Original Research

A STUDY ON EFFICACY OF VARIABLE CONCENTRATIONS OF BUPIVACAINE IN ULTRASOUND-GUIDED ANTERIOR SCIATIC NERVE BLOCK FOR PATIENTS UNDERGOING LOWER LIMB SURGERIES

Dr. Sahana S[1*], Dr. Vasanth Kumar K. R[2], Dr. Kiran Kumar O[3], Dr. Vijayasri[4], Dr. Sravani M[5],Dr. P. Sreenivasulu[6]

[1*,3,6] Assistant Professor, Dept of Anesthesiology, Sri Balaji Medical College, Hospital, and Research Institute. Tirupati, Andhra Pradesh.

[2]Prof and HOD, Dept of Anesthesiology, Sri Balaji Medical College Hospital and Research Institute. Tirupati, Andhra Pradesh.

[4]Junior Resident, Dept of Anesthesiology, Sri Balaji Medical College Hospital and Research Institute. Tirupati, Andhra Pradesh.

[5]Associate Professor, Dept of Anesthesiology, Sri Balaji Medical College, Hospital, and Research Institute. Tirupati, Andhra Pradesh.

Corresponding Author: Dr. Sahana S.
Assistant Professor, Dept of Anesthesiology, Sri Balaji Medical College, Hospital, and Research Institute. Tirupati, Andhra Pradesh.
Email: expertdr25@gmail.com

ABSTRACT

Background: Ultrasound-guided peripheral nerve blocks have become an integral component of multimodal perioperative analgesia. Sciatic nerve block provides effective anaesthesia and postoperative analgesia for lower limb surgeries while reducing systemic opioid requirements. The optimal concentration of bupivacaine for anterior sciatic nerve block remains a subject of clinical interest.

Aim: To compare the efficacy of 0.25% bupivacaine and 0.5% bupivacaine, both combined with dexamethasone, in ultrasound-guided anterior sciatic nerve block for lower limb surgeries.

Methods: A prospective randomized study was conducted on 60 patients of American Society of Anaesthesiologists (ASA) physical status I and II, aged 18–75 years, undergoing lower limb surgeries at Sri Balaji Medical College and Hospital (SBMC&H), Tirupati, between November 2025 and April 2026. Patients were randomly allocated into two groups of 30 each. Group A received 15 mL of 0.25% bupivacaine with dexamethasone (4 mg/mL), while Group B received 15 mL of 0.5% bupivacaine with dexamethasone (4 mg/mL). Ultrasound-guided anterior sciatic nerve block was performed using the anterior approach. Parameters assessed included onset of sensory block, onset of motor block, duration of analgesia, time to rescue analgesia, quality of analgesia, and adverse effects. Statistical analysis was performed using Student's t-test and Chi-square test.

Results: Results: Demographic characteristics were comparable between the groups. The onset of sensory block was significantly faster in Group B (17.93 ± 2.18 min) compared with Group A (24.17 ± 2.90 min) ($p<0.001$). Similarly, motor block onset occurred earlier in Group B (28.43 ± 2.46 min vs 35.93 ± 3.23 min; $p<0.001$). Duration of analgesia was significantly prolonged in Group B (678.43 ± 34.12 min vs 449.50 ± 17.37 min; $p<0.001$), and time to first rescue analgesia was also longer (758.07 ± 41.24 min vs 525.20 ± 16.66 min; $p<0.001$). No major adverse effects or neurological complications were observed in either group.

Conclusion: Ultrasound-guided anterior sciatic nerve block using 0.5% bupivacaine with dexamethasone provides faster sensory and motor blockade, prolonged postoperative analgesia, and delayed rescue analgesic requirement compared with 0.25% bupivacaine, while maintaining a favourable safety profile.

Keywords: Anterior Sciatic Nerve Block, Ultrasound Guidance, Bupivacaine, Dexamethasone, Lower Limb Surgery, Postoperative Analgesia.

www.ajmrhs.com
eISSN: 2583-7761

Date of Received: 08-05-2026
Date Acceptance: 15-05-2026
Date of Publication: 17-06-2026

INTRODUCTION

Peripheral nerve blocks have gained widespread acceptance as an effective component of perioperative pain management because they provide superior analgesia, reduce opioid

consumption, and improve patient satisfaction. Recent advances in ultrasound-guided regional anaesthesia have enhanced the safety and success rates of peripheral nerve blocks by allowing direct visualization of neural structures, needle placement, and local anaesthetic spread.[1]

The sciatic nerve is the largest peripheral nerve in the body and provides sensory and motor innervation to most of the lower limb. Ultrasound-guided sciatic nerve block has become an important technique for lower limb surgeries due to its ability to provide prolonged postoperative analgesia and facilitate early rehabilitation.[2,3]

Bupivacaine remains one of the most commonly used long-acting local anaesthetics for peripheral nerve blocks. Various concentrations have been employed to achieve an optimal balance between onset time, duration of analgesia, motor blockade, and safety profile. Adjuvants such as dexamethasone have been shown to prolong block duration and improve analgesic quality when added to local anesthetics.[4-6]

Although higher concentrations of bupivacaine may provide denser blocks and prolonged analgesia, they may also increase the risk of local anaesthetic systemic toxicity and prolonged motor blockade. Conversely, lower concentrations may reduce toxicity while maintaining adequate analgesia when combined with adjuvants. Comparative evidence regarding different concentrations of bupivacaine in ultrasound-guided anterior sciatic nerve block remains limited. [7-11]

Therefore, this study was undertaken to evaluate and compare the efficacy of 0.25% and 0.5% bupivacaine, both combined with dexamethasone, in ultrasound-guided anterior sciatic nerve block among patients undergoing lower limb surgeries.

Aim and Objectives

Aim

To evaluate the efficacy of different concentrations of bupivacaine in ultrasound-guided anterior sciatic nerve block for lower limb surgeries.

Objectives

- To compare the onset of sensory block between the two groups.
- To compare the onset of motor block between the two groups.
- To evaluate the duration of postoperative analgesia.
- To assess the time to first rescue analgesic requirement.
- To compare the quality of analgesia achieved.
- To evaluate the incidence of adverse effects and complications.

MATERIALS AND METHODS

Study Design

Prospective randomized comparative study.

Study Setting

Department of Anaesthesiology, Sri Balaji Medical College and Hospital (SBMC&H), Tirupati.

Study Duration

November 2025 to April 2026.

Study Population

Sixty patients undergoing elective lower limb surgeries.

Inclusion Criteria

- Age between 18 and 75 years.
- ASA physical status I and II.
- Patients scheduled for elective lower limb surgeries.
- Patients willing to participate and provide written informed consent.

Exclusion Criteria

- Known allergy to local anaesthetics or dexamethasone.
- Coagulopathy or anticoagulant therapy.
- Infection at the injection site.
- Pre-existing neurological deficits involving the lower limb.
- Pregnancy.

Sample Size Calculation

The sample size was calculated based on the primary outcome measure, duration of postoperative analgesia. Assuming an 80% study power, a 5% level of significance, and an anticipated clinically meaningful difference between the groups, the minimum sample size required was 27 patients per group. To compensate for possible dropouts and incomplete data collection, 30 patients were enrolled in each group, giving a total sample size of 60 patients.

Randomization

Patients were randomized using a computer-generated randomization sequence into:

Group A (n=30)

15 mL of 0.25% bupivacaine + dexamethasone (4 mg/mL).

Group B (n=30)

15 mL of 0.5% bupivacaine + dexamethasone (4 mg/mL).

Technique of Anterior Sciatic Nerve Block

After standard monitoring and intravenous access, patients were positioned supine. Under strict aseptic precautions, an ultrasound-guided anterior sciatic nerve block was performed using a low-frequency curvilinear probe.

The probe was placed at the level of the lesser trochanter. The sciatic nerve was identified approximately 5–8 cm deep between the adductor magnus and posterior muscle groups. Following negative aspiration, the study drug was injected incrementally under real-time ultrasound visualization to ensure circumferential spread around the sciatic nerve.[3,5]

Assessment Parameters

Sensory Block

Evaluated using pinprick sensation over sciatic nerve distribution.

Sensory block onset: Time from completion of injection until complete loss of pinprick sensation.

Motor Block

Assessed using a modified Bromage scale or foot movement assessment.

Motor block onset: Time from injection until complete motor blockade.

Duration of Analgesia

Time from completion of block to first complaint of pain requiring rescue analgesia.

Rescue Analgesia

Administered when Visual Analog Scale (VAS) ≥ 4.

Quality of Analgesia

Assessed using VAS scores:

- 0 = No pain
- 10 = Worst imaginable pain

Adverse Effects

Observed for:

- Hypotension
- Bradycardia
- Nausea and vomiting
- Local anaesthetic systemic toxicity
- Neurological complications
- Block failure

Statistical Analysis

Data were entered into Microsoft Excel and analysed using Statistical Package for Social Sciences (SPSS) software. Continuous variables were expressed as mean ± standard deviation and compared using Student's t-test. Categorical variables were expressed as percentages and compared using Chi-square test. A p-value <0.05 was considered statistically significant.

RESULTS

A total of 60 patients undergoing lower limb surgeries were enrolled in the study and randomized into two equal groups of 30 patients each. Group A received ultrasound-guided anterior sciatic nerve block with 15 mL of 0.25% bupivacaine and dexamethasone (4 mg), while Group B received 15 mL of 0.5% bupivacaine and dexamethasone (4 mg).

Demographic Characteristics

The demographic variables were comparable between the two groups. The mean age of patients in Group A was 39.40 ± 12.79 years and in Group B was 40.77 ± 12.56 years, with no statistically significant difference (p = 0.973).

Group A consisted of 15 males (50%) and 15 females (50%), while Group B included 17 males (56.67%) and 13 females (43.33%). Regarding ASA physical status, Group A had 18 patients (60%) classified as ASA Grade I and 12 patients (40%) as ASA Grade II. In Group B, 15 patients (50%) each belonged to ASA Grade I and Grade II.

Table 1. Demographic Characteristics

Characteristic	Group A (N=30)	Group B (N=30)
Age (Years)	39.40 ± 12.79	40.77 ± 12.56
Male	15 (50%)	17 (56.67%)
Female	15 (50%)	13 (43.33%)
ASA Grade I	18 (60%)	15 (50%)
ASA Grade II	12 (40%)	15 (50%)

Visual Analogue Scale (VAS) Scores

Pain scores decreased progressively following administration of the block in both groups. No statistically significant differences in VAS scores were observed between the groups at any assessment point (p > 0.05). By 30 minutes, almost complete analgesia was achieved in both groups, and all patients reported complete pain relief at 60 and 120 minutes.

Onset of Sensory and Motor Block

The onset of sensory block was significantly faster in Group B compared with Group A. The mean onset time of sensory block was 17.93 ± 2.18 minutes in Group B and 24.17 ± 2.90 minutes in Group A (p < 0.001).

Similarly, the onset of motor block occurred earlier in Group B. The mean onset time was 28.43 ± 2.46 minutes in Group B compared with 35.93 ± 3.23 minutes in Group A, indicating a more rapid establishment of motor blockade with the higher concentration of bupivacaine?

Table 2. Comparison of VAS Scores and Block Characteristics

Parameter	Group A (0.25% Bupivacaine)	Group B (0.5% Bupivacaine)	P-Value
VAS Score At 10 Min	6.57 ± 0.77	6.43 ± 0.50	NS
VAS Score At 30 Min	0.00 ± 0.00	0.03 ± 0.18	NS
VAS Score At 60 Min	0.00 ± 0.00	0.00 ± 0.00	NS
VAS Score At 120 Min	0.00 ± 0.00	0.00 ± 0.00	NS

Onset Of Sensory Block (Min)	24.17 ± 2.90	17.93 ± 2.18	<0.001
Onset Of Motor Block (Min)	35.93 ± 3.23	28.43 ± 2.46	<0.001

Duration of Analgesia and Time to Rescue Analgesia

The duration of postoperative analgesia was significantly longer in patients receiving 0.5% bupivacaine compared with those receiving 0.25% bupivacaine.

The mean duration of analgesia in Group A was 449.50 ± 17.37 minutes, whereas Group B demonstrated a mean duration of 678.43 ± 34.12 minutes. This difference was statistically significant ($p < 0.001$).

Likewise, the time to first rescue analgesia was prolonged in Group B. Patients in Group A required rescue analgesia after a mean duration of 525.20 ± 16.66 minutes, while patients in Group B required rescue analgesia after 758.07 ± 41.24 minutes. The difference between the groups was statistically significant ($p < 0.001$).

Table 3. Duration of Analgesia and Time to Rescue Analgesia

Parameter	Group A (0.25% Bupivacaine)	Group B (0.5% Bupivacaine)	P-Value
Duration Of Analgesia (Min)	449.50 ± 17.37	678.43 ± 34.12	<0.001
Range (Min)	421–480	610–740	
Time To Rescue Analgesia (Min)	525.20 ± 16.66	758.07 ± 41.24	<0.001
Range (Min)	490–559	680–840	

Adverse Effects

No major complications related to the anterior sciatic nerve block were observed in either group. There were no incidences of local anaesthetic systemic toxicity, persistent neurological deficits, or serious hemodynamic instability. The procedure was well tolerated by all patients.

DISCUSSION

Effective postoperative pain management remains a cornerstone of perioperative care, particularly in patients undergoing lower limb surgeries. Peripheral nerve blocks have emerged as an integral component of multimodal analgesia owing to their ability to provide superior pain relief, reduce opioid requirements, facilitate early mobilization, and improve patient satisfaction[1]. Among these, sciatic nerve block offers excellent perioperative analgesia for surgeries involving the lower extremity[2]. The advent of ultrasound guidance has further improved the efficacy and safety profile of peripheral nerve blocks by enabling direct visualization of neural structures and accurate deposition of local anaesthetic around the target nerve.[3,5]

The present prospective randomized study compared the efficacy of two concentrations of bupivacaine (0.25% and 0.5%), each combined with dexamethasone, for ultrasound-guided anterior sciatic nerve block in patients undergoing lower limb surgeries. The primary outcomes assessed included onset of sensory block, onset of motor block, duration of analgesia, and time to rescue analgesia.

Demographic Characteristics

The demographic variables including age, sex, and ASA physical status were comparable between the two groups. The mean age was 39.40 ± 12.79 years in Group A and 40.77 ± 12.56 years in Group B. Similar gender distribution and ASA grading ensured homogeneity of the study population. These findings indicate successful randomization and minimize the likelihood that demographic factors influenced the study outcomes.

Comparable demographic characteristics have also been reported in previous studies evaluating peripheral nerve blocks. Adali et al.[2] and Chaudhary et al.[12] similarly observed no significant differences in baseline characteristics between study groups, thereby strengthening the validity of comparisons regarding block characteristics and analgesic outcomes.

Onset of Sensory Block

A major finding of the present study was the significantly faster onset of sensory blockade observed with 0.5% bupivacaine. The mean onset time was 17.93 ± 2.18 minutes in Group B compared with 24.17 ± 2.90 minutes in Group A.

The faster onset observed with the higher concentration can be attributed to an increased concentration gradient across the nerve membrane, facilitating more rapid diffusion of local anaesthetic into neural tissues. A greater number of sodium channels become blocked within a shorter period, resulting in earlier interruption of nerve conduction. These findings are consistent with the observations of Klein et al.[7], who demonstrated improved block quality and more rapid onset with higher concentrations of local anaesthetics in brachial plexus blocks. Similarly, Casati et al.[8] reported that increasing the concentration of long-acting local anaesthetics produced faster onset and denser neural blockade. Venkatesh et al.[10] also observed

significantly earlier sensory blockade with higher concentrations of ropivacaine during ultrasound-guided supraclavicular brachial plexus block, supporting the concept that increasing local anaesthetic concentration accelerates nerve blockade irrespective of the anatomical site of administration.

The results of the present study therefore support the concept that increasing bupivacaine concentration enhances the speed of sensory blockade without compromising procedural safety.

Onset of Motor Block

The onset of motor block was also significantly faster in patients receiving 0.5% bupivacaine. The mean onset time decreased from 35.93 ± 3.23 minutes in Group A to 28.43 ± 2.46 minutes in Group B.

Motor fibres generally require a higher concentration of local anaesthetic for blockade compared with sensory fibres because of their larger diameter and greater myelination. Consequently, increasing the concentration of bupivacaine is expected to produce a more rapid motor blockade.

The findings of the present study agree with those of Casati et al.[8] and Eroglu et al.[9], who reported earlier onset and improved quality of motor blockade with higher concentrations of long-acting amide local anaesthetics. Similar observations were reported by Venkatesh et al.[10], who demonstrated faster establishment of both sensory and motor blockade with higher concentrations of ropivacaine in supraclavicular brachial plexus block.

A faster onset of motor block may be clinically advantageous by reducing operating room delays and facilitating earlier commencement of surgery. However, prolonged motor blockade should also be considered when selecting local anaesthetic concentration, particularly in ambulatory surgical settings.

Postoperative Analgesia

One of the most clinically important findings of the present study was the significant prolongation of postoperative analgesia achieved with 0.5% bupivacaine.

Patients in Group B experienced a mean analgesic duration of 678.43 ± 34.12 minutes compared with 449.50 ± 17.37 minutes in Group A. This represents an increase of approximately 51% in the duration of postoperative pain relief.

The prolonged analgesic effect observed in the higher concentration group may be explained by a greater quantity of local anaesthetic available for diffusion into nerve tissues, resulting in sustained sodium channel blockade and delayed recovery of neural function.

Several previous investigations have reported similar findings. Klein et al.[7] observed prolonged analgesia with higher concentrations of ropivacaine and bupivacaine during interscalene brachial plexus blockade. Likewise, Eroglu et al.[9] demonstrated that higher concentrations of long-acting local anaesthetics produced extended postoperative analgesia in patients undergoing shoulder surgery. Safa et al.[11], in a randomized controlled trial comparing different concentrations of ropivacaine and bupivacaine for ultrasound-guided interscalene brachial plexus blocks, reported significantly prolonged analgesic duration with higher concentrations of local anaesthetics. Although conducted in upper-limb procedures, these findings support the concentration-dependent prolongation of analgesia observed in the present study.

The current findings therefore reinforce the concept that local anaesthetic concentration is an important determinant of analgesic duration.

Time to Rescue Analgesia

The requirement for rescue analgesia is a clinically meaningful indicator of the effectiveness of postoperative pain management.

In the present study, the time to first rescue analgesia was significantly longer in Group B (758.07 ± 41.24 minutes) compared with Group A (525.20 ± 16.66 minutes).

This finding corresponds closely with the observed prolongation of analgesic duration and suggests that the higher concentration of bupivacaine provided sustained pain control well into the postoperative period.

Reduced need for supplemental analgesics offers several advantages, including decreased opioid consumption, lower incidence of opioid-related adverse effects, enhanced patient comfort, and potentially earlier mobilization.

These findings are consistent with the systematic review by Jogie and Jogie[1], who concluded that peripheral nerve blocks significantly reduce postoperative analgesic requirements and improve recovery outcomes. Similar benefits have been reported by Adali et al[2]. in lower extremity surgeries utilizing sciatic nerve blocks.

Role of Dexamethasone as an Adjuvant

An important factor contributing to the prolonged analgesic duration in both groups may have been the addition of dexamethasone.

Perineural dexamethasone has become one of the most widely studied adjuvants in regional anaesthesia. Its mechanisms include reduction of local inflammatory responses, modulation of nociceptive transmission, and possible direct effects on nerve membrane function.

Edinoff et al[4]. highlighted the significant benefits of dexamethasone in prolonging peripheral nerve block duration. Similarly, Murphy et al.[6] demonstrated that adjunct medications can substantially enhance block quality and duration.

The prolonged analgesia observed in both groups likely reflects the combined effect of bupivacaine and dexamethasone. However, the significantly

greater duration achieved with 0.5% bupivacaine suggests that local anaesthetic concentration remains a major determinant of block longevity despite the use of adjuvants.

Safety and Complications

No major adverse events or neurological complications were observed in the present study.

The use of ultrasound guidance likely contributed to the favourable safety profile by enabling precise needle placement and visualization of local anaesthetic spread. Ultrasound-guided regional anaesthesia has consistently been associated with reduced complication rates and improved block success.

Sondekoppam[3] and Tsui[5], in their systematic review, reported that ultrasound guidance reduces the incidence of neurological injury and inadvertent intravascular injection compared with landmark-based techniques.

The absence of local anaesthetic systemic toxicity and persistent neurological deficits in the present study further supports the safety of ultrasound-guided anterior sciatic nerve block when performed by experienced practitioners.

Clinical Implications

The findings of this study have important clinical implications. While both concentrations of bupivacaine provided satisfactory anaesthesia and postoperative analgesia, 0.5% bupivacaine offered several advantages, including faster onset of sensory and motor blockade, prolonged postoperative analgesia, and delayed requirement for rescue analgesics.

These characteristics make 0.5% bupivacaine particularly useful for procedures associated with significant postoperative pain or when prolonged analgesia is desired.

However, clinicians should balance these benefits against the potential for prolonged motor blockade and increased total local anaesthetic dose. Patient factors, surgical requirements, and postoperative rehabilitation goals should guide concentration selection.

Strengths

The study directly compares two clinically relevant concentrations of bupivacaine in ultrasound-guided anterior sciatic nerve block. Uniform use of dexamethasone and standardized ultrasound guidance minimized procedural variability and improved internal validity.

Limitations

The study was conducted at a single tertiary care centre with a relatively small sample size. Blinding of the investigator assessing block characteristics was not performed. Functional recovery parameters, patient satisfaction scores, and long-term outcomes were not evaluated.

CONCLUSION

The present study demonstrates that ultrasound-guided anterior sciatic nerve block using 0.5% bupivacaine with dexamethasone provides a faster onset of sensory and motor blockade, significantly longer postoperative analgesia, and delayed requirement for rescue analgesia when compared with 0.25% bupivacaine with dexamethasone. Both regimens were safe and effective; however, the higher concentration offered superior block characteristics and improved postoperative analgesic efficacy.

REFERENCES

1. Jogie J, Jogie JA. A comprehensive review on the efficacy of nerve blocks in reducing postoperative anesthetic and analgesic requirements. Cureus. 2023;15(5):e38567.
2. Adali S, Erkalp K, Erden V, Comlekci M, Bulbul M, Aldemir T. Spinal anesthesia and combined sciatic nerve/lumbar plexus block techniques in lower extremity orthopedic surgery. Acta Orthop Traumatol Turc. 2011;45(4):225-32.
3. Sondekoppam RV, Tsui BCH. Factors associated with risk of neurologic complications after peripheral nerve blocks: A systematic review. Anesth Analg. 2017;124(2):645-60.
4. Edinoff AN, Houk GM, Patil S, Siddaiah HB, Kaye AJ, Iyengar PS, Cornett EM, Imani F, Mahmoudi K, Kaye AM, Urman RD. Adjuvant drugs for peripheral nerve blocks: The role of alpha-2 agonists, dexamethasone, midazolam, and non-steroidal anti-inflammatory drugs. Anesthesiol Pain Med. 2021;11(3):e117197.
5. Tsui BCH, Dillane D. Practical and clinical aspects of ultrasound and nerve stimulation-guided peripheral nerve blocks. In: Atlas of Ultrasound and Nerve Stimulation-Guided Regional Anesthesia. New York: Springer; 2021. p.35-52.
6. Murphy DB, McCartney CJL, Chan VWS. Novel analgesic adjuncts for brachial plexus block: A systematic review. Anesth Analg. 2000;90(5):1122-8.
7. Klein SM, Greengrass RA, Steele SM, D'Ercole FJ, Speer KP, Gleason DH, DeLong ER, Warner DS. A comparison of 0.5% bupivacaine, 0.5% ropivacaine, and 0.75% ropivacaine for interscalene brachial plexus block. Anesth Analg. 1998;87(6):1316-9.
8. Casati A, Fanelli G, Cappelleri G, Beccaria P, Magistris L, Borghi B, Torri G. A clinical comparison of ropivacaine 0.75%, ropivacaine 1%, or bupivacaine 0.5% for interscalene brachial plexus anaesthesia. Eur J Anaesthesiol. 1999;16(11):784-9.

9. Eroglu A, Uzunlar H, Sener M, Akinturk Y, Erciyes N. A clinical comparison of equal concentration and volume of ropivacaine and bupivacaine for interscalene brachial plexus anesthesia and analgesia in shoulder surgery. Reg Anesth Pain Med. 2004;29(6):539-43.
10. Venkatesh RR, Kumar P, Trissur RR, George SK. A randomized controlled study of 0.5% bupivacaine, 0.5% ropivacaine and 0.75% ropivacaine for supraclavicular brachial plexus block. J Clin Diagn Res. 2016;10(12):UC09-UC12.
11. Safa B, Flynn B, McHardy PG, Kiss A, Haslam L, Henry PD, Kaustov L, Choi S. Comparison of the analgesic duration of 0.5% bupivacaine with epinephrine versus 0.5% ropivacaine versus 1% ropivacaine for low-volume ultrasound-guided interscalene brachial plexus block: A randomized controlled trial. Anesth Analg. 2021;132(4):1129-37.
12. Chaudhary SK, Verma RK, Rana S, Singh J, Gupta B, Singh Y. Ultrasound-guided femoro-sciatic nerve block for postoperative analgesia after below-knee orthopaedic surgeries under subarachnoid block: Comparison between clonidine and dexmedetomidine as adjuvants to levobupivacaine. Indian J Anaesth. 2016;60(7):484-90.

How to cite this article: Dr.Sahana S, Dr. Vasanth Kumar K. R, Dr. Kiran Kumar O, Dr. Vijayasri, Dr. Sravani M,Dr. P.Sreenivasulu, A STUDY ON EFFICACY OF VARIABLE CONCENTRATIONS OF BUPIVACAINE IN ULTRASOUND-GUIDED ANTERIOR SCIATIC NERVE BLOCK FOR PATIENTS UNDERGOING LOWER LIMB SURGERIES, Asian J. Med. Res. Health Sci., 2026; 4 (2):970-976.
Source of Support: Nil, Conflicts of Interest: None declared.