INPLASY PROTOCOL

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None declared.

Dry needling alone or in combination with therapeutic physical exercise in subacromial pain syndrome: a systematic literature review and meta-analysis

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Review question / Objective: **Can dry needling alone or in combination with physical exercise reduce the pain of subacromial pain syndrome?**
Condition being studied: **Subacromial pain syndrome is one of the most frequent causes of shoulder pain in the clinic. The shoulder area is one of the most complicated to treat manually due to the flat musculature and its location. That is why the aim of this study is to evaluate whether dry needling alone or in combination with therapeutic physical exercise can reduce this pain.**
Eligibility criteria: **Patients with subacromial pain syndrome; dry needling treatment, controlled by means of a group in which deep dry needling is not applied or this in combination with therapeutic physical exercise; pain measurement by means of VAS, NPRS, DASH or SPADI; randomized clinical trials.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 29 June 2022 and was last updated on 29 June 2022 (registration number INPLASY202260112).

INTRODUCTION

Review question / Objective: **Can dry needling alone or in combination with physical exercise reduce the pain of subacromial pain syndrome?**

Condition being studied: **Subacromial pain syndrome is one of the most frequent causes of shoulder pain in the clinic. The shoulder area is one of the most complicated to treat manually due to the flat musculature and its location. That is why the aim of this study is to evaluate whether dry needling alone or in combination with therapeutic physical exercise can reduce this pain.**

METHODS

Participant or population: Persons between 18 and 70 years of age with diagnosed subacromial pain syndrome.

Intervention: Application of deep dry needling alone or in combination with therapeutic physical exercise.

Comparator: In the comparison with dry needling alone, the control group was anyone who was not treated with deep dry needling. In the comparison of dry needling with therapeutic physical exercise, the control group was any type of intervention that did not use the combination of both.The control group was anyone who received a treatment other than dry needling alone or in combination with therapeutic physical exercise.

Study designs to be included: We will include RCTs in which dry needling alone or in combination with physical exercise is used to treat subacromial pain syndrome.

Eligibility criteria: Patients with subacromial pain syndrome; dry needling treatment, controlled by means of a group in which deep dry needling is not applied or this in combination with therapeutic physical exercise; pain measurement by means of VAS, NPRS, DASH or SPADI; randomized clinical trials.

Information sources: We Will use 5 databases to search all relevant literature resources: Pubmed, IBECS, CENTRAL, Web of Science Core Collection and SCOPUS.

Main outcome(s): The outcome measures we focused on included pain scales (VAS, NPRS), and pain and disability questionaries (DASH, SPADI).

Quality assessment / Risk of bias analysis: To assess the bias, we will use the RIOB assessment tool of Cochrane, that includes 7 items: allocation hiding; random method selection; completeness of the result data, blind method, whether the evaluator is blind; selectively reporting results and other biases. The options of response are yes, no and unclear.

Strategy of data synthesis: A statistical analysis was carried out in which the difference in standardized me-days (SMD) between baseline and post-intervention was calculated. Post-intervention values were also evaluated between the control and experimental groups in order to assess the decrease in pain after dry needling treatment alone or in combination with therapeutic physical exercise. These means were performed with a 95% confidence interval (CI). The heterogeneity of the combination of different articles was also evaluated, thus observing whether or not the combination performed was correct. For this purpose, the random effects model was chosen, calculating the heterogeneity by means of I2 (95% CI), and the variance between studies was calculated by means of Tau2 (T2) (95% CI). A Tau2 value greater than 1 indicates statistically significant heterogeneity. In addition, the value of I2 will also indicate the value of heterogeneity. This value should be interpreted carefully, with 75% being severe heterogeneity. Statistical hete-rogeneity was established for an I2 value greater than 50%. A p-value less than 0.1 was considered statistically significant.

Subgroup analysis: Not applicable.

Sensitivity analysis: There is not sensitivy analysis.

Country(ies) involved: Spain.

Keywords: Dry Needling; Shoulder Impingement Syndrome; Exercise Therapy; Trigger Points.

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