Reiki protocol for preoperative anxiety, depression, and well-being: a non-randomized controlled trial

ABSTRACT

Objective: To assess the effectiveness of Reiki in reducing anxiety, depression, and improving preoperative well-being in cardiac surgery. Method: A non-randomized, two-arm controlled clinical trial conducted in a cardiology referral hospital with patients in the preoperative period of cardiac surgery, with up to five days for surgery, between May and November 2018. The intervention group (n=31) was submitted to a Reiki protocol, and the control group (n=59) received only conventional care. Results: One hundred twenty-four patients were assessed. The mean anxiety and depression did not obtain a significant difference between the groups. Spiritual well-being, in religious and existential dimensions, has improved significantly. Conclusion: Anxiety and depression were lower in the intervention group, with no statistically significant difference. There was a better result in the assessment of well-being with the intervention group. Religiosity may interfere in some cases with acceptance of holistic and integrative practices. Brazilian Registry of Clinical Trials: RBR-4cxw37

DESCRIPTORS

Preoperative Period; Thoracic Surgery; Anxiety; Therapeutic Touch; Complementary Therapies.
INTRODUCTION

Anxiety, depression, and fear are the factors arising from the most studied preoperative experience to date, having been described as negatively affecting from psychological adaptation and coping with the surgical procedure to physiological parameters, including impacting surgical recovery\(^1\-2\).

Nursing interventions for preoperative anxiety have been studied, mainly, in the scope of health education. Strategies that, being tested and mediated by knowledge of the surgical procedure, can bring tranquility to patients. However, other non-pharmacological interventions can still be considered, in particular Complementary and Integrative Health Practices (PICS – Práticas Integrativas e Complementares em Saúde). PICS represent more possibilities of intervention for nurses, and there is a pressing need for evidence for its use in various care settings.

Using integrative and complementary therapies has been increasing every year. The emergence of the Brazilian National Policy of Complementary and Integrative Practices (PNPIC – Política Nacional de Práticas Integrativas e Complementares) in the Brazilian Unified Health System (SUS – Sistema Único de Saúde) in 2006 was aimed at stimulating the natural mechanisms of disease prevention and health recovery through effective and safe technologies, with emphasis on welcoming listening, development of therapeutic bond and integration of human beings with the environment and society\(^3\).

Reiki is one of the most used PICS at SUS, with a percentage of 25.6\%, with prevalence of its use in primary care. It is a complementary, holistic, and natural therapy characterized by imposition of hands with the objective of reestablishing physical, mental, and spiritual balance, treating the being as a whole. Reiki can treat many acute and chronic diseases and there is no contraindication or restrictions\(^4\-6\).

Reiki must be understood as a path in which the therapist channels energy to someone to receive, to activate the innate energy of the recipient and facilitate self-healing\(^7\-8\). Evidence on the effect on the Reiki applicator has shown that they do not have altered physiological parameters after sessions, which corroborates that the therapist may be only one channel, minimally interfering with the effect of the technique\(^8\).

The technique has several advantages evidenced in the literature, such as reducing anxiety, pain, fatigue, stress, and depression, increased immunity and decreased blood pressure levels\(^7\-8\). However, there are no clinical trials in these reviews that assess the efficacy of the technique in cardiac surgery, validating whether it can be useful or not in contributing to the patient, in the subjective dimension, in coping with the surgical procedure or in the recovery of surgery\(^7\-9\-14\).

The present study aimed to assess the effectiveness of Reiki in reducing anxiety, depression and improving preoperative well-being in cardiac surgery.

METHOD

STUDY DESIGN

This is an experimental, clinical trial, prospective, non-randomized, controlled study.

SETTING

It was performed in a public hospital that attends only clinical and surgical cardiology, a reference center in northern and northeastern Brazil, between May and November 2018.

Patients in the preoperative period of cardiac surgery of myocardial revascularization or valve replacement and plasty participated in the study.

SELECTION CRITERIA

Hospitalized patients, awaiting surgery and aware of the date of the surgery, up to five days in advance for the surgery were included. Patients with congenital aortic or cardiac diseases, urgent or emergency surgeries, using antipsychotics and anxiolytics, with the impossibility of walking to the ward, mental and cognitive alterations that prevented answering questions, previous neurological alterations, previous renal, digestive and pulmonary diseases, and infections acquired before the surgical process; or those who refused to participate were excluded.

Sample was calculated considering anxiety as the main outcome, assessed by the Hospital Anxiety and Depression Scale. One considered an alpha error of 0.05 and beta of 0.2, a considerable difference between groups at 0.5 points on the scale (effect size) and standard deviation of 4.79 points, obtained in a validation study of the scale for patients in the preoperative period of cardiac surgery performed in the same service\(^15\). Finally, an estimated finite population of 200 patients was considered during the collection period. Sample was calculated in 64 patients per group, in a total of 128 patients.

DATA COLLECTION

The patients were approached in the wards by the researchers, who previously consulted the medical records to verify whether the patients met the clinical criteria for participating in the research (surgical indication, use of psychoactive drugs) and the surgical map. After clarifying the objective of the research and obtaining consent to participate by signing the Informed Consent Form (ICF), the interviewers continued with the research. There was no randomization: during the collection period, patients were included in the intervention group according to the availability of the Reikian researcher who applied Reiki. The Reikian therapist had no training and practice in any other hand laying technique or in other integrative therapy of another nature and all patients in this group received the intervention of the same person. On days when the researcher was not available (alternate days, varying each week randomly), the patients were allocated to the control group. The research team visited the ward daily and, when the Reikian therapist was
not available to apply both sessions according to protocol, patients were included in the control group. No placebo group was performed in this experiment.

Reiki intervention was applied at least one day apart and the participants who did not receive the intervention twice did not remain in the sample – there was no variation in the number of applications. The intervention group was composed of patients who had two sessions. Reiki intervention was applied to patients by one of the researchers. The sessions were held in an exclusive and reserved ward or in the bed itself, according to the patient’s preference. Each Reiki session lasted 20 minutes, with a day apart. During the session, the patient lay on a bed and was asked to close his eyes and relax. Reiki application followed a standardized protocol, the Reikian therapist, after positioning the patient, performed energetic cleaning of the environment and applied Reiki, in the ventral, frontal, laryngeal, cardiac, solar plexus and umbilical chakra, with an average time of 3 minutes per chakra. The Reiki session lasted an average time of 20 minutes. No other resources were used such as stones, cushions, scents, music, etc. There were no practice guidelines after the session (meditation, etc.).

The control group was not submitted to the intervention. In this group, anxiety, depression and spiritual well-being were assessed preoperatively on the eve of the surgery date. The intervention group (Reiki) measured the same outcomes, also on the eve of surgery, after the applied protocol. The control group represents the state of anxiety, depression and well-being that is conventionally found in patients on the eve of cardiac surgery. As it took place in the group that received Reiki, it was assessed to verify whether Reiki is effective in improving these outcomes.

Due to the nature of the experiment, blinding was not possible. However, there was masking in the statistical analysis, since the evaluator did not know what each group was referring to.

Data were collected using an original instrument divided into two parts: a questionnaire designed for socio-demographic survey such as gender, age, origin, income, education, religious affiliation, type of surgery, length of hospital stay, preoperative time; and a part referring to the preoperative period, containing the Hospital Anxiety and Depression Scale, the DUKE Religiosity Index, and the Spiritual Well-being Scale.

The collected data were stored in tables in the Microsoft Excel 2013 program, for later analysis in SPSS, version 20.0. The data of the groups are presented with descriptive statistics, and the normality of the groups for the outcomes was confirmed by the Kolmogorov-Smirnov test. Parametric tests were used to compare the proportion between the groups (chi-square test) and to compare the means (Student’s t-test). It was assessed whether there was divergence between the socio-demographic and clinical data of the groups that could have repercussions on the outcomes. All tests were considered as statistically significant for p value <0.05.

**ETHICAL ASPECTS**

The research was based on the precepts of Resolution 466/12 of the Brazilian National Health Council (and submitted to the Ethics Committee of the institution. Data collection occurred after approval under Opinion 2.782.354/18. The research was registered in the Brazilian Network of Clinical Trials (REBEC – Rede Brasileira de Ensaios Clínicos). The interviews only took place after clarifications and signing of the Informed Consent Form, in two copies, one for the patient. Patients were given the option to respond in the absence of a companion, if they preferred. For the interviews to take place, the researchers made sure with the nursing team on time whether the possible interviewees would be aware of the surgery, i.e. the news of the decision to perform the surgery was not given. There are no references in the literature that prove or report risks of side effects for hand laying techniques. None of the patients in the groups failed to receive any form of care conventionally provided by the hospital staff to patients in the preoperative period of cardiac surgery.

**RESULTS**

Figure 1 presents the results of each stage of the study. A total of 124 patients were assessed, 15 of whom did not...
meet the inclusion criteria (aortic surgeries and congenital or mixed diseases). There was no availability of the Reikian therapist to complete the experiment, and between seeking a new therapist and concluding close to the calculated sample size, the team chose to end the experiment. There was refusal only for intervention, and all the patients approached accepted the interview for the control group. Of the 17 refusals, 3 did not accept Reiki therapy because they did not know anything about it previously; 3 because they resembled some religious practices; 4 chose not to, because they said they were very anxious and tense for surgery and just wanted to wait alone or with the family at the time of surgery; and 7 did not specify any reason, they only refused.

Table 1 presents the results of variables that characterize the sample in control and intervention (Reiki) groups. The difference between the groups was not significant for any of the variables, indicating that the groups were homogeneous, favoring comparison between the outcomes of interest in the study.

Table 1 – Characterization of the pre-intervention control and intervention (Reiki) groups – Recife, PE, Brazil, 2018.

| Variables          | Control (N=59) | Reiki (N=31) | p*    |
|--------------------|----------------|--------------|-------|
|                    | n/%            | n/%          |       |
| **Gender**         |                |              |       |
| Male               | 36 / 61.0      | 15 / 48.4    | 0.251 |
| Female             | 23 / 38.9      | 16 / 51.6    |       |
| **Age group**      |                |              |       |
| Up to 60 years old | 35 / 59.3      | 13 / 41.9    | 0.116 |
| 60 years old or older | 24 / 40.7    | 18 / 58.1    |       |
| **Labor activity** |                |              |       |
| Yes                | 22 / 37.3      | 6 / 19.4     | 0.101 |
| No                 | 37 / 62.7      | 25 / 80.6    |       |
| **Partner/Spouse** |                |              |       |
| Yes                | 33 / 64.7      | 12 / 38.7    | 0.121 |
| No                 | 26 / 35.3      | 19 / 61.3    |       |

continue…
In the baseline, the religiosity of patients was assessed. Both in organizational and non-organizational dimensions and in intrinsic religiosity, linked to transcendence and spirituality, there was no significant difference between the means (Table 2). These variables could influence acceptability of an integrative practice, favoring it in the group that had resulted significantly higher, although Reiki is not a religious practice.

Table 2 – Results of the assessment of religiosity in the control and intervention groups – Recife, PE, Brazil, 2018.

| Religiosity           | Control (N=59) | Reiki (N=31) | p*     |
|-----------------------|----------------|--------------|--------|
|                       | MD±SD          | MD±SD        |        |
| Organizational        | 4.3±1.2        | 4.0±1.8      | 0.347  |
| Non-Organizational    | 5.0±0.9        | 4.8±1.3      | 0.143  |
| Intrinsic             | 12.8±2.2       | 13.2±1.6     | 0.09   |

ME±SD: Mean±Standard Deviation/*Student’s t-test.

As outcomes measured after intervention, it was observed that the mean anxiety and depression was not significantly different between the groups and better results in the group that received the Reiki intervention (Table 3).

Table 3 – Results of the anxiety, depression, and well-being outcomes on the eve of cardiac surgery in the control and intervention groups (Reiki) – Recife, PE, Brazil, 2018.

| Outcomes               | Control (N=59) | Intervention - Reiki (N=31) | p     |
|------------------------|----------------|-----------------------------|-------|
|                        | MD±SD 95%CI    | MD±SD 95%CI                 |       |
| Anxiety                | 6.9±5.2 5.6-8.3| 6.6±3.2 5.6-7.8             | 0.782 |
| Depression             | 4.9±5.1 3.6-6.2| 4.5±3.1 3.5-5.6             | 0.730 |
| Religious well-being   | 57.4±4.2 56.2-58.4| 59.5±1.9 58.3-59.7         | 0.042 |
| Existential well-being | 45.8±10.1 43.1-48.3| 52.1±6.9 49.4-54.3          | 0.003 |
| Spiritual well-being   | 103.2±11.7 100.7-106.1| 111.1±7.9 108.1-113.7      | 0.001 |

ME±SD: Mean±Standard Deviation/*Student’s t-test.

DISCUSSION

In the preoperative period of cardiac surgery, there is evidence that patients with a high level of religiosity have lower levels of anxiety. However, there is no significant research assessing integrative practices in this period[22].

Of the patients who did not accept Reiki therapy, three claimed not to accept it because they did not know the
Reiki protocol for preoperative anxiety, depression, and well-being: a non-randomized controlled trial

REVISÃO

A revisão mostrou que alguns estudos com maiores números de participantes apresentam resultados positivos para apenas duas sessões (4,7). Contudo, uma revisão sistemática de 2009 indicou que o Reiki pode reduzir o estresse, a ansiedade e a depressão, embora os resultados não sejam consistentemente significativos. Além disso, esses estudos demonstraram benefícios adicionais, como melhora no sono e na qualidade de vida.

CONCLUSÃO

Em resumo, a técnica Reiki pode ser uma opção efetiva para reduzir a ansiedade, a depressão e o estresse na pré-operatória. É importante considerar os limites do estudo, como o tamanho amostral e a falta de randomização.

RESUMO

Objetivo: Avaliar a efetividade do Reiki na redução da ansiedade e depressão e na melhoria do bem-estar pré-operatório na cirurgia cardíaca. Método: Estudo não-randomizado, com dois grupos: Reiki e controle. Resultados: O grupo Reiki apresentou melhores resultados em comparação com o controle. Conclusão: O Reiki pode ser uma opção efetiva para reduzir a ansiedade e depressão pré-operatórios.

DESCRITORES

Período Pré-Operatório; Cirurgia Torácica; Ansiedade; Toque Terapêutico; Terapias Complementares.
RESUMEN
Objetivo: Evaluar la efectividad de Reiki para reducir la ansiedad, la depresión y mejorar el bienestar preoperatorio en cirugía cardíaca. Método: Ensayo clínico controlado no aleatorio con dos brazos, realizado en un hospital de referencia de cardiología con pacientes en el período preoperatorio de cirugía cardíaca, con hasta cinco días para cirugía, entre mayo y noviembre de 2018. El grupo de intervención (n=31) se sometió a un protocolo de Reiki y el grupo de control (n=59) recibió solo atención convencional. Resultado: Se evaluaron 124 pacientes. La media de ansiedad y depresión no obtuvo una diferencia significativa entre los grupos. El bienestar espiritual, en sus dimensiones religiosas y existenciales, ha mejorado significativamente. Conclusion: La ansiedad y la depresión fueron menores en el grupo de intervención, sin diferencias estadísticamente significativas. Hubo un mejor resultado en la evaluación del bienestar en el grupo de intervención. La religiosidad puede interferir en algunos casos en la aceptación de prácticas holísticas e integradoras. Registro Brasileño de Ensaios Clínicos: RBR-4cex37

DESCRIPTORES
Periodo Preoperatorio; Cirugía Torácica; Ansiedad; Tecto Terapéutico; Terapias Complementaria.

REFERENCES
1. Gomes ET, Oliveira RC, Bezerra SMMS. Being-patient-waiting-for-cardiac-surgery: the preoperative period under the Heideggerian perspective. Rev Bras Enferm [Internet]. 2018;71(5):2392-7. DOI: http://dx.doi.org/10.1590/0034-7167-2017-0506
2. Rodrigues HF, Furuya RK, Dantas RAS, Dessotte CAM. Ansiedade e depressão em cirurgia cardíaca: diferença entre sexo e faixa etária. Esc Anna Nery [Internet]. 2016;20(3):e20160072. DOI: http://dx.doi.org/10.9935/1414-8145.20160072
3. Brasil. Ministério de Saúde. Política Nacional de Práticas Integrativas e Complementares no SUS. 2.ª ed. Brasília: MS; 2015.
4. Freitag VL, Andrade A, Badke MR. O Reiki como forma terapêutica no cuidado à saúde: uma revisão narrativa da literatura. Enferm Glob [Internet]. 2015;citado 2018 out. 3;38:346-52. Disponível em: http://scielo.isciii.es/pdf/egv/c14n38/p3t_revision5.pdf
5. Bessa JHN, Oliveira DC. O uso da terapia reiki nas Américas do Norte e do Sul: uma revisão. Rev Enferm UERJ [Internet]. 2013; citado 2018 out. 3;21(n,es,1):660-4. Disponível em: http://www.e-publicacoes.uerj.br/index.php/Enfermagemuerj/article/view/100487834
6. Cavalcante RS, Banin VB, Paula NAMR, Daher SR, Habermann MC, Habermann F, et al. Effect of the Spiritist “passe” energy therapy in reducing anxiety involuntes: a randomized controlled trial. Complement Ther Med. 2016;27:18-24.DOI:10.1016/j.ctim.2016.05.002
7. Thrane S, Cohen SM. Effect of Reiki therapy on pain and anxiety in adults: an in-depth literature review of randomized trials with effect size calculations. Pain Manag Nurs. 2014;15(4):897-908. DOI: 10.1016/j.pmn.2013.07.008
8. Hammerschlag R, Baldwin AL. Biofield-based therapies: a systematic review of physiological effects on practitioners during healing. Explore. 2014;10(3):150-61. DOI: 10.1016/j.explore.2014.02.003
9. Demir DM. The effect of Reiki therapy on pain: a meta-analysis. Complement Ther Clin Pract. 2018;31:384-7. DOI: 10.1016/j.ctcp.2018.02.020
10. Vandervaart S, Gijsen VMGJ, Wildt SN, Koren GA. Systematic review of the therapeutic effects of Reiki. J Altern Complement Med. 2009;15(11):1157-69. DOI: 10.1089/acm.2009.0036
11. Joyce J, Herbison GP. Reiki for depression and anxiety. Cochrane Database Syst Rev. 2015; (4):CD006831. DOI: 10.1002/14651858.CD006833.pub2
12. Herron-marx S, Price-knol F, Burden B, Hicks C. A systematic review of the effect of reiki in the scientific literature. Holist Nurs Pract. 2010;24(5):260-76. DOI: 10.1097/HNP.0b013e3181f11a14
13. Jain S, Mills PJ. Biofield therapies: helpful or full of hype? A best evidence synthesis. Int J Behav Med. 2010;17(1):1-16. DOI: 10.1007/s12529-009-9062-4
14. Gomes ET, Bezerra SMMS. Validade da Escala Hospitalar de Ansiedade e Depressão no período pré-operatório de cirurgia cardíaca. Rev Rene. 2018;17(3):273-8. DOI: 10.15253/2175-6783.201700030019
15. Gomez R, Fisher JW. Domains of spiritual well-being and development and validation of the Spiritual Well-Being Questionnaire. Pers Individ Dif. 2003;35(8):1975-91. DOI: https://doi.org/10.1016/S0191-8869(03)00045-X
16. Volcan SMA, Sousa PL, Mari JH, Horta BL. Relación entre bem-estar espiritual e transtornos psiquiátricos menores: estudio transversal. Rev Saúde Pública. 2006;35(4):440-5. DOI:http://dx.doi.org/10.1590/S0034-89102003000400008
17. Marques LF, Sarriera JC, Dell’Aglio DD. Adaptação e validação da Escala de Bem-estar Espiritual (EBE). Aval Psicol [Internet]. 2009; citado 2018 out. 3;8(2):179-206. Disponível em: http://pepsic.bvsalud.org/pdf/apv/v8n2/v8n2a04.pdf
18. Marcolino JAM, Mathias LAST, Piccinini Filho L, Guaratini AA, Suzuki FM, Alli LAC. Escala hospitalar de ansiedade e depressão: estudo da validade de critério e da confiabilidade com pacientes no pré-operatório. Rev Bras Anestesiol. 2007;57(1):52-62. DOI: http://dx.doi.org/10.1590/S0034-70942007000100006
19. Carneiro AF, Mathias LAST, Rassi Júnior A, Morais NS, Gozanni JL, Miranda AP. Avaliação da ansiedade e depressão no período pré-operatório em pacientes submetidos a procedimentos cardíacos invasivos. Rev Bras Anestiol. 2009;59(4):431-8. DOI: http://dx.doi.org/10.1590/S0034-70942009004000005.
20. Moreira-Almeida A, Peres M,F, Aloe F, Lotufo Neto F, Koenig HG. Versão em português da Escala de Religiosidade da Duke: DUREL. Rev Psiquiatr Clin. 2008;35(1):31-32. DOI: http://dx.doi.org/10.1590/S0101-60832008000100006
21. Bezerra SMMS, Gomes ET, Galvão PCC, Souza KV. Spiritual well-being and hope in the preoperative period of cardiac surgery. Rev Bras Enferm [Internet]. 2018;71(2):398-405. DOI: http://dx.doi.org/10.1590/S0034-7167-2016-0642
22. Oliveira C, Zugno PI, Dagostin VS, Soratto MT. Reiki na ansiedade de idosos Institucionalizados. Enfarm Brasil. 2016;15(2):62-7.
24. Freitag VL, Dalmolin IS, Badke MR, Andrade A. Benefícios do Reiki em população idosa com dor crônica. Texto Contexto Enferm. 2014;23(4):1032-40. DOI: http://dx.doi.org/10.1590/0104-07072014001850013

25. Bessa JHN, Jomar RT, Silva AV, Peres EM, Wolter RMCP, Oliveira DC. Efeito do Reiki no bem-estar subjetivo: estudo experimental. Enferm Glob [Internet]. 2017 [citado 2018 out. 3]; 48:415-21. Disponível em: http://scielo.isciii.es/pdf/eg/v16n48/pt_1695-6141-eg-16-48-00408.pdf

26. Sánchez Domínguez J. El don de la aplicación de la terapia de reiki en pacientes con cáncer. Rev Enferm. 2016;39(6):38-49.

27. Nedel WL, Silveira F. Different research designs and their characteristics in intensive care. Rev Bras Ter Intensiva. 2016;28(3):256-60. DOI: http://dx.doi.org/10.5935/0103-507X.20160050

28. McManus DE. Reiki is better than placebo and has broad potential as a complementary health therapy. J Evid Based Complementary Altern Med. 2017;22(4):1051-7. DOI: 10.1177/2156587217728644.