

Coping Skills Education to Reduce PTSD in EMS Providers

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Introduction

- EMS personnel are exposed to traumatic events while performing occupational duties \rightarrow increased risk of PTSD ₁
- Adaptive coping mechanisms can be protective against development of PTSD symptoms

This project will implement a coping skills education intervention and evaluate effectiveness on reducing PTSD symptoms in EMS personnel

Background/Significance

Higher prevalence of PTSD among EMS than general population:

- General population 8%, EMTs 22%, Paramedics 10.6% 2610 Consequences of PTSD in EMS:
- Higher risk for hypertension (58%), cardiovascular disease (77%), metabolic syndrome (50%), diabetes type 2 (75%), GI ulcers 1(00%), and dementia (100%), and overall increased mortality risk (29%) 5
- Increased alcohol/substance addiction → 20% with PTSD use as a means of "self-medication" (Garland & Lewis, 2012)
- Trauma exposure leads to burnout among EMS→ rate 20%-
- Burnout can result in injury to patient or care provider, medical errors, adverse events, and unsafe behavior 1
- Hospital reimbursement also affected due to performance evaluations linked to insurance reimbursements 7

Coping mechanisms that endeavor to modify quality or perception of stressor \rightarrow active coping ₉

• Cognitive restructuring, social support seeking, problem solving, etc.

Coping in which actions or thoughts are applied with intent to escape stressor \rightarrow avoidant coping ₉

Withdrawing socially, self-criticism, wishful thinking, etc. Use of mostly active coping correlated positively with resilience at one month and use of avoidant coping positively correlated with development of PTSD 9

Clinical Question

P (population) = EMS personnel I (intervention)= coping skills education

C (comparison)= no coping skills education

O (outcome)= decreased acute/post-traumatic stress symptoms T (time)= one month

"Does the implementation of coping skills education decrease acute stress or posttraumatic stress symptoms in EMS personnel in one month?"

Methods

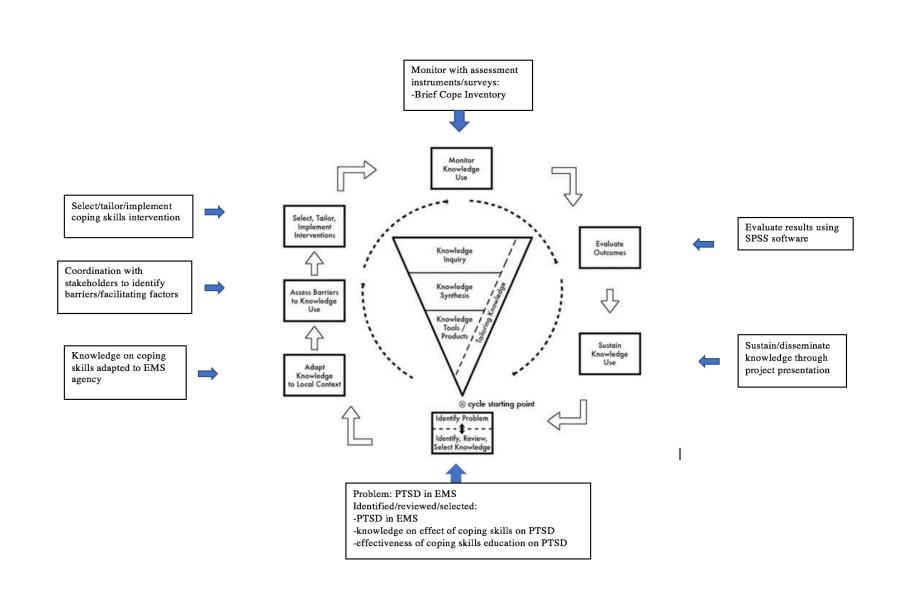
Design:

- Pilot quasi-experimental approach utilizing survey/questionnaire and self-report assessment tool for pre/post education intervention assessment
- A quasi-experimental design selected for this project's objectives because this approach evaluates if an outcome is associated with an intervention and works with studies that are not randomized 8

Sample:

- Population- EMS personnel
- Based on tenets of central limit theorem → targeted sample size will be thirty participants 4

Theoretical Framework:



Setting:

• Local hospital EMS agency in northern New Jersey

Measures:

Change in PTSD symptoms pre/post-intervention

• PCL-5: 20-item self-administered PTSD assessment using Likert scale

Change in coping skills used

• Brief-COPE Inventory: 28-item coping self-assessment using Likert scale

Analysis:

- Data analysis completed with SPSS software
- Main outcome to understand: if providing coping skills education to EMS personnel will reduce PTSD symptoms one month after education intervention
- Data collected prospectively via pre/post-intervention assessments (PCL-5 and Brief-COPE)
- PCL-5 and Brief-COPE all use Likert scales →allow collection of ordinal data and can be compared using descriptive statistics
- Data not normally distributed \rightarrow non-parametric statistics used
- Individual scores composited and compared using Wilcoxon Rank sum test

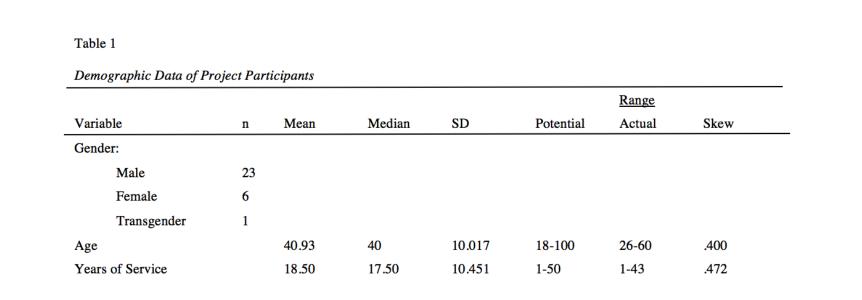
Results

Data collection

- Data collected prospectively at 2 points in implementation process
- Pre-intervention assessments, demographic data and education intervention took place on October 3rd, 2019
- Post-intervention assessments completed October 30th 2019, October 31st 2019, and November 4th 2019

Final Sample and demographic Information

- Final sample size: 29 (1 lost to follow-up)
- Demographic Data:



Comparison of pre-/post-intervention PCL-5 and Brief-COPE scores:

- PCL-5 mean: Pre-intervention = 27.14 vs. post-intervention = 23.62
 - Reduction was less than anticipated 10 points
- Brief-COPE mean: Pre-intervention = 73.17 vs. Post-intervention 77.41
 - Overall increase in the use of positive coping skills
- 11/30 participants in pre-intervention & 11/29 in post-intervention scored \geq 33 on PCL-5
- Wilcoxon rank sum test \rightarrow PCL-5 means (p = 0.101)
 - No statistically significant difference in pre and post-intervention means
- Paired t-test \rightarrow Brief-COPE means (p = 0.003)
 - Statistically significant improvement in coping

Association between PCL-5 and Brief-COPE:

- Pre-intervention: insignificant (rho = 0.014, p = 0.928)
- Post-intervention: statistically significant negative correlation (rho = -0.413, p = 0.026)
- Coping skills education intervention was associated with strengthened relationship between PTSD scores and coping

Discussion

- Descriptive analysis of pre-intervention PCL-5 scores in line with previous studies \rightarrow high rates of PTSD
- Correlation tests indicated a negative correlation between PTSD and coping
- Descriptive statistics from Brief-COPE showed increase in adaptive coping post-intervention and bivariate statistics using paired-t-test found this increase in use of adaptive coping statistically significant

Implications/Recommendations:

Clinical Practice:

- Currently, coping skills education for EMS not standardized
- Project findings indicate that after coping skills education, participants able to more adaptively cope
- Implication substantiated by significant negative correlation between PTSD scores and coping \rightarrow substantiates continued coping skills education provision

Healthcare Policy:

- Coping skills education should be routinely provided to EMS agency employees
- Improvement in positive coping postulates validation for continued provision of coping education

Quality and Safety:

 Positive effects of adaptive coping supports continued coping skills education

Education:

- Current practice of not providing coping skills education is not effective based on pre-intervention Brief-COPE
- Improvement in positive coping among EMS can be achieved through coping skills education

Economic:

- Intervention requires minimal cost to deliver \rightarrow no specific tools or devices
- Educational resources for coping can be offered routinely to all EMS professionals through their agencies

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