikke søkt hjelp selv om jeg nok kunne ha hatt behov for det
- Ja, har konsultert allmennlege eller fastlege
- Ja, har konsultert psykolog/psykiater
- Ja, har vært innlagt i psykiatrisk avdeling

C7 Hvis du har vært i kontakt med psykolog/psykiater, hva slags behandling har du fått?

Det er mulig å sette flere klyss

- 1-5 samtaler
- Flere enn 5 samtaler
- Psykoterapi/psykoanalyse
- Gruppeterapi
- Medikamentell behandling

Hvis du har hatt psykiske problemer i løpet av det siste året, i hvilken grad mener du at følgende forhold var medvirkende til at det ble vanskelig for deg?

	Betydde ingenting	Betydde litt	Betydde endel	Betydde ganske mye	Betydde svært mye
C8 Personlige forhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C9 Forhold til familie/ektefelle/partner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C10 Sosiale forhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C11 Problemer i forbindelse med veterinæryrket	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C12 Andre forhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Livsløst

De følgende spørsmål dreier seg om du i løpet av det siste året har mistet livsløsten, og i så fall i hvilken grad?

C13 Har du noen gang i løpet av det siste året følt at livet ikke er verdt å leve?

Aldri Nesten aldri Noen ganger Mange ganger

C14 Har du i løpet av det siste året ønsket at du var død - f.eks. at du skulle sovne inn og aldri våkne igjen?

Aldri Nesten aldri Noen ganger Mange ganger

C15 Har du noen gang i løpet av det siste året tenkt på å ta livet ditt, selv om du vet at du ikke vil gjøre det?

Aldri Nesten aldri Noen ganger Mange ganger

C16 Har du noen gang i løpet av det siste året vært i den situasjonen at du alvorlig har overveiet å ta livet ditt og til og med planlagt hvordan du i såfall skulle gjøre det?

Aldri Nesten aldri Noen ganger Mange ganger

Hvis det har hendt, i hvilken grad mener du de følgende forhold var medvirkende til at det ble så vanskelig for deg?

	Betydde ingenting	Betydde litt	Betydde endel	Betydde ganske mye	Betydde svært mye
C17 Personlige forhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C18 Forhold til familie/ektefelle/partner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C19 Sosiale forhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C20 Problemer i forbindelse med veterinæryrket	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C21 Andre forhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C22 Har du i løpet av det siste året forsøkt å ta ditt eget liv?

Aldri Nesten aldri Noen ganger Mange ganger

Hvis det har hendt, i hvilken grad mener du de følgende forhold var medvirkende til at det ble så vanskelig for deg?

	Betydde ingenting	Betydde litt	Betydde endel	Betydde ganske mye	Betydde svært mye
C23 Personlige forhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C24 Forhold til familie/ektefelle/partner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C25 Sosiale forhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C26 Problemer i forbindelse med veterinæryrket	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C27 Andre forhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Holdninger til aktiv dødshjelp

Aktiv dødshjelp er en samlebetegnelse på eutanasi og legeassistert selvmord. I noen europeiske land er aktiv dødshjelp tillatt, men i Norge er det ulovlig.

Eutanasi er en leges tilsiktede drap på en person ved å sette en sprøyte med dødbringende medikamenter etter at personen frivillig har bedt om det.

Legassistert selvmord er en leges hjelp til selvmord, ved å skaffe til veie medikamenter som personen kan innta selv.

Ta stilling til følgende påstander		Svært enig	Litt enig	Verken enig eller uenig	Litt uenig	Svært uenig
C28	Legeassistert selvmord bør tillates for personer som har en dødelig sykdom med kort forventet levetid.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C29	Eutanasi bør tillates for personer som har en dødelig sykdom med kort forventet levetid.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C30	Aktiv dødshjelp bør tillates også for personer som har en uhelbredelig kronisk sykdom, men ikke er døende.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C31	Det finnes tilfeller der det kan være riktig/moralsk forsvarlig av legen å utføre aktiv dødshjelp, selv om det er ulovlig.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Holdninger til psykiske lidelser

Ta stilling til følgende påstander		Svært enig	Noe enig	Ikke sikker/ubestemt	Noe uenig	Svært uenig
C32	Behandling kan hjelpe mennesker med psykiske lidelser til å føre et normalt liv.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C33	Folk er generelt sett omsorgsfulle og positivt innstilte overfor personer med psykiske lidelser.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D Personlige egenskaper

Ta stilling til følgende påstander

		Stemmer ikke	Stemmer
D1	Det er vanskelig for meg å stole på folk ettersom de så ofte vender seg mot meg eller lar meg i stikken	<input type="checkbox"/>	<input type="checkbox"/>
D2	På en eller annen måte føler jeg at jeg ikke vet hvordan jeg skal oppføre meg sammen med andre mennesker	<input type="checkbox"/>	<input type="checkbox"/>
D3	Jeg opplever meg selv som helt ulik til ulike tidspunkter	<input type="checkbox"/>	<input type="checkbox"/>
D4	Jeg føler meg ensom mesteparten av tiden	<input type="checkbox"/>	<input type="checkbox"/>
D5	Folk som virker bra til å begynne med, ender ofte opp med å skuffe meg	<input type="checkbox"/>	<input type="checkbox"/>
D6	Jeg føler det av og til som om jeg lever i en tåke	<input type="checkbox"/>	<input type="checkbox"/>
D7	Noen ganger føler jeg at jeg ikke er meg selv	<input type="checkbox"/>	<input type="checkbox"/>
D8	Folk kan oppfatte meg som uhøflig eller hensynsløs uten at jeg skjønner hvorfor	<input type="checkbox"/>	<input type="checkbox"/>
D9	Av og til får jeg rare tanker i hodet som jeg ikke er i stand til å få vekk	<input type="checkbox"/>	<input type="checkbox"/>

D10 Eventuelle kommentarer til spørreskjemaet?

Supplementary File 2 – Description of sample for veterinarians with serious suicidal thoughts

Variable	Range of values	Frequency (%)	Mean (SD)
Gender			
Female		108 (79.4%)	
Male		28 (20.6 %)	
Age			
20-30		16 (11.7 %)	
31-40		47 (34.3 %)	
41-50		41 (29.9 %)	
51-60		21 (15.3 %)	
61-70		10 (7.3 %)	
>70		2 (1.5 %)	
Marital status			
Married/cohabiting		82 (61.2 %)	
Single/divorced/widow(er)		52 (38.8 %)	
Life events	0-9		1.3 (1.4)
SCL-5	1-5		3.3 (1.0)
Reality weakness	0-8		3.2 (2.1)
Alcohol to cope			
Never		73 (53.3 %)	
Any frequency		64 (46.7 %)	
Main field of work			
Companion animal practice		53 (39.6 %)	
Public administration		21 (15.7 %)	
Mixed clinical practice		13 (9.7 %)	
Academia/research		11 (8.2 %)	
Production animal practice		11 (8.2 %)	
Aquaculture		6 (4.5 %)	
Equine practice		6 (4.5 %)	
Other		10 (7.5 %)	
Pensioner		3 (2.2 %)	
Job stress			
Emotional demands	1 - 5		2.44 (0.84)
Work/life-balance	1 - 5		3.22 (0.98)
Fear of complaints	1 - 5		3.63 (1.11)
Connection to work-life			
Employed		80 (58.4 %)	
Self-employed		37 (27.0 %)	
Other		11 (8.0 %)	
Two or more connections to work life		9 (6.6 %)	
Position type			
Permanent position		115 (87.8 %)	
Temporary position		6 (4.6 %)	
Temporary educational position		2 (1.5 %)	
Other		8 (6.1 %)	
Working full-time		101 (75.4 %)	

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Frequency of working overtime (weekly or bi-weekly)		92 (71.9 %)	
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Supplementary File 3 – Additional analysis predictor model – Predictors of serious suicidal thoughts among veterinarians in Norway, without mental distress and reality weakness

	Crude		Adjusted ²	
	OR	95 % CI	OR	95 % CI
Female	1.55	0.999 to 2.401	0.88	0.50 to 1.53
Age	0.93	0.86 to 1.00	1.02	0.92 to 1.13
Single	2.38***	1.65 to 3.43	2.17***	1.44 to 3.27
Negative life events ¹	1.78***	1.55 to 2.04	1.61***	1.39 to 1.86
Alcohol to cope	2.14***	1.51 to 3.04	1.52*	1.02 to 2.27
Main field of work (ref. category= mixed clinical practice)				
Companion animals	1.38	0.74 to 2.57	1.17	0.59 to 2.30
Production animals	1.28	0.56 to 2.94	1.72	0.71 to 4.19
Equine practice	1.21	0.45 to 3.28	1.02	0.34 to 3.04
Aquaculture	1.01	0.37 to 2.73	1.23	0.39 to 3.89
Public administration	1.08	0.53 to 2.20	1.47	0.65 to 3.31
Academia/research	1.12	0.49 to 2.56	1.53	0.59 to 4.01
Other	0.82	0.35 to 1.91	0.80	0.29 to 2.17
Job stress				
Emotional demands	1.12***	1.08-1.16	1.05*	1.003 to 1.104
Work/life-balance	1.13***	1.09-1.17	1.08**	1.03 to 1.13
Fear of complaints	1.18***	1.11-1.25	1.08*	1.001 to 1.164

¹The variable life events was entered into the model as a weighted variable ('Negative life events'), comprising the sum score of life events that was significant in a univariate model with the dependent variable.

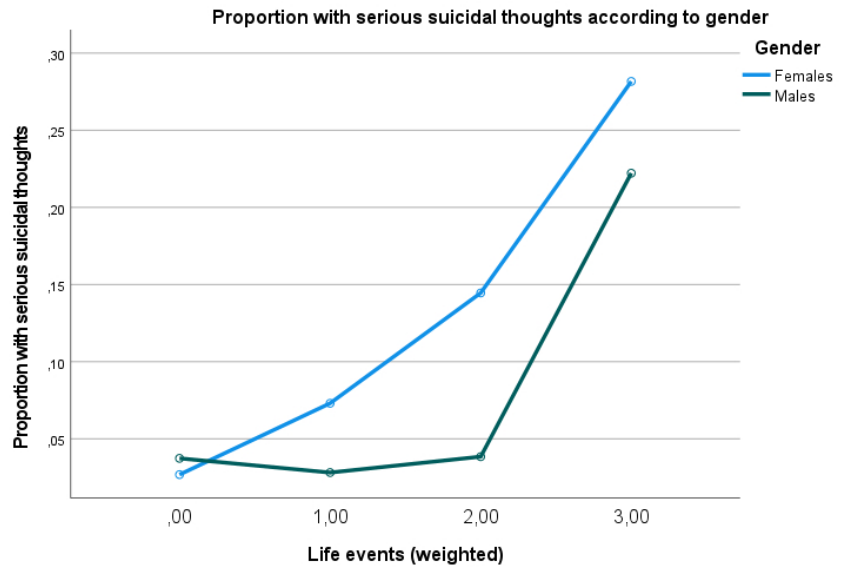
*P<0.05

**P<0.01

***P<0.001

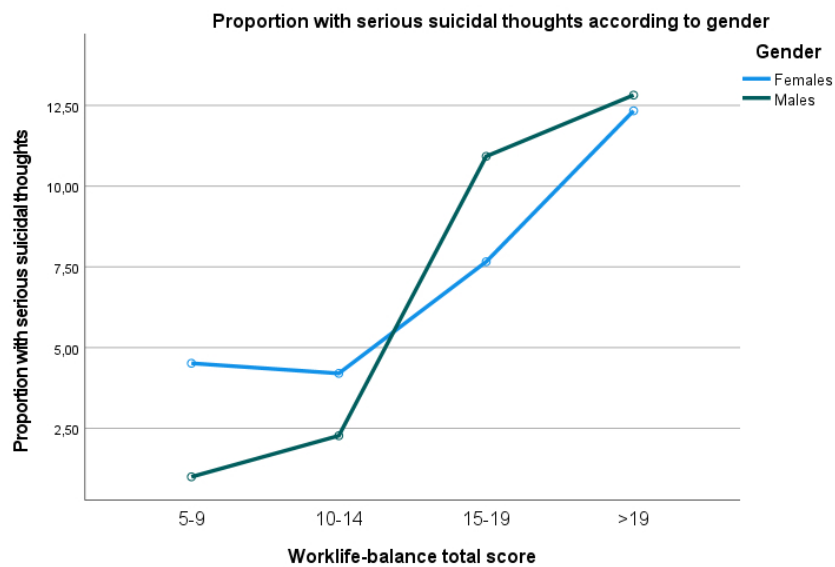
²In the adjusted model, all listed variables were adjusted for, i.e. gender, age, civil status, negative life events, use of alcohol to cope, main field of work and the three job stress factors.

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STROBE 2007 (v4) Statement—Checklist of items that should be included in reports of *cross-sectional studies*

Section/Topic	Item #	Recommendation	Reported on page #
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	1
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	2
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	4-5
Objectives	3	State specific objectives, including any prespecified hypotheses	5
Methods			
Study design	4	Present key elements of study design early in the paper	5
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection of participants	5
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	6-8
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	6-8
Bias	9	Describe any efforts to address potential sources of bias	6
Study size	10	Explain how the study size was arrived at	6
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	6-8
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	8
		(b) Describe any methods used to examine subgroups and interactions	8
		(c) Explain how missing data were addressed	8
		(d) If applicable, describe analytical methods taking account of sampling strategy	NA
		(e) Describe any sensitivity analyses	NA
Results			

Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	NA
		(b) Give reasons for non-participation at each stage	NA
		(c) Consider use of a flow diagram	NA
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	9-11
		(b) Indicate number of participants with missing data for each variable of interest	9-14
Outcome data	15*	Report numbers of outcome events or summary measures	9-14
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	13-14
		(b) Report category boundaries when continuous variables were categorized	NA
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	NA
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	13-14
Discussion			
Key results	18	Summarise key results with reference to study objectives	15
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	17
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	15-17
Generalisability	21	Discuss the generalisability (external validity) of the study results	17
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	19

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at www.strobe-statement.org.

BMJ Open

Prevalence and individual and work-related factors associated with suicidal thoughts and behaviors among veterinarians in Norway: a cross-sectional, nationwide survey-based study (the NORVET study)

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Secondary Subject Heading:	Mental health, Occupational and environmental medicine
Keywords:	EPIDEMIOLOGY, MENTAL HEALTH, OCCUPATIONAL & INDUSTRIAL MEDICINE, Suicide & self-harm < PSYCHIATRY

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3 1 **Prevalence and individual and work-related factors associated with suicidal thoughts and**
4 **behaviors among veterinarians in Norway: a cross-sectional, nationwide survey-based**
5 **study (the NORVET study)**
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53 27 Word count: 4242 (excluding title page, abstract, tables and figures, acknowledgements, and
54 28 references)
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56 29

1 **ABSTRACT**

2 Objectives: Several studies have shown increased suicide rates among veterinarians. We investigated
3 the self-reported prevalence of suicidal thoughts and behaviors and contributing and independent
4 factors associated with suicidal thoughts and behaviors among veterinarians in Norway.

5 Design: Cross-sectional, nationwide survey.

6 Participants: 2596 veterinarians in Norway (response rate: 75 %).

7 Main outcome measure: Paykel's five-item questionnaire.

8 Results: In total, 27 % (n=682/2657) of veterinarians in Norway felt that life was not worth living
9 during the last year, 5 % (n=139/2562) had serious suicidal thoughts, and 0.2 % (n=6/2537) had
10 attempted suicide. Female veterinarians reported significantly higher prevalence of suicidal feelings
11 and thoughts than males. For serious suicidal thoughts, women had nearly twice the prevalence as
12 their male colleagues (6.2 % (n=108/1754) vs. 3.6 % (n=28/766), chi-square 6.5, p=0.011).
13 Independent factors associated with serious suicidal thoughts were being single (OR = 1.76, 95 %CI
14 1.13-2.72, p<0.05), negative life events (OR = 1.43, 95 %CI 1.22-1.68, p<0.001), and the presence of
15 mental distress (OR = 2.75, 95 %CI 2.14-3.52, p<0.001). The veterinarians related their serious
16 suicidal thoughts to work and personal problems, and a lesser degree to family, social, and other
17 problems. Nearly twice as many women (53 %, n=57/108) as men (28 %, n=7/25) reported work
18 problems as the most important contributing factor to their serious suicidal thoughts (chi-square:
19 4.99, p=0.03). 4 % (n=6/139) reported work problems as the only factor of importance.

20
21 Conclusions: Veterinarians in Norway have relatively high prevalence of suicidal feelings and
22 thoughts, including serious suicidal thoughts. In multivariable analyses, the individual factors were
23 more important than work-related ones, while work problems were the most reported contributing
24 factor to serious suicidal thoughts by the veterinarians themselves. The role of gender and specific
25 work-related factors should be further investigated to better understand the complexity of suicidal
26 behavior among veterinarians.

27
28 Keywords: Veterinarians, suicidal behavior, mental distress, personality traits.

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3 1 **Strengths and limitations of this study**
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- 5
6 2 • A major strength of our study is the high response rate (75 %), incorporating all authorized
7 3 veterinarians nationwide, in all main fields of work.
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9 4 • An extensive questionnaire was used, making multivariable analysis feasible.
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11 5 • This is a cross-sectional study, which limits any conclusions regarding causality.
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13 6 • The study possibly has limited generalizability, due to differences in organization of work life
14 7 in other countries.
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1 INTRODUCTION

2 Several studies have shown increased suicide rates among veterinarians. A review from 2010 found
3 elevated suicide rates in all but one of the 15 studies published at the time. The suicide rate among
4 veterinarians in the UK was three times that of the general population.¹ Recent studies have also
5 indicated increased suicide rates in the profession.²⁻⁴ Furthermore, three recent studies found a
6 higher prevalence of suicidal ideation among veterinarians than the general population.⁵⁻⁷

7 There is little knowledge about the contribution of individual and work-related factors to suicidal
8 behavior in veterinarians. In a systematic review from 2012, which included 52 papers, the authors
9 highlighted the paucity of research that investigated the factors that contribute to suicide among
10 veterinarians, and that many of the studies were of poor quality.⁸ An interview study found that
11 patient issues, responsibility, and poor work/life balance contributed to suicidal ideation among
12 veterinarians.⁹ It has been suggested that suicidal ideation among veterinarians is linked to the
13 demanding nature of their work.¹⁰ Dealing with bereaved clients (i.e. animal owners) has been shown
14 to impact the mental health of veterinarians,¹¹ and attachment loss and trauma can contribute to
15 both depression and suicidality.¹² Preoccupation, self-doubt, conflicting responsibilities (care of
16 animals/human clients/financial demands), and insufficient support were important factors of job
17 stress among veterinarians in a qualitative study.¹³ When searching for independent work-related
18 factors associated with suicidal thoughts and behavior, it is important to control for known individual
19 factors. These include having no partner,^{14 15} negative life events,¹⁶ anxiety symptoms, depressive
20 symptoms,^{15 17} personality problems,^{18 19} and the problematic use of alcohol.¹⁷

21 The gender balance among veterinarians has changed significantly over the past decades, from 66 %
22 male veterinary students in Norway in 1980 to only 16 % in 2020 (personal communication, Ann
23 Kristin Egeli, Norwegian University of Life Sciences, June 22nd, 2021). As of June 2021, 69 % of
24 veterinarians holding authorization in Norway were women (personal communication, Bente N.
25 Reve, The Norwegian Food Safety Authority, July 12th, 2021). The gender shift in the profession
26 corresponds to that in several other countries.²⁰⁻²² Studies have shown that being female and of
27 younger age increases the risk of serious psychological distress as a veterinarian.^{7 8 11} The prevalence
28 of psychological distress, such as anxiety symptoms and depressive symptoms, is also higher among
29 female veterinarians compared to that among male veterinarians.^{5 11 23}

30 Furthermore, there is substantial evidence that certain personality traits may increase the risk of
31 suicide.^{19 24} Reality weakness is a deviant personality trait including chronic illusions, paranoid traits,
32 identity-insecurity, and relational problems.²⁵ This trait has demonstrated predictive validity in

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3 1 Norwegian medical doctors regarding the aggravation of suicidal ideation.¹⁸ It is a significant
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5 2 predictor of serious suicidal ideation in other occupational groups as well.^{26 27}
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8 3 Over the last decades, the veterinary profession has turned from agriculture and food-producing
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10 4 animal medicine to an increasing proportion working with companion animals. Two US studies have
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12 5 found a higher suicide rate among companion animal practitioners compared to other
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14 6 specializations,^{3 28} and it has been shown that veterinarians in this field more often reported suicidal
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16 7 thoughts than other veterinarians.²⁹ Thus, attention is required in the different fields of veterinary
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18 8 medicine.

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20 9 Few studies have investigated the direct association and contribution of individual and work-related
21
22 10 factors to suicidal thoughts and behavior. Therefore, we investigated the following questions:

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24 11 (1) What is the prevalence of suicidal thoughts and behavior among veterinarians in Norway, and
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26 12 are there any gender differences?
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28 13 (2) What do veterinarians in Norway regard as contributing factors to their serious suicidal
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30 14 thoughts?
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32 15 (3) What are the independent individual and work-related predictors for serious suicidal thoughts?
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35 17 **METHODS**

36 18 **Sample**

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38 19 The sample included all veterinarians in Norway, holding valid authorization as of May 2020 (n =
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40 20 4256), according to information retrieved from the Norwegian Food Safety Authority. We excluded
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42 21 veterinarians for the following reasons: no residential address in Norway (n = 527), current address
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44 22 unknown (n = 196), those working abroad (n = 62) and those who were deceased (n = 7). This
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46 23 resulted in an eligible sample of 3464 veterinarians.
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49 25 **Questionnaire**

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51 26 A 12-page questionnaire, an information sheet and a prepaid postage envelope were distributed by
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53 27 mail in November 2020. The information sheet included contact information of a psychiatrist in the
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55 28 research group and the colleague-support network of the Norwegian Veterinary Association. Two
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57 29 reminders were sent in January and February 2021, respectively. Five gift cards from a sports shop
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59 30 were placed in a drawing for respondents as incentives to increase the response rate. An external
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31 company managed both the data collection and prize awards. Respondents returned their

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3 1 questionnaires in a sealed envelope, and the identities of the respondents were unknown to the
4 researchers throughout. The complete questionnaire in Norwegian can be found as a supplementary
5 file ("Supplementary file 1 – Full questionnaire NORVET.pdf").
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9 4 The Regional Committee for Medical and Health Research Ethics South-East C (132704), and the
10 Norwegian Centre for Research Data (674793) approved this study.
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13 6 14 15 7 **Instruments – dependent variable**

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18 8 Paykel's questionnaire about suicidal thoughts and attempts was the dependent variable in this
19 study.³⁰ It is a five-item instrument developed to study suicidal feelings in the general population.
20 The items represent increasing severity, from unspecific suicidal feelings to actual suicide attempt.
21 Previous studies on several professions in Norway have validated this instrument.^{14 15 26 27 31} The five
22 items have the following wording: 1. 'Have you ever felt that life was not worth living?'
23 2. 'Have you ever wished you were dead – for instance, that you could go to sleep and not wake up?'
24 3. 'Have you ever thought of taking your life, even if you would not really do it?' 4. 'Have you ever
25 reached the point where you seriously considered taking your life, or perhaps made plans how you
26 would go about doing it?' 5. 'Have you ever made an attempt to take your life?' Question four was
27 slightly altered in the Norwegian translation, to: "... and even made plans...", reinforcing the
28 seriousness in this statement.¹⁵ The responses to each question were never, hardly ever, sometimes
29 or often. Responses were dichotomized into never (0) and any frequency (1) according to Paykel's
30 original work. The preceding year's suicidal thoughts and attempts were investigated in the present
31 study. For questions 4. and 5., an additional question was asked: 'To what extent do you think the
32 following factors contributed to your consideration of taking your life', with the following factors: 1.
33 Personal problems, 2. Family problems, 3. Social problems, 4. Work problems, 5. Other problems.
34 Each of the factors had five response categories from 'not at all' (1) to 'very much' (5). For the
35 regression analyses, Paykel item number four was used (serious suicidal thoughts) as the outcome
36 variable, dichotomized as specified above.
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54 28 **Independent variables – individual factors**

55 29 The personality trait *reality weakness* was measured using the nine-item reality weakness dimension
56 of Torgersen's Basic Character Inventory (BCI).³² Each item had a dichotomous ('agree'/'do not
57 agree') response, with a total sum score from 0 to 9. BCI-Reality weakness is an original, deviant trait
58 related to perceptions and ideations on the borderline between reality and fantasy; this dimension
59
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1 also measures chronic illusions, paranoid traits, and traits related to severe personality disorders.^{25 33}
2 Examples of items are: 'I feel lonely most of the time' and 'Sometimes I feel I am not myself'. This
3 measure has previously been validated to predict emotional disturbance, such as serious suicidal
4 thoughts, severe depression, and lack of help-seeking among physicians.³³

5 The Norwegian Centre for Research Data claimed the use of age intervals to keep the data as
6 unidentifiable as possible. Therefore, *age* was reported in the following intervals: 20-25, 26-30 (...) up
7 to 66-70 and >70 years. In this study, *marital status* was dichotomized into married/cohabitant and
8 single/divorced/separated/widow(er) (coded 0 and 1, respectively).

9 *Life events during the last 12 months* was measured by 17 items, previously used by among others,
10 Tysse et al.,^{15 34} and adapted to veterinarians. The adaptations were mainly linguistic and included
11 the removal of items specific to physicians. Examples of life events were 'serious disease or accident',
12 'death of a relative/close friend' and 'serious economic problems'. All items were coded as 0 or 1,
13 and the variable comprised the sum score of all items. To test the effects on serious suicidal
14 thoughts, we used the weighted total score of all items significantly associated with such thoughts.

15 *Mental distress (anxiety symptoms and depressive symptoms)* in the last 14 days was measured using
16 SCL-5, a five-item version of the Symptom Check List-25.³⁵ This five-item version is based on a factor
17 analysis by Tambs and Moum,³⁶ and contains questions about how much one is bothered by the
18 following: 1. 'Feeling fearful', 2. 'Nervousness or shakiness inside', 3. 'Feeling hopeless about the
19 future', 4. 'Feeling blue', 5. 'Worrying too much about things'. Each item was measured on a scale
20 from 1 to 5 from 'not at all' to 'very much'. The sum score is used to indicate the level of mental
21 distress. This version has been validated in medical students and physicians in Norway.^{37 38}

22 *Alcohol to cope* was measured by a single item originally used in national surveys in the USA.³⁹ The
23 item is: 'When you feel worried, tense, or nervous, do you ever drink alcoholic beverages to help you
24 handle things?' The alternatives were 'never', 'seldom', 'now and then' and 'often'. In the analyses,
25 responses were dichotomized into 0 'Never' and 1 'Any frequency', as validated in previous
26 Norwegian studies.⁴⁰⁻⁴² The reason for dichotomizing the response was for cultural purposes and we
27 wanted a clear distinction between drinking to cope with tension or not, as accounted for in detail
28 elsewhere.⁴⁰

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1 **Independent variables – work-related factors**

2 *The main fields of work* were reported as ‘companion animal practice’, ‘production animal practice’,
3 ‘mixed clinical practice’, ‘equine practice’, ‘aquaculture’, ‘public administration’,
4 ‘academia/researcher’, ‘pensioners’ and ‘others’. Those who classified themselves as pensioners
5 were excluded from the logistic regression analyses, because work-related factors were included in
6 the model.

7 *Job stress* was measured by a modified version of Cooper's Job Stress Questionnaire,^{43 44} with minor
8 adaptations to veterinarians' work conditions. These adaptations were mainly linguistic, but some
9 items specific to the veterinary profession were added (as ‘cross pressure between economy/animal
10 welfare/ethics’). The veterinarians were asked how much different situations/factors made them
11 stressed, with the response alternatives being reported by a five-point Likert type rating scale
12 ranging from no stress at all (1) to a source of extreme stress (5). A factor analysis (principal
13 component with varimax rotation, including scree plot evaluation) identified three job stress factors:
14 *emotional demands*, *work/life balance*, and *fear of complaints/criticism*. The first factor, *emotional*
15 *demands* (Cronbach's alpha=0.87), contained six items: 1. ‘Daily contact with dying and critically ill
16 animals’, 2. ‘Taking care of terminally ill animals and their owners’, 3. ‘Taking care of suffering
17 animals’, 4. ‘Requests about animals from friends and family’, 5. ‘Requests about animals from
18 relatives’, and 6. ‘Emotional involvement with patients’. The second factor, *work/life balance*
19 (Cronbach's alpha=0.86), consisted of five items: 1. ‘Work affects family life’, 2. ‘Managing a balance
20 between work and personal life’, 3. ‘Work affects social life’, 4. ‘Time pressure’, and 5. ‘Interruptions
21 and nagging at work’. The third factor, *fear of complaints/criticism* (Cronbach's alpha=0.88),
22 consisted of three items: 1. ‘Worries about complaints from animal owners/customers’, 2. ‘Animal
23 owners/customers do not appreciate your work’, and 3. ‘Dealing with challenging animal
24 owners/customers’.

26 **Statistical analysis**

27 SPSS version 27 and StataSE 16 were used for the statistical analyses. Table analyses and the χ^2 test
28 were used to test for gender differences. Controlled effects were reported as odds ratios, analyzed
29 through hierarchical logistic regression. The following variables were examined as possible predictors
30 of serious suicidal thoughts: gender, age, civil status, negative life events, mental distress, reality
31 weakness, use of alcohol to cope, main field of work, and job stress. Initially all independent variables
32 were analyzed bivariately with the dependent variable (crude ORs). In the adjusted model, all
33 independent variables were entered simultaneously in a logistic regression (adjusted ORs). In order

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3 1 to study possible mediating or confounding effects of mental distress and reality weakness, we
4 2 performed an additional multivariable regression leaving out the variables mental distress and reality
5 3 weakness. $p < 0.05$ was considered statistically significant for all analyses. To investigate gender-
6 4 specific effects, we entered two-way interaction terms between gender and the other independent
7 5 variables in separate analyses with the main effect included in the equations. Missing values were
8 6 coded as 'system missing'.
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16 8 **Patient and Public Involvement**

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18 9 The Norwegian Veterinary Association appointed a reference group for this project consisting of
19 10 seven veterinarians from each of the professional subgroups: Small Animal-, Equine-, Production
20 11 Animal and Aquaculture Veterinary Association, the Association of Veterinarians in Public Health
21 12 Medicine, the Veterinary Students' Association and the Pensioners' Association. These veterinarians
22 13 contributed with valuable input both to the design of the questionnaire, hypotheses, and aims of the
23 14 present study.
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32 16 **RESULTS**

33 17 **Demographics**

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36 18 Of the 3464 eligible participants, we received 2596 responses, resulting in a response rate of 75 %.
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38 19 The most frequently reported age category was 41 – 45 years of age. The age varied between
39 20 genders, with a higher proportion of younger women, and the majority of men were older than 50
40 21 years. In total, 69 % were female and 31 % male (Table 1), which is an accurate reflection of the
41 22 actual gender distribution of veterinarians in Norway.
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1 **Table 1 – Description of study population**

	Range of values	Frequency (%)	Mean (SD)
Gender			
Female	..	1776 (69.6 %)	..
Male	..	776 (30.4 %)	..
Age			
20-30	..	274 (10.8 %)	..
31-40	..	697 (27.4 %)	..
41-50	..	667 (26.2 %)	..
51-60	..	432 (16.9 %)	..
61-70	..	318 (12.5 %)	..
>70	..	159 (6.2 %)	..
Marital status			
Married/cohabiting	..	1962 (78 %)	..
Single/divorced/widow(er)	..	552 (22 %)	..
Life events	0-9	..	0.54 (0.89)
SCL-5	1-5	..	2.00 (0.98)
Reality weakness	0-9	..	1.38 (1.85)
Alcohol to cope			
Never	..	1769 (71 %)	..
Any frequency	..	722 (29 %)	..
Main field of work			
Companion animal practice	..	802 (31.8 %)	..
Public administration	..	402 (15.9 %)	..
Mixed clinical practice	..	268 (10.6 %)	..

Academia/research	..	202 (8.0 %)	..
Production animal practice	..	177 (7.0 %)	..
Aquaculture	..	121 (4.8 %)	..
Equine practice	..	102 (4.0 %)	..
Other	..	250 (9.9 %)	..
Pensioner	..	198 (7.9 %)	..
Job stress			
Emotional demands	1-5	..	1.98 (0.79)
Work/life balance	1-5	..	2.67 (0.97)
Fear of complaints	1-5	..	3.06 (1.17)
Connection to work-life			
Employed	..	1561 (63.0 %)	..
Self-employed	..	573 (23.1 %)	..
Other	..	217 (8.8 %)	..
Two or more connections to work life	..	127 (5.1 %)	..
Position type			..
Permanent position	..	2023 (88.1 %)	..
Temporary position	..	70 (3 %)	..
Temporary educational position	..	50 (2.2 %)	..
Other	..	153 (6.7 %)	..
Working full-time	..	1922 (81.1 %)	..
Frequency of working overtime (weekly or bi-weekly)	..	1550 (67.9 %)	..

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6 2**Prevalence of suicidal thoughts and behavior during the last year**

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8 3 27 % of the veterinarians reported that they felt that life was not worth living, and 20 % had thought
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10 4 of suicide, even though they knew that they would not do it. 5 % reported that they had serious
11 5 suicidal thoughts, and six persons (0.2 %) had attempted suicide (Table 2). Female veterinarians
12 6 reported significantly higher prevalence of suicidal feelings and thoughts than male colleagues did.
13 7 This gender difference remained throughout all items; for serious suicidal thoughts; women had
14 8 nearly twice the prevalence as their male colleagues (6.2 % vs. 3.6 %, chi-square: 6.5, p=0.011).
15 9 Economic problems (OR = 10.88, 95 % CI 5.20-22.78, p<0.001) were the most significant negative life
16 10 event for veterinarians. Descriptive statistics for the veterinarians with serious suicidal thoughts is
17 11 included as a supplementary file (Supplementary File 2 – Descriptives for veterinarians with serious
18 12 suicidal thoughts).

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14 **Table 2 – Prevalence of suicidal feelings and thoughts among veterinarians in Norway according to**
15 **gender**

	All	Men	Women	Total n for each item	χ^2 and p- value
1. Felt life was not worth living	682 (26.6 %)	148 (19.3%)	522 (29.7%)	2567	29.4, p<0.001
2. Wished you were dead	498 (19.4 %)	96 (12.5%)	394 (22.5%)	2565	33.6, p<0.001
3. Thoughts of taking life	503 (19.6 %)	102 (13.3%)	391 (22.3%)	2565	26.9, p<0.001
4. Seriously considered taking your life	139 (5.4 %)	28 (3.6%)	108 (6.2%)	2562	6.5, p=0.011
5. Made a suicide attempt	6 (0.2 %)	1 (0.1%)	5 (0.3%)	2537	NA

16 Not all veterinarians reported gender (n=2554). This leads to a difference in total sum for men + women compared to "all."

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1 Self-reported factors contributing to serious suicidal thoughts

2 Among the veterinarians reporting serious suicidal thoughts (n=139), work problems were the most
 3 frequently reported contributing factor (48 %), followed by personal problems (37 %) (Table 3). The
 4 only significant gender difference was regarding work problems, with nearly twice as many women
 5 (53 %) as men (28 %) reporting work problems as the most important contributing factor to their
 6 serious suicidal thoughts (chi-square: 4.99, p=0.03, Fisher's exact), and 4.3 % reported work problems
 7 as the only factor of importance.

8 **Table 3 – Self-reported contributing factors to serious suicidal thoughts among veterinarians in**
 9 **Norway**

	Not at all + A little + Somewhat			Quite a bit + Very much			Total n
	N (%)			N (%)			
	Total	Men	Women	Total	Men	Women	
Personal problems	84 (63.2%)	17 (65.4%)	67 (63.8%)	49 (36.8%)	9 (34.6%)	38 (36.2%)	133
Family problems	91 (68.4%)	19 (79.2%)	72 (67.9%)	42 (31.6%)	5 (20.8%)	34 (32.1%)	133
Social problems	108 (81.2%)	21 (84.0%)	86 (81.1%)	25 (18.8%)	4 (16.0%)	20 (18.9%)	133
Work problems	70 (51.9%)	18 (72.0%)	51 (47.2%)	65 (48.1%)	7 (28.0%)	57 (52.8%)	135
Other problems	90 (72.6%)	20 (83.3%)	70 (71.4%)	34 (27.4%)	4 (16.7%)	28 (28.6%)	124

10 Item four of Paykel's questionnaire was answered by n= 2562 veterinarians (men=766, women=1754). The question was
 11 answered positively by n=139 (see Table 1).

13 Predictors of serious suicidal thoughts

1 Being single, negative life events, mental distress, reality weakness, use of alcohol to cope, and the
 2 three job stress factors were significant unadjusted (crude) predictors (Table 4). In the adjusted
 3 model, the significant predictors were being single, negative life events, and mental distress. There
 4 was no gender effect. No significant effect was found within the different fields of work or any of the
 5 three job stress factors in the adjusted model (Table 4).

6 Post hoc, and in order to investigate any confounding or mediating effect of mental distress and
 7 reality weakness on the job stress-variables, we conducted an additional multivariable analysis.
 8 When processing the individual and work-related factors without the two variables of reality
 9 weakness and mental distress, the significant predictors were: being single, negative life events, use
 10 of alcohol to cope with tension, and all three job stress factors. The results from the additional
 11 analysis can be found in the supplementary material (Supplementary File 3 – Additional analysis
 12 predictor model).

14 **Table 4 – Predictors of serious suicidal thoughts among veterinarians in Norway**

	Crude		Adjusted ²	
	OR	95 % CI	OR	95 % CI
Female	1.55	0.999 to 2.401	0.88	0.49 to 1.57
Age	0.93	0.86 to 1.00	1.11	0.996 to 1.235
Single	2.38***	1.65 to 3.43	1.76*	1.13 to 2.72
Negative life events ¹	1.78***	1.55 to 2.04	1.43***	1.22 to 1.68
SCL-5	3.08***	2.61 to 3.64	2.75***	2.14 to 3.52
Reality weakness ³	1.47***	1.37 to 1.59	1.10	0.99 to 1.22
Alcohol to cope	2.14***	1.51 to 3.04	1.09	0.72 to 1.67
Main field of work (ref. category= mixed clinical practice)				
Companion animals	1.38	0.74 to 2.57	1.01	0.50 to 2.06
Production animals	1.28	0.56 to 2.94	1.97	0.77 to 5.05
Equine practice	1.21	0.45 to 3.28	1.02	0.32 to 3.26
Aquaculture	1.01	0.37 to 2.73	1.07	0.32 to 3.61
Public administration	1.08	0.53 to 2.20	1.15	0.49 to 2.71
Academia/research	1.12	0.49 to 2.56	1.07	0.39 to 2.99
Other	0.82	0.35 to 1.91	0.70	0.24 to 2.02
Job stress				
Emotional demands	1.12***	1.08-1.16	1.02	0.97 to 1.07
Work/life balance	1.13***	1.09-1.17	1.00	0.95 to 1.05
Fear of complaints	1.18***	1.11-1.25	1.01	0.93 to 1.09

¹The variable life events was entered into the model as a weighted variable ('Negative life events'), comprising the sum score of life events that was significant in a univariate model with the dependent variable.

*P<0.05

**P<0.01

***P<0.001

²In the adjusted model, all listed variables were simultaneously entered in the model, i.e., gender, age, civil status, negative life events, SCL-5, reality weakness, use of alcohol to cope, main field of work and the three job stress factors.

³There was a high correlation between SCL-5 and reality weakness (Pearson's $R=0.6$).

We found significant interactions between gender and negative life events (OR=0.65, 95 % CI 0.46 – 0.92, $p=0.015$), with clearly steeper gradients for females. There was also an interaction between gender and work/life balance (OR=1.11, 95 %CI 1.01 – 1.22, $p=0.026$), and the increase in suicidal thoughts with higher work/life imbalance was stronger among males than among females. A figure illustrating the interaction analysis can be found as a Supplementary file (Supplementary file 4-1 and Supplementary File 4-2).

DISCUSSION

A main finding of this study was that 27 % of the veterinarians in Norway felt that life was not worth living during the last year, 5 % had serious suicidal thoughts, and 0.2 % had attempted suicide. Female veterinarians reported significantly more suicidal feelings and thoughts than their male colleagues. The veterinarians considered their serious suicidal thoughts mainly as related to work and personal problems, and to a lesser degree, family, social, and other problems. Independent factors associated with serious suicidal thoughts were: being single, negative life events, and mental distress.

Furthermore, veterinarians reported both suicidal feelings and serious suicidal thoughts more frequently (26.6 % and 5.4 %, respectively) than physicians (16.6 % and 2.6 %, respectively),¹⁴ and police (8.9 % and 1.7 %, respectively)²⁶ in Norway. Furthermore, veterinarians, especially females, regarded work problems as the most important contributing factor to their suicidal thoughts. A previous study found that physicians most frequently regarded personal and family problems as the most important factors for serious suicidal thoughts,¹⁴ which may suggest that self-reported work factors play a more important role in suicidal thoughts in veterinarians than in physicians. Regarding suicide attempts, veterinarians had a prevalence (0.2%) comparable to those of physicians and police (0.3% and 0.1%, respectively).^{14 26}

The relatively high prevalence of suicidal feelings and thoughts concurs with findings among veterinarians in other countries. Two studies used "National Survey of Psychiatric Morbidity",^{5 45} an item originally sourced from Paykel's instrument.³⁰ These items use the same wording for items one

1 and three, which makes comparison possible. The prevalence of suicidal feelings in the past year
2 among veterinarians in Norway was slightly higher (26.6%) than among those in the UK (23.0%)⁴⁵ and
3 Canada (17.9%),⁵ whereas suicidal thoughts in the past year were at the same level (19.6%, 21.3%,
4 and 19.4%, respectively). However, veterinarians in Canada reported higher prevalence (17.0%) of
5 serious suicidal thoughts than in Norway (5.4%), which is probably due to the reporting period for
6 serious suicidal thoughts in the Canadian survey being 'since the start of veterinary education', while
7 in the present study, the reporting period was the preceding year.

8 Moreover, like female physicians,¹⁴ female veterinarians had higher levels of suicidal feelings and
9 thoughts than their male colleagues. Gender differences were also present in the self-reported
10 contributing factors, as female veterinarians reported work problems more frequently than men.
11 According to our own results and those of others',¹⁴ work problems are more often considered a
12 contributing factor to suicidal thoughts by veterinarians than by physicians. The perceived impact of
13 work-factors on serious suicidal thoughts may be partly influenced by the fact that veterinarians in
14 Norway have less undergraduate training in communication, psychology and coping skills, and
15 experience more professional isolation. Additionally, animal health care poses a cost issue (in
16 Norway, human health care costs are funded by tax revenues), resulting in cross pressure for
17 veterinarians at the intersection of animal welfare, costs, and ethics. Conflicting responsibilities in
18 the veterinary profession may be an overarching theme contributing to significant stress among
19 veterinarians.¹³

20 Today, approximately 70 % of veterinarians in Norway are female, and this proportion is expected to
21 increase. There was no significant effect of gender in the adjusted model. This may be because age
22 was highly correlated with the female gender. Being single and experiencing negative life events
23 predicted serious suicidal thoughts in the present study (76 % and 43 % higher odds, respectively).
24 These findings are consistent with studies on physicians and others.^{14 15 18} In contrast to physicians,
25 where family and relationship issues were the most significant negative life events,¹⁴ economic
26 problems were the most significant negative life event for veterinarians. This also supports the
27 hypothesis that there are other factors associated with suicidal thoughts among veterinarians than
28 with physicians and that economic concerns are more important with veterinarians. In an Australian
29 qualitative study, veterinarians were asked what they would do if they could change something in
30 the profession, and the most common response was to remove money from the decision-making
31 process.¹³ Contrary to the findings in a recent review,¹⁶ experiencing negative life events had a
32 greater impact on serious suicidal thoughts among women than among men. Furthermore, work/life
33 balance had a greater impact on serious suicidal thoughts among men than among women. These
34 findings warrant further research.

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3 1 Bivariately, drinking to cope was a significant predictor for serious suicidal thoughts, but not in the
4 2 multivariable model. Previous research indicates that alcohol use is a risk factor for suicidal
5 3 behavior.¹⁷ Research on veterinarians and alcohol use is scarce.^{8,46} In a study examining drug-caused
6 4 deaths in Australia, veterinarians were the group with the highest prevalence of alcohol detected in
7 5 post-mortem examinations.⁴⁷ Another study found that veterinarians who turned to alcohol to cope
8 6 with their work-related stress were more likely to have suicidal thoughts.¹⁰ In a recent study
9 7 examining different occupational groups in the US Army, there was no significant difference in
10 8 problem drinking in veterinarians, physicians and dentists.⁴⁸ The impact of alcohol regarding to
11 9 mental health among veterinarians warrants further research.

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19 10 There was no significant effect on serious suicidal thoughts regarding the main field of work, neither
20 11 in the bivariate nor in the adjusted model. Subsequently, all job stress factors were significantly
21 12 associated with serious suicidal thoughts bivariately, but not in the adjusted model. However, in the
22 13 additional analyses, the use of alcohol to cope with tension and all three job stress factors remained
23 14 significant without reality weakness and mental distress included in the model. The findings of
24 15 *emotional demands*, *work/life balance*, and *fear of complaints/criticism* as important job stress
25 16 factors concur with previous research.^{10,8,49} Although previous studies have suggested that work-
26 17 related stress influences suicide risk in veterinarians,⁵⁰ longitudinal research design may further
27 18 elaborate on the role of mediating and confounding effects.

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35 19 Contrary to previous research,^{18,26,27} the personality trait reality weakness, was not significant in the
36 20 adjusted model. This may be explained by the high correlation between mental distress and reality
37 21 weakness. The impact of mental distress on suicidal thoughts was high, with a nearly three times
38 22 increase in odds for each step on the 1-5 scale. The direction of causality obtaining between job
39 23 stress and mental health in this study cannot be unequivocally assessed. On the assumption that job
40 24 stress actually is an effect of mental distress and reality weakness, our results would indicate that the
41 25 effect of job stress factors probably was confounded by mental distress and reality weakness.
42 26 However, if job stress is defined as the underlying causal factor, as posited above, our results would
43 27 indicate that mental distress and reality weakness mediate the effect of job stress. Previous studies
44 28 have found that psychosocial factors in the workplace may play a role for mental health,⁵¹ and that
45 29 individual factors such as stress are related to the way people perceive their jobs.⁵² The importance
46 30 of mental distress with respect to suicidal ideation is consistent with other research, both among
47 31 medical doctors and others.^{15,17} A previous study among junior physicians during internship found
48 32 that the effect of work stress on suicidal thoughts and behavior was absorbed by mental distress, in
49 33 keeping with our finding.¹⁵ First, our study emphasizes the importance of using multivariable models
50 34 when studying single factors and self-report measures, in order to identify independent and more

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3 1 objective effects. Second, it is in keeping with previous research, that emphasizes the complexity in
4 2 predicting suicidal thoughts and behaviour, there may be both direct and indirect effects of several
5 3 individual and contextual predictors.^{53 54} Third, there may be specific work-related factors of
6 4 importance for veterinarians with serious suicidal thoughts that we have not captured by our
7 5 variables in the regression model. Altogether, this explains the apparent discrepancy in our study
8 6 with regard to the role of work-related factors in serious suicidal thoughts.

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10 7 To our knowledge, this is the only nationwide study of suicidal behavior in veterinarians,
11 8 incorporating all authorized veterinarians, in all main fields of work. A major strength was the high
12 9 response rate (75 %), making multivariable analyses feasible, and reducing the effect of selection and
13 10 response biases. Additionally, the questionnaire was quite extensive, allowing the use of a
14 11 comprehensive predictor model and controlling for several variables. An important limitation is the
15 12 cross-sectional design, which restricts conclusions about causality. Another limitation is the disparity
16 13 in referred time span measured by serious suicidal ideation (last 12 months) and mental distress
17 14 (past 2 weeks), this can lead to more recall bias with respect to suicidal ideation, and a relative
18 15 overestimation of mental distress. The generalizability of the results may also be limited due to
19 16 differences in the organization of work life, including workload, in other countries. Nevertheless, we
20 17 believe the findings are representative of veterinarians in Northern Europe. The study was conducted
21 18 during the coronavirus-pandemic of 2019 (Covid-19), which may have affected the results. The
22 19 survey was planned before the pandemic, and any potential effects of Covid-19 (e.g., redundancy,
23 20 and economic effects in the practices) were not accounted for.

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43 **CONCLUSION**

44 23 In summary, the level of suicidal behavior among veterinarians in Norway is relatively high, and both
45 24 individual and work-related factors contribute to serious suicidal thoughts. In the multivariable
46 25 analyses, the individual factors, and particularly mental distress, played a more important role than
47 26 the work-related factors, while veterinarians themselves regarded work problems as the most
48 27 contributing factor to their suicidal thoughts. The roles of gender and specific work-related factors
49 28 should be further investigated to better understand the complexity of suicidal behavior among
50 29 veterinarians.

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58 **ACKNOWLEDGMENTS**

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7 5 input to the statistical analyses.
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20 9 **AUTHOR'S CONTRIBUTION TO THE MANUSCRIPT**

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23 10 HSD, RT, and EH designed the study and analyzed the data. HSD wrote the first draft of the
24 11 manuscript. All authors revised the manuscript and approved the final version of the manuscript. The
25 12 corresponding author attests that all listed authors meet authorship criteria and that no others
26 13 meeting the criteria have been omitted. HSD and EH acts as a guarantor.
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33 15 **DATA AVAILABILITY STATEMENT**

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36 16 Data is available upon reasonable request.
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41 18 **COMPETING INTERESTS STATEMENT**

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44 19 None declared.
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49 21 **FIGURE LEGENDS**

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51 22 Supplementary File 4-1 (Interaction between life events and gender): Illustration of the two-way
52 23 interaction between gender and life events (weighted). The life events scale has been divided into
53 24 four categories to improve readability of the graph. The gradient is significantly steeper for females
54 25 than males.
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3 1 Supplementary File 4-2 (Interactions between work/life balance and gender): Illustration of the two-
4 2 way interaction between gender and work/life-balance. The increase in suicidal thoughts with higher
5 3 work/life imbalance was significantly stronger among males than among females.
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21 13 analyses.
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NORVET-undersøkelsen

Arbeid, trivsel og mental helse hos veterinærer i Norge

På de fleste spørsmålene skal du angi svar ved å sette et kryss i en rute slik .
Vennligst benytt en penn og sett krysset tydelig i ruten.

Noen steder skal du sette tall eller bokstaver i en eller flere ruter, slik eller slik .

Skjemaene vil bli lest maskinelt, derfor er det viktig at du skriver tydelig i rutene.

Det er svært viktig at du velger å merke av bare ett svaralternativ, der ikke annet fremgår av teksten.
Hvis to alternativer synes like dekkende, bes du velge det ene. Dette vil jevne seg ut på gruppenivå.

Selv om det kanskje er noen spørsmål du synes er mindre viktige, ber vi deg svare likevel.
Det vil bidra til å styrke undersøkelsen.

Det vil være en del spørsmål som blir gjentatt flere ganger i skjemaet. Dette skyldes at de utgjør en integrert del av standardiserte måleinstrumenter. Noen ganger spørres det også om opplysninger for ulike tidsperioder. Dette gjøres for å kunne foreta pålitelige sammenligninger med flere andre grupper, nasjonalt og internasjonalt.

LYKKE TIL, OG PÅ FORHÅND TUSEN TAKK FOR INNSATSEN!

A. BAKGRUNNSOPPLYSNINGER

A1 Kjønn:

- Kvinne
 Mann
 Annen kjønnsidentitet

A3 Nåværende sivilstatus

- Ugift Separert
 Samboende Skilt
 Gift Enke/enkemann

A2 Alder:

- 20-25 26-30 31-35 36-40 41-45 46-50 51-55 56-60 61-65 66-70 >70

Partner

A4 Har du fast partner (kjæreste/samboer/ektefelle)?

- Nei
 Ja

A5 Hvis JA, er din partner i arbeid?

- Nei
 Ja

A6 Hvis JA, er din partner veterinær?

- Nei
 Ja

Barn og familie

A7 Hvor mange barn har du?

- Ingen 1 barn 2 barn 3 eller flere barn

HAR DU I LØPET AV DE SISTE 12 MND. OPPLEVD NOE AV DET FØLGENDE?

- | | | | |
|---|--------------------------|--|--------------------------|
| A8 En alvorlig sykdom eller ulykke | <input type="checkbox"/> | A18 Samlivsproblemer | <input type="checkbox"/> |
| A9 Skilsmisse/separasjon med samboer eller kjæreste | <input type="checkbox"/> | A19 Flyttet fra foreldre | <input type="checkbox"/> |
| A10 Giftet deg/flyttet sammen med samboer | <input type="checkbox"/> | A20 Permisjon | <input type="checkbox"/> |
| A11 Fått barn | <input type="checkbox"/> | A21 Sykefravær 21 dager eller mer | <input type="checkbox"/> |
| A12 Dødsfall familie/nære venner | <input type="checkbox"/> | A22 Du selv har vært involvert i tilsynssak fra tilsynsmyndigheter | <input type="checkbox"/> |
| A13 Andre vansker hos nær familie | <input type="checkbox"/> | A23 Alvorlig sykdom hos et nærtstående familiemedlem (partner/barn/foreldre) | <input type="checkbox"/> |
| A14 Alvorlige økonomiske problemer | <input type="checkbox"/> | A24 Andre alvorlige hendelser Spesifiser: | <input type="checkbox"/> |
| A15 Ektefelle har vært arbeidsløs/permittert | <input type="checkbox"/> | | |
| A16 Alvorlige bomessige problemer | <input type="checkbox"/> | | |
| A17 Du selv, eller noen i nær familie, har vært utsatt for, eller innblandet i, alvorlig lovbrudd | <input type="checkbox"/> | | |

B. ARBEIDSFORHOLD OG ARBEIDSBELASTNING

Hovedstilling

B1 Hvilken tilknytningsform har du til arbeidslivet?

Ansatt Selvstendig næringsdrivende Annet, spesifiser: _____

B2 Har du en lederrolle?

Ja Nei

B3 Hva slags hovedstilling har du nå?

Smådyrpraksis

Produksjonsdyrpraksis

Kombinertpraksis

Hestepraksis

Akvakultur

Offentlig forvaltning

Akademia/forskning

Pensjonist

Annet, eventuelt spesifiser: _____

B3a Hva slags stilling er dette?

Fast stilling

Tidsbegrenset utdanningsstilling

Vikariat Hvis vikariat, fyll inn antall mnd

Annet (samlet lengde)

B3b Jobber du i

Bedrift som er del av kjede Frittstående bedrift

B4 Hvor mange måneder har du vært i din nåværende stilling? I ca. måneder

Arbeidstidsforhold

B5 Hvor mange prosent er din hovedstilling?

Angi prosent:

%

B6 Hvor lang er din fastlagte arbeidstid i timer per uke i din hovedstilling?

timer og minutter pr uke

B7 Hvor mange timer jobber du faktisk i gjennomsnitt pr. uke (inkludert alle stillinger)?

timer

B8 I en gjennomsnittlig arbeidsuke, inkludert ev. bistilling(er), omtrent hvor mange timer pr. uke bruker du på:

1.1 Klinisk arbeid	<input type="text"/> <input type="text"/> timer	1.2 Møtevirksomhet	<input type="text"/> <input type="text"/> timer
1.3 Papirarbeid	<input type="text"/> <input type="text"/> timer	1.4 Telefoner/e-post	<input type="text"/> <input type="text"/> timer
1.5 Reisetid	<input type="text"/> <input type="text"/> timer	1.6 Totalt	<input type="text"/> <input type="text"/> timer

B9 Hvor mange timer overtid har du i gjennomsnitt i din hovedstilling i en vanlig arbeidsuke? (Ikke forlenget arbeidstid eller utrykning på vakt, kun tilfeldig overtid.)

Betalt:

Ubetalt:

timer pr. uke

timer pr. uke

B10 Hvor ofte har du overtidsarbeid/forlenget arbeidstid (betalt eller ubetalt)?

- Aldri
- Sjeldnere enn en gang i måneden
- Minst en gang i måneden
- Omtrent annenhver uke
- Hver uke

Bistilling

B11 Har du noen fast bistilling eller ekstrajobb i tillegg til din hovedstilling?

- Nei
- Ja

B12 Hvis du har en bistilling, hvor mange arbeidstimer utgjør denne stillingen gjennomsnittlig pr. uke?

timer pr. uke

Vakter som veterinær

B13 Hvis du har faste vakter ut over normal arbeidstid i din hovedstilling, hva slags vaktordning har du nå?

- Tar ikke faste vakter * 9-delt **Gå til spørsmål B18*
- 2-3-delt 10-delt
- 4-5-delt 11-delt
- 6-7-delt >12-delt
- 8-delt

B14 Hvilken type vaktordning deltar du i?

- Offentlig vakt Privat vakt

B15 Hvis du tar faste vakter ut over normal arbeidstid i din hovedstilling, hvor lange er vaktene?

- Ca 1/2 døgn
- Ca. 1 døgn
- Mer enn 1 døgn
- Annet; hva _____

B16 Ca. hvor mange timer av dine faste vakter tilbringer duAktiv: timer

Har du

Hvilende: timer tilstedevakt eller hjemmevaktSovende: timer**B17 Hvis du har faste vakter, cirka hvor lenge arbeider du dagen etter vakt?**

- Arbeider ikke rett etter vakt
- 1-3 timer
- 4-6 timer
- 7 timer eller mer

B18 Hvis du har vakter som en del av en bistilling, cirka hvor mange timer av disse vaktene tilbringer du*Hvis du ikke har vakt som del av bistilling, gå til B19*Aktiv: timerHvilende: timer

Har du

Sovende: timer tilstedevakt eller hjemmevakt**B19 Cirka hvor mange avspaseringsuker pr. halvår benytter du til ikke-faglig aktivitet?**

- Ingen uke
- 1 uke
- 2 uker
- 3 uker
- 4 uker
- 5 uker
- 6 uker eller flere

B20 Dersom du jobber i klinisk praksis, hvor mange avlivinger utfører du omtrent på en vanlig uke?

- 0-4
- 5-9
- 10-14
- 15 eller fler

Belastningsfaktorer

I hvilken grad gjør de følgende situasjoner/faktorer deg belastet (stresset)?

Sett **ett kryss** i den ruten som passer best for deg.

	Ikke noen belastning	Litt belastning	Endel belastning	Mye belastning	Svært mye belastning
B21 Kritikk av veterinærer i media	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B22 Kundene/dyreeierne setter ikke pris på det du gjør	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B23 Bekymring over klager fra kunder/dyreeiere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B24 Å ha ansvar for dyrenes liv 24 timer i døgnet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B25 Telefoner, sykebesøk og utrykning om natten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B26 Å ta seg av vanskelige veterinærmedisinske problemstillinger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B27 Å ta seg av vanskelige kunder/dyreeiere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B28 Krysspress mellom økonomi og dyrevelferd/etikk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B29 Bekymringer knyttet til egen økonomi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B30 Bekymringer knyttet til bedriftens økonomi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B31 Sykejournaler og annet papirarbeid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B32 Kirurgiske inngrep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B33 Arbeidsmiljøet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B34 Tidspress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B35 Jobben går ut over familieliv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B36 Jobben går ut over sosialt liv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B37 Daglig kontakt med døende og kritisk syke dyr	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B38 Å ta seg av dødssyke dyr og deres eiere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B39 Forespørsler om dyr fra venner og bekjente	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B40 Forespørsler om dyr fra slektninger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B41 Være i generell beredskap	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Ikke noen belastning	Litt belastning	Endel belastning	Mye belastning	Svært mye belastning
B42 Følelsesmessig engasjement i dyrene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B43 Forventninger om at veterinæren også skal hjelpe med ikke-medisinske problemer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B44 Avbrytelser og mas i arbeidssituasjonen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B45 Å ta seg av lidende dyr	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B46 Konflikt med kolleger/medarbeidere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B47 Å få til en balanse mellom arbeid og privatliv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Forhold til kolleger

	Ingen grad			I svært høy grad			
B48 I hvilken grad trives du i det store og det hele blant dine kolleger?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B49 I hvor stor grad har du følt deg ivaretatt av dine veterinærkolleger?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Stemmer helt		Stemmer ganske bra	Stemmer ikke særlig bra	Stemmer ikke		
B50 Det er rolig og behagelig stemning på min arbeidsplass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B51 Det er godt samhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B52 Mine arbeidskolleger stiller opp for meg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B53 Det er forståelse for at jeg kan ha en dårlig dag	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B54 Jeg kommer godt overens med mine overordnede*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B55 Jeg trives bra med mine arbeidskolleger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

*Besvares bare dersom du har en overordnet.

B56 Når du føler deg bekymret, engstelig eller nervøs - drikker du noen gang alkohol for å klare situasjonen bedre?

Aldri Sjelden Av og til Ofte

Vedrørende ditt arbeid

		Meget sjelden eller aldri	Nokså sjelden	Av og til	Nokså ofte	Meget ofte eller alltid
B57	Er det fastsatt klare mål for din jobb?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B58	Vet du hva som er ditt ansvarsområde?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B59	Vet du nøyaktig hva som forventes av deg i jobben?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B60	Må du gjøre ting du mener burde vært gjort annerledes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B61	Får du oppgaver uten tilstrekkelig hjelpemidler og ressurser til å fullføre dem?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B62	Mottar du motstridende forespørsler fra to eller flere personer?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B63	Fordeler din nærmeste sjef arbeidsoppgaver rettferdig og upartisk?*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B64	Behandler din nærmeste sjef de ansatte rettferdig og upartisk?*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B65	Er forholdet mellom deg og din nærmeste sjef en kilde til stress for deg?*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Besvares bare dersom du har en overordnet.

		Ja, ofte	Ja, noen ganger	Nei, sjelden	Nei, så godt som aldri
B66	Krever arbeidet ditt at du arbeider meget raskt?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B67	Krever arbeidet ditt at du arbeider meget hardt?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B68	Krever arbeidet ditt for stor arbeidsinnsats?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B69	Har du tilstrekkelig tid til å utføre arbeidsoppgavene dine?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B70	Forekommer det ofte motstridende krav i arbeidet ditt?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B71	Får du lære nye ting i ditt arbeid?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B72	Krever ditt arbeid dyktighet?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B73	Krever ditt arbeid oppfinnsomhet/kreativitet?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B74	Innebærer ditt arbeid at du gjør samme ting om og om igjen?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B75	Har du frihet til å bestemme hvordan ditt arbeid skal utføres?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B76	Har du frihet til å bestemme hva som skal utføres i ditt arbeid?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C HELSE

Nedenfor finner du en oppstilling av plager som man av og til har.

Les nøye gjennom dem, en for en, og angi deretter hvor mye hvert enkelt problem har plaget deg eller vært til besvær i løpet av de siste 14 dagene

		Ikke i det hele tatt	Litt	Måtelig	Ganske mye	Veldig mye
C1	Nervøsitet, indre uro	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C2	Stadig redd eller engstelig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C3	Følelse av håpløshet med tanke på fremtiden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C4	Mye bekymret eller urolig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C5	Nedtrykt, tungsindig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C6 Hvis du har hatt psykiske problemer i løpet av det siste året, har du da søkt/fått hjelp for dette?

Ikke hatt psykiske problemer av betydning*

*Gå til spørsmål C13

Har ikke søkt hjelp selv om jeg nok kunne ha hatt behov for det

Ja, har konsultert allmennlege eller fastlege

Ja, har konsultert psykolog/psykiater

Ja, har vært innlagt i psykiatrisk avdeling

C7 Hvis du har vært i kontakt med psykolog/psykiater, hva slags behandling har du fått?

Det er mulig å sette flere klyss

1-5 samtaler

Flere enn 5 samtaler

Psykoterapi/psykoanalyse

Gruppeterapi

Medikamentell behandling

Hvis du har hatt psykiske problemer i løpet av det siste året, i hvilken grad mener du at følgende forhold var medvirkende til at det ble vanskelig for deg?

		Betydde ingenting	Betydde litt	Betydde endel	Betydde ganske mye	Betydde svært mye
C8	Personlige forhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C9	Forhold til familie/ektefelle/partner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C10	Sosiale forhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C11	Problemer i forbindelse med veterinæryrket	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C12	Andre forhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Livsløst

De følgende spørsmål dreier seg om du i løpet av det siste året har mistet livsløsten, og i så fall i hvilken grad?

C13 Har du noen gang i løpet av det siste året følt at livet ikke er verdt å leve?

Aldri Nesten aldri Noen ganger Mange ganger

C14 Har du i løpet av det siste året ønsket at du var død - f.eks. at du skulle sovne inn og aldri våkne igjen?

Aldri Nesten aldri Noen ganger Mange ganger

C15 Har du noen gang i løpet av det siste året tenkt på å ta livet ditt, selv om du vet at du ikke vil gjøre det?

Aldri Nesten aldri Noen ganger Mange ganger

C16 Har du noen gang i løpet av det siste året vært i den situasjonen at du alvorlig har overveiet å ta livet ditt og til og med planlagt hvordan du i såfall skulle gjøre det?

Aldri Nesten aldri Noen ganger Mange ganger

Hvis det har hendt, i hvilken grad mener du de følgende forhold var medvirkende til at det ble så vanskelig for deg?

	Betydde ingenting	Betydde litt	Betydde endel	Betydde ganske mye	Betydde svært mye
C17 Personlige forhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C18 Forhold til familie/ektefelle/partner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C19 Sosiale forhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C20 Problemer i forbindelse med veterinæryrket	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C21 Andre forhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C22 Har du i løpet av det siste året forsøkt å ta ditt eget liv?

Aldri Nesten aldri Noen ganger Mange ganger

Hvis det har hendt, i hvilken grad mener du de følgende forhold var medvirkende til at det ble så vanskelig for deg?

	Betydde ingenting	Betydde litt	Betydde endel	Betydde ganske mye	Betydde svært mye
C23 Personlige forhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C24 Forhold til familie/ektefelle/partner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C25 Sosiale forhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C26 Problemer i forbindelse med veterinæryrket	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C27 Andre forhold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Holdninger til aktiv dødshjelp

Aktiv dødshjelp er en samlebetegnelse på eutanasi og legeassistert selvmord. I noen europeiske land er aktiv dødshjelp tillatt, men i Norge er det ulovlig.

Eutanasi er en leges tilsiktede drap på en person ved å sette en sprøyte med dødbringende medikamenter etter at personen frivillig har bedt om det.

Legassistert selvmord er en leges hjelp til selvmord, ved å skaffe til veie medikamenter som personen kan innta selv.

Ta stilling til følgende påstander		Svært enig	Litt enig	Verken enig eller uenig	Litt uenig	Svært uenig
C28	Legeassistert selvmord bør tillates for personer som har en dødelig sykdom med kort forventet levetid.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C29	Eutanasi bør tillates for personer som har en dødelig sykdom med kort forventet levetid.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C30	Aktiv dødshjelp bør tillates også for personer som har en uhelbredelig kronisk sykdom, men ikke er døende.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C31	Det finnes tilfeller der det kan være riktig/moralsk forsvarlig av legen å utføre aktiv dødshjelp, selv om det er ulovlig.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Holdninger til psykiske lidelser

Ta stilling til følgende påstander		Svært enig	Noe enig	Ikke sikker/ubestemt	Noe uenig	Svært uenig
C32	Behandling kan hjelpe mennesker med psykiske lidelser til å føre et normalt liv.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C33	Folk er generelt sett omsorgsfulle og positivt innstilte overfor personer med psykiske lidelser.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D Personlige egenskaper

Ta stilling til følgende påstander

	Stemmer ikke	Stemmer
D1 Det er vanskelig for meg å stole på folk ettersom de så ofte vender seg mot meg eller lar meg i stikken	<input type="checkbox"/>	<input type="checkbox"/>
D2 På en eller annen måte føler jeg at jeg ikke vet hvordan jeg skal oppføre meg sammen med andre mennesker	<input type="checkbox"/>	<input type="checkbox"/>
D3 Jeg opplever meg selv som helt ulik til ulike tidspunkter	<input type="checkbox"/>	<input type="checkbox"/>
D4 Jeg føler meg ensom mesteparten av tiden	<input type="checkbox"/>	<input type="checkbox"/>
D5 Folk som virker bra til å begynne med, ender ofte opp med å skuffe meg	<input type="checkbox"/>	<input type="checkbox"/>
D6 Jeg føler det av og til som om jeg lever i en tåke	<input type="checkbox"/>	<input type="checkbox"/>
D7 Noen ganger føler jeg at jeg ikke er meg selv	<input type="checkbox"/>	<input type="checkbox"/>
D8 Folk kan oppfatte meg som uhøflig eller hensynsløs uten at jeg skjønner hvorfor	<input type="checkbox"/>	<input type="checkbox"/>
D9 Av og til får jeg rare tanker i hodet som jeg ikke er i stand til å få vekk	<input type="checkbox"/>	<input type="checkbox"/>

D10 Eventuelle kommentarer til spørreskjemaet?

Supplementary File 2 – Description of sample for veterinarians with serious suicidal thoughts

Variable	Range of values	Frequency (%)	Mean (SD)
Gender			
Female		108 (79.4%)	
Male		28 (20.6 %)	
Age			
20-30		16 (11.7 %)	
31-40		47 (34.3 %)	
41-50		41 (29.9 %)	
51-60		21 (15.3 %)	
61-70		10 (7.3 %)	
>70		2 (1.5 %)	
Marital status			
Married/cohabiting		82 (61.2 %)	
Single/divorced/widow(er)		52 (38.8 %)	
Life events	0-9		1.3 (1.4)
SCL-5	1-5		3.3 (1.0)
Reality weakness	0-8		3.2 (2.1)
Alcohol to cope			
Never		73 (53.3 %)	
Any frequency		64 (46.7 %)	
Main field of work			
Companion animal practice		53 (39.6 %)	
Public administration		21 (15.7 %)	
Mixed clinical practice		13 (9.7 %)	
Academia/research		11 (8.2 %)	
Production animal practice		11 (8.2 %)	
Aquaculture		6 (4.5 %)	
Equine practice		6 (4.5 %)	
Other		10 (7.5 %)	
Pensioner		3 (2.2 %)	
Job stress			
Emotional demands	1 - 5		2.44 (0.84)
Work/life-balance	1 - 5		3.22 (0.98)
Fear of complaints	1 - 5		3.63 (1.11)
Connection to work-life			
Employed		80 (58.4 %)	
Self-employed		37 (27.0 %)	
Other		11 (8.0 %)	
Two or more connections to work life		9 (6.6 %)	
Position type			
Permanent position		115 (87.8 %)	
Temporary position		6 (4.6 %)	
Temporary educational position		2 (1.5 %)	
Other		8 (6.1 %)	
Working full-time		101 (75.4 %)	

Frequency of working overtime (weekly or bi-weekly)		92 (71.9 %)	
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For peer review only

Supplementary File 3 – Additional analysis predictor model – Predictors of serious suicidal thoughts among veterinarians in Norway, without mental distress and reality weakness

	Adjusted ²	
	OR	95 % CI
Female	0.88	0.50 to 1.53
Age	1.02	0.92 to 1.13
Single	2.17***	1.44 to 3.27
Negative life events ¹	1.61***	1.39 to 1.86
Alcohol to cope	1.52*	1.02 to 2.27
Main field of work (ref. category= mixed clinical practice)		
Companion animals	1.17	0.59 to 2.30
Production animals	1.72	0.71 to 4.19
Equine practice	1.02	0.34 to 3.04
Aquaculture	1.23	0.39 to 3.89
Public administration	1.47	0.65 to 3.31
Academia/research	1.53	0.59 to 4.01
Other	0.80	0.29 to 2.17
Job stress		
Emotional demands	1.05*	1.003 to 1.104
Work/life-balance	1.08**	1.03 to 1.13
Fear of complaints	1.08*	1.001 to 1.164

¹The variable life events was entered into the model as a weighted variable ('Negative life events'), comprising the sum score of life events that was significant in a univariate model with the dependent variable.

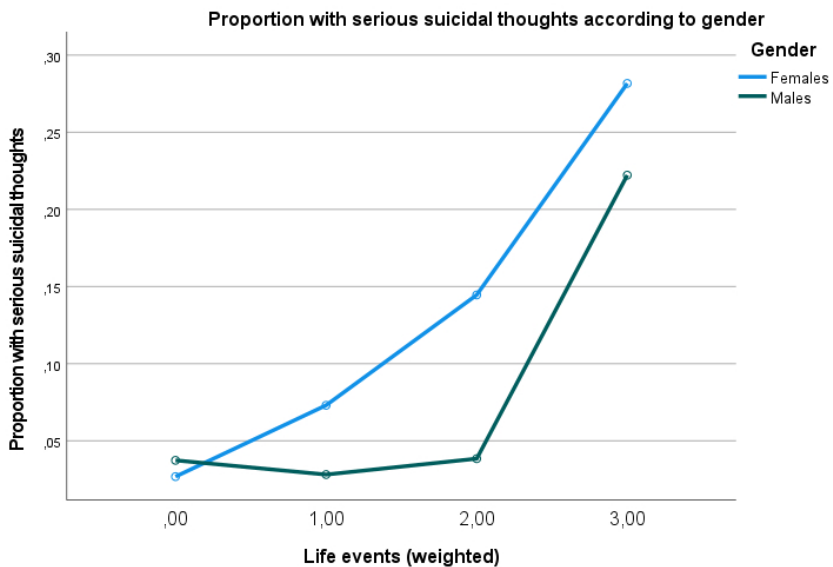
*P<0.05

**P<0.01

***P<0.001

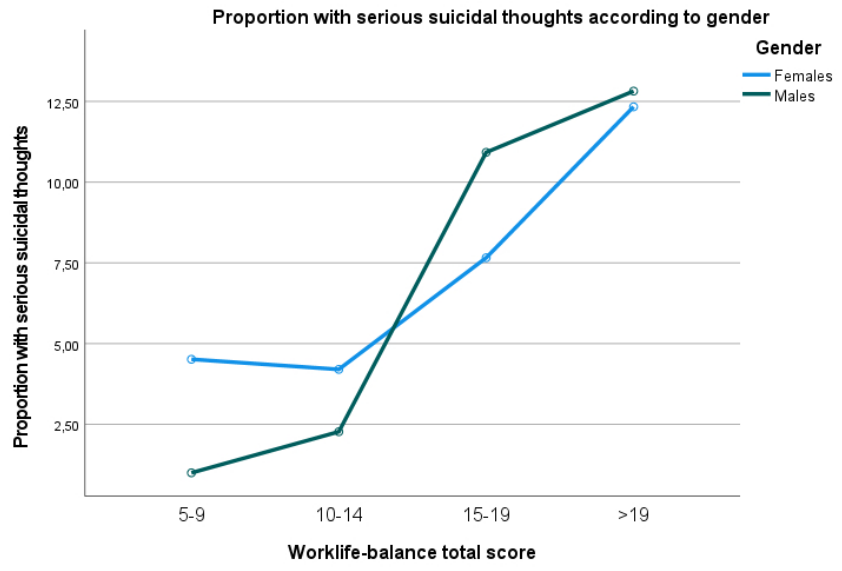
²In the adjusted model, all listed variables were simultaneously entered in the model, i.e. gender, age, civil status, negative life events, use of alcohol to cope, main field of work and the three job stress factors.

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STROBE 2007 (v4) Statement—Checklist of items that should be included in reports of *cross-sectional studies*

Section/Topic	Item #	Recommendation	Reported on page #
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	1
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	2
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	4-5
Objectives	3	State specific objectives, including any prespecified hypotheses	5
Methods			
Study design	4	Present key elements of study design early in the paper	5
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection of participants	5
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	6-8
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	6-8
Bias	9	Describe any efforts to address potential sources of bias	6
Study size	10	Explain how the study size was arrived at	6
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	6-8
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	8
		(b) Describe any methods used to examine subgroups and interactions	8
		(c) Explain how missing data were addressed	8
		(d) If applicable, describe analytical methods taking account of sampling strategy	NA
		(e) Describe any sensitivity analyses	NA
Results			

Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	NA
		(b) Give reasons for non-participation at each stage	NA
		(c) Consider use of a flow diagram	NA
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	9-11
		(b) Indicate number of participants with missing data for each variable of interest	9-14
Outcome data	15*	Report numbers of outcome events or summary measures	9-14
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	13-14
		(b) Report category boundaries when continuous variables were categorized	NA
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	NA
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	13-14
Discussion			
Key results	18	Summarise key results with reference to study objectives	15
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	17
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	15-17
Generalisability	21	Discuss the generalisability (external validity) of the study results	17
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	19

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at www.strobe-statement.org.