

TITLE

A systematic review of the effectiveness of religious/spiritual activity on quality of life and healthcare outcomes among older adults in residential care facilities.

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BACKGROUND

Religion, in its various forms and formats is a global phenomenon, which represents either niche groups, or crosses broad sections of humanity. Religion, either organised, or informal is often represented by activities that reflect a particular basis of belief. The broader impact of these activities on groups and individuals health and wellbeing has attracted the interest of the scientific community.[1-4] This interest has extended to the consideration of a range of health and wellbeing related outcomes, such as mortality, length of stay (in acute services), rates of admission (acute care services) rates of survival, relationship between denomination and longevity, degree of social support, and levels of self-esteem. [1-4]

A review of the extant literature sought to evaluate the degree of association between religious activity and mortality among adults in the United States of America (USA).[3] The review considered both public and private forms of religious activity. For public religious attendance, the review identified a meta analysis, and two studies which drew on national data specific to the population of the USA. The meta analysis found the odds of mortality were 1.29 times higher for less frequent attendees of public religious activities, while the two national studies also found an association between attending religious activities and lower adult mortality which regression analysis suggested was not confounded by demographic factors.[3] This paper also investigated private religious activity and mortality, although the review concluded that evidence of private religious activity as an independent predictor of mortality could not be established.

The positive results suggested in the review by Hummer et al for public religious activity were primarily based on short-term assessment of outcomes.[3] A study with a six year follow up duration of over 3500 community dwelling older adults investigated the effect of religious activity on survival durations.[2] This prospective cohort study defined religious activity as prayer, meditation or bible study. Demographically, the study found persons reporting negative life events prior to study entry were more likely to participate in some form of religious activity, while single, white urban-living people were less likely to be participants, as were married persons. [2] The study concluded that persons reporting low or no level of religious activity had an increased relative hazard of dying than more religiously active persons for persons who were restricted in their capacity to independently manage their activities of daily living. [2] This study identified several gaps in knowledge of the effect of religious activity on health and wellbeing among older adults, and did not address outcomes specific to residential care settings.

A further paper included acute care hospitalisation, and long-term care use, specifically by older adults.[4] Although a small study (N=50), a number of outcomes specific to older adults were considered; these included frequency and duration of acute hospitalisation and frequency and duration of long-term care admissions. The study concluded that organised religious activity leads to lower frequencies of admission, and a shorter duration of admission. While statistically significant, the relationships were not independent of health related variables. Frequency and duration of long-term care admissions was significantly, and independently associated with organised religious activity, particularly prayer, and bible study. The median age of participants in this study was 64, and the nature of "long-term" care was not clearly defined in such a way to make it congruent with the notion of permanent residential care. Therefore, while some evidence of benefit appears to be robust

for the persons involved in the study, it is not clear if these outcomes can be transferred to adults over the age of 65 in permanent residency in aged care facilities.

While focus on health care outcomes examined in the literature tends to focus on mortality and morbidity, there is also a body of evidence that investigates wellbeing, predominantly in the form of mental health outcomes such as self-esteem, and depression.[1] A questionnaire was administered to 83 nursing home residents, seeking responses on perceived social support from family, public religious activity and duration of stay in the residential facility. These factors, plus past employment status, were positively associated with self-esteem, while health status, and choice in placement to a residential care facility were negatively associated with self-esteem.[1] While interesting outcomes which warrant further investigation are evident from this precursory examination of literature, low levels of evidence typify the types of designs utilised in many small scale research projects investigating the effects of religious activities.

While not an indicator of methodological quality, or measure of the most appropriate study design for a topic, the level of evidence rankings proposed for this review do illustrate the relative strengths of various study designs (Appendix 1). There is also a general acknowledgement in the scientific community that to minimise bias, and answer questions of effects, that randomised studies, with concurrent controls are the most appropriate study designs as the risk of bias in non randomised, uncontrolled, or retrospectively controlled studies is substantial, and the level of applicability to persons not directly involved in the studies is low. Therefore, this systematic review seeks to identify study types with a low risk of bias, a high level of evidence, and generalisability beyond the immediate population of interest.

OBJECTIVES

The primary objective of this systematic review will be:

To evaluate the effectiveness of religious/spiritual activity on quality of life and healthcare outcomes among older adults in residential care facilities.

The specific questions to be addressed are:

- What is the effectiveness of religious/spiritual activity on quality of life indicators for older adults living in residential care facilities? and,
- What is the effectiveness of religious/spiritual activity on health care outcomes for older adults living in residential care facilities?

CRITERIA FOR REVIEW

Types of studies

This review will include randomised controlled trials (RCTs) for the evaluation of health care outcomes; in the absence of RCTs, other controlled designs will be sought. For the evaluation of quality of life, RCTs will be sought, in the absence of RCTs, longitudinal and controlled designs will be included.

Participants

Participants of interest are older adults aged 65 and over living in residential care facilities, regardless of health status. Indigenous participants will be included from the age of 45 as

some societies distinguish between the age and health requirements of minority or disadvantaged populations; all participants must be involved in some form of religious/spiritual activity.

Interventions

The interventions of interest are religious/spiritual activities undertaken, or participated in by older adults on a regular basis (weekly or monthly). Religious and/or spiritual activity may include religious activities or attendance at a religious institution, faith, prayer, specific rituals associated with a particular form of belief, including rites, passages, and reading of texts. Forms of exercise or movement which are conducted as types of spiritual expression will be included as a sub group, in anticipation of the difficulties in ascribing causality when two activities (exercise and religion) form a single intervention.

Outcomes

For evaluation of quality of life measures, validated single or multidimensional tools that address spiritual, physical, mental and/or emotional measures of wellbeing will be included. For evaluation of health care outcomes, papers that report morbidity and/or mortality data will be included, this review will not be limited to specific health care outcomes.

SEARCH STRATEGY

A three step search strategy will be utilised. Step one will seek to identify initial key words from the included databases that will be used to build a database specific, comprehensive search strategy. The search will encompass studies dating from 1995 to the present. This initial search will be repeated for each database used in the review to ensure the search terms are specific to the particular database being searched. The second step will be the comprehensive search of each database using all identified key words for each specific database. The third step will be to review the reference lists of all included studies to capture any additional papers that may not have been registered with the databases. The search strategy will include the identification of published and unpublished literature, which is reported in the English language.

Initial key words to assist in step one of the search strategy are:

- Spiritual activity
- Faith
- Spirituality
- Residential
- Aged
- Older adults
- Quality of life
- Morbidity
- Mortality
- Clinical outcomes

Databases included in the identification of studies will include:

Medline, CINAHL, Psychlit, Embase, Cochrane Collaboration Controlled Trials Register, Australian Medical Index, AUSThealth.

The search for unpublished literature will include:

Current contents, Dissertation Abstracts International, Expanded Academic Index, and the

Science Citation Index

METHODS OF REVIEW

Assessment of methodological quality

Methodological quality of studies will be assessed using an evaluation tool developed by the Joanna Briggs Institute and based on the work of the Cochrane Collaboration (Oxman, 1994), and the Centre for Reviews and Dissemination at the University of York (NHS Centre for Reviews and Dissemination 1996) (Appendix 2).

Two reviewers will independently assess all the articles and disagreements between 186 reviewers will be resolved by discussion.

Data Collection/Extraction

Data will be extracted by two independent reviewers using a data extraction tool developed by the Joanna Briggs Institute (Appendix 3). When necessary, the primary researcher will be contacted to obtain missing information.

Data Synthesis

If a sufficient number of studies are identified focusing on a particular intervention of interest with appropriate available data, results from comparable groups of studies will be pooled in a meta-analysis. Data synthesis for randomised controlled trials will utilise Review Manager 4.2 from The Cochrane Collaboration. Based on the analysis, a relative positive and or negative effect of the intervention in each of the sub-topics will be estimated. When pooling of results is inappropriate, the findings will be considered for inclusion in a narrative 202 summary. Heterogeneity between combined studies will be tested using standard chi-square test. Where possible, odds ratio (for categorical outcome data) or standardised mean differences (for continuous data) and their 95% confidence intervals will be calculated for each included study.

Potential Conflict of Interest

Nil

Acknowledgements

References:

1. Commerford M, R.M., Relationship of religion and perceived social support to self-esteem and depression in nursing home residents. *The Journal of Psychology*, 1996, 130(1): p. 35-50
2. Helm HM, H.C., Flint EP, Koenig HG, Blazer DG, Does private religious activity prolong survival? A six year follow-up study of 3,851 older adults. *The Journal of Gerontology*, 2000. 55A(7): p. M400-405.
3. Hummer RA, E.C., Rogers RG, Moulton BE, Romero RR., Religious involvement and adult mortality in the United States: Review and perspective. *Southern Medical Journal*, 2004. 97(12): p. 1223-1229.
4. Koenig HG, G.L., Titus P, Meador KG., Religion, spirituality, and acute care hospitalization and long term care use by older patients. *Archives of Internal Medicine*, 2004. 164: p. 1579-1585.

Appendix 1: Levels of Evidence

Level of Evidence	Feasibility F(1-4)	Appropriateness A(1-4)	Meaningfulness M(1-4)	Effectiveness E(1-4)	Economic Evidence EE(1-4)
1	SR of research with unequivocal synthesised findings	SR of research with unequivocal synthesised findings	SR of research with unequivocal synthesised findings	SR (with homogeneity) of Experimental studies (eg. RCT with concealed allocation) Or 1 or more large experimental studies with narrow confidence intervals	SR (with homogeneity) of evaluations of important alternative interventions comparing all clinically relevant outcomes against appropriate cost measurement, and including a clinically sensible sensitivity analysis
2	SR of research with credible synthesised findings	SR of research with credible synthesised findings	SR of research with credible synthesised findings	Quasi-experimental studies (eg. without randomisation)	Evaluation of important alternative interventions comparing all clinically relevant outcomes against appropriate cost measurement, and including a clinically sensible sensitivity analysis
3	SR of text/opinion with credible synthesised findings	SR of text/opinion with credible synthesised findings	SR of text/opinion with credible synthesised findings	3a. Cohort studies (with control group) 3b. Case-controlled 3c. Observational studies without control groups	Evaluation of important alternative interventions comparing a limited number of outcomes against appropriate cost measurement, without a clinically sensible sensitivity analysis
4	Expert opinion without explicit critical appraisal	Expert opinion without explicit critical appraisal	Expert opinion without explicit critical appraisal	Expert opinion with explicit critical appraisal, or based on physiology, bench research or consensus	Expert opinion with explicit critical appraisal, or based on economic theory

Experimental Critical Appraisal Form

Author _____ Year _____ Record Number _____

Questions 1 to 4 must be answered “yes” for study to be included in the meta-analysis.

- 1) Were the participants randomised to study groups?
yes no not clear
- 2) Other than the research intervention, were participants in each groups treated the same?
yes no not clear
- 3) Were the outcomes measured in the same manner for all participants?
yes no not clear
- 4) Were groups comparable at entry?
yes no not clear

Studies that answer no to questions 5 -10 will only be included in the systematic review if no other higher quality studies are identified available, however this must be noted in the report.

- 5) Was randomisation of participants blinded?
yes no not clear
- 6) Were those assessing outcome blinded to treatment allocation (if outcome not objective such as survival or length of hospitalisation)?
yes no not clear
- 7) Was allocation to treatment groups concealed from the allocator?
yes no not clear

- 8) Was an appropriate statistical analysis used?
 yes no not clear
- 9) Were outcomes measured in a reliable way?
 yes no not clear
- 10) Was there adequate follow-up of participants?
 yes no not clear
 (less than 80% followed up)

SUMMARY

TOTAL

YES _____ NO _____ ? _____

DECISION

USE

REJECT

NARRATIVE SUMMARY
 ONLY

FURTHER INFORMATION
 NEEDED

COMMENTS

Appendix 3: Data Extraction Forms

Author Record Number

Journal

Year

Reviewer

Method _____

Setting _____

Participants _____

Number of Participants

Group A
Control

Group B
Intervention 1

Group C
Intervention 2

Interventions

Group A _____
Control _____

Group B _____
Intervention 1 _____

Group C _____
Intervention 2 _____

Outcome Measures

Definition

Other Outcomes Measures

Outcome Description	Scale / Measure

Results

Dichotomous Data

Outcome	Control Group number / total number	Treatment Group number / total number

Continuous Data

Outcome	Control Group mean & SD (number)	Treatment Group mean & SD (number)

Authors Conclusions _____

Comments _____
