

## ORIGINAL RESEARCH

# Question, persuade, refer suicide prevention training among individuals employed in the veterinary industry

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## ABSTRACT

**Objective:** Individuals who work in the veterinary industry are at increased risk of poor mental health outcomes and suicide. Rates of serious psychological distress has been worsening amongst this population over recent years. Veterinarians and veterinary technicians are up to five times more likely to attempt suicide in comparison to the general public. There are limited data available on veterinary assistants and additional support staff that work in the industry. Question, Persuade, Refer (QPR) is a suicide prevention training program shown to have both short-term and long-term benefits. QPR is offered for free to members of the American Veterinary Medical Association; however, there are no known studies looking at QPR's effectiveness within the veterinary industry. The purpose of this project is to determine if QPR training is effective in increasing the knowledge surrounding suicide prevention so that individuals working in the veterinary industry are better equipped to identify and refer at-risk colleagues.

**Methods:** Participants completed a pretest, a QPR online education module, and a posttest. Descriptive statistics and a paired Wilcoxon signed rank test were used to analyze the results.

**Results:** QPR suicide prevention training resulted in an increase in score for all questions between the pre- and post-test, with seven out of nine having statistical significance.

**Conclusions:** QPR is a suicide prevention training that can be used to teach individuals who do not have a background in mental health how to recognize warning signs of suicide, interact with an individual who may be experiencing suicidal thoughts, and guide the individual to seek professional help. Increasing awareness and knowledge on the topic can help individuals within the veterinary industry identify at-risk colleagues, improve mental health outcomes, and reduce the number of suicides within the industry.

**Key Words:** Mental health, Suicide, Suicide prevention, Veterinary medicine

## 1. INTRODUCTION

The National Occupational Research Agenda (NORA) Healthcare and Social Assistance Sector identifies individuals who work in the veterinary industry as a high-risk, understudied population regarding occupational hazards.<sup>[2]</sup> Additional evidence shows that individuals who work within this industry are at increased risk for mental health issues

such as burnout, anxiety, depression, and substance abuse, in addition to suicide.<sup>[3-8]</sup> Job roles within this industry include veterinarians, veterinary technicians, veterinary assistants, kennel assistants, hospital administration, and office staff.

Merck Animal Health completed the Veterinary Wellbeing Study in 2018, 2020, and 2022 to assess the overall wellbe-

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ing and mental health of veterinarians. Key findings of these studies included that there has been an increase in serious psychological distress among women veterinarians, that veterinarians report a higher level of burnout in comparison to their physician counterparts, and that veterinarians are more likely to experience suicidal ideations and attempt suicide in comparison to the public.<sup>[9-11]</sup> According to the American Veterinary Medical Association,<sup>[12]</sup> 1 in 6 veterinarians have contemplated suicide.

Veterinary technicians are at increased risk of poor mental health outcomes and suicide in comparison to the public. A study completed by Kogan et al.<sup>[4]</sup> identified that almost 60% of veterinary technicians had emotional exhaustion levels higher than the threshold for burnout. Emotional exhaustion is defined as feeling emotionally worn out or drained due to constant or near constant adverse or challenging events in life. It can impact not only physical health but also mental health and job performance.<sup>[13]</sup> It can contribute to the development of depersonalization or cynicism and is one of three components of burnout.<sup>[14]</sup> Hayes et al.<sup>[3]</sup> found that almost 13% of veterinary technicians met the diagnostic criteria for depression as defined by the Hospital Anxiety and Depression Scale (HADS). Standardized mortality ratios for male veterinary technicians and technologists were 5.0, whereas females were 2.3.<sup>[8]</sup>

The Merck Health Veterinary Team Wellbeing Study focused on assessing the overall mental health of veterinary technicians, veterinary assistants, kennel assistants, hospital administration or practice management, and receptionists. Results found that 5.8% of veterinary technicians identified that their mental wellbeing was suffering, as were veterinary assistants (9.5%), hospital administration or hospital management (3.7%), and reception or client representative (9.7%).<sup>[15]</sup> It was also found that 31% of veterinary technicians experience high or very high levels of burnout, veterinary assistants (24%), hospital administration or practice management (21%), and reception or client services (20%).<sup>[15]</sup> In addition, 20.1% of veterinary technicians met criteria for serious psychological distress, veterinary assistants (26.2%), hospital administrator or practice manager (10.6%), and reception or client service representative (23.7%).<sup>[15]</sup>

Question, Persuade, Refer (QPR) is a suicide prevention gatekeeper training program. It seeks to teach individuals who do not have a mental health background how to recognize warning signs of suicide, interact with an individual who may be experiencing suicidal ideation, and guide the individual to seek professional help.<sup>[16]</sup> QPR suicide prevention training is available to individuals who work in the veterinary industry through the American Veterinary Medical Association at no

charge; however, available literature has not evaluated its use among this specific population.

The QPR tool has not been validated among veterinary professionals; however, it has been validated among other populations. Available literature assesses the use of QPR in populations such as university settings,<sup>[17,18]</sup> individuals who work with youth,<sup>[19]</sup> and healthcare workers that do not work in the psychiatric setting.<sup>[20]</sup> QPR training has shown to be effective in the short-term when it comes to improving knowledge and ability to recognize warning signs of suicide and intervene appropriately.<sup>[17,18]</sup> In addition, some researchers have shown that QPR training is effective in the long-term setting, up to two years after the initial training,<sup>[19]</sup> whereas others show results were not maintained after three months.<sup>[20]</sup> The purpose of this project is to determine if QPR training is effective in increasing the knowledge surrounding suicide prevention so that individuals working in the veterinary industry are better equipped to identify and refer at-risk colleagues.

## 2. METHODS

This project used the Iowa Model as a framework. The Iowa Model guides the implementation of evidence-based practice through five steps: (1) problem identification; (2) identify, appraise, and synthesize available evidence; (3) design and implementation of practice change; (4) evaluation and sustainability of practice change; and (5) dissemination of results.<sup>[21]</sup> It is a validated model within evidence-based practice and has been implemented in multiple and diverse settings.<sup>[21]</sup>

The project took place at Route 50 Veterinary Care, a rural veterinary clinic located in Fayetteville, Ohio. Route 50 Veterinary Care is a mixed-animal practice, serving canine, feline, and equine patients. In addition to wellness and preventive care, they also do surgery, reproductive medicine, dental care, pain management, rehabilitation, and alternative medicine. Staff includes two licensed veterinarians, two licensed veterinary technicians, three veterinary assistants, and three front desk staff. A total of ten ( $n = 10$ ) individuals participated in the training and completed both pre- and post-tests. The training was offered in-person; however, one participant completed it online due to not being at work the day of the training. This study was approved by the Institutional Review Board of the University of Cincinnati, College of Nursing.

The tool used for this project was the pre- and post-test developed by the QPR Institute. The pre-test was completed, then participants engaged in an interactive training module, followed by the post-test. This tool consists of demo-

graphic questions, in addition to questions on knowledge of suicide. Demographic information was not analyzed or used to stratify results. QPR questions ask participants to rate their knowledge of suicide in the following areas: warning signs of suicide, suicide prevention, how to interact with an individual who may be experiencing suicidal ideation and helping an individual in crisis seek mental health help. These questions are scored as low, medium, and high. In addition, there are questions on whether asking an individual about suicidal ideation and personal level of comfort doing do. These questions were scored as never, sometimes, and always. Data was recoded for analysis, with low/never = 0, medium/sometimes = 1, and high/always = 2. Statistical analyses were performed using JMP Pro 17. Descriptive statistics were used to identify the measures of central tendency, such as mean. In addition, a Wilcoxon test was used to measure the difference between pre- and post-test data.

### 3. RESULTS

Scores increased between the pre- and posttest for all questions (see Table 1). Items one through six focused on knowledge pertaining to suicide prevention and warning signs, how to ask someone about suicide, how to persuade an individual to get help, how to get help for an individual, and local resources that may be available to them. Item one focused on knowledge on facts concerning suicide prevention and had a pre-test mean score of 1.1 (median = 1) and a post-test mean score was 1.8 (median = 2). Item two was knowledge on warning signs of suicide (pre-test mean = 1, median = 1;

post-test mean = 1.9, median = 2). Item three was knowledge on how to ask someone about suicide (pre-test mean = 1, median = 2; post-test mean=0.9, median = 1.8). Item four was knowledge on how to persuade someone to get help (pre-test mean = 1, median=2; post-test mean = 0.9, median = 1.8). Item five asked about knowledge on how to get help for someone (pre-test mean=1, median=1.5; post-test mean = 1, median = 1.5). Item six was knowledge on local resources for help with suicide (pre-test mean = 0.5, median = 1; post-test mean = 0.5, median = 1.3). Item seven asked if it was appropriate to ask someone about suicide (pre-test mean = 1, median = 0; post-test mean = 1.2, median = 1.8). Item eight asked if you are likely to ask someone if they're thinking about suicide (pre-test mean = 1, median = 0; post-test mean=1.3, median = 1.7). Lastly, item nine asked about the overall level of understanding about suicide and suicide prevention (pre-test mean = 1, median = 2; post-test mean = 0.8, median = 1.8).

Seven out of nine items had statistical significance, including items of 'knowledge on how to ask someone about suicide' (95% CI [0.49393, 1.30607],  $p = .0078$ ) and 'knowledge of how to persuade someone to get help' (95% CI [0.37216, 1.42784],  $p = .0156$ ). There were two items that did not have statistical significance between pre- and posttest. These included 'are you likely to ask someone if they're thinking about suicide' (95% CI [0.03059, 0.76941],  $p = .1250$ ) and 'knowledge of how to get help for someone' (95% CI [0.12297, 0.87703],  $p = .0625$ ).

**Table 1.** QPR pre- and post-test results and analysis

Item	Median		Mean		S-statistic	p-value	95% CI	
	Pre	Post	Pre	Post				
Knowledge on facts concerning suicide prevention	1	2	1.1	1.8	22.500	.0313	0.21717	1.18283
Knowledge on warning signs of suicide	1	2	1	1.9	24.500	.0156	0.37216	1.42784
Knowledge on how to ask someone about suicide	1	2	0.9	1.8	26.000	.0078	0.49393	1.30607
Knowledge of how to persuade someone to get help	1	2	0.9	1.8	24.500	.0156	0.37216	1.42784
Knowledge on how to get help for someone	1	1.5	1	1.5	20.000	.0625	0.12297	0.87703
Knowledge on local resources for help with suicide	0.5	1	0.5	1.3	22.500	.0313	0.23572	1.36428
Is asking someone about suicide appropriate?	1	0	1.2	1.8	22.500	.0313	0.23059	0.96941
Are you likely to ask someone if they're thinking about suicide?	1	0	1.3	1.7	17.000	.1250	0.03059	0.76941
Level of understanding about suicide and suicide prevention	1	2	0.8	1.8	27.000	.0039	0.66278	1.33722

## 4. DISCUSSION

Identification of individuals who may be experiencing suicidal ideations is a key component of a comprehensive approach to suicide prevention. The goal of a gatekeeper suicide prevention training is to provide training to individuals who have regular contact with populations who have higher risk of suicide.

There were some discrepancies between the results of this project. There was a statistical significance between the item asking about the knowledge of how to ask someone about suicide; however, there was not statistical significance in the item asking about if they are likely to ask someone if they are thinking about suicide. This introduces a dissonance as individuals may know how to ask but they are choosing to not do it.

Another discrepancy is that there was statistical significance on the item asking about the knowledge on how to persuade someone to get help with suicidal thoughts; however, there was not statistical significance on the item asking about the knowledge of how to get help for someone. If individuals can convince someone to seek out help for suicidal ideations but are unable to assist with identifying higher levels of care or treatment options, this creates a barrier in access to care.

There are multiple barriers that impede effective suicide prevention interventions. These include stigma surrounding mental health and fear of professional or social repercussions for seeking out help, both of which can preclude help-seeking. It is often engrained in the culture of veterinary medicine to not discuss mental health,<sup>[22]</sup> and those who practice in the field often cite concerns of losing their jobs or the ability to practice veterinary medicine if they seek out help for mental health concerns.<sup>[5]</sup> In addition, lack of access to mental health services or long-wait times are also problematic. Nett et al.<sup>[23]</sup> found that 17% of veterinarians were either unsure, disagreed, or strongly disagreed with the statement that mental health treatment is accessible and only 19% of those who met the criteria for serious psychological distress were receiving some form of treatment.

There are several limitations that should be acknowledged in the present study. The small sample size and single-site design limit the generalizability of results to broader veterinary populations. Furthermore, reliance on self-reported data introduces the possibility of response bias, which may have influenced participants' reporting of attitudes or perceived knowledge on the topic of suicide and suicide prevention. Additionally, the lack of a control group makes it difficult to determine whether the observed changes were directly attributable to the intervention versus external factors or temporal effects. Finally, it is important to note that the QPR tool

has not been formally validated among veterinary professionals, which raises concerns regarding the appropriateness and reliability of the training outcomes within this occupational group.

While the results of this project indicate that QPR suicide prevention training helps improve overall knowledge on suicide and suicide prevention, it also introduces opportunities for additional training. Future training needs to focus on building the skills necessary to ask individuals if they are experiencing suicidal ideation. This could be in the form of role-playing techniques and trainings to build comfort surrounding these questions. Additionally, future trainings should include discussion as to how to get help for individuals who may be experiencing suicidal ideations. This could include identifying if an individual is in an active mental health crisis and needs emergent intervention or if they can seek help through an outpatient provider.

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## AUTHORS CONTRIBUTIONS

Dr. A. Erbe and Dr. Gillespie were responsible for study design and revising. Dr. A. Erbe was responsible for data collection. Dr. B. Erbe contributed her expert opinion as a veterinary professional. All authors read and approved the final manuscript.

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## CONFLICTS OF INTEREST DISCLOSURE

The authors declare that there is no conflict of interest.

## INFORMED CONSENT

Obtained.

## ETHICS APPROVAL

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## PROVENANCE AND PEER REVIEW

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## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

**DATA SHARING STATEMENT**

No additional data are available.

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