



MINDFULNESS-BASED INTERVENTIONS FOR STAFF NURSES: A SYSTEMATIC REVIEW AND META-ANALYSIS

Rodenick N. Agtarap, RN, MAN

Candidate, Doctor of Philosophy in Nursing

Saint Louis University

Staff Nurse and Member, Research Ethics Committee

Baguio General Hospital and Medical Center



“Nurses must have self-care and compassion for themselves so that they can care compassionately for their patients.” –Jean Watson





BACKGROUND:

□ Nurses

- *the highest number of health care personnel globally
- *inherently exposed to multidimensional work-related stress on their daily work environment
- *escalation of burnout and stress may result to extreme cases of depression and plan to quit their work



BACKGROUND:

□ Mindfulness-based interventions

* **Mindfulness**- Buddhist practice; “moment-by-moment awareness”; “non-judgmental attention to experiences in the present moment”(Kabat-Zinn, 1990)

* **Attributes:**

- Attention regulation- “taking notice”
- Body awareness- “conscious registration of stimuli”
- Emotion regulation
- Change in perspective of the self (Holzel et al., 2011)

* **Five(5) Mindfulness-based Interventions**- a.) Mindfulness-based stress reduction; b.) Mindfulness cognitive-behavioral therapy; c.) Dialectical behavior therapy; d.) Acceptance and commitment therapy; and e.) Mindfulness-based relapse prevention (Simkin & Black, 2014).



PURPOSE STATEMENT :



The aim of the synthesis is to evaluate the effects of mindfulness-based interventions on different outcomes because there are few studies that translate knowledge on mindfulness practice for staff nurses.



PICOTS question



Population(P): working staff nurses in the hospital

Intervention(I): mindfulness-based interventions(MBIs)

Comparator(C): no intervention/wait-list/other intervention

Outcome(O):

Primary: decrease burnout, relief of stress, depression and anxiety

Secondary: quality of life, improve patient care

Time(T): any length of time

Study design(S): pre/post design, wait-list, randomized controlled trial



METHODS:

Inclusion Criteria:

- ✓ staff nurses working in the hospital
- ✓ used mindfulness-based intervention
- ✓ English language
- ✓ mindfulness variation

Exclusion Criteria:

- x nursing students
- x mixed health care providers
- x without mindfulness intervention in the regimen provided



LITERATURE SEARCH (April 2018)



PsychInfo

Francis & Taylor

JSTOR

Cochane Central

Pubmed

EMBASE

EBSCOHOST

Elsevier

Wiley Online

Library

Springer

Semantic Scholar

Google scholar

Gale Cengage

Learning

DOAJ

NCBI

Proquest

Clinical Key

Science Direct

Bibliographic search

and reference list

of various articles



SEARCH TERMS:



- mindfulness meditation
- mindfulness-based intervention
- loving-kindness meditation
- meditation
- yoga
- mindfulness
- transcendental meditation
- mindfulness-based stress reduction
- mindfulness-based cognitive therapy



Preferred Reporting Items For Systematic Reviews And Meta-analyses (PRISMA)



Total literature searched	1156	
	➔	1050 Duplicates removed and screened for applicability
Abstract and title screening	86	
	➔	66 Excluded articles:nursing students, mixed health care team, and mindfulness survey without interventions
Considered for Systematic Review and Meta-analysis	20	

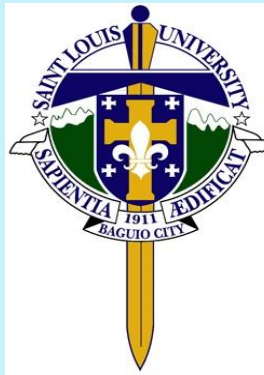


CODING SHEET

Coding sheet for MBI for nurses

Code #

1. Author:
2. Year:
3. Country:
4. Jaded score:
5. Study design:
6. Number of participants:
 - a. Enrolled:
 - b. Completed:
7. Setting:
8. Intervention:
 - Frequency:
 - Duration:
9. Control:
 - Frequency:
 - Duration:
10. Measurement Scale:
 - 1.
 - 2.
 - 3.
 - 4.
 - 5.
11. Demographics:
12. Age:
13. Gender:
14. Position:
15. Years of experience:
16. Findings:
 - 1.
 - 2.
 - 3.
17. Limitations and Observations:
 - 1.
18. Statistical Analysis:





SUMMARY OF CODED STUDIES



Author(year, country)	Study Design	No. of participants enrolled(included in analysis)	Setting	Intervention-Duration and Frequency	Control-Duration and Frequency	Measurement scale/ outcome measure	Demographics (age, gender, position and work experience)	Findings	Limitations and Observations
Alexander et al. (2015, USA) Jadad:5	Randomized controlled trial pre-postintervention	n=40(40)	Hospital-based	8 weeks yoga intervention	Usual care	1.Health Promoting Lifestyle Profile II 2.Freiburg Mindfulness Inventory 3.Maslach Burnout Inventory	46 years is the mean age, female 98%, 14 years average of work experience	Self-care(p<.001), mindfulness(p=.028), emotional exhaustion (p=.008), and depersonalization (p=.007)	Small sample size, lack of an active control group, self-report measures
Bazarko et al. (2013,USA) Jadad: NA	One group non-randomized pre/posttest intervention	n=41(36)	Hospital-based	8 weeks MBSR-combined classroom and telephonic delivery- retreat, teleconference and self-practice	None	1. Perceived Stress Scale 2. Copenhagen Burnout Inventory 3. SF-12v2 Health Survey 4. Brief Serenity Scale 5. Jefferson Scale of Physician Empathy-validated for nurses 6. Self-compassion Scale	Mean age= 52 years, 100% female,	Post-intervention, there was significantly decreased stress(p<.001), and burnout. Change in health measured by the SF12v2 was observed to have improved including general health, vitality, social functioning, mental health, physical component, and mental component. Improved serenity(p<.001), empathy(p<.001), self-compassion(p<.001)	Continued education credits and money were given to participants, self-selected, all females, self-report data



SUMMARY OF CODED STUDIES:



- Country: USA:12, Taiwan:1, Portugal:1, South Korea:1, Brazil:1, China:1, Norway:1, Canada:1, Israel:1
- 8 randomized controlled trial studies
- Samples from each study range from 8 to 160
- 951 total of participants
- Nurses: ICU, oncology and others are mixed; 100% women-8 studies; mostly women (90% and above)- 9 studies
- Recruitment: advertisements, monetary incentive, received 4-hour shift as compensatory time, and continued education credits



SUMMARY OF CODED STUDIES:



Intervention characteristics

- ✓ yoga intervention (Alexander et al., 2015; Fang et al., 2015);
- ✓ MBSR program (Duarte et al., 2017; Wang et al., 2017);
- ✓ MBSR-combined classroom and telephonic delivery- retreat, teleconference and self-practice (Bazarko et al., 2013);
- ✓ relaxation response and breathing exercise (Calisi, 2017);
- ✓ Kouksundo (Korean Meditation) (Chang et al., 2016);
- ✓ stress management (Cohen-Katz et al., 2005);
- ✓ healing rhythms meditation, computer-guided, and meditation training program (Cutshall et al., 2011);
- ✓ reiki, yoga, and meditation (Deible et al., 2015);



SUMMARY OF CODED STUDIES:



Intervention characteristics

- ✓ mindfulness and loving-kindness meditation (dos Santos et al., 2016);
- ✓ guided mindfulness meditation (Gauthier et al., 2014);
- ✓ mindfulness training program (Horner et al. 2014);
- ✓ mindfulness and relaxation exercise- daily lectures, counseling, and informal gatherings and discussion (Isaksson Rø et al., 2010);
- ✓ educational workshop, written sessions, counseling, MBSR and aerobic exercise (Mealer et al., 2014);
- ✓ mindfulness meditation course (Pipe et al., 2009);
- ✓ imagery and progressive muscle relaxation (Poulin et al., 2008);
- ✓ cognitive interventions and learning stress reducing behavioral skills (Sarid et al., 2010); and
- ✓ smartphone application, Head space, an audio-guided mindfulness meditation program (Wylde et al., 2017)



Effects Of Mindfulness-based Interventions (MBIs) On Nurses:



- ❖ improved stress relief (Bazarko, Cate, Azocar, & Kreitzer, 2013; Gauthier, Meyer, Grefe, & Gold, 2014),
- ❖ reduced anxiety (Cutshall et al., 2011),
- ❖ improved coping (Deible, Fioravanti, Tarantino, & Cohen, 2015),
- ❖ improved self-care (Alexander, Rollins, Walker, Wong, & Pennings, 2015),
- ❖ reduced symptoms of depression (Mealer, Conrad, Evans, Jooste, Solyntjes, Rothbaum, & Moss, 2014),
- ❖ reduced burnout (Cohen-Katz, Wiley, Capuano, Baker, & Shapiro, 2005; Isaksson Rø, Gude, Tyssen, & Aasland, 2010).
- ❖ advances in mindfulness: telehealth mindfulness intervention (Bazarko, Cate, Azocar, & Kreitzer, 2013) and smartphone-delivered mindfulness intervention (Wylde, Mahrer, Meyer, & Gold, 2017).



SUMMARY OF CODED STUDIES:

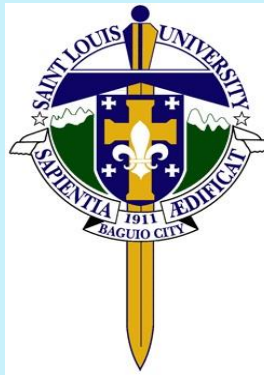


The low sample size of many studies pose a bias for representation and low generalizability due to variations of intervention, length of implementation and observed high attrition rate.

Decision: *Random effects model* versus Fixed effect model

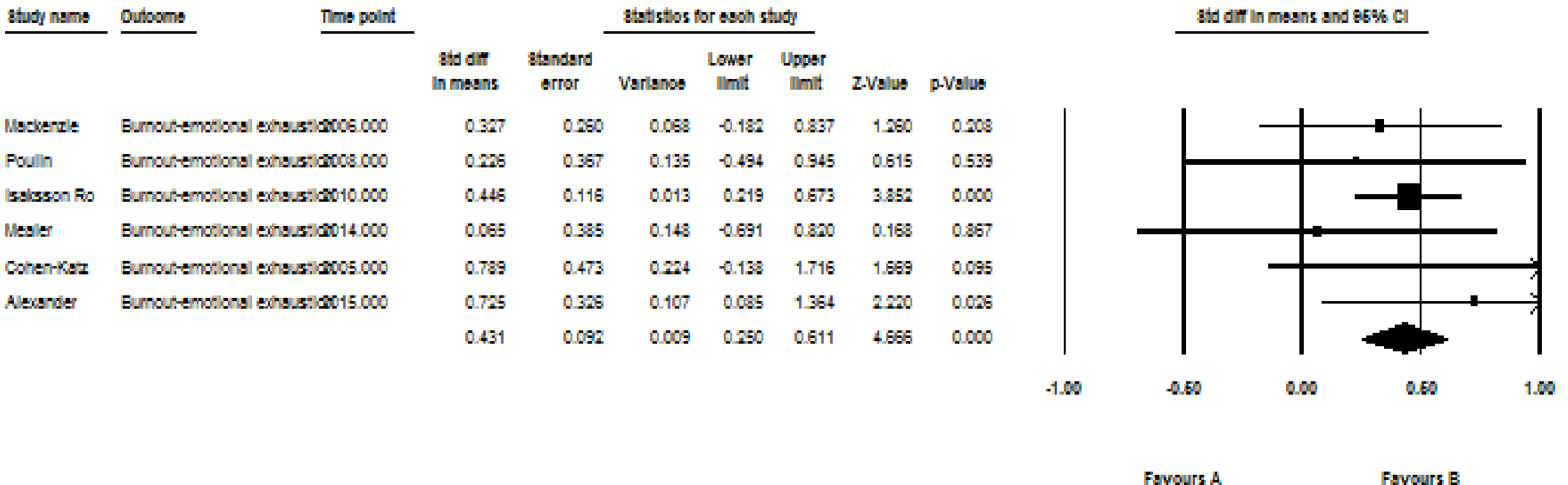


Comprehensive Meta-analysis (CMA): Burnout(Maslach Burnout Inventory)



- * confidence intervals have wider interval reflecting a poor precision
- * spurious effect
- * overall effect favors the intervention

Meta Analysis



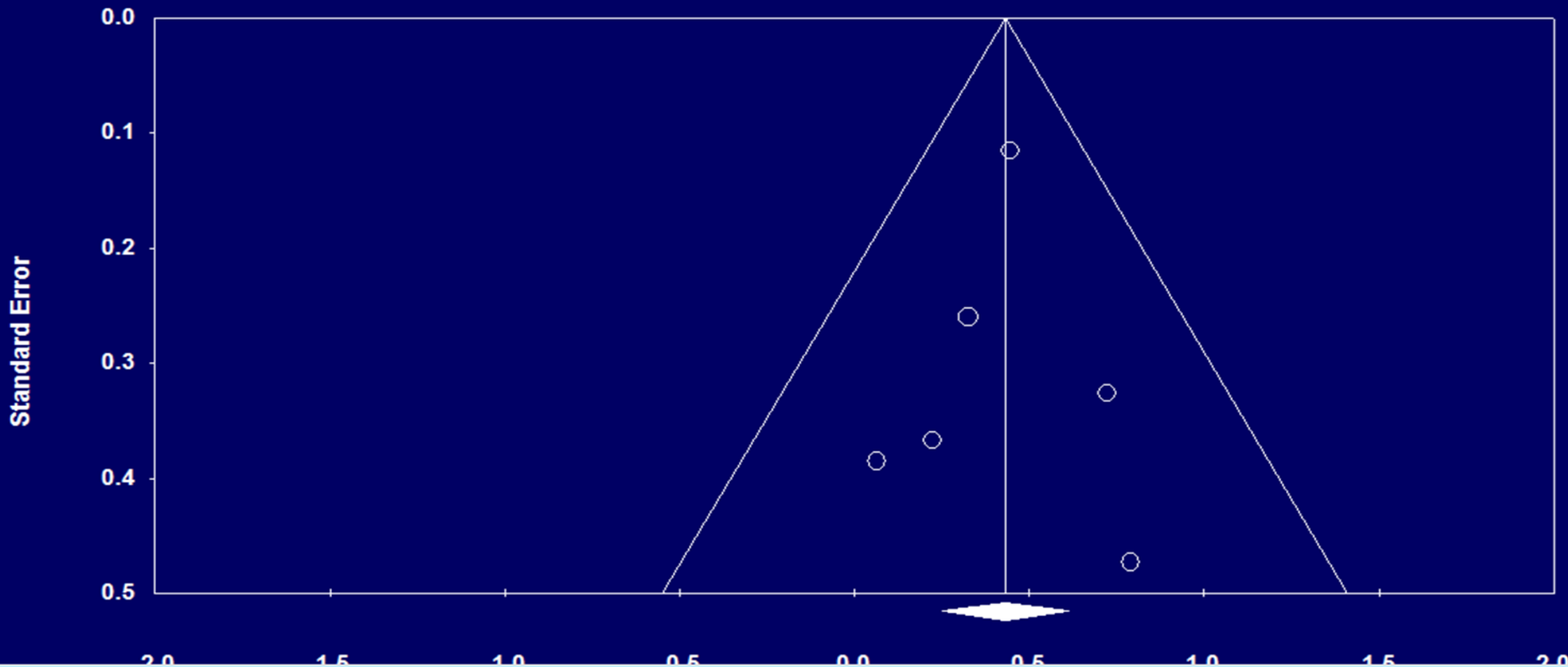


Publication Bias

*funnel plot is slightly symmetrical which indicates minimal publication bias.



Funnel Plot of Standard Error by Std diff in means





Limitations of included studies:



- ❖ lack of control group
- ❖ participants self-select
- ❖ small number of participants
- ❖ lack of follow-up
- ❖ reliance on self-report measures
- ❖ time constraints
- ❖ poor adherence and participation
- ❖ difficulty starting a new habit on performing mindfulness
- ❖ lack of randomization
- ❖ overlap in principles and techniques
- ❖ multimodal programs on mindfulness



CONCLUSION:



The meta-analysis in line with burnout as an outcome measure after mindfulness-based intervention for nurses may reveal beneficial effects.

Moreover, empowering professional nurses through mindfulness-based interventions will better equip them to act with more awareness in patient care and attention to nursing practice.



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THANK YOU! 😊

Prepared by:

Rodenick N. Agtarap, RN, MAN

Staff Nurse and Member, Research Ethics Committee

Baguio General Hospital and Medical Center

Candidate, Doctor of Philosophy in Nursing

Saint Louis University

rodenick_agtarap@yahoo.com

+639162191433