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Novel Cervical Pillow: A Case Series on its Effectiveness in Alleviating Pain and Enhancing Sleep in Patients with Cervical Spondylosis

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ABSTRACT

Cervical spondylosis, a degenerative condition of the cervical spine, significantly impacts quality of life through debilitating neck pain, stiffness, and disrupted sleep. While various treatments exist, the role of pillow selection in maintaining cervical lordosis during sleep remains under-explored and often overlooked by most healthcare practitioners. This study investigates the efficacy of a novel cervical pillow designed with optimal parameters, in conjunction with postural reeducation exercises only, in improving pain, disability, and sleep quality in individuals with cervical spondylosis.

Four patients (three females and one male) with confirmed radiological evidence of cervical spine degeneration and clinical symptoms of neck pain and disturbed sleep persisting for over three months were recruited for the study.Outcome measures, including pain, disability, and sleep quality, were evaluated using the Numeric Pain Rating Scale (NPRS), the Neck Disability Index (NDI), and the Pittsburgh Sleep Quality Index (PSQI), respectively, with baseline and post-intervention scores recorded after a four-week period. During the intervention, patients were provided with a novel cervical firm pillow, measuring 10–12 cm in height, to use exclusively during sleep. Additionally, self-directed postural re-education exercises were demonstrated, with specified repetitions and sets prescribed for practice throughout the study duration.The study demonstrated statistically significant improvements across all outcome measures compared to baseline. The Numerical Pain Rating Scale (NPRS) showed a reduction from 7.33±0.51 to 2.17±0.40 ($p<0.01$, 95% CI), the Neck Disability Index (NDI) decreased from 55.68±5.78 to 10.54±1.11 ($p<0.01$, 95% CI), and the Pittsburgh Sleep Quality Index (PSQI) improved from 12.17±0.40 to 4.67±1.36 ($p<0.01$, 95% CI).

This study underscores the clinical significance of appropriate pillow selection in managing the multifaceted symptoms of chronic cervical spine degeneration, including pain, disability, and disrupted sleep.

Keywords: Cervical spine degeneration, Neck pain, Sleep quality