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

Protocolo de Reiki para ansiedade, depressão e bem-estar pré-operatórios: ensaio clínico controlado não randomizado

Protocolo de Reiki para la ansiedad preoperatoria, la depresión y el bienestar: ensayo clínico controlado no aleatorio

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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.

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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[7,9]. 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 plastia 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[16-21].

The Hospital Anxiety and Depression Scale consists of 14 questions, seven for assessing anxiety and seven for depression. Each item was scored on a scale of 0 to 3, for a total of 21 points for each scale. The cut-off point of no anxiety or depression was adopted from 0 to 8, with anxiety or depression > 9 in each subscale, respectively[18-19]. This scale has been used because is fast and simple (within ten minutes), because its validity and reliability have been demonstrated in several studies, and because it does not contain assessment of somatic symptoms[19].

The Duke Religiosity Index (DUREL) is a six-option Likert scale with five items, developed by Koenig et al. DUREL assesses three main dimensions of religious involvement related to health outcomes: Organizational Religiosity (OR, item 1, relating to the frequency of religious meetings); Non-Organizational Religiosity (NOR, item 2, regarding the frequency of private religious activities); and Intrinsic Religiosity (IR, items 3, 4 and 5, related to the search for internalization and full experience of religiosity[20].

The Spiritual Well-being Scale (SWB) is an instrument subdivided into two subscales (of 10 items each): Religious Well-Being (RWB) and Existential Well-Being (EWB). The RWB items contain a reference to God. EWB's refer to the feeling of encounter with meaning and commitment to something significant in life. Half of the questions on the scale are written in the positive direction and half in the negative. The scale has 20 questions, which must be answered using a six-option Likert scale. The total of the scale is the sum of the scores of these 20 questions, and the scores can vary from 20 to 120[15-17].

Analysis and treatment of data

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 Kolmogorv-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.

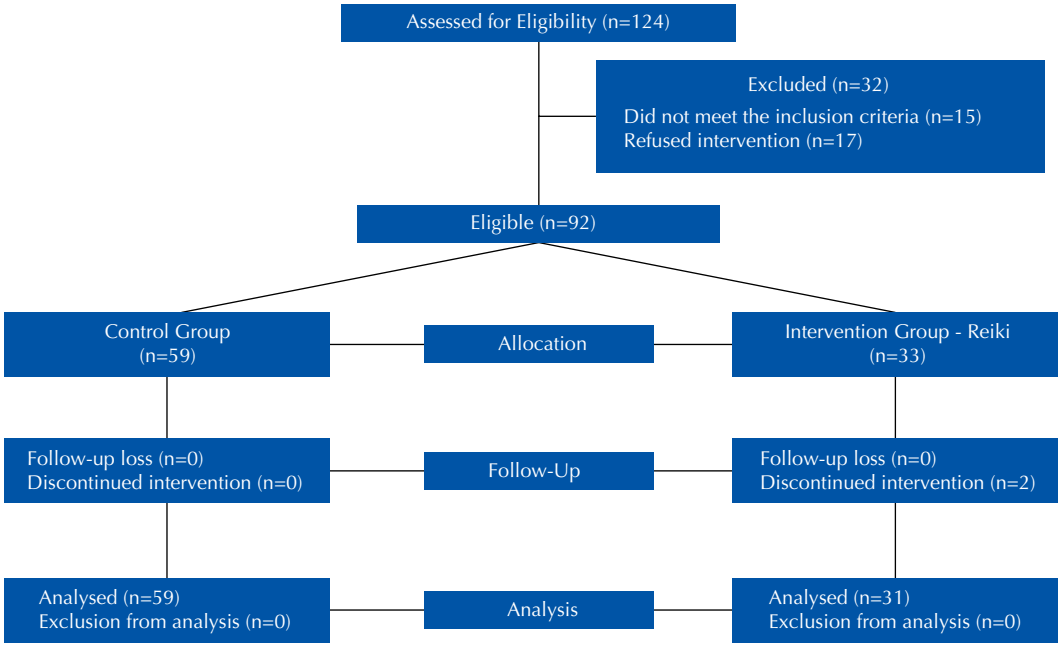

Figure 1 – Flowchart of the study. Recife, PE, Brazil, 2018

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	

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Variables	Control (N=59)	Reiki (N=31)	P*
	n/%	n/%	
Surgery			
Revascularization	23 / 45.1	17 / 54.8	0.15
Valvuloplasty/Exchange	36 / 54.9	14 / 45.2	
Companion			
Yes	13 / 22.0	10 / 32.3	0.291
No	46 / 78.0	21 / 67.7	
Daily visit			
Yes	13 / 22.0	10 / 32.3	0.291
No	46 / 78.0	21 / 67.7	
Length of stay			
Up to 10 days	54 / 91.5	24 / 77.4	0.122
More than 10 days	5 / 8.5	7 / 22.6	

*Chi-square test.

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

technique in advance. PICS are often not as well known and widespread, which can lead to prejudice and diminish the potential for benefits to people.

Reiki maintains its roots in Eastern traditions, seeking the balance of body and mind, approaching Eastern religious and mystical conceptions, although it is not a religious practice or doctrine[4]. However, as organized religions widely disseminated in Brazil adopt practices of laying on of hands, there were three patients who refused to participate in the research because they associated Reiki with some practices of religions different from their own.

No significant difference was obtained from this study between the level of anxiety and depression of the groups, but more discreetly, the Reiki group presented slightly better results.

In a research with institutionalized elderly, Reiki proved to be an effective tool for reducing anxiety levels, with a protocol close to ours, with three Reiki sessions for one week, from 30 to 40 minutes each[23].

In another study, after Reiki sessions, the subjects verbally demonstrated pain relief, improved sleep pattern, ease in performing daily tasks, improvement in stress and anxiety levels, changes in the thought process and good mood[24].

Concerning well-being, there was a significant improvement in Reiki group, compared to the control group especially in spiritual and existential well-being. It is noteworthy that Reiki advocates the ability to dissolve energy blocks and improve the individual's energy pattern, favoring balance, fullness, health, and positive feelings[25]. Reiki becomes an ideal instrument to achieve tranquility at physical, emotional, and mental levels[25].

The current research had as limitation the performance of only two Reiki sessions, because the patient should be aware of his surgery (stressful factor) and, despite the high length of stay in the service, the date of surgery was only confirmed in the previous week. It is believed that the slight difference evidenced would gradually increase with continuity of Reiki sessions. However, there are few articles that have tested Reiki in the preoperative period – although assessing outcomes after surgery, among which there are already protocols with positive results for only two sessions[4,7]. Nonetheless, a review showed that study protocols with higher numbers of sessions also have a higher dropout rate, which prevents safe assessment regarding the level of evidence of the technique's effects[26]. The impact on reducing anxiety and depression might have been better observed with a larger sample size.

There are studies that present significant results for decreased anxiety by Reiki[4,23,24,27]. However, systematic reviews on the subject were unable to conclude whether there is sufficient evidence to state anything about the effectiveness of Reiki for anxiety and depression, after assessing the methodological quality of the articles published[7,11]. A systematic review study found that, when compared to placebo groups, Reiki presents better results in chronic health conditions and in surgical recovery[28]. There is no research in the setting of this work, with an anxious state of such a high intensity, in the face of such a significant stressor. It is raised the hypothesis that anxiety, fear, and depression in the preoperative period are so acute and with genesis so wide and profound that an intervention only in the energy field could not achieve the root of the problem.

One highlights that there was no record of side effects during the research, as predicted by reference of experiments published in the scientific literature.

As limitations of the study, one still has that the intervention group did not reach the expected sample size, besides that the high refusal to participate can contribute as a sample selection bias. One of the limitations may be the fact that the outcomes were not assessed before and after intervention in the same group, which could evidence the effectiveness of Reiki in improving the measured effects.

CONCLUSION

In this study, it can be affirmed that there was a better result in assessing well-being among the intervention group in relation to control. Anxiety and depression were lower in the intervention group, with no statistically significant difference.

It became evident that, despite being an important factor in the preoperative period, religiosity can interfere in some cases in the acceptance of holistic and integrative practices. It is suggested to conduct studies with randomization, placebo and sample in ideal size, so that the results can be confirmed and other outcomes can be assessed.

RESUMO

Objetivo: Avaliar a efetividade do Reiki na redução da ansiedade, da depressão e na melhoria do bem-estar pré-operatório na cirurgia cardíaca. **Método:** Ensaio clínico controlado não randomizado, com dois braços, realizado em um hospital de referência em cardiologia com pacientes no pré-operatório de cirurgia cardíaca, com até cinco dias para a cirurgia, entre maio e novembro de 2018. O grupo intervenção (n=31) foi submetido a um protocolo de Reiki e o grupo controle (n=59) recebeu apenas o cuidado convencional. **Resultados:** Foram avaliados 124 pacientes. A média de ansiedade e depressão não obteve uma diferença significativa entre os grupos. O bem-estar espiritual, nas suas dimensões religiosa e existencial, tiveram uma melhora significativa. **Conclusão:** A ansiedade e a depressão foram menores no grupo intervenção, sem diferença estatisticamente significativa. Houve melhor resultado na avaliação do bem-estar no grupo intervenção. A religiosidade pode interferir em alguns casos na aceitação de práticas holísticas e integrativas. Registro Brasileiro de Ensaios Clínicos: RBR-4cxw37

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. **Conclusión:** 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 Ensayos Clínicos: RBR-4cxw37

DESCRIPTORES

Periodo Preoperatorio; Cirugía Torácia; Ansiedad; Tecto Terapéutico; Terapias Complementaria.

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