



INFLUENCE OF SMOKING ON CLINICAL OUTCOMES IN SHOULDER SURGERIES AMONG YOUNG POPULATION—A REVIEW ARTICLE

*RITA SHARMA



Department of Physiotherapy, SAHS, Sharda University,
Greater Noida, Uttar Pradesh, India.



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***Corresponding Author:** Rita Sharma, Assistant Professor, Department of Physiotherapy, SAHS, Sharda University, Greater Noida, Uttar Pradesh, India.

ORCID ID: 0000-0002-3788-8977

Email: rita.sharma@sharda.ac.in

ABSTRACT

Tobacco smoking has a range of detrimental effects on the musculoskeletal system and is a risk factor for poor postoperative outcomes following various surgical operations. The study's objective was to look at the impact of smoking on shoulder operations and clinical results in the younger age group. According to the findings, smoking is linked to rotator cuff tears, shoulder dysfunction, and shoulder discomfort. Shoulder injuries involving several tendons are a severe problem for surgeons, and we must decrease the unfavourable risk factors by quitting smoking before shoulder surgery in order to have an optimal functional outcome.

Keywords: Smoking, Rotator Cuff Tear, Arthroscopy, Shoulder, Tobacco, Rotator Cuff Tendinopathy.

1.0 INTRODUCTION

Smoking is nevertheless prevalent in the general population, with the highest rates among those living in poverty or between the ages of 22 and 44. Smoking has also been shown to have detrimental clinical consequences on the musculoskeletal system, such as a higher risk of fracture, nonunion, and delayed fracture union, as well as a reduction in bone mineral density. Furthermore, we just released large research that revealed a connection between smoking and poor clinical outcome following rotator cuff (Rtc) repair, as well as poor healing results for small to medium tears. Because smoking reduces tissue oxygenation for a short period of time, and nicotine is a powerful vasoconstrictor. Smoking may have an effect in areas that are already hypovascular, such as soft tissue, within the shoulder. As a result, it's logical to believe that smoking is associated with rotator cuff disease.¹

Tobacco use is a widespread and important risk factor for cancer, lung disease, and cardiovascular disease. Tobacco use has a clear influence on the musculoskeletal system and is

linked to poor postoperative results following a number of surgical procedures. The objective of surgical proce-

dures is to restore function to damaged tendons while maintaining the biology of the healing process. We hypothesised that smoking's adverse effects might be a substantial risk factor for poor regeneration and, as a result, worsened functional results in complicated shoulder injuries.

"Shoulder pain from acute or chronic tendon injuries affects a big percentage of the population, and it's becoming a major cause of job loss. Multiple tendon illnesses can affect different areas of the shoulder simultaneously time, with tendonitis and rotator cuff tears being one of the most prevalent(Rcts)".²

Smoking was demonstrated to have a statistically significant detrimental relationship with clinical outcomes after rotator cuff surgery by Mallon et al., and Balyk et al.,^{3,5} a complicated shoulder injury is difficult to repair since it necessitates more extensive surgery. Furthermore, tobacco smoke may affect tendon repair biology, resulting in poor clinical outcomes.⁴ Prasad et al., on the other hand, we are unable to establish such a link.⁶ watershed zones in the rotator cuff and biceps tendons are places with restricted blood supply. Hypoxia and metabolic disorders are more sensitive in these hypovascular zones, which have a reduced recovery capacity.⁷ Complex shoulder

injuries in smokers are likely to have poor results due to the hypoxic environment.⁴; as a result, the researchers wanted to examine how smoking influenced shoulder operations and clinical results in younger patients.

2.0 REVIEW METHODOLOGY

Different “keywords” and “Boolean Operators” were used to search databases such as PubMed, CINAHL, REHABDATA, etc. Identifying articles with the following key terms: smoking, tobacco, rotator cuff tear, arthroscopy, shoulder, rotator cuff tendinopathy. Original articles or abstracts on cigarettes (or e-cigarettes) of any topic relevant to health, published from 2004 to date, were considered eligible. We included studies in the English language only. Literature focusing on the effect of nicotine on shoulder surgeries was considered eligible. Literature published before 2004 were excluded.

3.0 DISCUSSION AND CONCLUSION

In this article, we study the smoking's effect on clinical outcomes on shoulder operations in the younger age group in this review article. "Until far, only a few research have investigated the rotator cuff morbidity, surgery, and clinical outcomes linked to cigarette smoke exposure." Bishop et al. looked at thirteen studies that looked at Rcts and functional outcomes as measured by clinical assessments and found that smokers had a lower functional result and progressed tendon injury.⁸ According to Snyder, they found that Results in the smokers' group with Lhbt and Rcts after Inferior surgery when compared to non-smokers, as well as a smoker group's predisposition to severe c4 rotator cuff tears. According to Mcrae et al., there is a link between smoking and poor shoulder function and discomfort levels, but no link between smoking and American shoulder and elbow surgeons scale scores.⁹ According to Santiago-Torres et al.,

smoking has been associated with poor healing after treatment of small-to-medium rotator cuff injuries.¹⁰

Mallon et al. discovered that smokers had much less postoperative discomfort and University of California at Los Angeles shoulder scores than non-smoker³.

According to the findings of Naimark et al., smokers experienced a lesser functional improvement in response to surgery than non-smoker, as measured by ASES ratings.¹¹ Previous studies found a statistically significant correlation between the two. Carbone et al. identified a connection between cigarette smoking, the occurrence of RTC tears, and the magnitude of RTC tears. Their research included 408 individuals, 131 of whom were smokers, who had arthroscopic RTC repair. Smoking is a risk factor for tears in children and adolescents, according to the finding.¹² According to Kane et al., there is no statistically significant link between RTC illness and 72 shoulders were dissected from 36 cadavers to look for indications of RTC disease on a microscopic and macroscopic level.¹³

Another study conducted by Lundgreen et al., on 25 individuals, 10 of whom were smokers, discovered a significant statistically link between smoking and, at a younger age, the symptoms of tear and deteriorated supraspinatus tendon histology.¹⁴ Rotator cuff tears, shoulder dysfunction, and shoulder discomfort are all linked to smoking. Smoking can hasten rotator cuff tears deterioration and increase the likelihood of greater rotator cuff tears which perhaps increases the necessity for surgical intervention. Smoking cessation should be promoted due to the negative impact on clinical outcomes and increase the likelihood of greater rotator cuff tears. More research is needed to characterise the harmful effects of smoking and determine whether smoking cessation is required prior to rotator cuff surgery for excellent clinical outcomes.

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