

APPENDIX: Examining effects of equine-assisted activities to help combat veterans improve quality of life

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METHODS

Qualitative data were collected using postintervention questions to gain a better understanding of the behavioral changes reported by veterans participating in the therapeutic riding (TR) program.

Quantitative data were collected at set time intervals using two questionnaires, the 36-Item Short Form Health Survey version 2 (SF-36v2) and Beck Depression Inventory-2nd edition (BDI-II). The SF-36v2 is a multipurpose, short-form health assessment with 36 questions [1]. The survey is designed to measure functional health and well-being by assessing eight health attributes using eight multi-item scales containing 2 to 10 items each. The BDI-II consists of 21 multiple-choice questions designed to assess specific attitudes or symptoms using a 0 to 3 scale, where 0 = minimal and 3 = severe [2].

Population

Thirteen veterans volunteered to participate in the program—3 females and 10 males ranging from 29 to 52 yr old (mean \pm standard deviation: 35.5 ± 6.9 yr) and having experienced one to three deployments to Iraq and/or Afghanistan (1.50 ± 0.66). The participants had multiple medical diagnoses: posttraumatic stress disorder (11); stroke (1); physical disabilities such as back pain, facial reconstruction, arm injuries, hand injuries, knee injuries, and neck injuries (9); traumatic brain injury (3); and military sexual trauma (1).

All institutional review board and animal care approvals were obtained prior to the study and each participant signed an informed consent form. We collected baseline information on each participant using the SF-36v2 and BDI-II. The participants completed both the SF-36v2 and BDI-II after 6, 12, and 24 sessions.

RESULTS

Of the 13 participants that started the program, only 7 (54%) completed the 24 sessions. Reasons for leaving the program early included moving to another city or state ($n = 3$, 23%) and becoming too busy with life to attend sessions ($n = 3$, 23%). We conducted independent t -tests comparing scores across time (T1–T3) to determine whether there were differences between the completers and noncompleters. No significant differences were found. Further, personal communication with the veterans who relocated after 12 weeks ($n = 3$) reported that they were pursuing participation in other equine-assisted activities in their new locations, which indicated to us that they enjoyed TR and/or found it beneficial.

We collected qualitative data using postintervention interviews with the participants who completed 24 sessions. Six participants agreed to be interviewed. A predefined set of questions was asked of each participant. The following questions were asked and answered:

1. Why did you decide to try the Equine Services for Heroes program?
2. In what ways have you changed since being involved in the program?
3. How soon did you start to notice a difference?
4. What are your most important relationships within the Equine Services for Heroes program (meaning working with the horse, the instructor, or your fellow veterans)?
5. How is working with a horse different than working with a person?
6. What did you learn about yourself from working with a horse?
7. Where do you see yourself in 5 yr? Or in 10 yr? How has the Equine Services for Heroes program helped with that vision?

Qualitative Results

All interviews were audiotaped, transcribed, and condensed to reveal codes and themes. Intercoder reliability was tested using standard qualitative analysis procedures. Qualitative analysis of the postintervention interviews revealed several important emerging themes.

Quantitative Results

We collected quantitative data using the SF-36v2 and BDI-II. For the intervention analysis phase, we divided the participants into two groups based on how many sessions and testing periods they

completed. Thirteen participants completed three testing periods (T1–T3) or 12 total intervention sessions (group 1), and seven participants continued to complete four testing periods (T1–T4) or a total of 24 sessions (group 2). Data analysis of the quality of life indicators (health domains) for group 1 revealed an increase in group mean scores across six of the eight health domains (**Figure 1**). Analysis of group 2 revealed an average increase in group mean scores of 5 points over time in seven out of the eight health domains (**Figure 2**). Examination of the BDI-II data revealed similar trends as those established by the SF-36v2 assessment analysis. For group 1, the occurrence of depression symptoms decreased over time (T1–T3). The participants indicated fewer depression symptoms, dropping almost 6 points from T1 to T3 but remaining in the moderate depression range (**Figure 3**). The participants who continued with the intervention (group 2) reported a decrease in depression symptoms as well, dropping an average of 5 points between T1 and T4. (**Figure 4**).

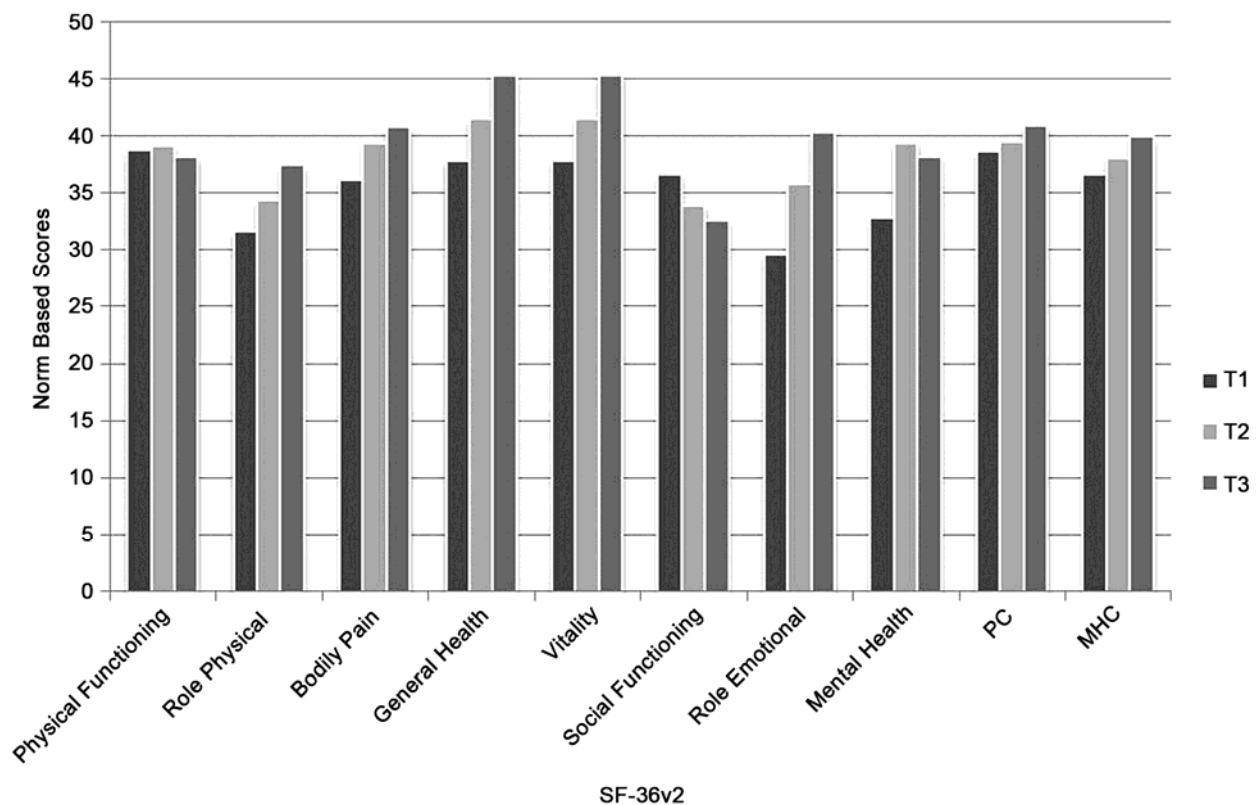


Figure 1. 36-Item Short Form Health Survey version 2 (SF-36v2) scores from time (T) 1 to T3, $n = 13$.

MHC = mental health component, PC = physical component.

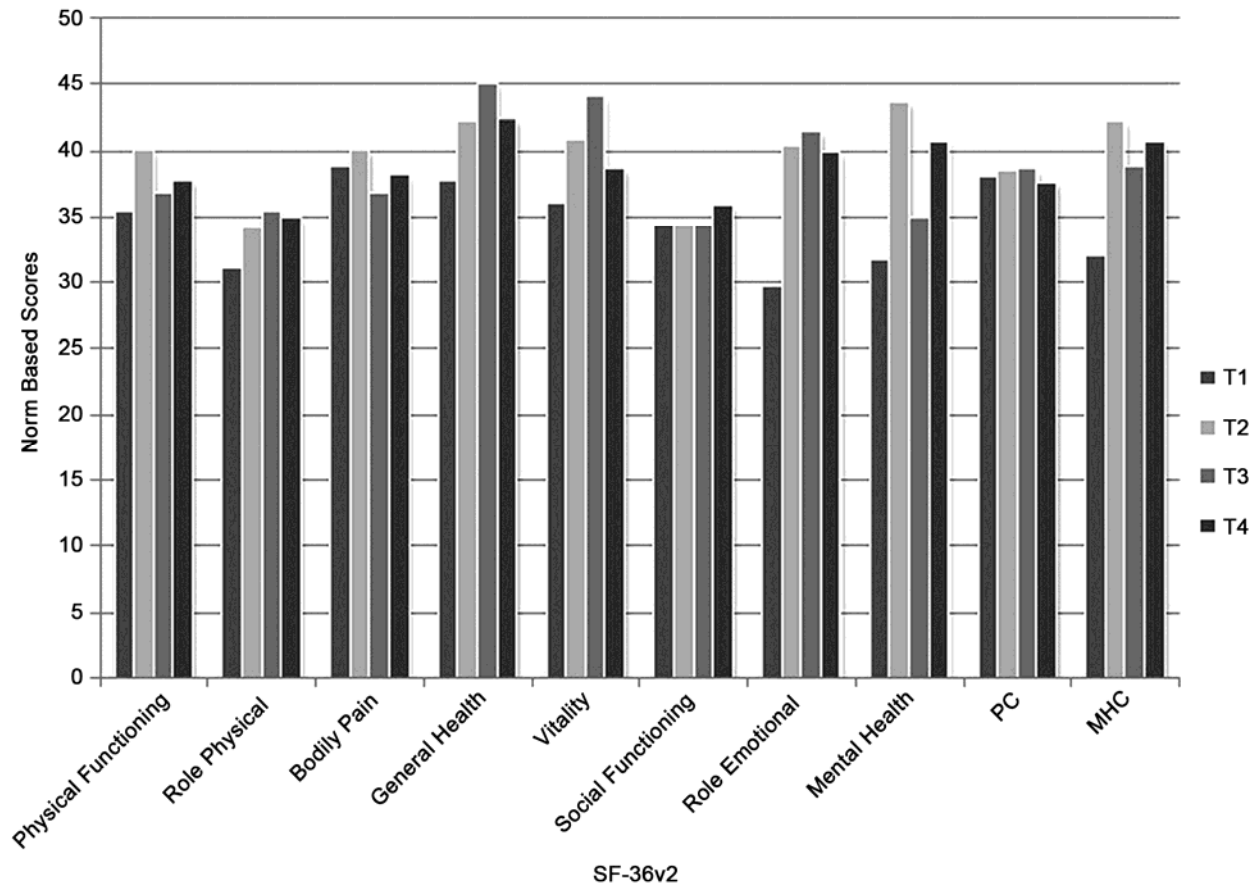


Figure 2. 36-Item Short Form Health Survey version 2 (SF-36v2) subscale scores from time (T) 1 to T4, $n = 7$. MHC = mental health component, PC = physical component.

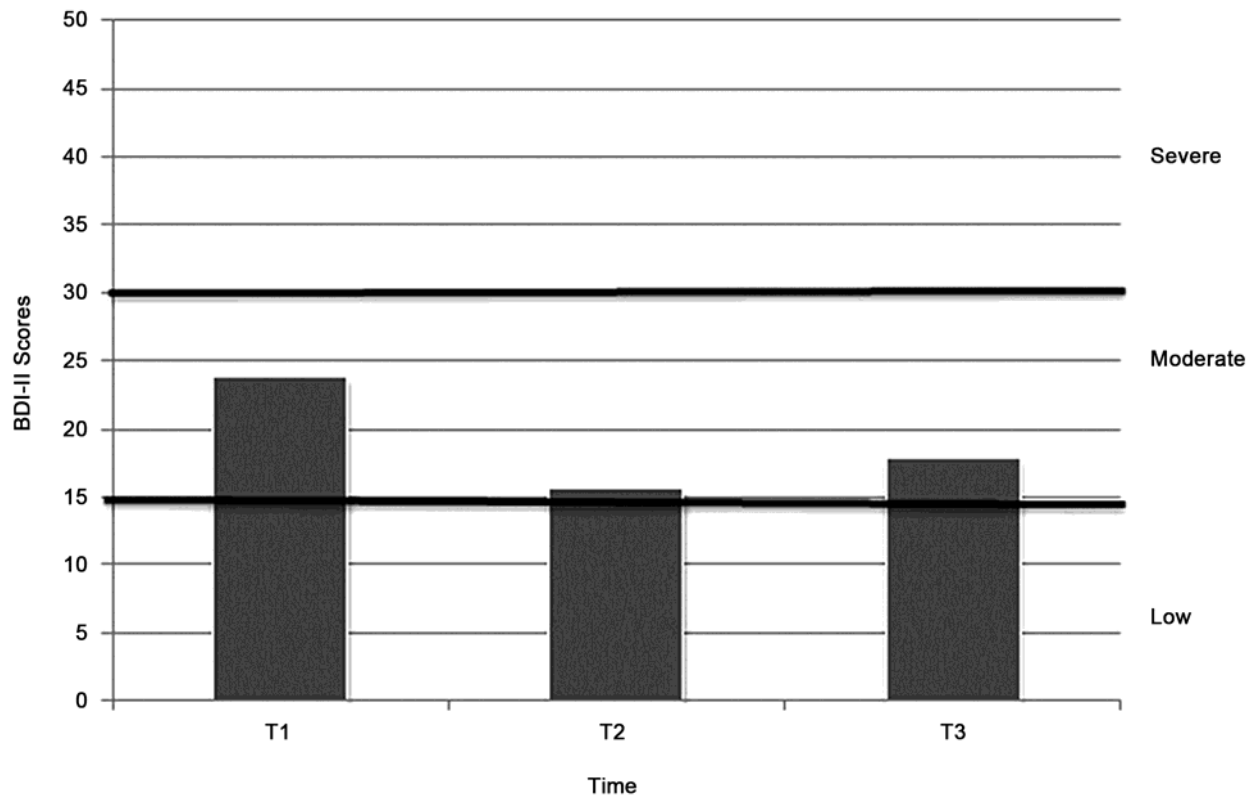


Figure 3. Beck Depression Inventory-2nd edition (BDI-II) scores from time (T) 1 to T3, $n = 13$.

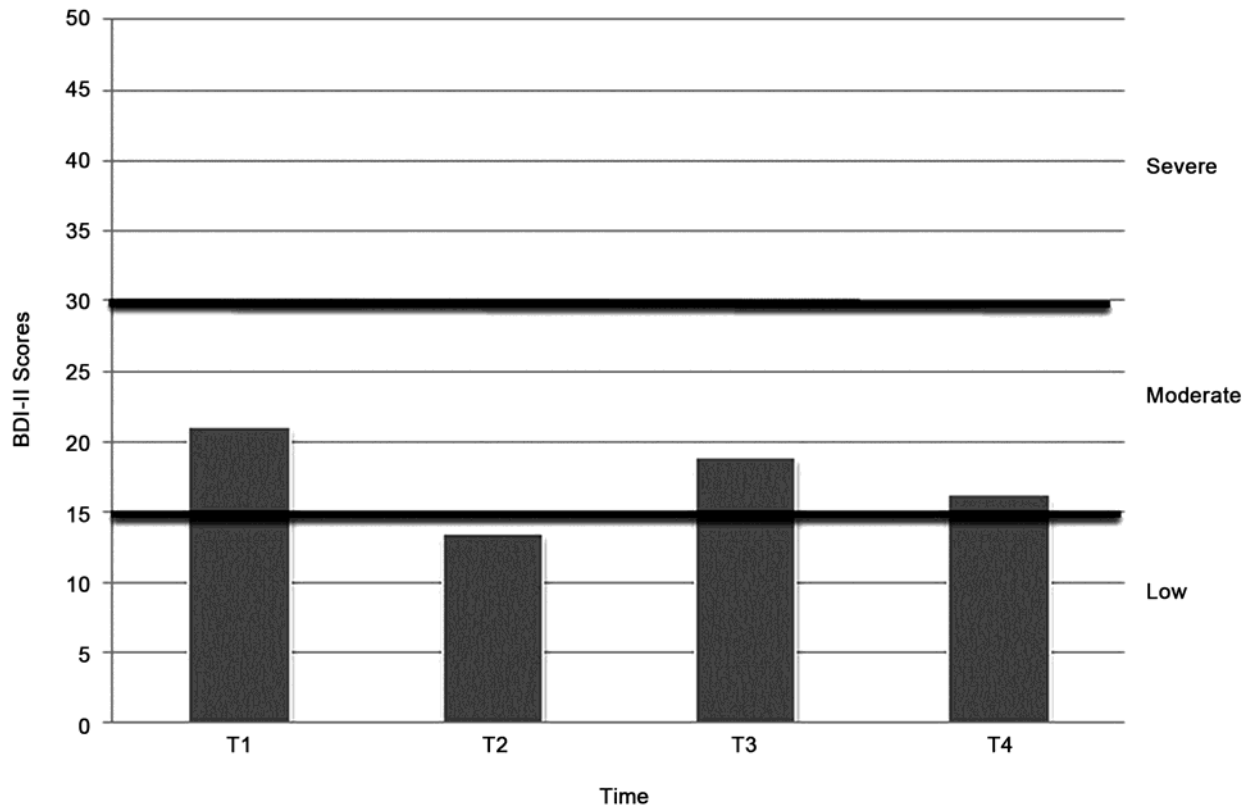


Figure 4. Beck Depression Inventory-2nd edition (BDI-II) scores from time (T) 1 to T4, $n = 7$.

REFERENCES

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