

## Introduction:

### Background:

Suicide is reported to be one of the leading causes of mortality worldwide<sup>1</sup>. Safety planning is a service intervention and therapeutic technique developed by Stanley and Brown in 2012<sup>2</sup>. A safety plan consists of a written prioritised list of coping strategies and sources of support provided to patients preceding or during suicidal crisis.

### Aim:

The aim of this mixed methods systematic review is two-fold: a) to establish the effectiveness of a safety plan developed by Stanley and Brown in reducing self-harm repetition and suicidal presentation and b) evaluate stakeholder experiences of this intervention.

## Methods:

Six databases: PsychArticles, PsychInfo, Pubmed, CINAHL, Academic Search Complete and SCOPUS were searched. Inclusion, exclusion criteria and limiters (English language; Years 2012 to 2020) were applied. Identified citations were uploaded to Endnote X9. Duplicates removed. Title and abstract screening followed by full text screening resulted in selection of 8 articles (3 quantitative and 5 qualitative) all reported in PRISMA<sup>3</sup>. A Data Extraction Table was used to summarise final articles. Methodological quality was assessed using Cochrane Risk of Bias Tool and Crowe Critical Appraisal Tool. Excel, Revman and SPSS were engaged for statistical meta-analysis on quantitative studies. Qualitative studies were pooled with a meta-aggregation approach utilising NVivo 12. The quality of evidence and strength of recommendations was assessed using the Grading of Recommendations Assessment, Development and Evaluation<sup>4</sup> (GRADE) approach and GRADE Confidence in the Evidence from Reviews of Qualitative Research<sup>5</sup> (GRADE CERQual).

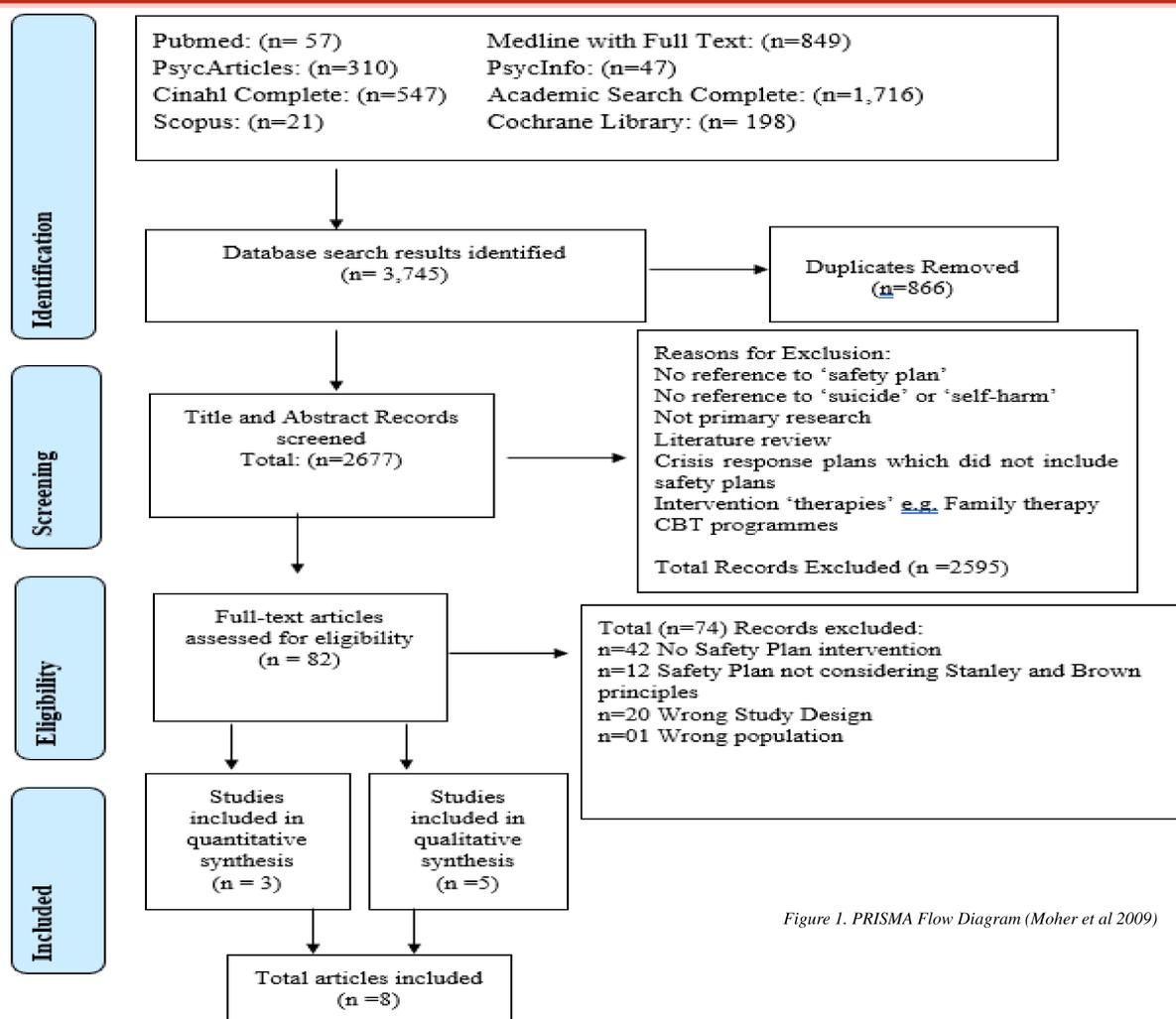
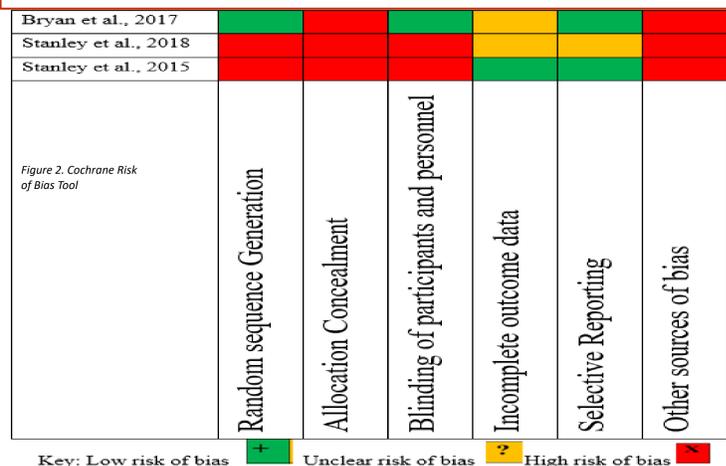


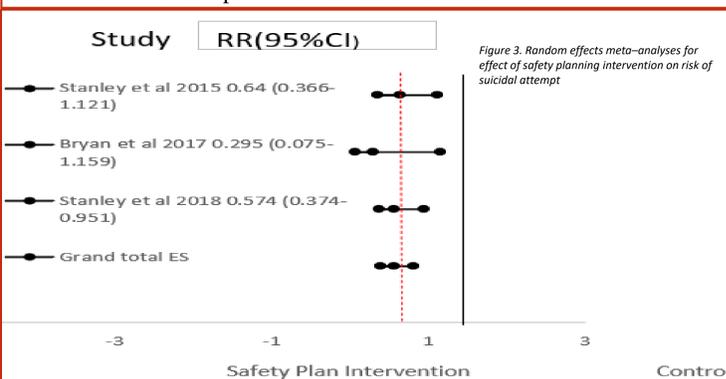
Figure 1. PRISMA Flow Diagram (Moher et al 2009)

## Quantitative Results:

Each of the three quantitative were appraised using the Cochrane Risk of Bias Tool.



Random effects version of the meta-analysis was chosen as the studies selected have diverse protocols and measurement scales.



The risk of suicidal attempt with SPI was 42.7% lower than risk of suicidal attempt in the no SPI group. The value of I<sup>2</sup> was 0.0%, indicating that the studies heterogeneity was low and statistically not significant ( $\chi^2(2) = 1.05, p = .591$ ). Figure 3 presents a Forest plot of the meta-analysis results which gives the visualization of the individual and pooled effects.

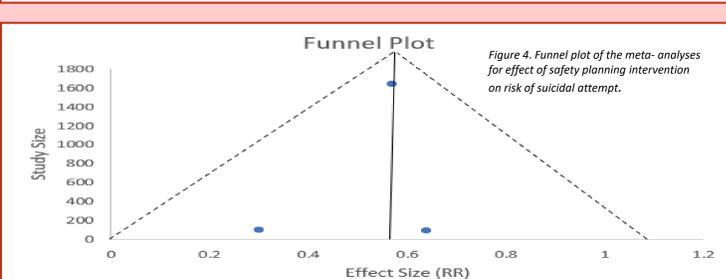


Figure 4 presents a funnel plot of the meta-analyses. The funnel plot is symmetrical, suggesting no significant publication bias.

## Qualitative Findings:

Each of the five qualitative articles were critically appraised. Figure 5: Application of Crowe Critical Appraisal Tool.

Qualitative Article	CCAT Score
Chesin et al (2016)	(39/40) 97.5%
DeBeer et al (2019)	(37/40) 92.5%
Kayman et al (2015)	(38/40) 95%
Levandowskie al (2017)	(36/40) 90%
Stewart et al (2019)	(35/40) 87.5%

All 5 qualitative articles were imported into NVivo 12. Figure 6 presents a 50-word frequency search of all qualitative articles



Information was synthesised on qualitative study characteristics of Research Sites, Participants, Data Collection and Data Analysis methods. Figure 7 presents an overview of themes derived from detailed synthesis of qualitative data on the Safety Plan Intervention



## Discussion:

This mixed methods systematic review presents current evidenced based information on the use of a safety plan intervention. From an extensive search of six databases search results have indicated that little research has been done in studying the effectiveness of the safety plan intervention. Of the research that has been undertaken two of the three quantitative studies included researchers who were involved in the development of the initiative. All five qualitative studies seeking stakeholder views and experiences of the safety planning were overall positive towards the initiative. The quantitative and qualitative components of this review correlate well together, with the quantitative findings providing evidence towards the success of safety plan intervention and the qualitative findings provide some guidance and support for reasons of its success.

## Conclusion:

The quantitative results suggest some evidence for the effectiveness of safety planning intervention in reducing the risk of suicidal attempt although more clinical trial research is needed. The qualitative findings overall demonstrate positivity from all stakeholders towards the use of the safety plan. Opportunities and challenges identified, and recommendations made.

## References:

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