

**Perceived Stress and
Anxiety Attributed to
Outbreaks of Rabbit
Hemorrhagic Disease
(RHDV2) and COVID-19**

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Research Question: How do animal viruses affect mental health, and how can pets can help with Perceived Stress and Anxiety during outbreaks.

Purpose of this study:

- To examine the supportive roles that pets filled during the concurrent outbreaks of RHDV2 and COVID-19. This pioneering research fills a gap in scientific knowledge about how people processed a crisis caused by disease outbreaks by assessing their perceived stress and anxiety looking for trends between concurrent outbreaks of two diseases, one caused by a virus that affects mostly humans, and the other by a virus that affects both wild and domestic rabbits.

Problem Statement:

- Perceived Stress and anxiety have been extensively studied. However, it is not known how mental health compares between an animal virus and a human virus, nor how pets can help with mental health during outbreaks.

Experiment Methodology

Combined components from 3 validated mental health instruments:

Coronavirus Anxiety Scale (CAS)

Perceived Stress Scale (PSS-10)

Perceived Stress Scale for Coronavirus (PSS-10-C)

Recruit participants from those bringing rabbits to emergency vaccination clinics

Fall 2021- May 2022

Survey at baseline and after rabbit vaccine doses 1 and 2

Population N=690 adult pet owners

Survey scores were analyzed with ANOVA, Post Hoc Tukey test, t-tests.

Interpretation and Conclusions

Q1) ANXIETY/NEGATIVE STRESS

Outbreaks correlated with symptoms : 99%
75% for other sources.
OROM correlation with stress ($r=.87$)

Q2) STRESS DROPS AFTER RABBIT VACCINE

Drop 94% to 41% “some stress”
Drop 60% to 10% “ high stress”

COVID: 99% to 94% (not significant)

Q3, Q6) PROXIMITY MATTERS

Physical symptoms correlated with Anxiety (CAS)
increases as outbreaks shifts locally

Time spent thinking/researching increased

Q4) SIMILAR SYMPTOM RANKINGS

Emotionally, physically and relationally

* Frustration and confusion: medical information vaccine access.

Q5) SIMILAR STRESS FREQUENCY OVER TIME

Physical symptoms correlated with PSS
increases as outbreaks shifts locally

Population PSS was **moderate stress** throughout

Q7) DIFFERENT SOURCES OF INFORMATION

(COVID-19) Experts: 52%, Major media

(RHDV2) Experts: 30%, Nonprofit sites, social media

Q8/Q9) SUPPORT FROM PET RABBITS

70% Very Often

99% “Helped Often” in ways not met otherwise

REDUCE LONELINESS

CONVERSATION STARTER

COMFORT

IMPROVE QUALITY OF LIFE

UNCONDITIONAL LOVE

CALM

Data Analysis and Results Part II

(Q6) Percent with Perceived Stress (PSS)

STRESS	2020 WSp	2020 SF	2021 W Sp	2021 S	2021 F	2021 W
6A Upset at Unexpected	0.77	0.76	0.80	0.78	0.79	0.72
6B Unable to Control Important	0.73	0.76	0.73	0.67	0.87	0.81
6C Felt Nervous / Stressed	0.97	0.94	0.94	0.89	0.96	0.90
6F Not Coping with All the Things to Do	0.78	0.73	0.70	0.80	0.88	0.63
6I Angered at Things Outside Control	0.57	0.66	0.61	0.63	0.68	0.60
6J Can't Overcome Difficulties	0.56	0.59	0.64	0.54	0.75	0.69
6D* Unconfident Handle Problems	0.56	0.52	0.60	0.53	0.77	0.38
6E* Things Not Going Your Way	0.54	0.49	0.57	0.63	0.72	0.43
6G* Unable to Control Irritations	0.48	0.52	0.48	0.45	0.60	0.52
6H* Not Felt on Top of Things	0.54	0.43	0.41	0.59	0.89	0.39

- Share mental health screening tools with pet population/ farmers / animal nonprofit organizations for earlier intervention

Future Research

- Stratify population by companion animals and farmers, breeders and pet owners
- Compare data to other animal disease outbreaks (H1N1, and Swine Flu)

- Use the same forms as the COVID-19 Psychological Research Consortium to allow international comparison of data

Data Analysis and Results Part III

(Q9) Percent of Population:
Rabbit Support Not Given from Other Sources

FREQUENCY HELP	2020 W Sp	2020 S F	2021 W Sp	2021 S	2021 F	2022 V
TOTAL "OFTEN" (4+3)	0.94	0.94	0.97	0.89	0.98	0.98
4 Very often	0.73	0.79	0.85	0.74	0.92	0.88
3 Fairly often	0.21	0.15	0.12	0.15	0.06	0.10
2 Sometimes	0.05	0.05	0.02	0.11	0.02	0.02
1 Almost never	0.00	0.01	0.01	0.00	0.00	0.00
0 Never	0.01	0.00	0.00	0.00	0.00	0.00

- Pets help mental health in ways not met by other sources

"HOW RABBITS HELPED ME"	PERCENT: AGREED	"OFTEN"
Boosted my mood	1.00	0.88
Reduced loneliness	0.98	0.78
Provide conversation-starter	0.98	0.78
Provided comfort	0.98	0.87
Improved my quality of life	0.96	0.88
Gave me unconditional love	0.96	0.81
Brought calm	0.95	0.89
Decreased my stress	0.95	0.83
Increased feelings of support	0.92	0.61
Gave me someone to talk to	0.87	0.61
Gave me purpose/structure/stability	0.86	0.71
Helped me handle challenges	0.84	0.58
Helped me express emotions	0.80	0.51