

HOW TO CRITICALLY ANALYSE RESEARCH LITERATURE



FILEPATH FOR READING AND CRITIQUING AN ARTICLE

1. Abstract
 - Scan to get general idea
 - Conclusion What is the bottom line?
2. Conclusion at end of discussion
3. Where was the work done?
4. Back to abstract
5. Results
6. Read whole article

CHECKLIST FOR READING AND CRITIQUING A RESEARCH ARTICLE

1. What Journal? Is it prestigious?
2. Consider the title. Does it precisely state the subject of the paper?
3. Authors and department? Is this from a prestigious department ?
4. Introduction
 1. Read the statement of purpose at the end of the introduction. What was the objective of the study?
 2. Check the sequence of statements in the introduction. Does all information lead directly to the purpose of the study?

CHECKLIST FOR CRITIQUING A RESEARCH ARTICLE

Methods

1. Review all methods in relation to the objective of the study
2. Are the methods valid for studying this problem
3. Check the methods for essential information.
4. Could the study be duplicated from the information given?
5. Is the sample size adequate?
6. Is the experimental design appropriate?

CHECKLIST FOR CRITIQUING A RESEARCH ARTICLE

Results

- Review the results as presented in the text tables and illustrations.
- Does the text complement, and not simply repeat the tables and illustrations.
- Are there discrepancies in results between text and tables?
- Review the results in the light of the stated objective. There should be a congruence between the aims, the results and the conclusions

CHECKLIST FOR CRITIQUING A RESEARCH ARTICLE

Discussion

- What is the conclusion and the take-away message?
- Check the interpretation against the results
- Does the discussion merely repeat the results?
- Does the interpretation arise logically from the data?
- Have limitations of the research been addressed?
- Compare the interpretation to related studies cited in the article.? Consider the published research on this topic. Have all key studies been considered?
- Reflect on directions for future research. Has the author suggested further work?



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The treatment of minor depression with St. John's Wort or citalopram: Failure to show benefit over placebo

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The treatment of minor depression with St. John's Wort or citalopram: Failure to show benefit over placebo

- Mark Hyman Rapaport a,b,* , Andrew A. Nierenberg c, Robert Howland d, Christina Dording c,
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ABSTRACT

- This paper presents new data addressing two important controversies in psychiatry: the construct of Minor Depression (MinD) and the efficacy of St. John's Wort for milder forms of depressive disorders.
- Data are from a three-arm, 12 week, randomized clinical trial of investigating the efficacy of St. John's Wort (810 mg/day), citalopram (20 mg/day), or placebo for acute treatment of MinD.
- Due to a high placebo response on all outcome measures, neither St. John's Wort nor citalopram separated from placebo on change in depressive symptom severity, quality of life, or well-being. However, systematic assessment of potential adverse effects (AEs) led to three important observations:
 - (1) prior to the administration of study compound, 60% of subjects endorsed items that would be characterized as AEs once study compound was administered,
 - (2) St. John's Wort and citalopram were each associated with a significant number of new or worsening AEs during treatment, and
 - (3) using a structured interview for identifying AEs at baseline and during treatment is informative. MinD was not responsive to either a conventional antidepressant or a nutraceutical, and both compounds were associated with a notable side effects burden.
- Other treatment approaches for MinD should be investigated.

INTRODUCTION

- The lack of any established treatment for less severe depression prompted us to perform a balanced 3-arm study comparing and contrasting St. John's Wort, citalopram, and placebo as treatment for subjects with Minor Depressive Disorder
- We believed that such a study would accomplish two major goals:
 - (1) make a significant contribution to the limited placebo-controlled body of data evaluating the efficacy of an SSRI as a treatment for Minor Depressive Disorder
 - (2) determine SJW's efficacy in an acute trial as compared with both an established antidepressant approved for the treatment of Major Depressive Disorder (citalopram) and placebo in a carefully diagnosed and characterized study population with a milder form of Depressive Spectrum Disorder
- We hypothesized that treatment with either citalopram or St. John's Wort would be more effective than placebo in reducing depressive symptom severity for subjects with Minor Depressive Disorder. Our secondary postulates were that both active treatments would cause greater improvement in secondary global symptom measures and measures of quality of life and well-being compared to the placebo treated group.

DISCUSSION AND CONCLUSION

- In conclusion, this study suggests that neither St. John's Wort nor citalopram treatment has a clinically or statistically significant benefit for acute treatment of Minor Depressive Disorder when compared to placebo treatment.
- These findings were clearly due to a consistently high placebo response rate on all outcome measures.
- Our results suggest that more extensive investigation of Depressive Spectrum Disorders, their natural course, and most effective treatment modalities, is warranted.

EFFECTIVENESS OF TRANSCENDENTAL MEDITATION ON FUNCTIONAL CAPACITY AND QUALITY OF LIFE OF AFRICAN AMERICANS WITH CONGESTIVE HEART FAILURE: A RANDOMIZED CONTROL STUDY

Objective: To evaluate the effectiveness of a Transcendental Meditation (TM) stress reduction program for African Americans with congestive heart failure (CHF).

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Sumedha Chhatre, PhD; Donna B. Raziano, MD;
Robert Schneider, MD

Design: Randomized, controlled study

From the Department of Medicine,
University of Pennsylvania (RJ, JCJ, BSB,
SD, SC); Elder Health Pennsylvania (DBR),

Ethnicity & Disease, Volume 17, Winter 2007

Objective

To evaluate the effectiveness of a Transcendental Meditation (TM) stress reduction program for African Americans with congestive heart failure (CHF).

Methods

Randomized, controlled study

We recruited 23 African American patients ≥ 55 years of age who were recently hospitalized with New York Heart Association class II or III CHF and with an ejection fraction of < 40 .

Participants were randomized to either TM or health education (HE) group.

Results

- The TM group significantly improved on the six-minute walk test from baseline to six months after treatment compared to the HE group (P=0.034).
- On the secondary outcome measures, the TM group showed improvements in SF-36 subscales and total score on the Minnesota Living with Heart Failure scale.
- On the CES-D, the TM group showed significant decrease from baseline to six months compared to the HE group (P=0.03).
- Also, the TM group had fewer re-hospitalizations during the six months of follow-up.

Table 3. Comparisons of mean change in scores for TM and HE groups (Mean \pm Standard Error)

Variable	Baseline – 3 months		Baseline – 6 months		P value		
	TM (n=13)	HE (n=10)	TM (n=13)	HE (n=10)	Between-Group Effect (Treatment)	Within-Group Effect (Time)	Treatment and Time Interaction
QWB	-.03 \pm .13	.1 \pm .11	-.1 \pm .09	.02 \pm .1	.51	.08	.95
PSS	.91 \pm 2.1	.63 \pm 2.8	3.0 \pm 2.1	2.6 \pm 1.7	.98	.06	.75
LHFQ							
Total	.64 \pm 2.8	1.4 \pm 2.3	4.5 \pm 2.9	4.6 \pm 4.1	.92	.10	.88
Physical dimension	.09 \pm 1.5	.37 \pm 1.5	2.2 \pm 1.9	.25 \pm 2.0	.60	.22	.51
Emotional dimension	1.1 \pm .96	1.0 \pm 1.9	2.1 \pm 1.1	1.6 \pm 1.2	.87	.28	.80
6-MWT (minutes)	-67.7 \pm 24.7	-13.5 \pm 15.4	-50.5 \pm 25.1	6.2 \pm 26	.03	.21	.84
SF-36							
Physical function	-.46 \pm 5.2	9.4 \pm 7.4	-1.0 \pm 7.7	2.5 \pm 6.5	.59	.86	.77
Role physical	2.7 \pm 14.7	9.1 \pm 15.5	-12.5 \pm 11.9	9.4 \pm 6.6	.81	.51	.03
Role emotional	-8.3 \pm 8.2	8.3 \pm 10.4	-25.8 \pm 11.8	-14.3 \pm 27.8	.85	.39	.39
Vitality	3.9 \pm 2.8	5.5 \pm 3.9	2.5 \pm 4.3	1.8 \pm 6.6	.48	.47	.82
Mental health	-5.0 \pm 5.7	5 \pm 5.8	-7.5 \pm 6.1	.71 \pm 5.5	.40	.92	.56
Social function	-12.7 \pm 4.1	4.7 \pm 3.2	-15.0 \pm 6.1	12.5 \pm 7.7	.01	.44	.12
Bodily pain	2.7 \pm 10.6	1.25 \pm 5.3	-2.5 \pm 10.6	10.0 \pm 3.9	.80	.44	.08
General health	.91 \pm 4.4	.56 \pm 4.4	-5.0 \pm 5.9	-2.5 \pm 4.0	.95	.22	.44
CES-D	7.7 \pm 2.1	.87 \pm 2.5	5.5 \pm 1.5	-1.75 \pm 3.6	.03	.24	.85
BNP (pg/mL)	-23.5 \pm 17.1	-14.2 \pm 9.8	-13.6 \pm 42.9	-12.8 \pm 9.9	.53	.26	.23
Cortisol (μ g/dL)	-.4 \pm 1.3	.91 \pm 2.1	-.08 \pm 1.7	-.3 \pm 1.3	.77	.76	.57

TM=transcendental meditation; HE=health education; QWB=Quality of Well-Being; PSS=Perceived Stress Scale; LHFQ=Minnesota Living with Heart Failure Questionnaire; 6-MWT=six-minute walk test; SF-36=36-question Short Form; CES-D=Center for Epidemiologic Studies Depression scale; BNP=brain natriuretic peptide.

Table 3. Comparisons of mean change in scores for TM and HE groups (Mean \pm Standard Error)

Variable	Baseline – 3 months		Baseline – 6 months		P value	
	TM (n=13)	HE (n=10)	TM (n=13)	HE (n=10)	Between-Group Effect (Treatment)	Within-Group Effect (Time)
QWB	-.03 \pm .13	.1 \pm .11	-.1 \pm .09	.02 \pm .1	.51	.08
PSS	.91 \pm 2.1	.63 \pm 2.8	3.0 \pm 2.1	2.6 \pm 1.7	.98	.06
LHFQ						
Total	.64 \pm 2.8	1.4 \pm 2.3	4.5 \pm 2.9	4.6 \pm 4.1	.92	.10
Physical dimension	.09 \pm 1.5	.37 \pm 1.5	2.2 \pm 1.9	.25 \pm 2.0	.60	.22
Emotional dimension	1.1 \pm .96	1.0 \pm 1.9	2.1 \pm 1.1	1.6 \pm 1.2	.87	.28
6-MWT (minutes)	-67.7 \pm 24.7	-13.5 \pm 15.4	-50.5 \pm 25.1	6.2 \pm 26	.03	.21
SF-36						
Physical function	-.46 \pm 5.2	9.4 \pm 7.4	-1.0 \pm 7.7	2.5 \pm 6.5	.59	.86
Role physical	2.7 \pm 14.7	9.1 \pm 15.5	-12.5 \pm 11.9	9.4 \pm 6.6	.81	.51
Role emotional	-8.3 \pm 8.2	8.3 \pm 10.4	-25.8 \pm 11.8	-14.3 \pm 27.8	.85	.39
Vitality	3.9 \pm 2.8	5.5 \pm 3.9	2.5 \pm 4.3	1.8 \pm 6.6	.48	.47
Mental health	-5.0 \pm 5.7	5 \pm 5.8	-7.5 \pm 6.1	.71 \pm 5.5	.40	.92
Social function	-12.7 \pm 4.1	4.7 \pm 3.2	-15.0 \pm 6.1	12.5 \pm 7.7	.01	.44
Bodily pain	2.7 \pm 10.6	1.25 \pm 5.3	-2.5 \pm 10.6	10.0 \pm 3.9	.80	.44
General health	.91 \pm 4.4	.56 \pm 4.4	-5.0 \pm 5.9	-2.5 \pm 4.0	.95	.22
CES-D	7.7 \pm 2.1	.87 \pm 2.5	5.5 \pm 1.5	-1.75 \pm 3.6	.03	.24
BNP (pg/mL)	-23.5 \pm 17.1	-14.2 \pm 9.8	-13.6 \pm 42.9	-12.8 \pm 9.9	.53	.26
Cortisol (μ g/dL)	-.4 \pm 1.3	.91 \pm 2.1	-.08 \pm 1.7	-.3 \pm 1.3	.77	.76

TM=transcendental meditation; HE=health education; QWB=Quality of Well-Being; PSS=Perceived Stress Scale; LHFQ=Minnesota Living with Heart Failure; SF-36=Short-Form 36 Health Survey; BNP=B-type natriuretic peptide; CES-D=Center for Epidemiologic Studies Depression Scale.

Conclusions

- TM can be effective in improving the quality of life and functional capacity of African American CHF patients.
- Further validation of outcomes is planned via a large, multicenter trial with long-term follow-up.

CONCLUSIONS

- We need to read critically
- Writing and doing research sharpens our critical capacities

How to Write a Paper for Publication

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Engaging in the scientific publication process can be for both altruistic and egotistical reasons; publication advances the state of scientific knowledge while advancing your institution and your career. Writing for publication means setting aside a location and time dedicated entirely to the process of planning and writing. It is easiest to begin with the Methods section, then the Results, followed by the Discussion, which is the most challenging part of a paper. A realistic assessment of the value of the article will determine the level of journal into which it is likely to gain acceptance. If your article is rejected by a journal, be consoled by the fact that 50% of articles that are initially rejected are eventually published. Following the steps outlined here can reduce the daunting task of writing to one of manageable proportions and can help overcome the mental block and procrastination that all of us have experienced when we set out to write a scientific paper. (Heart, Lung and Circulation 2000; 9: 82-87)

[Keywords: publishing, writing](#)

- Journal clubs are a great help to critical reading

GOOD READING!

