

A Systematic Review on Prevalence of double Facial Talon's/Bilateral/Multiple Cusp Anamolies & its Existing Classification System in Permanent Dentition

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ABSTRACT

Objectives: This systematic review aims to determine the prevalence of Double facial talons/Bilateral/Multiple cusp anomalies in permanent dentition & pen down its existing knowledge regarding the classification system.

Material and Methods: A thorough literature search was conducted using predefined Boolean keywords across five electronic databases (Web of Science, Embase, Scielo, PubMed/MEDLINE, and Scopus). Additional manual searches were conducted. "MeSH" terms and/or keywords with respect to the subject were paired with the Boolean operators "AND" and "OR". Articles published in English language were covered from the period 2005 to 2025. Inclusion criteria encompassed case reports/case series and reviews involving confirmed double facial talon's/bilateral/multiple cusp anomalies, involving any surface/class of teeth in permanent dentition, supported by clinical or radiographic evidence. Exclusion criteria included studies with single cusp involvement, lacking diagnostic imaging, incomplete data, unrelated dental anomalies, or insufficient clinical relevance. Studies were selected based on relevance to diagnosis, morphology, and management, with cases ranging from pediatric to adult patients of both genders. The review was conducted in two phases. In the first phase, screening for title and abstracts was done by the authors. In second phase, the full text papers and methodological quality with study outcomes were assessed.

Result: A total of nine studies were included in this review, all focusing on patients with double facial talon's/ bilateral/multiple cusp anomalies in permanent dentition. The risk of bias for included studies was assessed using the Cochrane ROB-2 tool. Risk assessment indicated that 84.44% of the studies had a low risk of bias, 15.55% had an unclear risk, and 0% exhibited a high risk of bias.

Conclusion: Double facial talon's/bilateral/multiple cusp anomalies in permanent dentition are rare but clinically important anomalies. Current classification systems are limited in addressing their complexity. A more comprehensive and standardized classification is needed to improve diagnosis and management.

Keywords: Double Facial Talon's, Bilateral/Multiple cusp anomalies, Prevalence, Frequency, Classification System, Systematic Review, Permanent Dentition.

INTRODUCTION

Double facial talon's cusp is a rare developmental anomaly affecting the deciduous or/and permanent dentition. Early diagnosis and prompt treatment are necessary since the main issues with facial talons of maxillary incisors are poor aesthetic appearance, higher susceptibility to cavities, and occasionally even soft tissue irritation.¹ This abnormality is thought to arise as a result of either transient focal mesenchymal hyperplasia or the outward folding of inner enamel epithelial cells (preameloblasts) during the morpho-differentiation stage of tooth formation.² It is also been referred by several other names, such as evaginated odontome, dens evaginatus, cusped or hyperplastic cingulum, and supernumerary cusp.³ Geographic prevalence of this anomaly has been found to vary across the globe. Occurrence rates have been reported to be 0.6% in Mexican populations, 2.4% in Jordanians, 2.5% in Hungarians and 5.2% in Malaysians. In Indian scenario, study conducted by Mehta et al (2022) 4 have documented about 0.58% in Indians, accounting 16 of 2740 individuals reporting this anomaly. Moreover, regional research indicates about 7.7% in North Indians, and 19.35% in South Indians are

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afflicted by this condition.^{1,5,6,7} Regarding gender distribution, lingual talon presentations were observed more frequently in males (67.3%) than females (32.7%), whereas facial talon cases showed the opposite trend.^{8,9} With respect to the class of teeth, the maxillary lateral incisors were most afflicted (67%), followed by maxillary central incisors (24%), and canines (9%). The maxillary arch also showed a higher incidence of this anomaly than the mandibular arch.¹⁰

In the context of the existing classification system, several epidemiological, evidence based meta-analytical studies conducted on prevalence of this pathological entity have documented significant discrepancies in results, ranging from 0.06% in a cohort of Mexican children to 40.8% in an archaeological sample of 147 medieval Hungarian skulls.¹¹ Such discrepancies may stem from methodological differences/complexities involved in the existing classification system in detecting this anomaly. A review of these studies indicates that various methodological approaches (Hattab et al¹², Hsu et al¹³, Mayes et al¹⁴ & Bommanavar S et al¹ classification systems) have been ap-

plied in the past. These, along with differences in diagnostic criteria, have likely, contributed to the wide range of reported prevalence rates.¹¹

Regarding its classification system, previous literature synthesis has documented various classification systems (morphologically/clinically/radiographically by Hattab et al¹²; Hsu et al¹³; Mayes et al¹⁴; Nuvvula et al & Bargale et al¹⁵; Jeevarathan et al¹⁶ & Bommanavar S. et al¹). The discrepancy involved in accurately documenting the talon's cups in specific cohorts is crucial for the precise understanding of its pathogenetic mechanism involved in the developmental stages of tooth formation and to identify specific genetic trait that is more susceptible for this anomaly. Although literature has linked genetic susceptibility for this rare dental anomaly, the exact relationship is still under investigation.

Till date, no systematic review & meta-analysis has been performed to analyze these data. Thus, the aim of this review was to determine the prevalence of double facial talon & pen down its existing knowledge regarding the classification system in permanent dentition.

MATERIALS AND METHODS

Study protocol and registration: Preferred Reporting Items for Meta-Analysis and Systematic Review (PRISMA) criteria were used. (<http://www.prisma-statement.org>, accessed on 10 July 2024).

Focused Research Question: The research question was formulated based on the identification of research gap as "Is there any discrepancy involved in prevalence of double facial talons in general population & is the existing classification system effective in diagnosing and treating the condition with prompt accuracy?"

Studies were assessed using PICO framework based on the "PICO" (PRISMA-P 2016) technique. P (Population): Cases with Double facial talons/bilateral/multiple cusp anomalies; I (Intervention): Demographic characteristics details like age, sex, type/class of teeth, surface of teeth involved clinical presentation, Investigatory methods & treatment plan, C (Comparison): Prevalence rate & Existing classification system, O (Outcomes): Discrepancy rates, methodological differences & prompt treatment strategies.

Search strategy:

Database: A comprehensive literature search was conducted across multiple academic databases, including Google Scholar, Embase, Web of Science, PubMed, and Scopus. Pre-

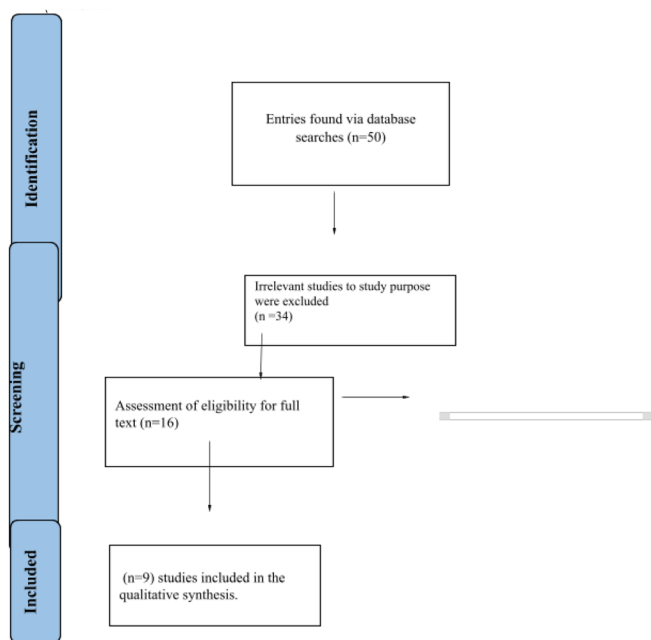


Fig. 1: Depicts Preferred Reporting Items for Meta-Analysis and Systematic Review (PRISMA) criteria. (<http://www.prisma-statement.org>, accessed on 10 July 2024).

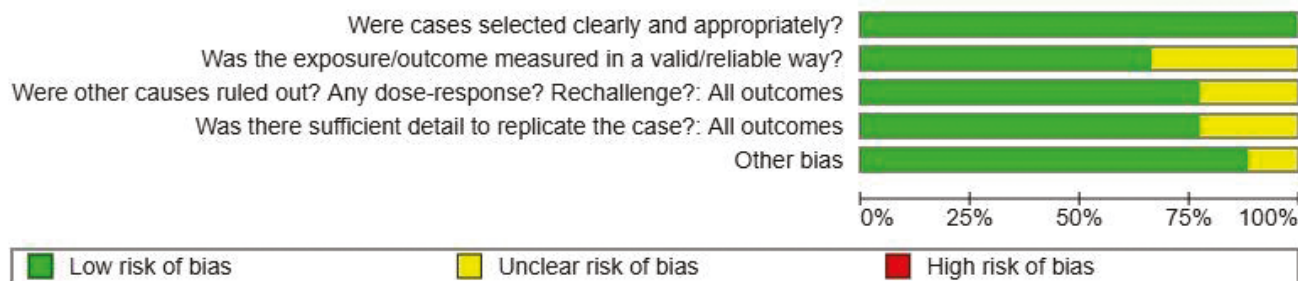


Fig. 2: Consolidated Overview of Risk of Bias Evaluations for the Included Studies.

defined keywords such as “double facial talons/bilateral/multiple cusp” and “existing classification system in permanent dentition” were used to identify relevant studies “MeSH” terms and/or keywords that are commonly linked to the topic were combined with the Boolean operators “AND” and “OR.”

Language: No language restriction and all articles in English language or other language where English translation is possible.

Period of publication: The selection criteria included case report/case series/reviews published in English during the period of 2005 to 2025 to ensure the inclusion of up-to-date and

high-quality evidence.

The appropriate keywords to compile relevant materials with prompt filters were as follows:

Population (#1): “Double facial talon’s” [Text word] OR “evaginated odontoma” [Mesh Terms], “densevaginatus” [Mesh Terms] OR “cusped or hyperplastic cingulum” [Mesh Terms] AND “supernumerary cusp” [Mesh Terms] [Text word] AND “evaginated odontoma” [Text word], “dens evaginatus” [Text word], “cusped or hyperplastic cingulum” [Text word], and “supernumerary cusp” [Text word].

Intervention (#2): “Age” [Text word] AND Age [Mesh Terms], “Demographic data” [Text word] OR Sex [Mesh Terms], “Clinical Presentation [Text word] Radiographic findings [Mesh Terms]” OR “Age & Sex” [Text word] AND Sex & Age [Mesh Terms] OR “Site” [Text word] OR Maxilla [Mesh Terms] AND “Upper Teeth [Text word] / Maxilla [Mesh Terms]”, “Mandible/ Lower teeth ” [Mesh Terms] OR “Anterior teeth” [Text word], AND “Front teeth ” [Mesh word], “Facial surface” [Text word], “Lingual surface” [Text word], Facial surface” [Mesh word], “Lingual surface” [Mesh word]

Comparison (#3): “Prevalence” [Mesh Terms] AND “Classification system ” [Text word] AND “Frequency ” [Mesh Terms] OR “Existing classification ” [Mesh Terms]

Outcome (#4): “Diagnostic accuracy” [Text word] AND “diagnostic discrepancy” [Text word] OR “Treatment” [Mesh Terms]

Search Combination: #1 AND#2AND#3AND#4

The study was conducted in two phases. In the first phase, screening for title and abstracts was done by the authors. In the second phase, full text papers and methodological quality with study outcomes were assessed to achieve the set objective as per the focused guiding question. Other electronic databases were then searched using the same methodology as MEDLINE. In order to find more manuscripts, the reviewers additionally manually reviewed the reference lists of the included articles. The systematic search was carried out using the following criteria: Peer-reviewed literature is the target audience; demographic characteristics details are the intervention; Prevalence rate and existing classification system are the comparison; diagnostic discrepancy, diagnostic accuracy, treatment strategies are the outcomes.

Inclusion / Exclusion Eligibility Criteria:

Before deciding the pivotal inclusion and exclusion criteria, various eligibility criteria were considered and only eligible material were selected for the final review. Case reports/case series/ reviews involving talon cusp anomalies in pediatric/ adult population of either gender in any dentition, unilaterally or bilaterally, clinically diagnosed and radiographically confirmed, syndromic/no syndromic with other associated pathologies published in English language were included. Studies that lacked relevant data (without proper clinical or radiographic confirmation or detailed anamnesis on talon cusps) or addressed unrelated topics that failed to provide substantial clinical or epidemiological insights into double facial talons and classification systems in permanent dentition were excluded.

By applying these rigorous inclusion and exclusion criteria, the literature review aimed to gather comprehensive and reli-

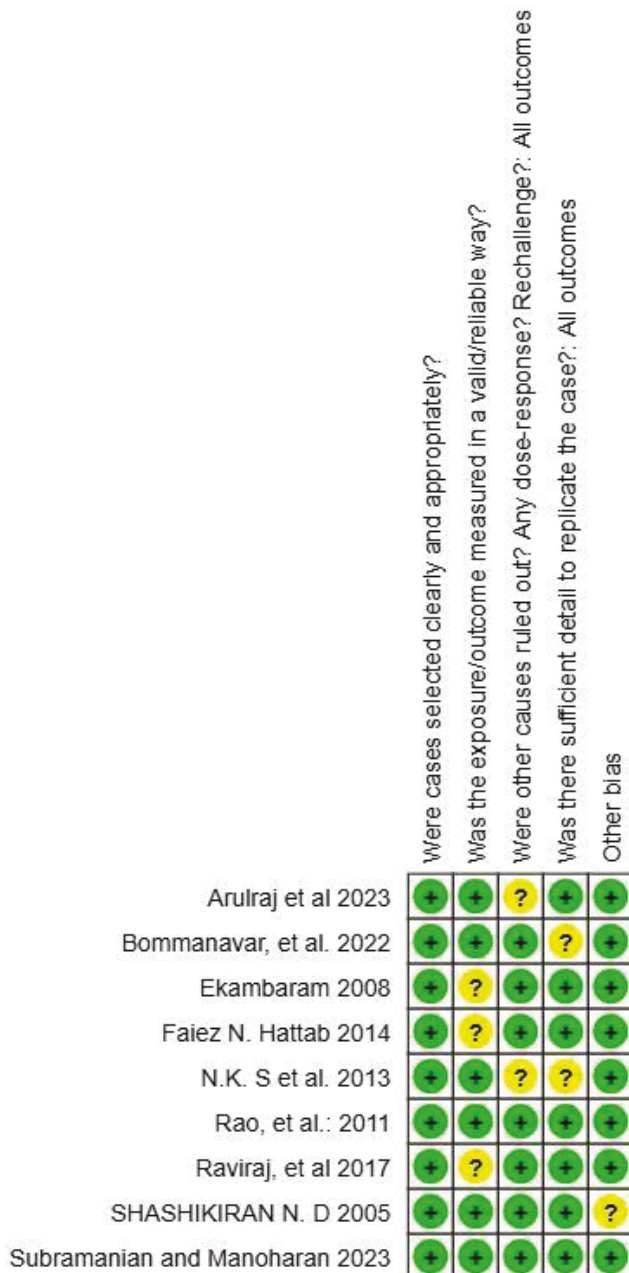


Fig. 3: Percentage-Based Representation of Bias Risk for Each Domain Across All Included Studies.

Table 1: Summarizes the characteristics of the studies included in this review.

Author's (year)	Study design	Gender	Age	Sample size and characteristics	Tooth involvement	Side of Talons	Morphological features	Dignostic methode	Associated condition	Management and outcomes	Key findings and quality
Raviraj, et al. [16] 2017	Case report	M	26	Single case, non -con-sanguineous parents, short stature (110 cm), brachycephaly, frontal bossing, ocular hypertelorism	Maxillary & Mandibular anteriors, missing maxillary first molars, multiple supernumerary premolars	Bilateral	Multiple talon cusps, deep palate, macroglossia, prominent mandible, concave facial profile, narrow sigmoid notch on mandible	Clinical examination, OPG, PA Skull, Wrist & Chest X-rays	Achondroplasia, hearing loss, trident hands, bowed legs, Class III malocclusion, skeletal abnormalities	Oral prophylaxis (cleaning), no immediate treatment needed for talon cusps	Rare presentation of multiple talon cusps in achondroplasia, findings support inclusion in dental anomaly studies
SHASHI-KIRAN N. D [17] 2005		F	8	Single case, 8-year-old female, no family history of dental anomalies, good dental health	Maxillary left central incisor	Unilateral (Left)	Double well-defined accessory cusps on facial side (7.0×3.5 mm and 7.5×4.0 mm), separated by developmental grooves, concave lingual surface with a small trace talon cusp on the cingulum	Clinical examination, Intraoral radiographs (V-shaped radiopaque structures in enamel, dentin, and pulp)	No systemic associations reported	No treatment needed, as cusps were asymptomatic and not causing trauma	Rare presentation of double facial talon cusp with a lingual trace talon, contributes to classification and understanding of talon cusps
Arulraj et al. [18] 2023		F	21	Single case, 21-year-old female, no contributory medical, surgical, or family history	Maxillary right central incisor	Unilateral (Right)	Double lobulated and fused talon cusp on labial aspect, separated by a fissure on the midline	Clinical examination, Radiographic imaging (double teeth appearance)	No systemic associations reported	Referred for shaping and profiling, but the patient declined treatment	Rare case of a double labial talon cusp, contributes to classification and understanding of talon cusp variations



Rao, et al.[19] 2011		M	7	Single case, 7-year-old male, no contributory medical history	Mandibular left central incisor	Uni-lateral (Left, Facial)	Single talon cusp on facial surface, radiographic appearance of "double teeth"	Clinical examination, Radiographic imaging (double teeth appearance)	No systemic associations reported	Advised crown contouring and orthodontic treatment, but patient declined intervention	Rare case of a facial talon cusp on a mandibular incisor, contributes to classification and management strategies
Hattab FN [20] 2014	Review and case report	F	10	Single case, 10-year-old female, no contributory medical history	Maxillary right central incisor fused to supernumerary tooth	Uni-lateral (Right, Palatal)	Fusion of maxillary right central incisor to a supernumerary tooth with double talon cusps on the palatal aspect, well-defined cusps, deep groove separating the cusps	Clinical examination, Radiographic imaging (V-shaped radiopaque structure, separate pulp chambers and root canals)	No associated syndrome or abnormal findings in other teeth	Partial occlusal adjustment (reduced cusp), carious groove restoration with composite, contralateral incisor reshaping with resin, patient declined further surgical intervention	Rare case of fused tooth with double talon cusps, contributes to understanding and management of fused teeth with accessory cusps
N.K. S et al. [21] 2013	Case report	M	18	Single case, 18-year-old male, no contributory medical history	Mandibular left central incisors (FDI no 31-32), conjoined teeth	Bilateral (Facial and Lingual surfaces of the fused tooth)	Complete coronal fusion with separate roots, single enlarged pulp chamber with at least two pulp horns, two separate root canals, blunt elevation on the facial surface, prominent lingual projection extending to more than two-thirds of the crown length	Clinical examination, Radiographic imaging (superimposed structures, coronal fusion, separate root canals)	No syndromic association (Ruled out Rubinstein-Taybi and Mohr syndromes)	Periodic grinding of the cusps to prevent pulpal exposure, orthodontic treatment, patient informed about treatment options but declined further genetic evaluation due to cost	Rare case of bilateral talon cusps on a fused mandibular central incisor, contributes to understanding of fused teeth and talon cusp management

Ekam-baram [22] 2008		M	14	Single case, 14-year-old Chinese male, non-contributory medical and dental history	Mandibular right anterior double tooth with facial and lingual talon cusps	Bilat-eral (Facial and Lingual surfaces of the double tooth)	Type I talon cusps (Hattab classification), pyramidal in shape, deep developmental grooves at the junction of the accessory cusp with the main tooth, two root canals terminating in two apical foramina, common pulp chamber, separate pulp horns for facial and lingual talon cusps	Clinical examination, Periapical radiography (showing separate root canals, common pulp chamber, individual pulp horns for the talon cusps)	No syn-dromic associations reported, no fam-ily history of similar anomalies	Oral hygiene instructions, scaling, fissure seal-ants applied to lingual develop-mental grooves to prevent car-ies, patient scheduled for regular follow-ups	Rare case of bilat-eral talon cusps on a double tooth, as-ymptom-atic but es-thetically unappeal-ing, con-servative manage-ment with sealants and oral hygiene mainte-nance
Bom-manavar, et al. [1] 2022		F	10	The study reports a single case involving a 10-year-old healthy fe-male patient with no significant medical or familial history of dental anomalies.	The anom-aly was observed in the per-manent left maxillary central inci-sor (Tooth #21).	facial (labial) surface	The affected tooth presented with two un-equally sized and shaped cusp-like projections on the labial aspect, resembling an eagle's talon. The larger cusp mea-sured approxi-mately 5 mm × 3.5 mm × 4 mm. Both cusps ex-tended from the cemento-enamel junction to the middle third of the crown and had a smooth surface with a V-shaped tubercle appearance.	The diagnosis was made through clinical examina-tion and intraoral periapical radiogra-phy, which confirmed the pres-ence of two accessory cusps with separate pulp chambers and root canals.	No systemic or genetic conditions were associ-ated with this case. Dens invagi-natus was considered as a dif-ferential di-agnosis but was ruled out based on radiographic findings.	The treat-ment plan involved eliminating the double talons, and an alginate impression model was taken for further man-agement. However, the patient did not return for follow-up treatment.	This case represents a rare occurrence of double talons on the facial surface of a maxillary central incisor. It is also notable that the two talons differed in size and were clas-sified into separate stages of Mayes' classifica-tion. The diagnosis was well-supported by clinical and radio-graphic findings, but the outcome remains unknown due to the patient's failure to return for further treatment.



Subramanian et al. [23] 2023	Case report	M F	10 29	The study describes two cases: a 10-year-old boy with spacing issues in the left upper anterior region and a 29-year-old female with a chief complaint of a painful lower molar. Both patients had talon cusps identified in different forms.	In the first case, the talon cusp was found on the palatal surface of the left maxillary central incisor (21). In the second case, the talon cusps were present on the palatal aspect of both maxillary central incisors (11 and 21).	palatal surface	In the first case, two cusp-like projections extended from the cemento-enamel junction (CEJ) towards the incisal edge in 21, forming a dense V-shaped radio-opaque structure. In the second case, the cusps were small and conical, located in the cingulum region of 11 and 21, extending from the CEJ to within 5 mm of the incisal edge.	Diagnosis was confirmed through clinical examination, pulp vitality testing, intraoral periapical radiographs (IOPA), and cone-beam computed tomography (CBCT), which revealed well-defined radio-opaque structures with some pulp extension into the cervical one-third of the accessory cusps.	In the first case, a history of trauma was reported a year prior, which may have contributed to the dental anomaly. The second case involved a patient with grossly decayed 38 and dental caries in 37 and 47, but no systemic or genetic conditions were linked to the talon cusps.	In the first case, the patient was referred to the Department of Pedodontics for further management. In the second case, no treatment was required for the talon cusps, as they did not cause any issues for the patient, and the focus was on addressing the chief complaint of a painful lower molar.	The study highlights two distinct types of talon cusps in different age groups and their variations in morphology. The use of CBCT provided a detailed assessment of pulp involvement, aiding in accurate diagnosis. The study provides valuable insights into the classification and management of talon cusps, though follow-up details were not provided.
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able findings, facilitating a more precise understanding of double facial talons and their classification within dental research.

Data Extraction and Screening: Two Independent authors (KS, BS) assessed for the title and abstracts for articles for inclusion/ exclusion criteria as mentioned above and subsequent relevant articles were chosen for data synthesis. The authors independently conducted the research selection procedure and retrieved pertinent information from the involved research. The detailed process utilized to choose the papers for this review is shown in Figure 1.

Data from the selected studies were extracted using a standardized, pretested data collection sheet in Microsoft Excel 2019.

Quality of assessment and Risk of Bias: Two independent reviewers used the Cochrane Risk of Bias Tool to evaluate the risk of bias. Data from the eligible studies were collected using a pretested data extraction sheet in Microsoft Excel 2019. This study utilized RevMan version 5.4.1, following the Cochrane Review guidelines, to assess the risk of bias. The assessment

tool comprises two parts and covers six critical domains. For each domain, 'Risk of Bias' tables were generated. Typically, each entry begins with a summary of the reported study procedures. Subsequently, the level of bias is classified as low, unclear, or high.

RESULT

In the current systematic review, a comprehensive database search was conducted, yielding a total of 50 studies. Finally, 7 records were excluded that did not meet the inclusion/exclusion criteria. Following thorough screening and analysis, the current systematic review included a total of nine case studies. (Fig. 1)

Bias Evaluation in Individual Studies

The evaluation of bias in each study was conducted across several key domains, including selection bias (random sequence generation and allocation concealment), performance bias (participant and personnel blinding), detection bias (blinding of outcome assessors), attrition bias (handling of in-

complete outcome data), and reporting bias (selective outcome reporting). Each study was assessed according to predefined criteria for these domains, and the overall risk of bias was categorized as low, unclear, or high.

Based on these assessments, studies were classified per domain into one of the three risk levels. Figure 2 illustrates the distribution of bias risk across the nine studies included in the current review. The findings showed that 84.44% of the studies were determined to have a low risk of bias, while 15.55% were considered to have an unclear risk. Notably, none of the studies (0%) were judged to be at high risk of bias (Figure 3).

DISCUSSION:

This systematic review aimed to identify any discrepancies involved in the prevalence rate and focused on the existing classification system for achieving early screening and prevention of potential dental complications involved with this anomaly. Additionally, since the treatment approach for this anomaly is usually guided by thorough clinical and radiographic evaluation, considering the specific key factors that influence treatment include the type of anomaly, the methodological approach for classifying this anomaly, tooth position, impact on adjacent or succeeding teeth, esthetic concerns, periodontal health, presence of malocclusion, and whether the affected tooth is primary or permanent.¹⁶⁻²²

Double facial talon's/bilateral/multiple cusp anomalies in permanent dentition pose more complex challenges, particularly in relation to appearance and occlusion. A multidisciplinary approach is often recommended.^{24,25} Treatment depends on the internal anatomy, specifically whether a common pulp chamber and root exist, or if the teeth have separate roots and pulp systems. For teeth with a shared pulp chamber and single root, endodontic treatment may be required, followed by crown size reduction, composite or crown reconstruction, and orthodontic correction. Deep developmental grooves at the fusion site are at risk for caries and should be sealed. When separate roots are present, surgical separation (hemisection) is a possible option but carries risks such as sensitivity, pulpitis, and external root resorption. If the prognosis is poor or eruption of adjacent teeth is compromised, extraction may be indicated. The missing tooth can be temporarily replaced with a removable partial denture, followed by a fixed bridge or dental implant when appropriate.²⁶

Radiographic evaluations have suggested that talon cusps may contain extensions of the pulp horn. However, accurately tracing the pulp within the cusp radiographically is challenging due to the superimposition of the cusp over the tooth crown. Histological analyses of extracted or naturally shed teeth with talon cusps have shown mixed findings, some confirmed the presence of pulpal tissue within the cusp, while others did not detect any pulpal extension. Hattab and colleagues²⁷⁻²⁹ performed conservative cusp reduction, removing 1 to 1.5 mm in a single session or opting for complete reduction over two appointments spaced 6 to 8 weeks apart²³, without exposing the pulp tissue. Following each reduction, the treated surface was coated with fluoride varnish (Duraphat®) to reduce sensitivity and stimulate the formation of reparative dentin. According to Stanley et al³¹, the reparative dentin in permanent teeth forms

at a rate of approximately 1.49 μm per day after dental procedures. It is observed that larger talon cusps, particularly those that extend prominently from the crown, are more likely to involve pulpal tissue. Aggressive removal of such cusps may lead to pulp exposure. In such instances, treatment options may include pulpotomy, partial pulpectomy, root canal therapy, or extraction followed by appropriate orthodontic intervention. The difference in the treatment approach correlates with the precise identification of this anomaly.

The present systematic review reported total nine eligible studies, each study described demographic details with treatment strategies applied for treating the anomaly. Out of the nine studies, age range was shown to be from 10 yrs to 29 years, M:F ratio was 5:5, type of teeth most commonly involved were anterior permanent dentition especially in maxillary arch. All the nine cases inferred variation in treatment plan, however, there was no mention on the extent of the cusp involvement and classification system applied by the clinicians. The generalized way of treatment can lead to unnecessary intervention and loss of tooth structure resulting in other complications with subsequent treatment failure. A more specific protocol for applying the diagnostic criteria needs application of the classification system and each type needs guidance for one particular type of treatment strategies. This systematic approach can formulate better treatment outcomes with good quality of life (QoL) for patients. To overcome this hurdle, more research needs to be focused on evaluating the existing classification system & provide more avenues to introduce new classification system with correlation for treatment protocols that can be applied for each specific type of talons cusp. The discrepancy involved in prevalence of this condition can be ruled out by conducting large scale screening programmes among specific cohort populations for early diagnosis and preventive measures.

The risk of bias for included studies was assessed using the Cochrane ROB-2 tool. Risk assessment indicated that 84.44% of the studies had a low risk of bias, 15.55% had an unclear risk, and 0% exhibited a high risk of bias.

This systematic review focused and reported a more rigorous methodological approach of existing studies that could further enhance understanding of talon cusp prevalence in contemporary populations and improve comparability across research findings. Additionally, it provided a thorough literature synthesis, focusing on the anomaly's prevalence & existing classification system that could help clarify its association with other demographic variables/confounding factors. Investigating this relationship could provide insights into its etiology and enlighten new area of research that can be conducted on the treatment aspect by studying the difference in the structure of enamel rods, dentin, their compatibility with choice of dental materials & developing new treatment protocols of tooth preparation and restoration for such cases. By characterization of expression of this rare trait can further open up new avenues in the area of diagnostic pathology and trace any possible correlation that may coincide with other morphological features of human permanent dentition. Furthermore, it can aid in early screening and application of preventive measures to restore the tooth, thereby avoiding potential dental complications. This



systematic review can help to bridge this research gap and provide new insights regarding this pathology.

CONCLUSION:

Double facial talon's/bilateral/multiple cusp anomalies in permanent dentition are rare but clinically important anomalies. Current classification systems are limited in addressing their complexity. A more comprehensive and standardized classification is needed to improve diagnosis and management. To conclude, this systematic review reported inconsistent methodological approaches involved in diagnosing, classifying and treating this anomaly. Further research needs to be conducted to overcome this limitation.

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