

**Development and Evaluation of a Family Nurse Practitioner-  
Directed Type 2 Diabetes Lifestyle Modification Counseling  
Program to Improve Diabetes Self-Care Patient Engagement in a  
Community Mental Health Clinic**

**By**

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# Introduction/Problem Description

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- Type 2 Diabetes Mellitus(T2DM)- is a metabolic disorder whose prevalence continues to dramatically increase around the globe. The International Diabetes Federation (2018) estimated that 415 million adults worldwide live with developed diabetes, and among this population, 318 million suffer from impaired glucose tolerance. Diabetics have an increased risk for emotional problems (Dalsgaard et al., 2014).
- 2017 costs to treat diabetes = \$327 billion, including \$237 billion direct medical costs and \$90 billion reduced productivity (American Diabetes Association [ADA], 2018)

Endemic challenges for Hispanic American and African American individuals with diabetes include:

- Poor dietary habits, Physical inactivity, Distress and depression associated with diabetes
- Poor diabetes management (Centers for Disease Control & Prevention [CDC], 2014)
- Diabetics are at an increased risk for developing emotional problems such as depression, which may lead to a lower quality of life (Dalsgaard et al., 2014).
- Many individuals with depression have an increased risk (40-60%) of developing type 2 diabetes (Zhang et al., 2016).
- The Community Mental Health Center (CMHC) lacked a program to screen and manage patient with diabetes and depression comorbidity.

# Available Knowledge

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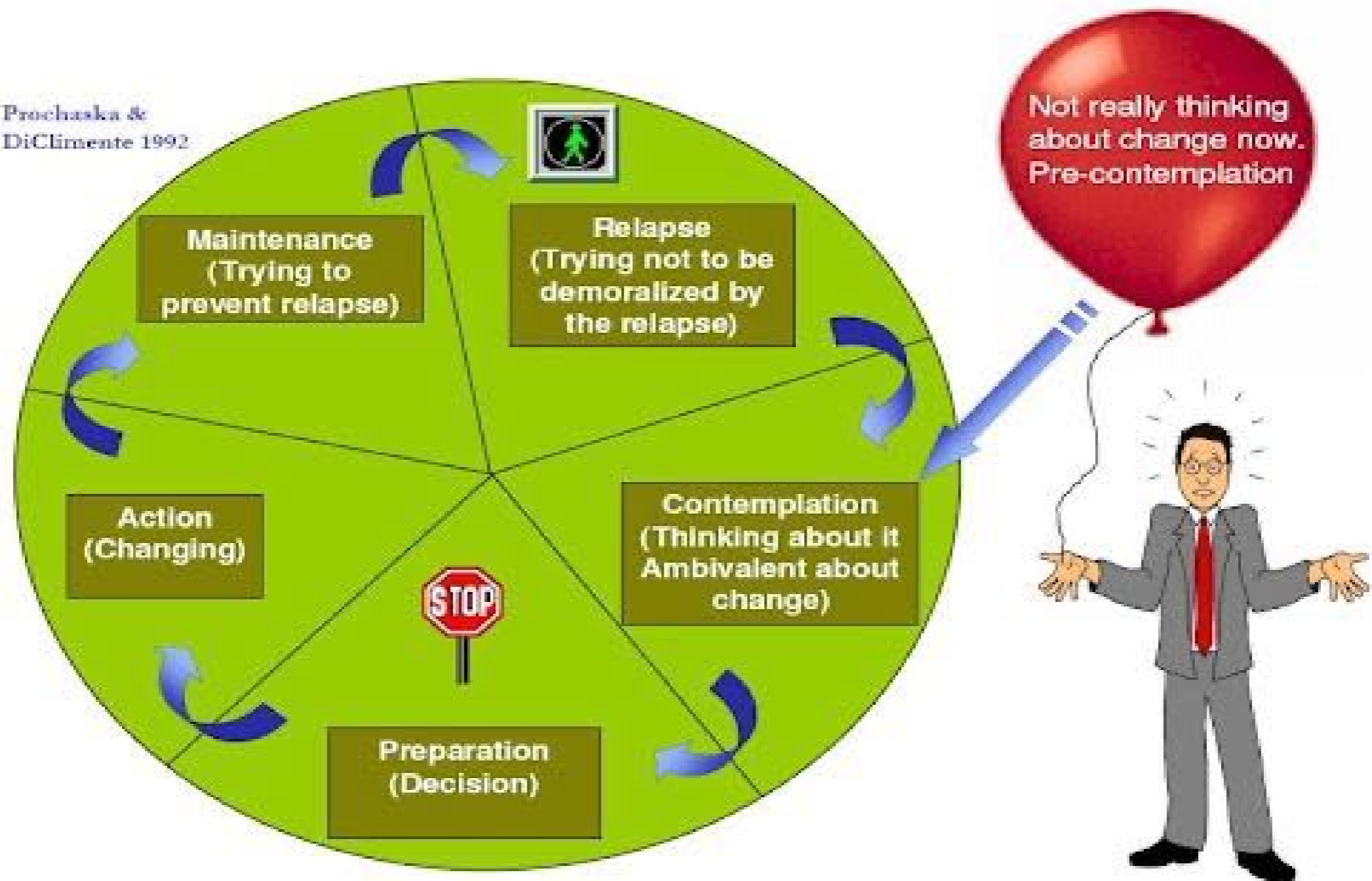
## Depression and Diabetes

- Bi-directional association between depression and diabetes (Kikuchi et al., 2015)
- Prevalence (T2DM) is 2-3 times greater than general population (Almeida et al., 2016)
- Comorbid depression leads to a marked reduction in quality of life (Mota et al., 2015).
- **Emotional Distress**-Severe psychological distress twice as high in diabetics than those without the disease (Young-Hyman et al., 2016)

# Rationale

## Transtheoretical Framework

Prochaska &  
DiClemente 1992



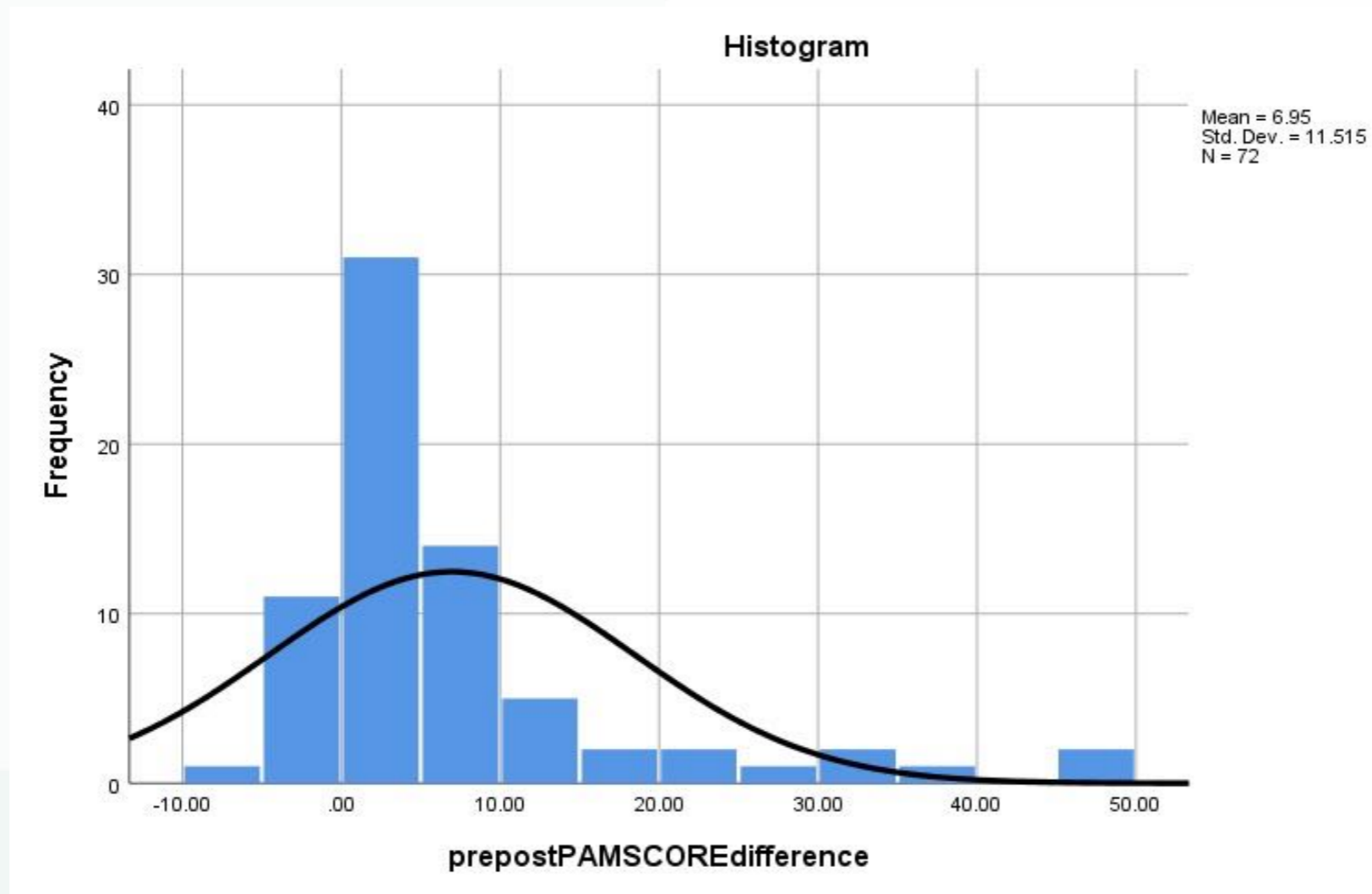
# PICOT Question

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Does the implementation of a type 2 diabetes mellitus (T2DM) lifestyle modification counseling program for type 2 diabetics over the age of 18 impact patient engagement in the management of patients' care as measured by the Patient Activated Measure (PAM) in a Community Mental Health Center (CMHC) over a three-month period?

- **Specific Aim**The aim of this quality project was to examine whether lifestyle modification counseling has an impact on improving diabetes self-management skills such as diet planning, physical activity, medication management, and depression in adult T2DM patients in a Community Mental Health Center (CMHC).
- **Goal**-Improve patient engagement in self diabetes care
- **Managing Diabetes**-Individually tailored self-management protocols improve patient quality of life and treatment outcomes (Yoon et al., 2013).
- **Ethical Considerations**-Comorbid patients are uninformed regarding diabetes management-Diet, Exercise. Follow up medical appointments (SAMHSA, 2014).
- Identifying patients with diabetes and depression is the first step to addressing health disparities for patients with diabetes and a mental illness.
- The project findings demonstrated the need for increased provider and patient communication and a proactive attitude toward diabetes self-management at New Beginnings Community Mental Health Center, one of Samaritan Daytop Village's outpatient mental health centers.

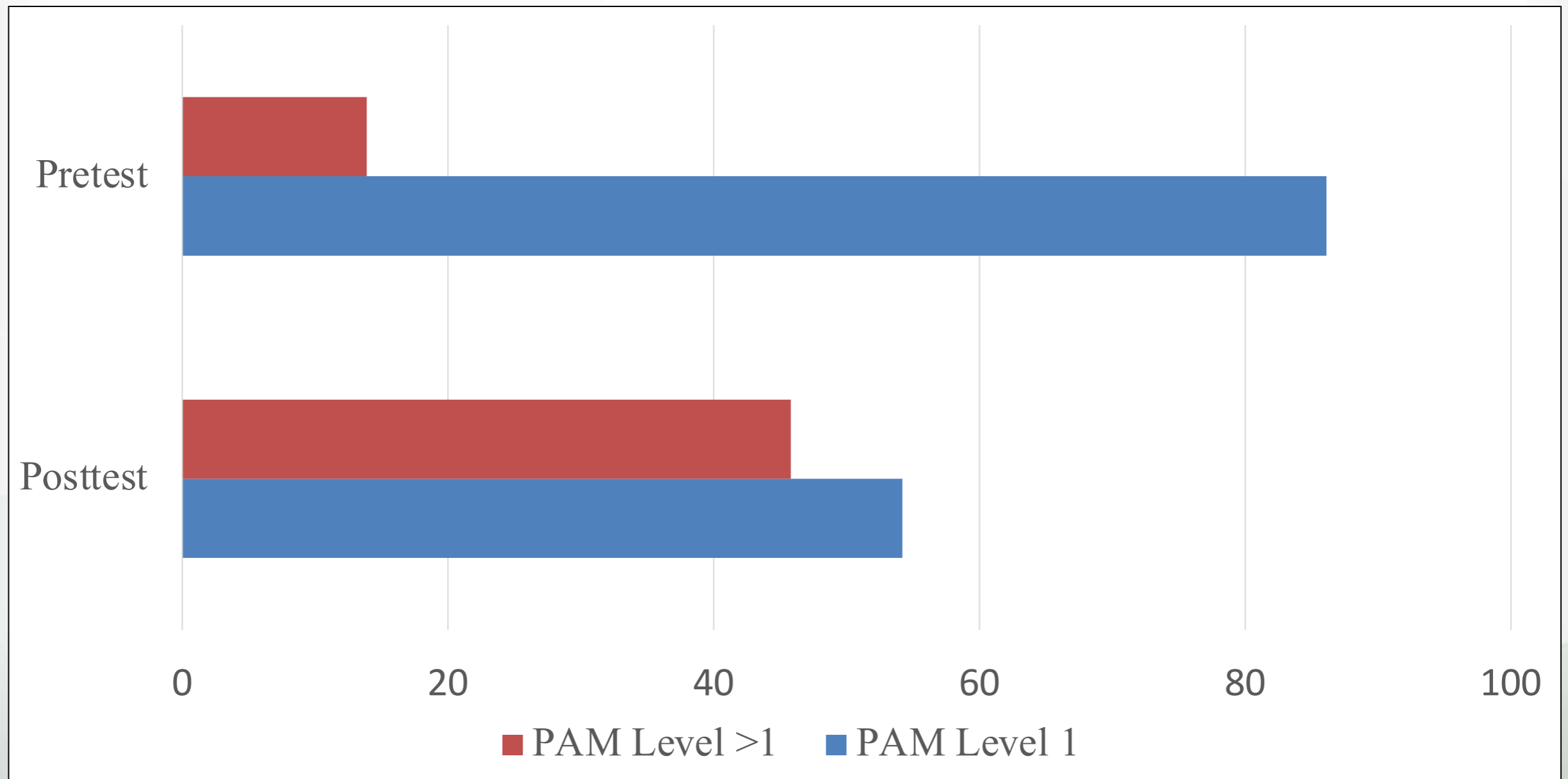
# Distribution of Pretest to Posttest PAM Change Scores ( $N = 72$ )



Note: There are eight outlier scores to the right side of the distribution. When the eight outlier pretest to posttest change scores were removed, the distribution of all the scores was approximately normal (as the skewness and kurtosis were not approximately two times each respective standard error of each). The inferential findings within the remainder of the study did not differ in terms of statistical significance when outlier scores were removed, so the analysis retained those values (as the outliers did not have an undue influence of the findings).



# Percentage of Participants at PAM Level 1 and Greater than PAM Level 1 at Pretest and Posttest



# Summary/Conclusion

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- The Wilcoxon signed rank test was run and a statistically significant grouped median difference was found between the pre and post test scores.
- The intervention had a significant impact in raising the PAM scores and supports the PICOT question.
- Chi-square analysis of pretest to posttest PAM level improvement from 1 by gender.
  - Data indicated that the percentage of project participants that made this positive change was not related to gender,  $X^2(1)=.00$ ,  $p=.99$ . an independent-samples t-test indicating that PAM pretest to posttest change in PAM Level Improvement from 1 was not significantly related to age,  $t(70)=.06$ ,  $p=.95$ .
- As the ground-breaking models of care meet the growing demand for access, the incidence and prevalence of utilization of diabetes lifestyle-modification counseling programs will increase and advance.
- This program focused on Type 2 diabetes mellitus (T2DM) self-management to improve outcomes and increase patient self-management of care in patients at a Community Mental Health Center.
- Improved relationships and increased communication between the healthcare provider and the patient are essential to improving outcomes and decreasing overall spending in healthcare. Overall, the project increased patients' self-engagement in their care.



# References

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