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Original Article

# A Prospective Demographic Study of Trigger Finger Cases Presenting to A Tertiary Care Hospital

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## ABSTRACT

**Background**: Trigger finger is a frequently encountered disorder of the hand in outpatient surgical practice. It results from impaired movement of the flexor tendon through the pulley mechanism and typically presents with pain, clicking, catching, or locking of the affected digit. Although it is commonly seen in routine practice, demographic and clinical patterns may vary across populations.
**Aim**: To evaluate the demographic and clinical characteristics of patients presenting with trigger finger to the Plastic Surgery Outpatient Department over a one-year period.
**Methods**: A prospective observational study was carried out from January 2025 to December 2025 in the Plastic Surgery Outpatient Department of a tertiary care hospital. Consecutive adult patients with a clinical diagnosis of trigger finger were included. Information regarding age, sex, occupation, hand dominance, digit involved, duration of symptoms, associated comorbidities, clinical severity, and initial treatment advised was recorded and analyzed.
**Results**: A total of 124 patients with 151 affected digits were included in the study. Women formed the majority of the study population, and most patients were in the 41–60 year age group. The thumb and ring finger were the most commonly involved digits. Diabetes mellitus was the most frequent associated medical condition and showed a significant association with involvement of more than one digit. Most patients presented with moderate clinical severity. Conservative treatment was advised in the majority of cases.
**Conclusion**: In our outpatient setting, trigger finger was seen predominantly in middle-aged women and was commonly associated with diabetes mellitus. Familiarity with local demographic and clinical patterns may assist in earlier diagnosis, better patient counseling, and more appropriate management planning.

***Keywords***: *Trigger finger, stenosing tenosynovitis, hand disorders, diabetes mellitus, demographic study.*

## INTRODUCTION

Trigger finger is a common disorder involving the flexor tendon mechanism of the hand and is encountered regularly in outpatient hand and plastic surgery clinics. The condition is characterized by painful clicking, catching, or locking of a finger or thumb due to impaired tendon gliding, usually at the level of the A1 pulley (Jeanmonod & Jeanmonod, 2024). While it is often managed as a relatively minor hand problem, it may significantly affect daily activities, grip function, occupational performance, and overall hand use.

In many patients, symptoms begin gradually. Initial complaints may include pain over the metacarpophalangeal region, morning stiffness, or intermittent triggering. As the condition progresses, movement becomes more difficult, and some patients eventually require passive assistance to extend the digit. In advanced stages, the digit may remain fixed in flexion.

Because of this progression, trigger finger is not merely a symptomatic nuisance but a condition that can cause considerable functional limitation.

Previous studies have shown that trigger finger is more commonly seen in women and tends to occur most frequently in middle-aged and older adults (Ballard et al., 2016; Brozovich et al., 2019). A number of associated conditions have also been reported, of which diabetes mellitus is particularly important. Diabetic patients are known to have a higher prevalence of trigger finger and may present with bilateral or multiple digit involvement more often than non-diabetic individuals (Koh et al., 2010; Löfgren et al., 2023). Associations with hypothyroidism, rheumatoid arthritis, and carpal tunnel syndrome have also been described (Makkouk et al., 2008).

Although trigger finger is commonly diagnosed in clinical practice, much of the published literature has concentrated on treatment modalities and outcomes rather than on baseline demographic and presentation patterns. In the Indian setting, especially within plastic surgery outpatient services, prospective descriptive studies remain relatively limited. Such information is useful because it helps identify patient groups at higher risk, clarifies common presentation trends, and may guide both counseling and treatment planning.

The present study was therefore undertaken to prospectively assess the demographic and clinical profile of trigger finger cases presenting to the Plastic Surgery Outpatient Department over a period of one year.

## METHODOLOGY

### Study Design

This study was designed as a prospective observational study.

### Study Setting

The study was conducted in the Plastic Surgery Outpatient Department of a tertiary care teaching hospital.

### Study Duration

The study was carried out over a period of 12 months, from January 2025 to December 2025.

### Study Population

The study population consisted of all adult patients attending the Plastic Surgery Outpatient Department with a clinical diagnosis of trigger finger during the study period.

### Inclusion Criteria

- Patients aged more than 18 years
- Patients diagnosed clinically with trigger finger or trigger thumb
- Patients willing to participate in the study

### Exclusion Criteria

- Congenital trigger thumb or finger
- Previous surgical release of the same digit
- Triggering following acute trauma
- Patients not willing to participate

### Sample Size

A total of 124 consecutive patients fulfilling the study criteria were included.

### Data Collection

After obtaining informed consent, patients were evaluated using a structured clinical proforma. The following details were documented:

- Age
- Sex
- Occupation
- Hand dominance
- Side involved
- Affected digit
- Number of digits involved
- Duration of symptoms
- Associated comorbid conditions
- Clinical severity according to Quinnell grading

- Initial treatment advised

**Clinical Assessment**
Diagnosis was established clinically based on patient history and examination findings. Clinical severity was classified according to the Quinnell grading system:

- **Grade I** – Uneven movement
- **Grade II** – Triggering actively corrected by the patient
- **Grade III** – Triggering requiring passive correction
- **Grade IV** – Fixed deformity

**Statistical Analysis**
Collected data were entered into Microsoft Excel and analyzed using appropriate statistical software. Continuous variables were expressed as mean ± standard deviation, while categorical variables were presented as frequency and percentage. The Chi-square test or Fisher's exact test was used to assess association between categorical variables wherever appropriate. A p-value of less than 0.05 was taken as statistically significant.

**Ethical Approval**
Institutional Ethics Committee approval was obtained prior to commencement of the study. Informed written consent was obtained from all participants.

**RESULTS**
A total of 124 patients were included in the study. Since some patients had more than one affected digit, a total of 151 trigger digits were documented.

**Age and Sex Distribution**
The mean age of the study population was 52.4 ± 11.8 years, with patient age ranging from 24 to 78 years. Most patients were in the 41–60 year age group. Female patients were more commonly affected than male patients.

**Table 1. Age and sex distribution of patients (n = 124)**

| Variable | Number | Percentage (%) |
|---|---|---|
| **Sex** | | |
| Male | 40 | 32.3 |
| Female | 84 | 67.7 |
| **Age Group (years)** | | |
| 21–30 | 6 | 4.8 |
| 31–40 | 18 | 14.5 |
| 41–50 | 34 | 27.4 |
| 51–60 | 38 | 30.7 |
| 61–70 | 20 | 16.1 |
| >70 | 8 | 6.5 |

**Occupational Distribution**
Homemakers constituted the largest occupational group, followed by manual laborers and office workers.

**Table 2. Occupational distribution of patients**

| Occupation | Number | Percentage (%) |
|---|---|---|
| Homemaker | 42 | 33.9 |
| Manual laborer | 28 | 22.6 |
| Office worker | 19 | 15.3 |
| Farmer | 14 | 11.3 |
| Retired | 11 | 8.9 |
| Other | 10 | 8.0 |

**Hand Dominance and Side Involvement**
The majority of patients were right-hand dominant. Involvement of the right hand was more common than the left.

**Table 3. Hand dominance and side involved**

| Variable | Number | Percentage (%) |
|---|---|---|
| Right-hand dominant | 114 | 91.9 |
| Left-hand dominant | 10 | 8.1 |
| Right hand involved | 70 | 56.5 |
| Left hand involved | 42 | 33.9 |
| Bilateral involvement | 12 | 9.7 |

**Digit Involvement**
Among the 151 affected digits, the thumb was the most frequently involved, followed by the ring finger and middle finger.

**Table 4. Distribution of affected digits (n = 151 digits)**

| Digit | Number | Percentage (%) |
|---|---|---|
| Thumb | 47 | 31.1 |
| Index finger | 16 | 10.6 |
| Middle finger | 34 | 22.5 |
| Ring finger | 42 | 27.8 |
| Little finger | 12 | 7.9 |

Single digit involvement was seen in 101 patients (81.5%), while 23 patients (18.5%) had involvement of more than one digit.

**Duration of Symptoms**
The commonest duration of symptoms at the time of presentation was 3–6 months.

**Table 5. Duration of symptoms at presentation**

| Duration | Number | Percentage (%) |
|---|---|---|
| <1 month | 9 | 7.3 |
| 1–3 months | 29 | 23.4 |
| 3–6 months | 48 | 38.7 |
| 6–12 months | 26 | 21.0 |
| >12 months | 12 | 9.7 |

**Associated Comorbidities**
Among the associated medical conditions, diabetes mellitus was the most frequently encountered.

**Table 6. Associated comorbidities**

| Comorbidity | Number | Percentage (%) |
|---|---|---|
| Diabetes mellitus | 48 | 38.7 |
| Hypothyroidism | 14 | 11.3 |
| Rheumatoid arthritis | 6 | 4.8 |
| Carpal tunnel syndrome | 11 | 8.9 |
| No major comorbidity | 54 | 43.5 |

**Clinical Severity at Presentation**
Most patients presented with Quinnell grade II or III disease.

**Table 7. Quinnell grading at presentation**

| Grade | Number | Percentage (%) |
|---|---|---|
| Grade I | 18 | 14.5 |
| Grade II | 46 | 37.1 |
| Grade III | 44 | 35.5 |
| Grade IV | 16 | 12.9 |

**Association Between Diabetes Mellitus and Multiple Digit Involvement**
A statistically significant association was observed between diabetes mellitus and involvement of multiple digits.

**Table 8. Association between diabetes mellitus and multiple digit involvement**

| Diabetes status | Single digit | Multiple digits | Total |
|---|---|---|---|
| Diabetic | 34 | 14 | 48 |
| Non-diabetic | 67 | 9 | 76 |
| **Total** | **101** | **23** | **124** |

**Chi-square = 5.57, p = 0.018**

**Initial Management**
Most patients were initially advised conservative treatment.

**Table 9. Initial treatment advised**

| Treatment | Number | Percentage (%) |
|---|---|---|
| Conservative treatment | 98 | 79.0 |
| Planned surgical release | 26 | 21.0 |

## DISCUSSION

The present study was undertaken to examine the demographic and clinical pattern of trigger finger in patients attending a tertiary care Plastic Surgery Outpatient Department. Although trigger finger is a familiar diagnosis in routine hand practice, local prospective data from plastic surgery settings remain limited. The present findings therefore provide a useful clinical profile of the condition as encountered in a real-world outpatient setting.

In our study, the mean age of patients was 52.4 years, and the majority belonged to the 41–60 year age group. This finding is broadly in agreement with previously published literature, which has consistently shown that trigger finger is most frequently seen in middle-aged and older adults (Ballard et al., 2016; Brozovich et al., 2019). The observed age pattern is likely multifactorial and may reflect age-related tendon degeneration, repetitive hand use over time, and the increasing prevalence of systemic conditions such as diabetes in this age group.

A distinct female predominance was noted in the present study, with women comprising 67.7% of the study population. This is consistent with most published series, which have similarly reported a higher occurrence of trigger finger in women (Brozovich et al., 2019; Junot et al., 2021). The reasons for this female preponderance are probably multifactorial and may include hormonal influences, repetitive domestic hand use, and differential healthcare-seeking patterns. In our setting, the predominance of homemakers among female patients may also partly explain this trend.

Occupationally, homemakers and manual laborers formed the major patient groups. Although the present study was not designed to establish a direct causal relationship between work pattern and disease, the distribution observed suggests that repetitive gripping and sustained hand use may have a contributory role. Previous literature has also pointed toward an association between repetitive hand activity and trigger finger, though this relationship is not uniformly demonstrated across all studies (Jeanmonod & Jeanmonod, 2024). Even so, documenting occupational pattern remains clinically relevant, particularly in outpatient counseling and ergonomic advice.

Right-hand involvement was more common than left-hand involvement in the present series. Most of our patients were right-hand dominant, which may partly explain this finding. Similar observations have been reported in previous studies, where dominant-hand involvement has often been more frequent (Junot et al., 2021). The dominant hand is naturally subjected to greater functional demand and repetitive use, and this may contribute both to symptom onset and to earlier presentation because of greater functional impairment.

The digit distribution in our study showed the thumb to be the most commonly involved digit, followed by the ring finger and middle finger. This finding is comparable to some previously published reports, although the literature is not entirely uniform in this regard. While several studies have identified the ring finger as the most commonly involved digit, others have found the thumb to be equally or more frequently affected (Ballard et al., 2016; Makkouk et al., 2008). In our setting, thumb involvement may have been more frequently represented because it tends to interfere earlier with pinch, grasp, and daily hand function, prompting patients to seek specialist consultation sooner.

One of the more clinically relevant findings in the present study was the high proportion of patients with diabetes mellitus, which was present in 38.7% of the cohort. This observation is in line with established literature demonstrating a strong association between trigger finger and diabetes (Koh et al., 2010; Löfgren et al., 2023). The tendon and pulley changes associated with long-standing hyperglycemia are thought to contribute to impaired tendon gliding and fibroproliferative changes. In clinical practice, the presence of trigger finger should therefore prompt clinicians to remain alert to the possibility of underlying or poorly controlled metabolic disease.

The relationship between diabetes and multiple digit involvement in our study is also noteworthy. Diabetic patients in the present series showed significantly higher rates of multiple trigger digits compared with non-diabetic patients. This is in agreement with earlier reports suggesting that diabetic hand involvement tends to be more extensive and multifocal (Koh et al., 2010; Knoedler et al., 2024). From a practical standpoint, this means that patients with diabetes should be examined carefully for additional asymptomatic or mildly symptomatic digit involvement at the first consultation itself.

Other associated conditions in our cohort included hypothyroidism, rheumatoid arthritis, and carpal tunnel syndrome. These have all been described previously in association with trigger finger and likely reflect overlapping inflammatory, endocrine, or fibroproliferative mechanisms (Makkouk et al., 2008; Jeanmonod & Jeanmonod, 2024). Though these conditions were less frequent than diabetes in the present series, their presence highlights the need for a broader hand and systemic evaluation rather than viewing trigger finger as an isolated mechanical problem.

Most patients in the present study presented with Quinnell grade II or III disease, suggesting that many individuals seek specialist attention only after symptoms become more functionally limiting. This pattern is similar to that reported in routine outpatient practice elsewhere, where early mild symptoms are often ignored or tolerated for several months. In our study too, the commonest symptom duration prior to presentation was 3–6 months, which supports the impression that patients often delay consultation until the condition begins to interfere with routine activities.

The majority of patients were initially managed conservatively. This reflects usual outpatient practice, where splintage, analgesics, activity modification, and steroid injection remain acceptable first-line options in selected patients. Surgical release was advised for a smaller group with advanced, recurrent, or functionally disabling disease. The treatment pattern observed in our study is therefore consistent with standard clinical practice and reflects real-world management rather than protocol-driven intervention.

The present study has a few notable strengths. It was prospective in design, included consecutive OPD patients, and provides data specifically from a plastic surgery outpatient setting, which is underrepresented in available literature. At the same time, certain limitations must be acknowledged. This was a single-center study, the sample size was modest, and long-term treatment outcomes were not assessed. In addition, occupation was categorized broadly and not analyzed in biomechanical detail.

Despite these limitations, the study contributes useful information to routine clinical practice. It confirms that trigger finger in our setting is predominantly seen in middle-aged women, commonly affects the thumb and ring finger, and is frequently associated with diabetes mellitus, particularly when more than one digit is involved.

## CONCLUSION

The present study showed that trigger finger in our outpatient population was seen predominantly in middle-aged female patients. The thumb and ring finger were the most commonly involved digits. Diabetes mellitus emerged as the most frequent associated comorbidity and showed a significant association with multiple digit involvement. Most patients presented with moderate disease severity, and conservative treatment was advised in the majority of cases.

These findings are of practical relevance in plastic surgery outpatient settings and may aid in early identification of high-risk patients, timely metabolic screening, and appropriate management planning.

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