

## SIGNIFICANCE OF NERVE CONDUCTION STUDIES IN THE ASSESSMENT OF DIABETIC SENSORIMOTOR POLYNEUROPATHY

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### Keywords

Diabetic Sensorimotor Polyneuropathy (DSPN), Nerve Conduction Studies (NCS), Diabetic Peripheral Neuropathy (DPN), Diabetes Mellitus, Peripheral Neuropathy, Electrodiagnostic Evaluation, Nerve Conduction Velocity, Early Diagnosis.

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### Abstract

#### Background:

Diabetic sensorimotor polyneuropathy (DSPN) is one of the most common chronic complications of diabetes mellitus and is associated with significant morbidity, disability, and reduced quality of life. Early diagnosis is essential to prevent disease progression and long-term complications. Nerve conduction studies (NCS) provide an objective and reliable method for assessing peripheral nerve dysfunction and are considered the gold standard for diagnosing DSPN.

#### Aim:

To evaluate the significance of nerve conduction studies in the assessment of diabetic sensorimotor polyneuropathy among patients with diabetes mellitus.

#### Methods:

A descriptive cross-sectional study was conducted among 200 adult patients with type 1 or type 2 diabetes mellitus who were clinically suspected of having DSPN. Participants were recruited using a consecutive non-probability sampling technique from the Neurology Department and Electrodiagnostic Laboratory of a tertiary care teaching hospital. Data were collected using a structured questionnaire and standardized nerve conduction studies. Statistical analysis was performed using SPSS version 26. Descriptive statistics and appropriate inferential tests were applied, with a p-value <0.05 considered statistically significant.

#### Results:

The mean age of participants was  $57.05 \pm 9.34$  years, and 50.5% were male. Most participants (93.5%) had type 2 diabetes, while 44.5% had diabetes for more than 10 years. Common symptoms included numbness (73.0%), tingling (64.5%), and burning pain (62.5%). Nerve conduction studies were performed in 84.5% of participants. Based on NCS findings, 33.5% had mild neuropathy, 30.0% had moderate neuropathy, 13.5% had severe neuropathy, and only 7.5% had normal findings, demonstrating the effectiveness of NCS in detecting and grading diabetic neuropathy.

**Conclusion:**

*Nerve conduction studies are a valuable, objective, and sensitive diagnostic tool for the assessment of diabetic sensorimotor polyneuropathy. They facilitate early diagnosis, accurately determine disease severity, and assist clinicians in planning timely interventions, thereby reducing the risk of disability and other diabetes-related complications.*

**Introduction**

Diabetes mellitus (DM) is a major global public health concern and is associated with numerous chronic complications that substantially increase morbidity, disability, and healthcare costs. Among these complications, diabetic neuropathy is one of the most common and debilitating microvascular disorders, resulting from chronic hyperglycemia-induced metabolic and vascular changes that progressively damage the peripheral nervous system. Of its various clinical forms, diabetic sensorimotor polyneuropathy (DSPN) is the most prevalent, affecting nearly one-third of individuals with diabetes and significantly impairing sensory function, motor performance, mobility, and overall quality of life (Hameed et al., 2026).

Diabetic sensorimotor polyneuropathy occurs in both type 1 and type 2 diabetes mellitus and develops primarily because of prolonged exposure to hyperglycemia, which leads to progressive peripheral nerve injury. The clinical presentation ranges from subclinical nerve dysfunction to severe symptomatic neuropathy characterized by pain, numbness, paresthesia, sensory loss, muscle weakness, and impaired reflexes. Owing to this wide clinical spectrum, early recognition and accurate diagnosis are essential to prevent disease progression and minimize long-term complications (Dunnigan et al., 2013).

The diagnosis of DSPN is based on a comprehensive clinical evaluation supported by electrodiagnostic investigations. Among the available diagnostic modalities, nerve conduction studies (NCS) are regarded as the gold standard for the objective assessment of peripheral nerve function. NCS provide reliable, quantitative, and reproducible measurements of nerve conduction velocity, latency, and amplitude, thereby enabling clinicians to confirm the diagnosis, determine the extent and pattern of nerve involvement, evaluate disease severity, and distinguish DSPN from

other peripheral neuropathies with similar clinical manifestations (Dunnigan et al., 2013; Afifi et al., 2017).

Furthermore, diabetic peripheral neuropathy (DPN) represents one of the most frequently encountered neurological complications in clinical practice. Although the condition may remain asymptomatic during its early stages, progressive nerve damage can eventually lead to significant sensory and motor deficits, predisposing patients to foot ulceration, infection, falls, and lower-limb amputation. In this context, electrodiagnostic evaluation plays a pivotal role because of its high diagnostic specificity. Among electrodiagnostic techniques, nerve conduction studies are recognized as a reliable, objective, non-invasive, and highly sensitive method for detecting peripheral nerve dysfunction. Nevertheless, despite their considerable diagnostic value, the routine application of NCS may be limited by factors such as cost, limited accessibility, and challenges associated with repeated follow-up examinations (Afifi et al., 2017).

In addition to electrodiagnostic testing, several clinical neuropathy scoring systems have been developed to facilitate the assessment and longitudinal monitoring of patients with diabetic neuropathy. While these scoring systems provide a simple and practical approach for routine clinical evaluation, they cannot replace the diagnostic precision of nerve conduction studies. Moreover, evidence suggests that combining thermal threshold testing with NCS further enhances the detection of diabetic neuropathy, thereby increasing the identification of affected individuals, particularly during the early stages of the disease (Sarwar et al., 2022; Weng et al., 2020).

Moreover, numerous epidemiological and cross-sectional studies have identified several risk factors associated with the development and

progression of diabetic peripheral neuropathy. Among these, poor glycemic control, reflected by elevated glycated hemoglobin (HbA1c) levels, remains the strongest and most consistent predictor. Other important risk factors include prolonged duration of diabetes, advancing age, greater height, and male sex, all of which contribute to an increased likelihood of peripheral nerve damage (Saba Zaidi et al., 2025). Therefore, the present study aims to evaluate the significance of nerve conduction studies in the assessment of diabetic sensorimotor polyneuropathy. Specifically, it seeks to determine the role of NCS in identifying and localizing peripheral nerve involvement, differentiating DSPN from other peripheral neuropathies, assessing disease severity, and facilitating early diagnosis to support timely clinical intervention and improve patient outcomes.

### Research Methodology

#### Study Design

This study uses a descriptive cross-sectional study design to evaluate the significance of nerve conduction studies (NCS) in the assessment of diabetic sensorimotor polyneuropathy (DSPN) among patients with diabetes mellitus.

#### Study Setting

The study is conducted in the Neurology Department and Electrodiagnostic (Nerve Conduction Study) Laboratory of a tertiary care teaching hospital. Data are collected from diabetic patients referred for nerve conduction studies during the study period.

#### Study Population

The study population consists of adult patients with type 1 or type 2 diabetes mellitus who are clinically suspected of having diabetic sensorimotor polyneuropathy and are referred for nerve conduction studies.

#### Study Duration

The study is conducted over a period of six months after obtaining approval from the Institutional Review Board (IRB).

### Sample Size

The sample size is calculated using the Raosoft sample size calculator with a 95% confidence level, a 5% margin of error, and a 50% response distribution. The calculated sample size is 200 participants.

### Sampling Technique

A consecutive non-probability sampling technique is used. All eligible diabetic patients who meet the inclusion criteria and undergo nerve conduction studies during the study period are included until the required sample size is achieved.

### Inclusion Criteria

Patients aged 18 years and above with type 1 or type 2 diabetes mellitus, clinically suspected of diabetic sensorimotor polyneuropathy, and referred for nerve conduction studies are included in the study. Patients who provide written informed consent are also included.

### Exclusion Criteria

Patients with peripheral neuropathy due to causes other than diabetes, including alcoholism, chronic kidney disease, hypothyroidism, vitamin B12 deficiency, inherited neuropathies, inflammatory neuropathies, chemotherapy-induced neuropathy, traumatic nerve injuries, or other neurological disorders affecting peripheral nerves, are excluded. Patients with incomplete clinical records or those unwilling to participate are also excluded.

### Data Analysis

The collected data are entered and analyzed using Statistical Package for the Social Sciences (SPSS) version 26. Continuous variables are presented as mean  $\pm$  standard deviation, while categorical variables are presented as frequencies and percentages. Associations between nerve conduction abnormalities and clinical variables are assessed using the Chi-square test, independent t-test, or one-way ANOVA, as appropriate. Correlation between HbA1c, duration of diabetes, and nerve conduction parameters is determined using Pearson's or

Spearman's correlation coefficient. A p-value of less than 0.05 is considered statistically significant.

#### Data Collection Procedure

Data are collected after obtaining ethical approval from the Institutional Review Board (IRB) and permission from the concerned hospital authorities. Eligible patients with type 1 or type 2 diabetes mellitus who meet the inclusion criteria are recruited using a consecutive sampling technique. After obtaining written informed consent, demographic and clinical information is collected using a structured questionnaire.

All participants undergo a standardized nerve conduction study (NCS) performed by qualified

neurophysiology personnel according to established electrophysiological protocols. Motor and sensory nerve conduction parameters, including distal latency, conduction velocity, compound muscle action potential (CMAP), sensory nerve action potential (SNAP), and F-wave latency, are recorded. The NCS findings are used to determine the presence, severity, and distribution of diabetic sensorimotor polyneuropathy and to evaluate peripheral nerve involvement. All collected data are reviewed for completeness and recorded on a standardized data collection form before being entered into the statistical software for analysis.

#### 1. Age (years)

| Response Category | Frequency | Percentage |
|-------------------|-----------|------------|
| 31                | 1         | 0.5%       |
| 38                | 4         | 2.0%       |
| 40                | 2         | 1.0%       |
| 41                | 1         | 0.5%       |
| 42                | 2         | 1.0%       |
| 43                | 6         | 3.0%       |
| 44                | 2         | 1.0%       |
| 45                | 4         | 2.0%       |
| 46                | 6         | 3.0%       |
| 47                | 4         | 2.0%       |
| 48                | 5         | 2.5%       |
| 49                | 9         | 4.5%       |
| 50                | 5         | 2.5%       |
| 51                | 5         | 2.5%       |
| 52                | 7         | 3.5%       |
| 53                | 7         | 3.5%       |
| 54                | 7         | 3.5%       |
| 55                | 10        | 5.0%       |
| 56                | 5         | 2.5%       |
| 57                | 8         | 4.0%       |
| 58                | 10        | 5.0%       |
| 59                | 7         | 3.5%       |
| 60                | 13        | 6.5%       |
| 61                | 13        | 6.5%       |
| 62                | 7         | 3.5%       |
| 63                | 4         | 2.0%       |
| 64                | 4         | 2.0%       |
| 65                | 7         | 3.5%       |
| 66                | 7         | 3.5%       |

|    |   |      |
|----|---|------|
| 67 | 5 | 2.5% |
| 68 | 3 | 1.5% |
| 69 | 2 | 1.0% |
| 71 | 2 | 1.0% |
| 72 | 4 | 2.0% |
| 73 | 5 | 2.5% |
| 76 | 4 | 2.0% |
| 79 | 1 | 0.5% |
| 82 | 1 | 0.5% |
| 85 | 1 | 0.5% |

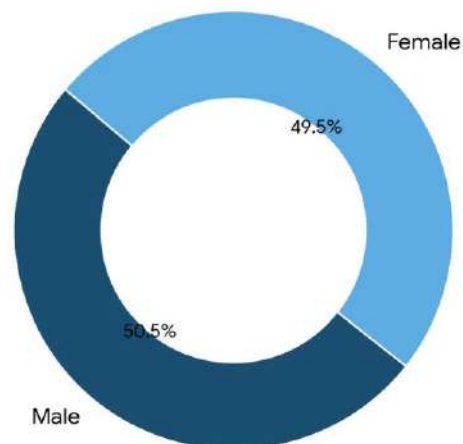
**Statistical Metrics:**

| Metric                  | Value |
|-------------------------|-------|
| Mean                    | 57.05 |
| Median                  | 57.5  |
| Mode                    | 60    |
| Standard Deviation (SD) | 9.34  |
| Variance                | 87.30 |

**2. Gender**

| Response Category | Frequency | Percentage |
|-------------------|-----------|------------|
| Male              | 101       | 50.5%      |
| Female            | 99        | 49.5%      |

2. Gender

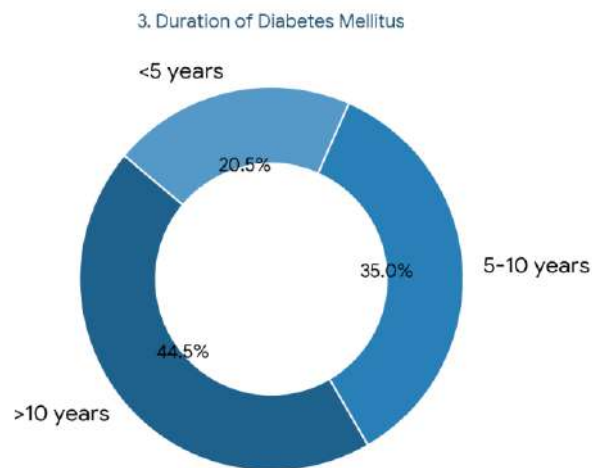
**Statistical Metrics:**

| Metric                  | Value       |
|-------------------------|-------------|
| Mean                    | 0.51 (Male) |
| Median                  | 1.0 (Male)  |
| Mode                    | Male        |
| Standard Deviation (SD) | 0.50        |

|          |      |
|----------|------|
| Variance | 0.25 |
|----------|------|

### 3. Duration of Diabetes Mellitus

| Response Category | Frequency | Percentage |
|-------------------|-----------|------------|
| >10 years         | 89        | 44.5%      |
| 5-10 years        | 70        | 35.0%      |
| <5 years          | 41        | 20.5%      |



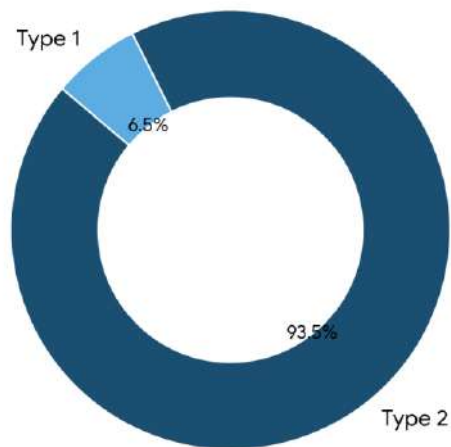
### Statistical Metrics:

| Metric                  | Value             |
|-------------------------|-------------------|
| Mean                    | 0.76 (5-10 years) |
| Median                  | 1.0 (5-10 years)  |
| Mode                    | >10 years         |
| Standard Deviation (SD) | 0.77              |
| Variance                | 0.60              |

### 4. Type of Diabetes

| Response Category | Frequency | Percentage |
|-------------------|-----------|------------|
| Type 2            | 187       | 93.5%      |
| Type 1            | 13        | 6.5%       |

4. Type of Diabetes



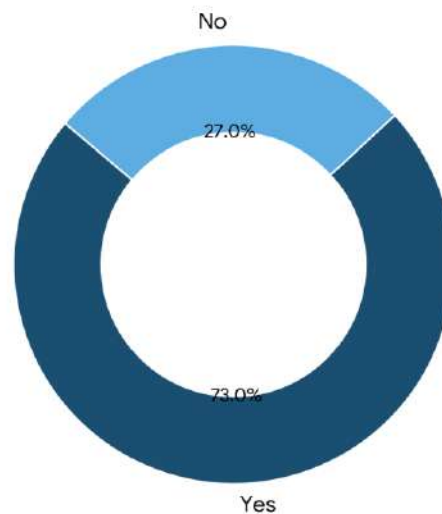
## Statistical Metrics:

| Metric                  | Value         |
|-------------------------|---------------|
| Mean                    | 0.07 (Type 2) |
| Median                  | 0.0 (Type 2)  |
| Mode                    | Type 2        |
| Standard Deviation (SD) | 0.25          |
| Variance                | 0.06          |

## 5. Experience numbness in feet/hands?

| Response Category | Frequency | Percentage |
|-------------------|-----------|------------|
| Yes               | 146       | 73.0%      |
| No                | 54        | 27.0%      |

5. Experience numbness in feet/hands?



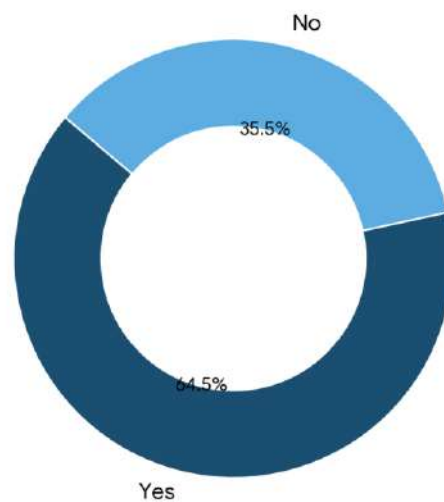
## Statistical Metrics:

| Metric                  | Value      |
|-------------------------|------------|
| Mean                    | 0.27 (Yes) |
| Median                  | 0.0 (Yes)  |
| Mode                    | Yes        |
| Standard Deviation (SD) | 0.45       |
| Variance                | 0.20       |

## 6. Experience tingling/pins &amp; needles?

| Response Category | Frequency | Percentage |
|-------------------|-----------|------------|
| Yes               | 129       | 64.5%      |
| No                | 71        | 35.5%      |

6. Experience tingling/pins &amp; needles?



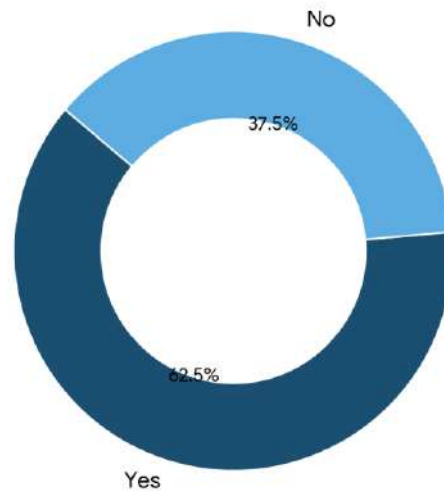
## Statistical Metrics:

| Metric                  | Value      |
|-------------------------|------------|
| Mean                    | 0.35 (Yes) |
| Median                  | 0.0 (Yes)  |
| Mode                    | Yes        |
| Standard Deviation (SD) | 0.48       |
| Variance                | 0.23       |

## 7. Experience burning pain in feet/legs?

| Response Category | Frequency | Percentage |
|-------------------|-----------|------------|
| Yes               | 125       | 62.5%      |
| No                | 75        | 37.5%      |

7. Experience burning pain in feet/legs?



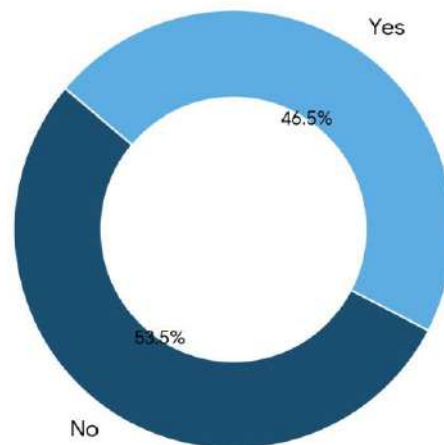
## Statistical Metrics:

| Metric                  | Value      |
|-------------------------|------------|
| Mean                    | 0.38 (Yes) |
| Median                  | 0.0 (Yes)  |
| Mode                    | Yes        |
| Standard Deviation (SD) | 0.49       |
| Variance                | 0.24       |

## 8. Experience muscle weakness in lower limbs?

| Response Category | Frequency | Percentage |
|-------------------|-----------|------------|
| No                | 107       | 53.5%      |
| Yes               | 93        | 46.5%      |

8. Experience muscle weakness in lower limbs?



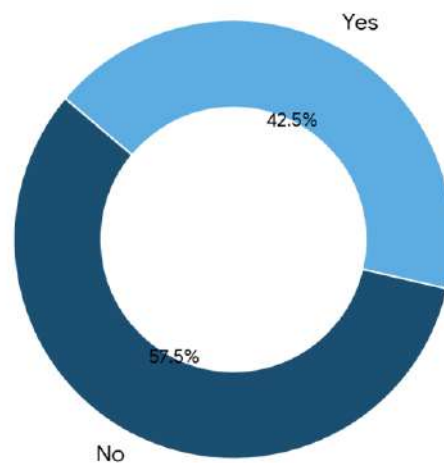
## Statistical Metrics:

| Metric                  | Value     |
|-------------------------|-----------|
| Mean                    | 0.47 (No) |
| Median                  | 0.0 (No)  |
| Mode                    | No        |
| Standard Deviation (SD) | 0.50      |
| Variance                | 0.25      |

## 9. Difficulty walking or maintaining balance?

| Response Category | Frequency | Percentage |
|-------------------|-----------|------------|
| No                | 115       | 57.5%      |
| Yes               | 85        | 42.5%      |

9. Difficulty walking or maintaining balance?



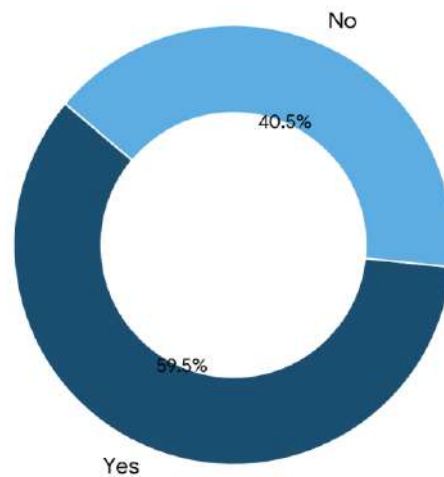
## Statistical Metrics:

| Metric                  | Value     |
|-------------------------|-----------|
| Mean                    | 0.42 (No) |
| Median                  | 0.0 (No)  |
| Mode                    | No        |
| Standard Deviation (SD) | 0.50      |
| Variance                | 0.25      |

## 10. Symptoms worsened over the past 6 months?

| Response Category | Frequency | Percentage |
|-------------------|-----------|------------|
| Yes               | 119       | 59.5%      |
| No                | 81        | 40.5%      |

10. Symptoms worsened over the past 6 months?



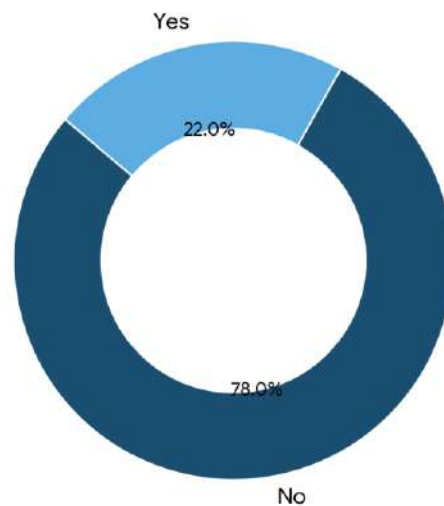
## Statistical Metrics:

| Metric                  | Value      |
|-------------------------|------------|
| Mean                    | 0.59 (Yes) |
| Median                  | 1.0 (Yes)  |
| Mode                    | Yes        |
| Standard Deviation (SD) | 0.49       |
| Variance                | 0.24       |

## 11. History of foot ulcer or complications?

| Response Category | Frequency | Percentage |
|-------------------|-----------|------------|
| No                | 156       | 78.0%      |
| Yes               | 44        | 22.0%      |

11. History of foot ulcer or complications?



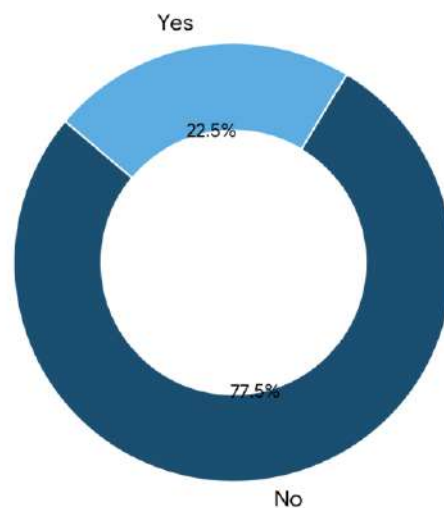
## Statistical Metrics:

| Metric                  | Value     |
|-------------------------|-----------|
| Mean                    | 0.78 (No) |
| Median                  | 1.0 (No)  |
| Mode                    | No        |
| Standard Deviation (SD) | 0.42      |
| Variance                | 0.17      |

## 12. Current smoking status

| Response Category | Frequency | Percentage |
|-------------------|-----------|------------|
| No                | 155       | 77.5%      |
| Yes               | 45        | 22.5%      |

12. Current smoking status



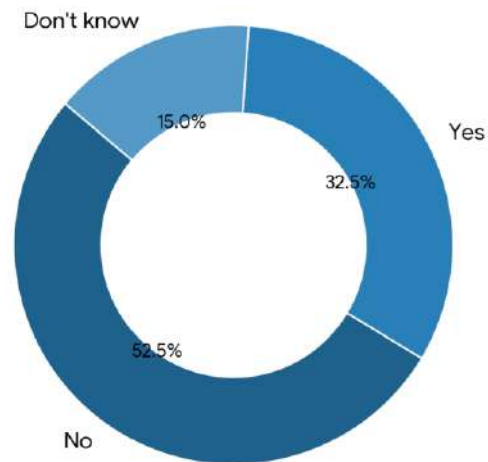
## Statistical Metrics:

| Metric                  | Value     |
|-------------------------|-----------|
| Mean                    | 0.23 (No) |
| Median                  | 0.0 (No)  |
| Mode                    | No        |
| Standard Deviation (SD) | 0.42      |
| Variance                | 0.18      |

## 13. Diabetes well controlled (HbA1c)?

| Response Category | Frequency | Percentage |
|-------------------|-----------|------------|
| No                | 105       | 52.5%      |
| Yes               | 65        | 32.5%      |
| Don't know        | 30        | 15.0%      |

13. Diabetes well controlled (HbA1c)?



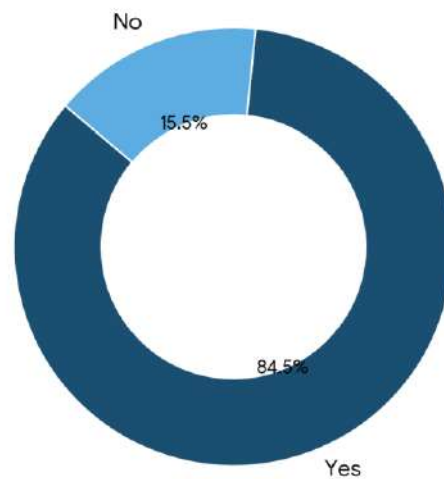
## Statistical Metrics:

| Metric                  | Value      |
|-------------------------|------------|
| Mean                    | 0.62 (Yes) |
| Median                  | 0.0 (No)   |
| Mode                    | No         |
| Standard Deviation (SD) | 0.73       |
| Variance                | 0.54       |

## 14. Undergone a Nerve Conduction Study (NCS)?

| Response Category | Frequency | Percentage |
|-------------------|-----------|------------|
| Yes               | 169       | 84.5%      |
| No                | 31        | 15.5%      |

14. Undergone a Nerve Conduction Study (NCS)?

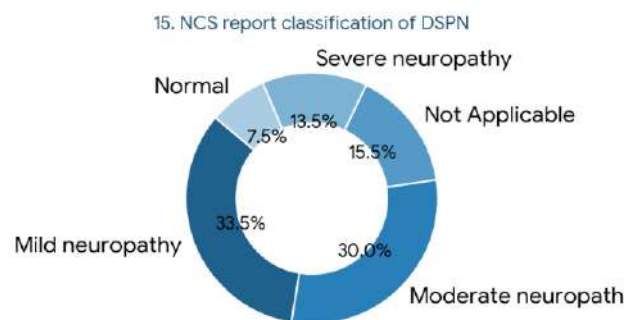


## Statistical Metrics:

| Metric                  | Value      |
|-------------------------|------------|
| Mean                    | 0.15 (Yes) |
| Median                  | 0.0 (Yes)  |
| Mode                    | Yes        |
| Standard Deviation (SD) | 0.36       |
| Variance                | 0.13       |

## 15. NCS report classification of DSPN

| Response Category   | Frequency | Percentage |
|---------------------|-----------|------------|
| Mild neuropathy     | 67        | 33.5%      |
| Moderate neuropathy | 60        | 30.0%      |
| Not Applicable      | 31        | 15.5%      |
| Severe neuropathy   | 27        | 13.5%      |
| Normal              | 15        | 7.5%       |



## Statistical Metrics:

| Metric                  | Value                  |
|-------------------------|------------------------|
| Mean                    | 1.37 (Mild neuropathy) |
| Median                  | 1.0 (Mild neuropathy)  |
| Mode                    | Mild neuropathy        |
| Standard Deviation (SD) | 1.27                   |
| Variance                | 1.60                   |

## Discussion

The present study evaluated the significance of nerve conduction studies (NCS) in the assessment of diabetic sensorimotor polyneuropathy (DSPN) among 200 patients with diabetes mellitus. The findings demonstrate that

NCS is a valuable diagnostic modality for detecting and grading neuropathic changes, particularly in patients with longstanding diabetes and clinical symptoms suggestive of peripheral neuropathy. These findings are consistent with previous studies that have

established NCS as the gold standard for confirming diabetic peripheral neuropathy and determining its severity (Pop-Busui et al., 2017; Tesfaye et al., 2021).

The mean age of participants was  $57.05 \pm 9.34$  years, indicating that DSPN predominantly affects middle-aged and older adults. The majority of participants were between 55 and 61 years of age, which is consistent with previous reports showing that increasing age is an independent risk factor for diabetic neuropathy because of cumulative metabolic and vascular damage (Boulton et al., 2005; Pop-Busui et al., 2017).

Gender distribution was nearly equal, with 50.5% males and 49.5% females, suggesting that both sexes are similarly affected by diabetic neuropathy. This observation agrees with previous epidemiological studies reporting no substantial gender difference in the prevalence of DSPN after adjusting for disease duration and glycemic status (Tefaye et al., 2021).

A considerable proportion of participants (44.5%) had diabetes for more than ten years, while 35.0% had diabetes for 5–10 years. These findings support previous evidence that prolonged duration of diabetes markedly increases the risk of nerve damage because of chronic hyperglycemia, oxidative stress, and microvascular dysfunction (Callaghan et al., 2012; American Diabetes Association, 2024).

Most participants (93.5%) had Type 2 diabetes mellitus, reflecting the higher global burden of Type 2 diabetes and its close association with peripheral neuropathy. Similar findings have been reported internationally, where Type 2 diabetes accounts for the majority of patients diagnosed with DSPN (International Diabetes Federation, 2025).

Regarding clinical manifestations, 73.0% of participants reported numbness, 64.5% experienced tingling sensations, and 62.5% complained of burning pain. These symptoms are characteristic features of diabetic sensorimotor polyneuropathy and correspond well with previous literature demonstrating that sensory symptoms usually precede motor deficits in diabetic neuropathy (Feldman et al., 2019; Tesfaye et al., 2021).

Although sensory symptoms were highly prevalent, fewer participants reported motor impairment, with 46.5% experiencing lower limb weakness and 42.5% having difficulty walking or maintaining balance. These findings suggest that sensory nerve involvement occurs earlier than motor nerve dysfunction, highlighting the importance of early electrophysiological assessment before significant disability develops (Boulton et al., 2005).

Nearly 59.5% of participants reported worsening symptoms during the previous six months, indicating progressive neuropathy in a substantial proportion of patients. Progressive symptom deterioration emphasizes the importance of regular neurological assessment and timely NCS to identify disease progression and initiate appropriate interventions (Pop-Busui et al., 2017). Foot ulcer history was reported in 22.0% of participants, while 22.5% were current smokers. Both factors are recognized contributors to poor neurological outcomes and increased risk of diabetic foot complications. Previous studies have shown that smoking accelerates microvascular damage and worsens peripheral nerve function in diabetic patients (Callaghan et al., 2012).

More than half of the participants (52.5%) reported poor glycemic control (HbA1c not well controlled), reinforcing the well-established association between chronic hyperglycemia and diabetic neuropathy. Persistent poor glycemic control remains one of the strongest modifiable risk factors for the development and progression of DSPN (American Diabetes Association, 2024). Importantly, 84.5% of participants had undergone a nerve conduction study, demonstrating the increasing utilization of electrophysiological testing in clinical practice. NCS objectively evaluates nerve conduction velocity, latency, and amplitude, allowing clinicians to detect neuropathy even before severe clinical deficits become apparent (England et al., 2009).

The NCS findings showed that 33.5% of patients had mild neuropathy, 30.0% had moderate neuropathy, 13.5% had severe neuropathy, and only 7.5% had normal nerve conduction studies. These findings indicate that the majority of diabetic patients demonstrated

electrophysiological evidence of neuropathy, supporting the clinical value of NCS in confirming diagnosis and grading disease severity. Similar distributions have been reported in previous clinical studies, where mild and moderate neuropathy represented the largest proportion of diabetic neuropathy cases because patients often seek medical attention before reaching advanced stages (Feldman et al., 2019; Tesfaye et al., 2021).

Overall, the present study confirms that nerve conduction studies play a critical role in the assessment of diabetic sensorimotor polyneuropathy. NCS provides objective confirmation of peripheral nerve dysfunction, facilitates accurate severity classification, and supports timely clinical decision-making. Incorporating NCS into routine evaluation of diabetic patients with neuropathic symptoms may improve early diagnosis, guide treatment planning, and reduce long-term complications such as foot ulcers, gait impairment, and disability.

Based on your uploaded thesis and the results presented, here is a formal abstract and related sections suitable for your research. The abstract is based on your methodology and findings.

### Limitations

The cross-sectional design does not establish causal relationships.

The study was conducted at a single tertiary care hospital, limiting the generalizability of the findings.

Consecutive non-probability sampling may introduce selection bias.

Clinical and electrophysiological findings were assessed during a single study period without long-term follow-up.

Some potential confounding factors affecting neuropathy progression may not have been fully evaluated.

### Conclusion

The present study demonstrates that nerve conduction studies are essential in the evaluation of diabetic sensorimotor polyneuropathy. NCS provides objective confirmation of peripheral nerve dysfunction, accurately grades disease

severity, and differentiates DSPN from other peripheral neuropathies. Incorporating NCS into the routine assessment of diabetic patients with neuropathic symptoms can facilitate earlier diagnosis, improve clinical decision-making, guide appropriate treatment, and ultimately reduce the burden of diabetic neuropathy and its complications.

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