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Judul : Penambahan Intervensi *Hold Relax* Pada Ultrasound Dan Tens Terhadap Lingkup Gerak Sendi Frozen Shouder

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ABSTRAK

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Penambahan Intervensi *Hold Relax* Pada *Ultrasound* Dan *Tens* Terhadap Lingkup Gerak Sendi Frozen Shouder

Pendahuluan: *Frozen shoulder* (adhesive capsulitis) ditandai nyeri bahu dan keterbatasan lingkup gerak sendi (LGS), terutama rotasi eksternal, abduksi, dan rotasi internal. Di poli fisioterapi RSUI Harapan Anda Tegal, penatalaksanaan konvensional menggunakan *Ultrasound* (US) dan *TENS* belum dikombinasikan teknik *Hold Relax*. Penelitian ini bertujuan mengetahui pengaruh penambahan *Hold Relax* pada US dan TENS terhadap peningkatan LGS pasien *frozen shoulder*.

Metode: Penelitian ini menggunakan desain *quasi experiment* dengan pendekatan *one-group pretest-posttest design*. Sampel berjumlah 20 responden menggunakan teknik *total sampling*. Intervensi diberikan selama 4 minggu (8 sesi), meliputi US, TENS, dan *Hold Relax*. Pengukuran LGS menggunakan goniometer pada 6 arah gerak bahu. Analisis data menggunakan uji *Shapiro-Wilk* dan *Wilcoxon Signed-Rank Test*.

Hasil: Hasil menunjukkan peningkatan rata-rata LGS pada seluruh arah gerak bahu. Rerata fleksi meningkat dari 104,50° menjadi 141,30°; ekstensi dari 21,75° menjadi 49,35°; abduksi dari 67,50° menjadi 100,15°; adduksi dari 35,75° menjadi 62,30°; eksorotasi dari 19,95° menjadi 42,90°; dan endorotasi dari 37,75° menjadi 62,50°. Uji *Wilcoxon Signed-Rank Test* menunjukkan nilai $p = 0,000$ ($p < 0,05$), yang berarti terdapat perbedaan bermakna secara statistik antara kondisi sebelum dan sesudah intervensi.

Diskusi: Terdapat pengaruh signifikan dari penambahan intervensi *Hold Relax* pada pemberian US dan TENS terhadap peningkatan LGS pada seluruh arah gerak bahu pasien *frozen shoulder* di RSUI Harapan Anda Tegal. US berperan mempersiapkan jaringan melalui efek *deep heating*, TENS menurunkan persepsi nyeri, dan *Hold Relax* meningkatkan fleksibilitas kapsul sendi melalui mekanisme inhibisi autogenik. Pasien disarankan melanjutkan latihan mandiri secara rutin di rumah untuk mempertahankan hasil peningkatan LGS yang telah dicapai.

Kata Kunci: *Frozen Shoulder*, *Hold Relax*, *Ultrasound*, TENS, Lingkup Gerak Sendi
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ABSTRACT

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The Addition of Hold Relax Intervention to Ultrasound and TENS on the Range of Motion of Frozen Shoulder

Introduction: Frozen shoulder (adhesive capsulitis) is characterized by shoulder pain and limited range of motion (ROM), particularly in external rotation, abduction, and internal rotation. At the physiotherapy outpatient clinic of RSUI Harapan Anda Tegal, conventional management using Ultrasound (US) and TENS has not yet been combined with the Hold Relax technique. This study aims to determine the effect of adding Hold Relax to US and TENS on the improvement of ROM in frozen shoulder patients.

Method: This study used a quasi-experimental design with a one-group pretest-posttest approach. The sample consisted of 20 respondents selected using a total sampling technique. The intervention was administered over 4 weeks (8 sessions), comprising US, TENS, and Hold Relax. ROM was measured using a goniometer across 6 directions of shoulder movement. Data analysis was performed using the Shapiro-Wilk test and the Wilcoxon Signed-Rank Test.

Result: The results showed an improvement in mean ROM across all directions of shoulder movement. The mean flexion increased from 104.50° to 141.30°; extension from 21.75° to 49.35°; abduction from 67.50° to 100.15°; adduction from 35.75° to 62.30°; external rotation from 19.95° to 42.90°; and internal rotation from 37.75° to 62.50°. The Wilcoxon Signed-Rank Test showed a value of $p = 0.000$ ($p < 0.05$), indicating a statistically significant difference between pre- and post-intervention conditions.

Discussion: There was a significant effect of adding the Hold Relax intervention to US and TENS on the improvement of ROM across all directions of shoulder movement in frozen shoulder patients at RSUI Harapan Anda Tegal. US plays a role in preparing the tissue through its deep heating effect, TENS reduces pain perception, and Hold Relax improves joint capsule flexibility through an autogenic inhibition mechanism. Patients are advised to continue independent exercises regularly at home to maintain the ROM improvements that have been achieved.

Keywords: *Frozen Shoulder, Hold Relax, Ultrasound, TENS, Range of Motion*

References: 18 (2017–2025)