Bee Calm Bee Well
Addressing Veteran Mental Health with Beekeeping



HEROES TO HIVES
SERVICE · DUTY · HONOR

HIVES
Honeybee Initiative for Veteran's Empowerment and Support

Dr. Adam Ingrao (H2H), Valerie Carter (VA), Dr. Jessie Bennett (UNH), and Christine Gould (VA)

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Heroes to Hives

- Est. 2015
- Largest ag education program for US service members
- 9-month science-based beginning beekeeping education course
- Free to service members, their dependents, Gold Star families, VA staff, and VSOs
- Over 15,000 trained and 3,200+ in 2025 cohort



HIVES Program

HIVES
Honeybee Initiative for Veteran's Empowerment and Support

- Est. 2019
- Manchester VA Medical Center, NH
  - Oklahoma City, OK
  - Kansas City, MO
  - Palo Alto, CA
- Using beekeeping as a therapeutic intervention using evidence-based practices



Historical Context

Egyptian traditions

- Bees are gift from Ra

Celtic traditions

- Bees are intermediaries between the world of dead and living

Slovenian traditions

- Bees as a healer



Relief with beekeeper at hives
Tomb of Pabesa, Egypt 664 BCE



Apitherapeutic practices in Slovenia



The Widow by Charles Napier Hemy
1895

Therapeutic Beekeeping

Heroes to Hives and VA HIVES

- Lots of anecdotal evidence that beekeeping helps veterans with anxiety/depression, isolation, sense of purpose… but no peer-reviewed research
- Animal therapy is a well-established intervention
- Collaboration sought to establish beekeeping as an evidence-based therapy



Therapeutic Beekeeping

Working beyond the limits of personal identity to engage in a deeper way with our bees

- Service and generosity
- Gratitude
- Refining awareness
- Cultivating wisdom
- Redirecting motivation
- Managing emotions

Improve mental health!



Practices

Therapeutic Beekeeping Practices

- Breathing and grounding
- Guided imagery
- Sensory exploration (5 senses)
- Yoga for beekeepers
- Creating and crossing a threshold
- Bee bathing
- Communing with bees
- Active meditation
- Steps of gratitude





Research

Therapeutic Recreation Journal
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https://doi.org/10.18666/TRJ-2024-V58-I4-12407

Healing Hives

Exploring the Effects of Beekeeping on Veteran Mental Health and Quality of Life

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Jessie L. Bennett
Christine Gould

Abstract

Veterans experience higher risks of suicide and mental health disorders due to the traumas of military service, disabilities, and the difficulties of reassimilation into civilian life. Therapeutic interventions using human-animal interactions have shown promising results in reducing many risk factors affecting veterans' quality of life. This quality improvement project sought to consider if veterans participating in a recreational therapy program focused on beekeeping and administered by the Department of Veteran Affairs would experience quality of life improvements using a standardized EQ-5D-5L assessment. Our results indicate significant changes in mobility, anxiety/depression, and overall health for veterans participating in beekeeping as a recreational therapy. Implications for practice and future research are presented.

Methods

2022 Beekeeping season conducted pre and post-surveys of veterans participating in VA therapeutic beekeeping program (HIVES)

- Program goals
  - Learn/improve skills for beekeeping
  - Improve quality of life and overall wellness
  - Increase self-esteem through building leisure/recreation skills
  - Connect with communities (beekeepers) and use common interests to increase social connections.
  - Decrease feelings of isolation by connecting with other veterans
  - Increase coping skills for stress, anxiety, and depression through program participation

Methods

Evaluation: EQ-5D-5L

- Measures 5 health dimensions + overall health
  - Mobility
  - Self-care
  - Usual activities
  - Pain/discomfort
  - Anxiety/depression

Results

Comparison of Pre- and Post- Session Scores on Quality of Life for Veterans in the HIVES Program

Outcome	Pre-Session		Post-Session					
	M	*SD*	*M*	*SD*	*df*	*t*	*p*	% Change
Mobility	2.00	1.135	2.15	1.154	45	-2.197	0.033*	7.5%
Self Care	1.11	0.315	1.22	0.467	45	-1.946	0.058	9.9%
Usual Activity	2.07	1.083	2.11	1.159	45	-0.628	0.533	1.9%
Pain/Discomfort	2.74	1.255	2.63	1.199	45	1.401	0.168	4%
Anxiety/Depression	2.65	1.197	1.83	0.851	45	6.582	0.000*	30.9%
Total	10.57	3.874	10.09	3.966	45	1.518	0.136	4.5%
VAS	68.24	13.842	74.89	12.385	45	-4.233	0.000*	9.8%

Carter et al., 2024

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Practices

Sensory exploration - 5 senses mindfulness (outside of the apiary)

- Visualization exercise focused on the senses activated while working bees
- Helps with grounding before entering the hive



Practices

Yoga for beekeepers (outside of the apiary)

- Tapping into the body and how it feels
- Prepare the body working in the apiary
- Slow the mind and focus on the present

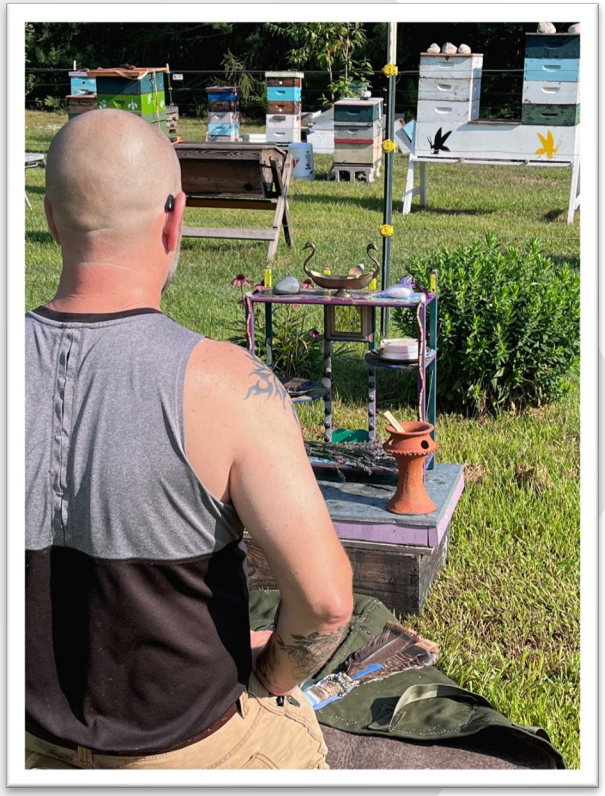


Practices

Crossing a threshold (moving into the apiary)

- What does it mean to cross a threshold?
  - Leaving one reality and entering another with intention and gratitude
  - Use of alters at thresholds





Practices

Bee bathing (in the apiary or landscape)

- Focus on the bees and other insects foraging
- Behaviors
- Movements
- Sounds of the insects
- Immersive practice



Practices

Communing with bees (in the apiary)

- Celtic tradition bees as messengers
- Speak your truth (telling)
- Struggles/triumphs
- Transitions
- Messages to ancestors
- Quiet connection (listening)



Practices

Active meditation (in the apiary)

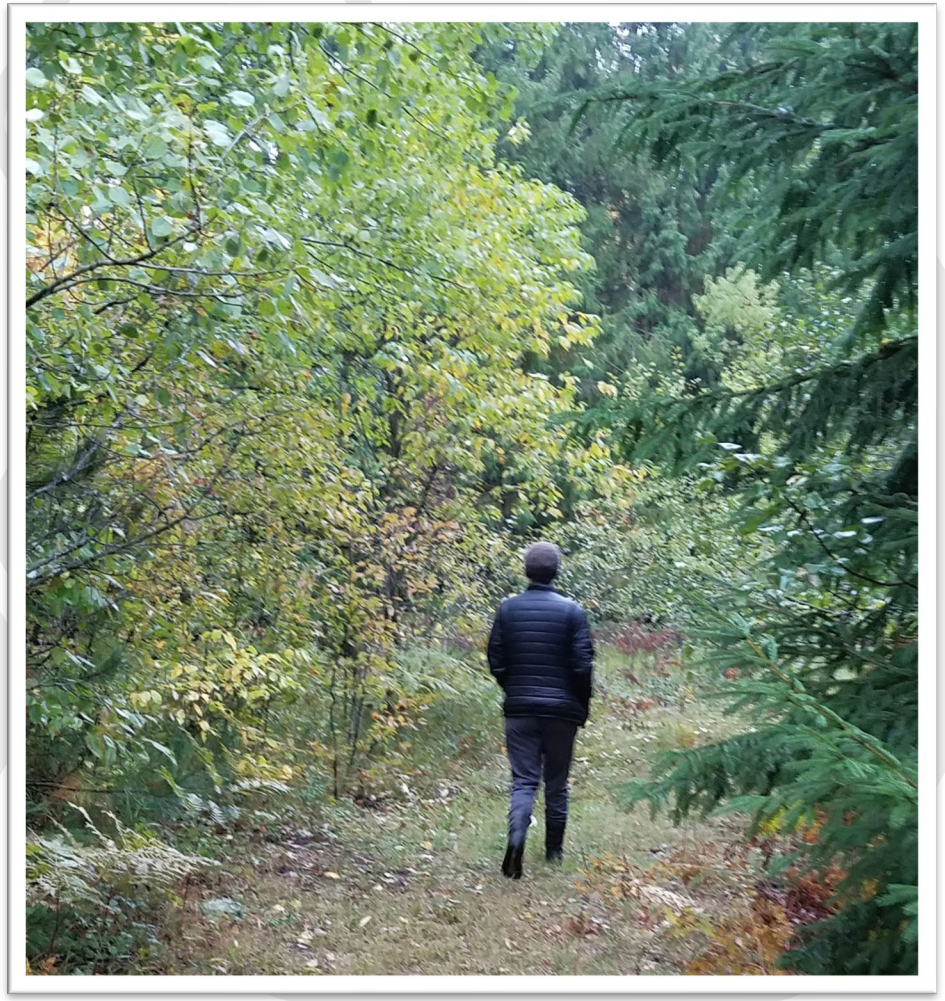
- Mindfulness
- Awareness
- Breathing
- Intention
- Methodical movements
- Practice in patience



Practices

Steps of gratitude (in or out of the apiary)

- Being grateful allows to connect to something larger than ourselves
- Increase in positive emotions
- Improvements in health
- Builds stronger relationships
- Helps deal with adversity



Practices

Breathing exercise (outside the apiary)

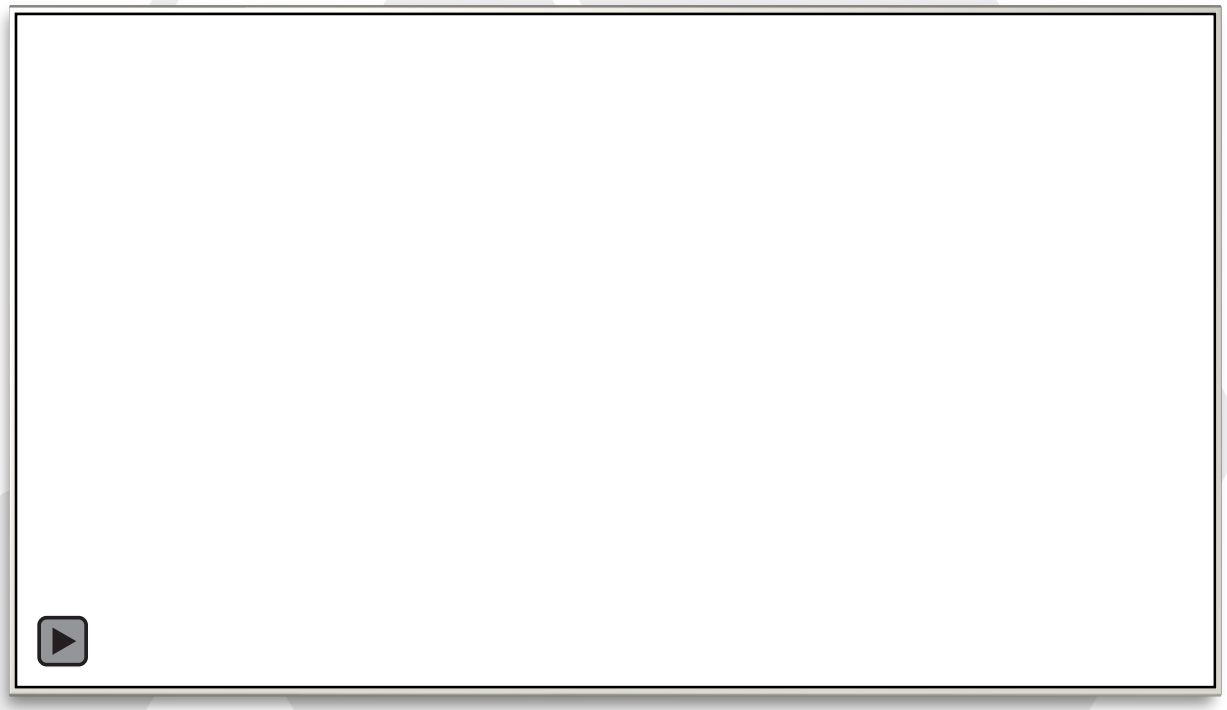
- How we breathe impacts our:
  - Nervous system
  - Emotions
  - Anxiety
  - Stress
  - Mental clarity
- Diaphragmatic breathing
- Bee breathing (Bhramari pranayama)



Practices

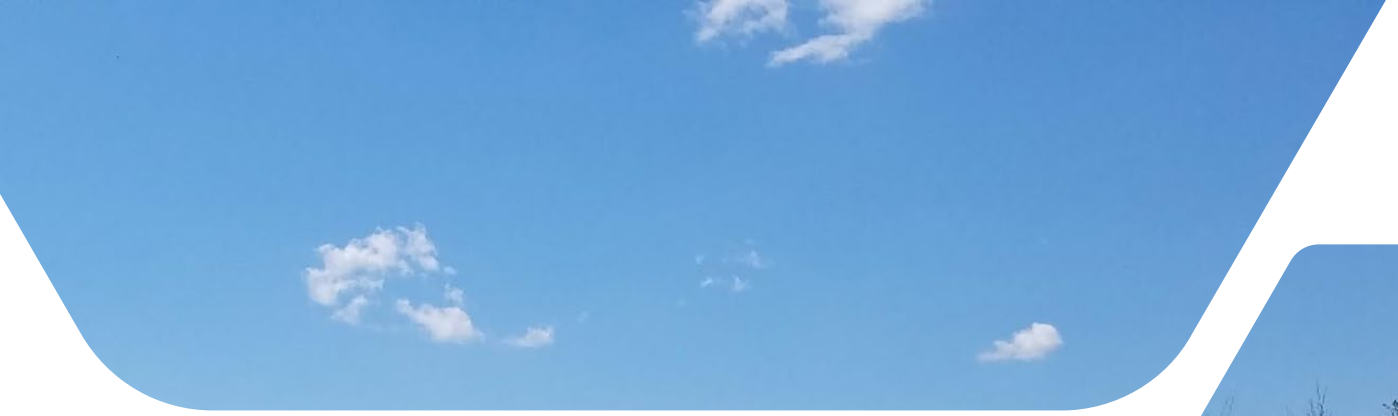
Guided imagery (outside the apiary)

- Going through the full visualization of working through a bee hive
- Provides frame of reference
- Reduces anxiety about uncertainties



Conclusions

- Therapeutic beekeeping interventions can reduce anxiety/depression in veterans
- Beekeeping as an intervention may decrease mobility – alternative hive styles?
- Veterans see improvements in overall health through therapeutic beekeeping
- Need for more replication
- Do we see the same results outside of the VA?
- Professional training is needed for clinicians and professional beekeeping educators





Thank you!

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Heroes to Hives

Michigan Food and Farming Systems

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